



ConSol*CM Administrator Manual (Version 6.9, up to 6.9.3)

Table Of Contents

1	Intro	duction	L	9
	1.1	ConSo	ol*CM	10
	1.2	The B	ook's Structure	11
	1.3	Layou	It Explanations	12
	1.4	Basic	Principles of ConSol*CM6	13
		1.4.1	System Components from a User's Point of View	13
		1.4.2	Basic Technical ConSol*CM Principles and Objects	14
		1.4.3	ConSol*CM from a System Administrator's Point of View	18
2	Start	t of the	Admin-Tool	19
	2.1	Login		20
	2.2	Troub	leshooting: When the Admin-Tool Does Not Start	22
		2.2.1	Correct Process	22
		2.2.2	Process with Errors	25
	2.3	How t	o Use the Admin-Tool	26
3	CM6	Admin	istrator Manual 6.9 - Power User Section	29
4	Engi	neer Ad	dministration	30
	4.1	Introd	uction to Engineer Administration	31
	4.2	Engin	eer Administration Using the Admin-Tool	32
		4.2.1	Create or Edit an Engineer Account	33
		4.2.2	Delete an Engineer Account	36
		4.2.3	Disable or Enable an Engineer Account	36
		4.2.4	File Card Roles - Assign Roles to an Engineer Account	36
		4.2.5	File Card View Criteria - Define Engineer-Specific View Criteria	37
	4.3	Relate	ed Topics	39
5	Role Administration			40
	5.1	Introd	uction to Role Administration	41
	5.2 Role Administration Using the Admin-Tool			
		5.2.1	Create a Role	43
		5.2.2	File Card Engineer Functions	49
		5.2.3	Delete a Role	50
		5.2.4	Copy a Role	51
		5.2.5	Edit a Role	51
	5.3	Relate	ed Topics	52
6	View	ı Admin	istration	53
	6.1	Introd	uction to View Administration	54
	6.2	View /	Administration Using the Admin-Tool	55
		6.2.1	Create a View	55
		6.2.2	Edit a View	60
		6.2.3	Delete a View	61
		6.2.4	Copy a View	61
	6.3	Relate	ed Topics	62
7	Que	ue Adm	ninistration	63

	7.1	Introdu	uction to Queue Administration	64
	7.2 Queue Administration Using the Admin-Tool		65	
		7.2.1	Filter the Queue List	65
		7.2.2	Create a Queue	66
		7.2.3	Edit a Queue	68
		7.2.4	Delete a Queue	69
		7.2.5	Copy a Queue	69
		7.2.6	Enable or Disable a Queue	69
	7.3	Relate	d Topics	70
8	Cus	tomer D	ata Model Section	71
9	CM	6 Admin	istrator Manual 6.9 - The CM Customer Data Model: FlexCDM	72
	9.1	The C	M Customer Data Model: FlexCDM	73
	9.2	Introdu	uction to FlexCDM	74
		9.2.1	FlexCDM at a Glance	74
		9.2.2	Introduction to FlexCDM Objects	77
		9.2.3	Management of FlexCDM Objects Using the Admin-Tool	79
	9.3	A Sho	rt Introduction to FlexCDM-Specific Web Client Functionalities	81
		9.3.1	Introduction	81
		9.3.2	Working with the ConSol*CM Web Client with FlexCDM	82
	9.4	Setting	g Up the Customer Data Model	94
		9.4.1	Introduction to Setting Up the Customer Data Model Based on FlexCDM	94
		9.4.2	Managing Contacts and Companies Using the Admin-Tool	95
	9.5	Data C	Dbject Group Field Management and GUI Design for Customer Data	104
		9.5.1	Introduction	104
		9.5.2	Defining Data Object Group Fields for Customer Data Using the Admin-Tool	105
		9.5.3	Scripting Using Objects from the FlexCDM	107
		9.5.4	Changes in Scripting from Consol*CM Version 6.8 to Version 6.9	108
		9.5.5	New Objects in ConSol*CM 6.9 and Up	113
	9.6	Templ	ates for Customer Data	114
		9.6.1	Introduction to Using Templates for the Display of Customer Data	114
		9.6.2	Coding Templates	115
		9.6.3	Template Types	117
10) Mai	naging C	Customer Groups	124
	10.1	Basic	Principle for Customer Data Models and Customer Groups	125
	10.2	2 Mana	aging Customer Groups Using the Admin-Tool	126
		10.2.1	Customer Groups List	126
		10.2.2	Customer Group Details	127
		10.2.3	Creating a New Customer Group	127
		10.2.4	Editing a Customer Group	128
		10.2.5	Deleting a Customer Group	128
		10.2.6	Disabling and (Re-)Enabling a Customer Group	128
	10.3	10.3 Assigning Access Rights for Customer Groups		
11	Cus	stomer (Data Object) Relations	132
	11.1	Intro	duction to Customer (Data Object) Relations	133
	11.2	2 Mana	agement of Customer Relations Using the Admin-Tool	134
	11.3	Crea	ting Customer Relations Using the Web Client	137

11.4 Scripting Using Relations	138
12 Action Framework	139
12.1 Introduction to Data Object Actions	140
12.2 Managing Data Object Actions Using the Admin-Tool	142
12.2.1 Step 1: Write the Data Object Action Script	142
12.2.2 Step 2: Create Data Object Action(s) Which Use the Script	143
12.2.3 Step 3: Assign Data Object Action(s) to Customer Group(s)	144
12.3 Using Data Object Actions as an Engineer (User)	146
12.4 Examples for Data Object Action Scripts	147
12.4.1 Example 1: Simple Manual Action	147
12.4.2 Example 2: New Ticket for Contact	150
12.5 Scripts for the Action Framework: Programming Data Object Actions	151
12.5.1 Data Object Action Scripts	151
12.5.2 Data Object Condition Scripts	157
13 Additional User Attributes: Customer Roles, Engineer Functions , and Projects	159
13.1 Introduction	160
13.2 File Card Customer Roles	161
13.2.1 Create or Edit a Customer Role	162
13.2.2 Delete a Customer Role	162
13.2.3 Disable or Enable a Customer Role	163
13.2.4 Localize a Customer Role	163
13.3 File Card Engineer Functions	164
13.3.1 Create or Edit an Engineer Function	165
13.3.2 Delete an Engineer Function	166
13.3.3 Disable or Enable an Engineer Function	166
13.4 File Card Projects	167
13.4.1 Create or Edit a Project	167
13.4.2 Delete a Project	168
13.4.3 Disable or Enable a Project	168
13.4.4 Localize a Project	168
13.5 Related Topics	169
14 Ticket Data Model and GUI Designer Section	170
15 Custom Field Administration	171
15.1 Introduction to Custom Field Administration	172
15.2 Custom Field Administration Using the Admin-Tool	173
15.2.1 File Card Ticket Data	173
15.2.2 File Card Activity Form Data	180
15.2.3 Frequently Used Annotations	182
15.3 Related Topics	187
16 Managing Sorted Lists: Enum Administration	188
16.1 Introduction to Enum Administration	189
16.2 Enum Administration Using the Admin-Tool	191
16.2.1 Enum Types	191
16.2.2 Enum Groups	193
16.2.3 Enum Values	194
16.2.4 Placing an Enum in the Data Model	197

	16.3 Rela	ated Topics	199
17	MLA Adm	inistration	200
	17.1 Intro	oduction to MLA Administration	201
	17.2 ML/	A Administration Using the Admin-Tool	203
	17.2.2	Create an MLA	203
	17.2.2	2 Edit an MLA	206
	17.2.3	B Delete an MLA	206
	17.2.4	Enable or Disable an MLA	207
	17.3 Rela	ated Topics	208
18	Ticket Adr	ninistration	209
	18.1 Intro	oduction to Ticket Administration	210
	18.2 Tick	et Administration Using the Admin-Tool	211
	18.2.1	Search Tickets	211
	18.2.2	2 Delete or Reopen Tickets	213
	18.3 Rela	ated Topics	214
19	Expert Se	ction	215
20	CM6 Adm	inistrator Manual 6.9 - Configuration	216
	20.1 Cor	figuration	217
	20.1.1	Introduction to the Configuration Page	217
	20.1.2	2 Perform Configuration Operations Using the Admin-Tool	218
	20.1.3	3 Related Topics	219
	20.2 File	Card General	220
	20.2.2	The Use of Locales	221
	20.3 File	Card CM Services	222
	20.4 File Card E-Mail		224
	20.4.1	Introduction to E-Mails in ConSol*CM	224
	20.4.2	2 E-Mail Configuration Using the Admin-Tool	227
	20.4.3	B E-Mail Duplication in the ConSol*CM Web Client	233
	20.4.4	Related Topics	233
	20.5 File	Card E-Mail Backups	234
	20.6 File	Card Licence	236
	20.6.2	General Information about Licenses in ConSol*CM	236
	20.6.2	2 Managing the ConSol*CM License Using the Admin-Tool	236
	20.7 Cor	Sol*CM ESB Services	238
	20.7.2	Introduction to ESB Services	238
	20.7.2	2 Starting and Stopping ESB Services Using the Admin-Tool	240
	20.8 File	Card Business Calendars	241
	20.8.1	Configuration of Business Calendars in the Admin-Tool	243
	20.9 File	Card Classes of Text	248
	20.9.2	Installing a New Class of Text	249
	20.9.2	2 Edit a Class of Text	253
	20.9.3	B Delete a Class of Text	253
	20.9.4	Setting the Default Class of Text	253
	20.10 Fil	e Card Ticket History	254
	20.11 Se	arch Configuration and Indexer Management (File Card Index)	256
	20.11	.1 Search Modes	256

	20.11.2	Introduction to the ConSol*CM Indexer	257
	20.11.3	Indexer and Index Management Using the Admin-Tool	258
	20.11.4	Indexer and Index-Relevant System Properties	261
21 Dep	loyment		262
21.1	Introdu	Iction to Deployment in the Admin-Tool	263
21.2	Introdu	iction to ConSol*CM Scenarios	264
21.3	File Ca	ard Deployment	265
	21.3.1	Export	265
	21.3.2	Import	268
	21.3.3	Workflow Deployment (for Deployment Error Recovery Only)	269
21.4	Relate	d Topics	270
22 CM6	6 Adminis	strator Manual 6.9 - Script and Admin-Tool Template Administration	271
22.1	Script	and Admin-Tool Template Administration	272
22.2	Introdu	ction to Scripts in the Admin-Tool	273
	22.2.1	The Source Code Editor	276
	22.2.2	Script Types	277
22.3	Introdu	ction to Templates in the Admin-Tool	294
	22.3.1	The Admin-Tool Template Editor	294
	22.3.2	Working with Admin-Tool Templates	295
23 CM6	6 Adminis	strator Manual 6.9 - Working with Text Templates	300
23.1	Workir	ng with Text Templates	301
23.2	The Co	onSol*CM Template Designer	302
	23.2.1	Introduction to the Work with E-Mail and Ticket Text Templates	302
	23.2.2	Introduction to the Template Designer	306
	23.2.3	Work with the Template Designer	307
	23.2.4	Migrating Templates from CM Version 6.8 and Less to CM Version 6.9 and Up $_$	330
	23.2.5	Page Customization for E-Mail Template Functionalities	330
23.3	CM/Of	fice	331
	23.3.1	Introduction to CM/Office	331
	23.3.2	Requirements for Using CM/Office	332
	23.3.3	Availability of CM/Office	332
	23.3.4	Configuring the ConSol*CM System for CM/Office	332
	23.3.5	Creating an Engineer Role with Permissions for the Word Template Manager	333
	23.3.6	Creating MS Word Templates and Making Them Available	334
	23.3.7	Using MS Word Templates from within the Web Client	341
24 Time	e Booking	g Using ConSol*CM	344
24.1	Genera	al Introduction to Time Booking Using ConSol*CM	345
24.2	Config	uration of Time Booking Using the Admin-Tool	346
24.3	Time E	Booking from a User's Point of View (Web Client)	348
24.4	Report	s about Times Booked	350
	24.4.1	Engineer Reports	350
	24.4.2	DWH Reports	351
24.5	Page (Customization for Time Booking	352
25 Pag	e Custon	nization	353
25.1	Genera	al Introduction to Page Customization	354
25.2	Page (Customization in the Web Client	355

	25.3	Page C	Customization Using Parameters	361
	:	25.3.1	Possible Pages (Scopes) for Page Customization	_ 361
	:	25.3.2	Page Customization Parameters (in Alphabetical Order)	_ 365
	25.4	Order a	and Priorities of Page Customization	392
26	CM6	Adminis	trator Manual 6.9 - Authentication Methods for Engineers in the Web Client	393
	26.1	Auther	tication Methods for Engineers in the Web Client	394
	26.2	Introdu	iction to ConSol*CM LDAP Authentication	395
		26.2.1	Configuring the System to Enable LDAP Authentication	396
		26.2.2	Managing Engineer Accounts for LDAP Authentication	398
	26.3	Single	Sign-On with ConSol*CM Using Kerberos	400
	:	26.3.1	Configuration of Kerberos Single Sign-On	400
	:	26.3.2	Setting Up the System	401
		26.3.3	Using the System	406
27		with Con	Sol*CM: CM/Phone	408
	27.1	Introdu	iction to CM/Phone	409
	:	27.1.1	Incoming Calls	409
	:	27.1.2	Outgoing Calls	410
	27.2	CM/Ph	one Set-Up	411
		27.2.1	System Requirements	411
		27.2.2	Components Required for CM/Phone Set-Up	411
		27.2.3	Installing CM/Phone on the Application Server	411
		27.2.4	Installing CM/Phone on Each Windows Client	414
	27.3	Config	uration of CM/Phone in the Admin-Tool	417
		27.3.1	Set the Annotations for the Data Object Group Fields Which Contain Phone Numbers	-
	41	7		
		27.3.2	Configure the Admin-Tool Templates for Customer Data for Each Customer Group	418
		27.3.3	Configure the Phone Number Format for Each Customer Group	420
		27.3.4	Set the System Properties	422
		27.3.5	Change the Prefix for Outgoing Calls	423
	27.4	Trouble	eshooting	424
		27.4.1		424
		27.4.2	Registration as phone: protocol handler	424
28	Data	Wareho	use (DWH) Management	426
	28.1	Introdu	action	427
		28 1 1	Data Warehouse	427
		28.1.2	ConSol*CM Data Warehouse and ConSol*CM Reporting Framework	427
	28.2		Janagement Using the Admin-Tool	429
	20.2	28.2.1	DWH Administration Overview	429
		28.2.2	Basic DWH Configuration	430
		28.2.2	Initialization of the DWH	433
		28 2 4	First DWH Synchronization	_ 430
		28 2 5	DWH Synchronization During System Operation	<u>4</u> 34
		2826	DWH Tasks	10-4
		20.2.0	DWH Troubleshooting and Repair	_ 400 /2E
20	CME	Adminic	trator Manual 6.9 - The Customer Portal: CM/Track	
29	20.1		istomer Portal: CM/Track	_ +J1 /20
	∠ ۳.۱			- 400

29.2 Syste	em Access for CM/Track Users (Customers)	440
29.2.1	Precondition	440
29.2.2	CM/Track Technical Background	440
29.2.3	General Principle of System Access via CM/Track	440
29.2.4	Defining the User Profiles/Access Permissions for CM/Track	441
29.2.5	Defining the Custom Fields for CM/Track Login and Password	442
29.2.6	Granting Access to CM/Track for Customers Using the Web Client	444
29.2.7	Customer Login to the System	444
29.2.8	Extended Customer Permissions to See Company Tickets	445
29.3 CM/T	rack: Authentication Modes for the Portal	446
29.3.1	Introduction to Authentication Modes in CM/Track	446
29.3.2	Definition of the CM/Track Login Mode	446
29.3.3	DATABASE Authentication Mode	447
29.3.4	LDAP Authentication Mode	447
29.3.5	Mixed Authentication Mode	449
29.3.6	Logging of LDAP Login Attempts in CM/Track	450
29.4 FAQ	s in CM/Track	451
29.4.1	Introduction to FAQs in CM/Track	451
29.4.2	Configuring the ConSol*CM System to Allow FAQ Search in CM/Track	451
29.4.3	FAQ Search in CM/Track from a Customer's Point of View	454
29.4.4	More Complex Solutions for Managing FAQs	455
30 System Ove	erview	457
30.1 Syste	em Architecture	458
30.1.1	Introduction to ConSol*CM System Architecture	458
30.1.2	Basic System Architecture	458
30.1.3	Components for E-Mail Interactions	459
30.1.4	System Architecture with Reporting Infrastructure	459
30.2 Shor	Overview of the File Structure	464
30.2.1	ConSol*CM Data Directory	464
30.2.2	JBoss 5 Application Server File Structure	465
30.2.3	JBoss 7 Application Server File Structure	466
30.2.4	Oracle WebLogic Application Server File Structure	467
30.2.5	Log Files	468
31 Appendix A	- List of Annotations (up to Version 6.9.3)	471
31.1 Alpha	abetical List of Field Annotations	472
31.2 Alpha	abetical List of Group Annotations	484
32 Appendix B	- Glossary	487
33 Appendix C	- System Properties	493
33.1 Syste	em Properties Ordered by Module	494
33.2 Syste	em Properties Ordered by Property Name	539
34 Appendix D	- Trademarks	584
35 Index		585

1 Introduction

- Introduction
 - ConSol*CM
 - The Book's Structure
 - Layout Explanations
 - Basic Principles of ConSol*CM6
 - System Components from a User's Point of View
 - Basic Technical ConSol*CM Principles and Objects
 - The Ticket
 - The Workflow
 - The Queue
 - The Customer
 - The Engineer
 - ConSol*CM Dogma
 - ConSol*CM from a System Administrator's Point of View

1.1 ConSol*CM

ConSol*CM is a **customer centric business process management software**. Using ConSol*CM you can control and steer business processes with a strong focus on human communication and interaction, e.g. user help desk, customer service processes, marketing and sales or ordering processes. Basically, every process that is in operation in a company can be modeled and brought to life with ConSol*CM6.

When you read this manual, your company is presumably using ConSol*CM6 as a process management tool and it is your job to administer the system. The book will help you get a quick overview of the most important components of ConSol*CM and will also provide a deeper and more detailed introduction to all aspects of the CM administration.

1.2 The Book's Structure

First, some basic principles of the ConSol*CM6 application will be explained to provide the theoretical background you need to become a CM administrator.

The Overview section explains how to get access to the system.

The following four sections explain the features and functionalities of the main administration application, the ConSol*CM Admin-Tool. You can decide which section(s) you need:

1. Power User Section

In this section (see Power User Section), the user, role, view, and queue administration are explained , i.e. the basic operations you need in everyday work life. As a team manager you might want to learn more about those features, without necessarily *going deeper*.

2. Customer Data Model Section

Here (see Customer Data Model Section) you get to know the principle of the ConSol*CM customer data model, *FlexCDM*, and you learn how to manage all components which are related to it.

3. Ticket Data Model and GUI Designer Section

Here (see Ticket Data Model and GUI Designer Section), you learn how to design the data models that form the basis for ticket data management and how to display those data on the GUI.

4. Expert Section

Here (see Expert Section), the system parameter management is explained and the scripts and templates that steer the system *behind the scenes*. Furthermore, the chapters in this section provide information about the system management parameters concerning the operating system, like log file management or indexer files.

In the appendix, you find lists of all important terms that are used in the book (glossary), of all annotations (important for the GUI design), and properties (important for the CM system management). Please see also the trademarks page.

1.3 Layout Explanations

In order to emphasize and/or mark a section, icons are used.

Information: This is an additional information. Attention: This is an important note. Be careful here! Warning: This is a warning! Tip: This is a recommendation from our everyday consulting life.

1.4 Basic Principles of ConSol*CM6

1.4.1 System Components from a User's Point of View



- Fig. 1: ConSol*CM System Components
 - Web Client

The primary access to the system for engineers

• Portal

CM/Track, the primary access to the system for (internal or external) customers

Admin-Tool

For all system configuration tasks

Process Designer

For the workflow design and implementation

The default scope of delivery also includes a data warehouse (DWH) that allows reporting about the data of your tickets.

Furthermore, ConSol*CM is not a stand-alone application but can be easily integrated into your company's IT infrastructure, e.g. using Web Services and/or an Enterprise Service Bus (ESB).

For a detailed explanation of the system components seen from a more technical point of view, please refer to the system administrator's section (System Overview).



1.4.2 Basic Technical ConSol*CM Principles and Objects

Fig. 2: ConSol*CM Basic Principles

The Ticket

ConSol*CM can manage incidents, service cases, and/or other requests of internal and/or external customers. Every request is managed as a ticket that is created in the system, passes through the desired process, and is then (hopefully) solved and closed.

Closed tickets are not *lost*, but they represent a powerful archive and knowledge base. The user can search the tickets using the system search. Furthermore, the system can be configured to provide FAQ (frequently asked questions) functionalities.

Every ticket has an ID that is used internally and cannot be seen by the user.

Every ticket has a name (often called ticket number) that is displayed on the GUI to mark a ticket for the user

The ticket icon in the GUI can have (and in most cases does have) a color that represents a certain value of a list. Often the priority is used, e.g. high priority tickets are displayed in red, medium tickets in orange, and low priority tickets in yellow.

However, for every process, a different color-defining value can be used. While the user help desk uses the priority, the marketing and sales department can use the probability for the conclusion of a contract, and a multi-brand service team can use the brand.

Ticket		Accept	Edit Clone	Print	Display	• •
8 330	Undelivered Mail Returned to Sender Customer Service Dispatch Eskalation Unassigned Open since 2/22/13 10:23 AM Type Complaint Source Email department customer service					
	Groups				Edit H	lide
	Product customer status					
	product Top Line Top Consumer URL [Info]					
	tickets 0 open 0					
	Contacts				Add H	lide
	Main contact					
e	Luke Skywalker VCM Customer address Kanzlerstraße 8 DE 40472 Düsseldorf					

Fig. 3: ConSol*CM/Web Client - Ticket

The Workflow

Every process that should be managed using ConSol*CM is modeled as a workflow. During its life cycle a ticket runs through several steps, e.g it is opened as a new ticket, has to be processed by several experts and can then be closed. During the process there might also be a pause, usually called *resubmission*. All those steps are modeled as steps in a workflow.



Fig. 4: ConSol*CM Process Designer - Workflow

A business process is modeled in ConSol*CM using the *Process Designer*, an application which is an integral element of a standard ConSol*CM installation. A process can be represented by one or more workflows.

Since we often deal with process chains rather than with single processes, in ConSol*CM such process chains can be designed by defining a certain order for the processes. You can work with simple process chains or with a hierarchical structure.

For example, a ticket starts in an entry pool, is directed to the 1st level team who pass it on to the 2nd level network team. Or a sales ticket starts as a customer request, becomes a lead which gets more *serious* and becomes an opportunity. Once the customer has signed the contract, an order ticket is created which generates so-called child tickets for the internal tasks up to billing. When all child tickets are closed, the parent ticket can be closed as well.

The *intelligence* of the process, like escalations, reminders, e-mails that are sent automatically, or other actions during the process, is also defined in the workflow, using *Groovy* scripts.

Please refer to the *ConSol*CM Process Designer Manual* for a detailed introduction to process design and to process modeling using the ConSol*CM Process Designer.

The Queue

The queue is **the** core component of the ConSol*CM administration. It comprises tickets from the same domain and makes sure that all tickets of this domain are treated in the same way. Every queue has exactly one workflow which cannot be changed. All data fields required in a process are assigned to tickets of the process by queue management.

For example, there is one queue for the user help desk with the *User Help Desk* workflow and data fields like *Customer Service Level, Device that does not work*, or *Priority.* Every incident ticket passes through this *User Help Desk* process. Another queue is the *Marketing and Sales* queue where fields like *probability of contract conclusion, next appointment*, or *budget [\$]* are defined.

Access permissions are also managed using the queue as basic entity.

The Customer

The customer is the person (contact) or company who has the question or service request. This person or company is the main customer for the ticket. This represents the *external* side of the CM system.

With *FlexCDM*, the Flexible Customer Data Model, ConSol*CM provides a data model which can define customer and contact data in various constellations. In this way, you can define very simple, one-level data models which only contain contact data (e.g. name, phone number, e-mail address, address) and complex, two-level models which contain contact data (e.g. name, phone number, e-mail address) and company data (e.g. address, zip code, company size). You can define different models within one system, you can configure relations between customers, and add activities to contacts and companies. Please see section The CM Customer Data Model: FlexCDM for a detailed explanation of all components of the *FlexCDM*.

The Engineer

The engineer is the *worker* who has a login to the Web Client and who has to manage the tasks defined in the tickets. This represents the *interna*/side of the company or service team.

The engineer's access permissions are managed using roles, i.e. the roles are defined using the Admin-Tool and engineers are assigned the role(s) they need.

Often, a ticket does not have an engineer when it just has been opened and it is assigned to an engineer in one of the first steps of the process. This engineer is responsible for the ticket, he/she will get the escalation e-mails and will see the ticket in his/her view *My Tickets* (*personal to-do list*).

There can be additional engineers in certain so-called *engineer roles* for a ticket, who also have tasks to do for the case. For example, a ticket has a regular engineer and an additional engineer in the engineer role *supervisor*. In this way, in the run of the process, the ticket can be automatically assigned to the supervisor.

ConSol*CM Dogma

In ConSol*CM6, there is a main *dogma*.

I A ticket always has a **main customer**. This can be a contact or a company.

A ticket can have no or one **engineer** who has to work on the ticket.

1.4.3 ConSol*CM from a System Administrator's Point of View

ConSol*CM is a Java EE application which runs in a standard application server. The data is stored in a relational database. ConSol*CM connects to an e-mail server to retrieve incoming e-mails and sends e-mails using an SMTP server. Please refer to the *ConSol*CM Operations Manual* for a detailed explanation of all aspects concerning running ConSol*CM in an IT environment. A first introduction is provided in section System Overview in this manual. If you need to know the supported application servers and relational database systems, please ask for the current *System Requirements* and/or the *Release Notes* of the latest ConSol*CM version.

2 Start of the Admin-Tool

- Start of the Admin-Tool
 - Login
 - Troubleshooting: When the Admin-Tool Does Not Start
 - Correct Process
 - Process with Errors
 - How to Use the Admin-Tool

2.1 Login

Most of the ConSol*CM6 system is administrated using a Java Web Start application called *Admin-Tool* which is provided on the main web page of the CM application server system. To start the Admin-Tool you can either use the link on the page or you can store the *jnlp* file locally and start it there. Java Web Start is part of each standard JRE.

	ConSol*CM6 - Start Page	ConSol & CM6
	ConSol*CM6 Web Client	
	This is the main part of the ConSol ⁴ CM6 Application for the most users. The web clent is the user interface for working with tickets and contacts. It is optimized for context based specific business domain.	working and shaped to the demands of
	Please use the following link to get into the web client. You might want to bookmark this:	
	http://cm6doku-cm1.int.consol.de:8080/cm-clent	
	Please ensure following system requirements: Web browser Firefox 24 Extended Support Release (ESR) or Microsoft IE8 or IE9, 1 GHz Processor, 2 GB RAM, screen resolution of	1280 pixel in width
Click here to start	ConSol*CM6 Admin Tool	
the Admin-Tool	The Admin Tool is for administration of all central configuration like users, queues, custom fields and more. It is based on Java Web Start Technology to enable an offsite administr	ation of the ConSol*CM6 Server.
	Following the link should be enough to start the Admin Tool:	
	http://cm6doku-cm1.int.consol.de:8080/admin/cm-admin-tool.jnp	
	On some systems you may need to start Java Web Start from the command line:	
	 javaws http://cm6doku-cm1.int.consol.de:8080/admin/cm-admin-tool.jnlp 	
	Please ensure following system requirements: Java Runtime Environment 6 or 7 (this includes Java Web Start), 1 GHz Processor, 2 GB RAM, screen resolution of 1280 pixel in wid	th
	ConSol*CM6 Process Designer	
	The Process Designer is for editing process definitions used by the ConSol [#] CM6 Server. The activities available in the Web Clent, the status of ticket and all automatic processes a with this designer. The designer and thus the workflows are focused on business needs; you will be able to understand them without much technical knowledge.	e defined by graphical workflows made
	Following the link should be enough to start the Process Designer:	
	http://cm6doku-cm1.int.consol.de:8080/workflow/master.jnlp	
	Same as for Admin Tool, needed in seldom circumstances:	
	 javaws http://cm6doku-cm1.int.consol.de:8080/workflow/master.jnlp 	
	Same system requirements as for Admin Tool.	
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Fig. 1: ConSol*CM Start Page

After clicking on *admin-tool.jnlp*, the *jnlp* file is downloaded, the Admin-Tool is started, and the login window is displayed (for details see the *Troubleshooting* section):

🗾 СМб Admin Login @ стб-demo.int.conso 🕰					
😣 Username required.	😢 Username required.				
Username					
Password					
M					
	OK Cancel				

Fig. 2: ConSol*CM Admin-Tool - Login Window

Enter your login data to get access to the Admin-Tool functions. A first user name and password are assigned during system set-up. Further admin users can be configured later on in the Admin-Tool.

Having logged in successfully the start page of the Admin-Tool appears:

Eile Views Help								
Â	2 😼 T 📖 😫 🗉 🔧 🚍 🗞 🧔 🍈 <> 🛛 🞜 🗐 🌖							
A Home								
\mathbf{i}	Engineer Administration							
	Use this section for creating and deleting engineers, change passwords, temporarily deactivate engineers and assign roles to engineers.							
	Role Administration							
	In the role administration you can manage roles containing permissions on queues, customer groups, and views.							
	Queue Administration							
	In this section you manage queues and assign customer groups and attribute groups to them.							
	View Administration							
	Go to the view administration for defining custom filters (so called "views") on tickets, which can then be assigned to roles.							
\Diamond	Ticket Administration							
	In this search form you can search for tickets and operate on the search result.							
さ	General Configuration							
1	Change global configuration parameters here. There is also an advanced view for creating new configuration variables which then can be used in workflows and scripts.							
1	Script and Template Administration							
	In this section you can manage and edit scripts (e.g. for customizing the e-mail handling) and templates (e.g. e-mail templates).							
💄 [CM_A	dministration]							

Fig. 3: ConSol*CM Admin-Tool - Start Page

2.2 Troubleshooting: When the Admin-Tool Does Not Start

2.2.1 Correct Process

To be able to find the problems you should know the correct process.

In case everything is set-up correctly, after clicking on the Admin-Tool hyperlink, the following steps are performed:

In a pop-up window, you are prompted for the decision if you would like to open the *jnlp* file (*Java (TM) Web Start Launcher* should be offered as default application for that) or if you want to store a local copy of the *jnlp* file.

Confirm with Open with Java (TM) Web Start Launcher.

- 2. The download of the Admin-Tool *jnlp* file is started, during this process, the ConSol*CM logo is displayed.
- 3. Java Web Start starts the Admin-Tool. In a pop-up window the *Verifying application* message is displayed.
- 4. In case the Java Web Console is activated, the console is opened and you can follow the download.
- 5. The Admin-Tool GUI is displayed with the login window in the foreground.

Step1

ConSol*CM6 - Start Page	ConSol*CM6 - Start Page					
ConSol*CM6 Web Client						
This is the main part of the ConSol®CM6 Application for the most users. The web clent	is the user interface for working with tickets and contacts. It is optimized for cont	ext based working and shaped to the demands of specific business domain.				
Please use the following link to get into the web client. You might want to bookmark th	18:					
http://cm6doku-cm1.int.consol.de:8080/cm-client	Oranica con administrativia	1				
Please ensure following system requirements: Web browser Firefox 24 Extended Supp	You have chosen to open:	ution of 1280 pixel in width				
ConSol*CM6 Admin Tool	📾 cm-admin-tooljnip					
The Admin Tool is for administration of all central configuration like users, queues, cust	which is: JNLP File (4.8 KB) from: http://cm/6doku-cmlint.consol.de:8080	edministration of the ConSol®CM6 Server.				
Following the link should be enough to start the Admin Tool:	What should Firefox do with this file?					
 http://cm6doku-cm1.int.consol.de:8080/admin/cm-admin-tool.jnlp 	Open with Java(TM) Web Start Launcher (default)					
On some systems you may need to start Java Web Start from the command line:	 Save File 					
 javavs http://cm6doku-cm1.int.consol.de:8080/admin/cm-admin-tool.jnlp 	Do this gutomatically for files like this from now on.					
Please ensure following system requirements: Java Runtime Environment 6 or 7 (this		xel in width				
ConSol*CM6 Process Designer	OK Cancel					
The Process Designer is for editing process definitions used by the ConSol®CM6 Serve you will be able to understand them without much technical knowledge.	r. The activities available in the Web Client, the status of ticket and all automatic pr	occesses are defined by graphical workflows made with this designer. The designer and thus the workflows are focused on business needs;				
Following the link should be enough to start the Process Designer:						
 http://cm6doku-cm1.int.consol.de:8080/workflow/master.jnlp 						
Same as for Admin Tool, needed in seidom circumstances:						
 javaws http://cm6doku-cm1.int.consol.de:8080/workflow/master.jnip 	 javavs http://cn6doku-cm1.int.consol.de.9080/workflow/master.jnjp 					
are system requirements as for Admin Tool.						
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Step2

ConSol*CM6 - Start Page	ConSol® CM6
ConSol®CM6 Web Client	
This is the main part of the ConSolPCM6 Application for the most users. The web client is the user interface for working with tokets and contacts. It is optimized for context based working and shaped to the demands of specific business domain.	
Please use the following link to get into the web client. You might want to bookmark this:	
http://onfdoku-omlint.consol.dc:3083/cm-dent	
Please ensure following system requirements: Web browser Firefox 24 Extended Support Release (ESR) or Microsoft IEB or IE9, 1 GHz Processor, 2 GB RAM, screen resolution of 1280 pixel in width	
ConSol*CM6 Admin Tool	
The Admin Tool is for administration of al central configuration like users, queues, custom fields and more. It is based on Java Web Start Technology to enable an offsite administration of the ConSol#CM6 Server.	
Following the link should be enough to start the Admin Tool:	
http://ondoku.cml.int.consol.de/8080/hdmi/cm-admin.tool/info ConSol®	
On some systems you may need to start Java Web Start from the command line:	
• javans http://cm6doku-cm1.int.consol.de:8080/admin/con-admin-took/pip	
Pease ensure following system requirements: Java Runtime Environment 6 or 7 (this includes Java Web Sta	
ConSol ⁴ CM6 Process Designer	
The Process Designer is for eiting process definitors used by the Contsol*CM6 Server. The activities available in the Web Clent, the status of tocket and all automatic processes are defined by graphical workflows made with this designer. The designer and to you will be able to understand them without much technical knowledge.	hus the workflows are focused on business needs;
Following the link should be enough to start the Process Designer:	
http://cm6doku.cm1.int.consol.det3088/workflow/master_joip	
Same as for Admin Tooi, needed in seldom circumstances:	
javavas http://cmidoka-cmi.kit.corsol.der3030/workflow/master.jnip	
Same system requirements as for Admin Tool.	
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Fig. 4: ConSol*CM Admin-Tool - Start: Steps 1 and 2

Step3

ConSol*CM6 - Start Page		Confection CM6						
ConSol*CM6 Web Client								
This is the main part of the Con50POM Application for the most users. The web clent is the user interface for working with tockets and contacts. It is optimized for context based working and shaped to the demands of specific business domain.								
Please use the following link to get into the web client. You might want to bookmark this:	Pease use the following link to get into the web clerit. You might want to bookmark that:							
 http://cm6doku-on1.int.consol.de:8080/cm-clent 								
Please ensure following system requirements: Web browser Firefox 24 Extended Support	Release (ESR) or Microsoft IE8 or IE9, 1 GHz Processor, 2 G8 RAM, screen resolution of 1280 pixel in width							
ConSol®CM6 Admin Tool	Starting application 22							
The Admin Tool is for admentration of all central configuration like users, queues, custor Following the link should be enough to start the Admin Tool: • <u>http://cm/dokue.cml.int.comol.det.80001/admin/cm_admin-tool.pip</u> On some systems you may need to start Java Web Start from the command line: • javans http://cm/dokue.cml.int.comol.det.80001/admin/cm_admin-tool.pip Please ensure following system requirements: Java Buntime Environment 6 or 7 (this in: ConSol®-CM6 Process Designer The Process Depense for letting process definitions used by the ConSol®-CM6 Server, you will be able to understand them without much technical incowledge.	Verifying application.	e workflows are focused on business needs;						
Following the link should be enough to start the Process Designer: • <u>http://cmfdokie.cml.int.comol.de.8080/worldlow/mester_prip</u> Same ai for Jahmin Tool, needed in wildom circumstances: • javaams http://cmfdokiu.cml.int.comol.de.8008/worldlow/master_prip Same system regularments as for Admin Tool.								
www.MuleSoft.com Powered by Mule. MuleSoft is Open for Integration. Copyright (c) 2	103-2009 MuleSoft Inc.							

Step 4 (only if Java console is activated)

🛃 Java Console - CM6 Admin-Tool (http://cm6doku-cm1.in., 😑 🔍 🖄		Confiel® CM6
Match: selecting maxHeap: 1073741824		
Natch seecting 2/01/eap) 208/05/06 Natch dgesting vinargsi null		
Matchi digested vinangsi (DVMParametersi isocurei true, angsi) Matchi 2MM angs after accumulationsi (DVMParametersi isocurei true, ar Matchi digest Laund/Desci http://cmiddiku-cmi.lint.consol.dei:0000jadm	The user interface for unders with treats and contacts. It is retenized for context local unders and dozent to the demands of openfit localized downin	
Match: digest properties: [-Ojnip.cmas.remote.url+http://cm6doku.cm1. Match: 2/M args: [2/MParameters: isSecure: true, args: -Ojnip.cmas.rem	and mer set and an annual and merio and conserve a a character to conserve sato meriod and analysis or and conserve or allows conserve to	
Match: 2MM args final: -Xmx1g -Xms256m -Ojnip.cmas.remote.url=http:/ Match: Running 3REInfo Version match: 1.7.0.21 == 1.7.0.21		
Match: Running JVM args match: have: < Opip.cmas.remote.url=http:// SVGLoader: Could not identify tag 'switch' Criticader: Could not identify tag 'switch'	rt Release (ESR) or Microsoft IE8 or IE9, 1 GHz Processor, 2 GB RAM, screen resolution of 1280 pixel in width	
SVGLaader: Could not identify tag 'switch' SVGLaader: Could not identify tag 'switch' SVGLaader: Could not identify tag 'switch'		
SVGLoader: Could not identify tag 'switch' SVGLoader: Could not identify tag 'foreignobject'	n fields and more. It is based on Java Web Start Technology to enable an offsite administration of the ConSol®CM6 Server.	
VIARN fault.command.egistry The command ((ViebrovierDalogCommand.pol) VIARN faultCommandRegistry The command ((ViebroviserDalogCommand.pol) view view		
Clear Copy Close		
 javaws http://cm6doku-cm1.int.consol.de:8080/admin/cm-admin-tool.jnlp 		
Please ensure following system requirements: Java Runtime Environment 6 or 7 (this i	cludes Java Web Start), 1 GHz Processor, 2 GB RAM, screen resolution of 1280 pixel in width	
ConSol*CM6 Process Designer		
The Process Designer is for editing process definitions used by the ConSol®CM6 Server you will be able to understand them without much technical knowledge.	The activities available in the Web Client, the status of ticket and all automatic processes are defined by graphical workflows made with this designer. The designer and thus the workflows made with the designer and thus the workflows made with the designer.	dows are focused on business needs;
Following the link should be enough to start the Process Designer:		
http://cm6doku-cm1.int.consol.de:8080/workflow/master.jnip		
Same as for Admin Tool, needed in seidom circumstances:		
 Javaws http://cm6doku-cm1.int.consol.de:8080/worldlow/master.jnip 		
Same system requirements as for Admin Tool.		
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Fig. 5: ConSol*CM Admin-Tool - Start: Steps 3 and 4

Step5

ConSol*CM6 - Start Page		Condeat
ConSol*CH6 Web Client		
This is the main part of the ConSol*CH6 Application for the most users. The web client is the	the user interface for working with tickets and contacts. It is optimized for context based working and shaped to the demands of specific business domain.	
Please use the following link to get into the web clent. You might want to bookmark this:	The Time Help	
 http://om6doku-om1.int.consol.de.8080/om-clent 		
Please ensure following system requirements: Web browser Firefox 24 Extended Support	Ame	
ConSol*CM6 Admin Tool	Engineer Administration In the second	
The Admin Tool is for administration of all central configuration like users, queues, custom I	Role Administration	
Following the link should be enough to start the Admin Tool:	esta. Oueue Administ I Parette or unare educed. 5	
 http://cm6doku-cm1.int.consol.de:8080/admin/cm-admin-tool.jolp 	THE PARTY OF THE P	
On some systems you may need to start Java Web Start from the command line:	View Administra	
 javavs http://cm6doku-cm1.int.consol.de:8080/admin/cm-admin-tooi.jnlp 	The first state of the state of	
Please ensure following system requirements: Java Runtime Environment 6 or 7 (this inclu	Ticket Administ	
ConSol®CM6 Process Designer	General Configuration	
The Process Designer is for editing process definitions used by the ConSol®CM6 Server. The use will be able to understand them without much technical Invasionless	for an and a second sec	d thus the workflows are focused on business needs;
Following the link should be enough to start the Process Designer:	Script and Template Administration	
http://cmidoku-cmi.int.com/.dr/8080/worldbw/master.into	A	
Same as for Admin Tool, needed in seldom circumstances:		
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Fig. 6: ConSol*CM Admin-Tool - Start: Step 5

2.2.2 Process with Errors

In case the Admin-Tool cannot be started, check the following settings:

1. Problems with step 1:

- a. Is Java in the correct version installed on your machine?
- b. Is the correct Java version activated?
 - Under Microsoft Windows use System settings -> Java -> Java -> Display ...
- 2. Problems with step 2:
 - a. Can your client machine connect to the ConSol*CM server over the network? Can the *jnlp* file be downloaded by the web browser?
 - b. Check the Java Network connection settings.
 Under Microsoft Windows use System settings -> Java -> General -> Network settings.
- 3. Problems with step 3:
 - a. Does Java Web Start load and verify all Admin-Tool application files? If not, check the network connection.
 - b. For all other errors, a pop-up window with a detailed error message will be displayed.

4. Notes concerning step 4:

 a. To find the cause of a problem, activate the Java Console.
 Under Microsoft Windows use System settings -> Java -> Extended -> Display console, Debugging: Tracing enabled, Debugging enabled.

5. Problems with step 5:

a. When the login window is displayed, you enter your login data. If a connection error occurs then, check the proxy settings.

2.3 How to Use the Admin-Tool

You can reach the Admin-Tool functions via the icon bar or via the drop-down menu under *Views* above the bar.

CM6 Admin-Tool @ cm6-demo.int.consol.de									
File	View	s Help							
	ñ	Home	Alt+Y	E					
	<u>0</u>	Engineer Administration	Alt+E						
1	\$	Role Administration	Alt+O						
	T	View Administration	Alt+W	rofi					
		Queue Administration	Alt+Q	าสแ					
2	24	User attributes	Alt+M	enginee					
		Custom Field Administration	Alt+T						
	4	Enum Administration	Alt+U	n Proles c					
	=	MLA Administration	Alt+A						
	8	Ticket Administration Alt+I							
	۵	Configuration Alt+C							
	٥	Deployment Alt+D							
	\diamond	Script and Template Administration	Alt+P	ssign cu					
View Administration									
		Go to the view administration for	or defining	custom					

Fig. 7: ConSol*CM Admin-Tool - Views Menu

The function pages are built similarly. The following picture shows the operational concept using the engineer administration as an example:



Fig. 8: ConSol*CM - Handling of the Admin-Tool

A list on the left shows the elements which can be modified. Elements can be added, edited, deleted, disabled, or enabled.

The attributes of an element are displayed on the right. You can move them from a list of *available attributes* to a list of *assigned attributes* either via double click or via click on the icon (example: *available roles* and *assigned roles*). Attributes can also be assigned via check or list boxes (not displayed here).

There are a couple of options to help you find the entries you want to edit more quickly:

• Filters

Filters help you find entries in lists (e.g. in the engineer list) rather quickly. There are two types of filters:

• Text filters

Type in the characters of the required word (e.g. the engineer name) and the list will be adopted automatically, only the matching entries are displayed (with *er* in the example above).

• Drop-down menu filters

Select a category (e.g. *all engineers*) and only the matching list entries (e.g. engineer names) are displayed.

• Sorting

You can sort the entries in ascending or descending order by clicking in one of the title fields of the list . The icons imes or imes show the sort order.

Usually all changes you perform in the Admin-Tool are submitted immediately without the need to synchronize the data. However, if changes in another module have been performed and the Admin-Tool has to use the new data, it is required to synchronize the data. You can achieve this by clicking on the *Synchronize* button in the icon bar.

One example for this is the deployment of a new workflow using the Process Designer. Before you can assign the new workflow to a new queue, you have to synchronize the data in order to let the Admin-Tool know that there **is** a new workflow. The Admin-Tool loads all data from the database anew, including the new workflow. Then this new workflow can be used for further operations like assigning it to a new queue.

3 CM6 Administrator Manual 6.9 - Power User Section

📔 СМб А	Admin-Tool (cm6-demo.int	.consol.de											x	ſ
File View	Help	-					~		•			~		-	
î	<u>× 4</u>				-	=	~	ŵ	Q	\diamond		S	2	•	
A Home	-														
	Eng	ineer A	dmin	Istra	tion										
	Use	this section for a	reating and de	leting engin	eers, cha	nge passv	vords, ten	nporarily o	leactivate	engineers a	nd assign roles	to enginee	rs.		
	Role	e Admi	nistra	tion											
	In t	ne role administra	tion you can r	nanage role	s containir	ng permiss	ions on q	ueues, cu	stomer gr	oups, and vie	ews.				
	Que	ue Adı	minist	ratio	n										
	In t	nis section you ma	anage queues	and assign	customer	groups an	d attribut	e groups	to them.						
	Viev	v Admi	nistra	tion											
	Go	o the view admin	istration for d	efining custo	om filters (so called	"views") o	n tickets,	which car	then be ass	igned to roles.				
0.	Tick	et Adm	ninistr	ation											
	In t	nis search form yo	ou can search	for tickets a	nd),	`	. /	0	r	112		r	С	action
2					- F	-(J	N	E		\mathbf{U})E		С	ection
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	In t	nis section you ca	n manage and	edit scripts	(e.g. for	customizir	ng the e-n	nail handli	ng) and te	emplates (e.g	i. e-mail templat	es).			
[Administration														

4 Engineer Administration

- Engineer Administration
 - Introduction to Engineer Administration
 - Engineer Administration Using the Admin-Tool
 - Create or Edit an Engineer Account
 - Delete an Engineer Account
 - Disable or Enable an Engineer Account
 - File Card Roles Assign Roles to an Engineer Account
 Set Roles as Main Roles
 - File Card View Criteria Define Engineer-Specific View Criteria
 - Related Topics

4.1 Introduction to Engineer Administration

An *engineer account* is the basic access object which allows the engineer or the administrator to access the Web Client, the Admin-Tool, or the Process Designer. During system set-up an administration account for the first access to the Admin-Tool is created. Using this account you can set up further accounts.

Newly created engineer accounts do not have any permissions. These permissions have to be assigned through one or multiple *role(s)* displayed in the file card *Roles*. If you have not created any roles yet, you will see only the administrator role (see file card *Roles*).

Views define which tickets engineers will see in the ticket list (*to-do list*) of the Web Client. They are created in the View Administration and assigned via roles. On the engineer administration page you can preset dynamic view criteria for specific engineers (see file card *View Criteria*).

Information:

We would recommend that you create at least one role and one view first before you create engineer accounts.

4.2 Engineer Administration Using the Admin-Tool



Fig. 1: ConSol*CM Admin-Tool - Engineer Administration

4.2.1 Create or Edit an Engineer Account

To create an engineer account click on the icon 🕑 below the account list. Or click on 🗵 if you want to edit the settings of an existing account. The same pop-up window appears:

🛃 CM6	🕻 CM6 Admin-Tool @ cm6-demo.int.consol.de								
File Vie	ws Help								
	2	T	🛃 Edit engineer	E	G 🔊 🖡				
_			Edit engineer						
🚊 Engir	neer Administration		 Please edit the engineer's 	data.					
Enginee	er								
Filter:	er		Login:	Huber	Available				
	All roles		First name:	Harald	Name				
First n	ame Last nam	e Login	Last name:	Huber	CM_Administration				
Konrad	Holler	Holler	E-mail:	hhuber@devnull.consol.de	Change_Queue_Sales_Role				
Friedric	h Meier	Meier	Position:	Service chief	HD1_create_contact_readown_cre HD1 create contact ro wo do Role				
Sally Peter	Miller Sellers	Miller Sellers	Company:		HD1_ro_wo_do_Role				
	_	Sommer	Division:		HD_1st_Level_Role_readonly				
Gottliel	b Daimler	bauer damler	Description:	Poweruser Huber	HD_Sales_Role HD_Sales_Role_with_CustomerGroup				
Oscar	Fischer	fischer	Phone:	08944488833	HD_Supervisor				
		porter2	Mobile:		Porter Read write own tickets HD1 Role				
Bernd	Stromberg	stromberg	Fax:		Template_Role				
Lukas	Schneider	wfl_user1	LDAP ID:		Wfl_Deploy_Role				
Achim	Müller	wfl_user3	Kerberos Principal Name:		Wfl_Write_Role				
Anton	Koch	wfl_user_	Password:		Workflow_Admin Write_HD1_Read_HD2				
			Password (again):		Write_own_create_tickets_HD2_Role				
			Track user:		krone				
				Save Cancel					
1 [CM	_Administration]								
<u></u>					,				

Fig. 2: ConSol*CM Admin-Tool - Edit an Engineer Account

The window shows the parameters describing an engineer account:

• Login:

Mandatory. This field contains the account name which has to be entered on the login page of the Web Client. Please use only international alphabetic and numeric characters, no blanks, punctuation marks, or special characters such as umlauts, hyphens, or the like.

• First name:

Optional. The engineer's first name. This field is optional but will be displayed in the Web Client for the engineer. The entry may contain alphabetic characters, blanks, comma, periods, and hyphens. Please do not use other characters.

• Last name:

Optional. The engineer's last name. This field is optional but will be displayed in the Web Client for the engineer. The entry may contain alphabetic characters, blanks, comma, periods, and hyphens. Please do not use other characters.

• E-mail:

Mandatory. The engineer's e-mail address. Please use only international alphabetic and numeric characters, hyphens, underscores, periods, and the @ sign. The entry of multiple e-mail addresses in one line is not allowed.

• Position:

Optional. The engineer's position or function in the company. This field is optional and has a descriptive function only. The entry may contain alphabetic characters, blanks, comma, periods, and hyphens. Please do not use other characters.

• Company:

Optional. The engineer's company. This field is optional and has a descriptive function at the moment. The entry may contain alphabetic characters, blanks, comma, periods, and hyphens. Please do not use other characters.

• Division:

Optional. The division in which the engineer works. This field is optional and has a descriptive function. The entry may contain alphabetic characters, blanks, comma, periods, and hyphens. Please do not use other characters.

• Description:

Optional. An additional description for the engineer account. This field is optional and will **not** be displayed in the Web Client. The entry may contain alphabetic characters, blanks, comma, periods, and hyphens. Please do not use other characters.

• Phone:

Optional. The engineer's phone number. This field is optional and has a descriptive function at the moment.

• Mobile:

Optional. The engineer's mobile phone number. This field is optional and has a descriptive function at the moment.

• Fax:

Optional. The engineer's fax number. This field is optional and has a descriptive function at the moment.

Attention:

Several fields which contain engineer data (like *Company, Division*, or *Phone*) are optional fields. However, when you work with e-mail templates which contain engineer data fields (see section The ConSol*CM Template Designer) the e-mails will not be formed correctly when the data is missing. For example, the field *ticket-engineer, phone* cannot be filled-in in the template when it has not been set for the engineer in engineer administration! So please make sure all data which will be required later on is filled-in correctly in the first place!

LDAP ID

The LDAP user ID if LDAP is used for authentication. No password has to be set here.

Information:

If you do not enter an LDAP ID here, the login will be used as authentication login parameter for the LDAP server (if LDAP authentication is activated)!

Kerberos Principal Name

The Kerberos principal name if Kerberos V5 protocol is used for authentication. Engineers can log in to the Web Client by using their Windows credentials.

Password:

Mandatory. The engineer's password. The entry of a password is mandatory. Please use only international alphabetic and numeric characters, and punctuation marks, do **not** use any special characters as e.g. umlauts. The password entered will be shown as a string of asterisks.

Information:

This field will only appear if the engineer authenticates against the Web Client via the CM6 database, i.e. when LDAP or Kerberos authentication is used, the field is not visible.

• Password (again):

Mandatory. Please repeat the password here. This security query helps to avoid erroneous entries which would not be noticed otherwise because the password is shown as a string of asterisks. The repetition of the password is mandatory.

Information:

This field will only appear if the engineer authenticates against the Web Client via the CM6 database, i.e. when LDAP or Kerberos authentication is used, the field is not visible.

Track user

This check box has to be ticked if you want to create a technical engineer (or *CM/Track user profile)* used to define access permissions for CM/Track users. The available CM/Track users (user profiles) will be shown in the Web Client when creating or modifying a customer. So, by ticking this check box, you do not define a real engineer (a person) with access permissions to the system but rather a user profile for CM/Track which is then assigned to one or more customers who should access the portal *CM/Track* using those access permissions. For a detailed description of the CM/Track access definition see also section CM/Track: System Access for CM/Track Users (Customers).

Click on Save afterwards to store your entries and to close the window.

4.2.2 Delete an Engineer Account

To delete an engineer account, select the account in the list and click on since an engineer account can only be deleted if there are no tickets (open or closed) for it anymore, you have to assign its tickets to another engineer. For all history entries in tickets and in customer pages which were performed by the deleted engineer, his or her name will still be displayed.

In case you do not want to transfer any tickets to another engineer, you can deactivate the engineer account . See next section.

4.2.3 Disable or Enable an Engineer Account

If engineers should not have access to the system for a certain period of time (e.g. because they have taken a sabbatical), an account can be disabled. There will be no change regarding the tickets of these engineers, but they cannot login anymore and other engineers cannot assign any tickets to their accounts.

To disable an engineer account, select the account and click on \bigcirc . The entry in the list is shown in gray italics afterwards. It is not possible to create new tickets or to edit existing tickets for this account. Just click on \bigcirc at the bottom of the page, if you want to enable the account again.

4.2.4 File Card Roles - Assign Roles to an Engineer Account

On this file card you can assign roles to an engineer account. Select the account on the left and then the desired role(s) in the list of *available* roles on the right. Click on <a> to move the selected roles into the list of *assigned* roles. Now an engineer with this account can act in the system according to the permissions set in the role(s) (see also Role Administration).

Information:

When engineers log in to the system, they will have access permissions from all roles that have been assigned to them. So all permissions are added! There is no way of explicitly denying access to objects in ConSol*CM, you always grant access! The sum of all granted permissions defines the final access permissions for the engineer.

Set Roles as Main Roles

From the list of assigned roles you can choose one role as the main role for each engineer account. Select the desired role in the list and click on select the list. Afterwards the main role is marked with a red dot. Now the views of the main role will always appear at the top of the view list in the Web Client for this engineer account.
4.2.5 File Card View Criteria - Define Engineer-Specific View Criteria

Here you can change the dynamic view criteria for an engineer. Dynamic criteria are used to give the engineer the possibility to adjust a view interactively in the Web Client (see also View Administration).

Information:

This file card will show view criteria only if you have created a view with dynamic criteria and assigned it to the engineer's role.

Select the engineer account on the left and then the desired criterion in the list of *available* view criteria on the right. Click on to move it to the list of *assigned* view criteria. You will see the possible values below the criterion in the list. Tick the check boxes of the values you want to change or preset. The engineer can change these settings in the Web Client (profile page) and changes you have made in the Admin-Tool will be immediately visible in the engineer's profile page.

Roles View criteria	
Assigned Availa	able ne uct s_chance

Fig. 3: ConSol*CM Admin-Tool - Define Engineer-Specific View Criteria

Example:

You have assigned the dynamic criterion *priority*. The list shows the values *Not set, low, normal*, and *high*. If you tick the values *normal* and *high* the engineer will only see tickets with normal and high priority after logging into the Web Client. If you do not tick any values the engineer will see no tickets for this view. See section View Administration for details.

Attention:

Please note that in a view with a dynamic criterion, only the tickets are displayed which match this criterion. So if an engineer has not selected any criteria in his/her engineer profile or if the administrator has removed all selections using the Admin-Tool, the engineer's view will be empty!

Make sure your users know about this fact and make sure you as an administrator are always aware of that fact.

4.3 Related Topics

- Roles
- Views

5 Role Administration

- Role Administration
 - Introduction to Role Administration
 - Role Administration Using the Admin-Tool
 - Create a Role
 - File Card Queue Permissions
 - File Card Global Permissions
 - File Card Customer Group Permissions
 - File Card Views
 - File Card Engineer Functions
 - Delete a Role
 - Copy a Role
 - Edit a Role
 - Related Topics

5.1 Introduction to Role Administration

Roles provide access rights and views, they specify what an engineer is allowed to do or to see. Without a role, an engineer can log in to the system but cannot perform any actions. Only by being assigned one or more role(s) the engineer obtains system permissions. For each task in a company using the system there should be a role which defines its permissions. Engineers fulfilling the task should have this role.

Information:

When engineers log in to the system, they will have all permissions from all roles they have been assigned. So all permissions are added! There is no way of explicitly preventing access to objects in ConSol*CM, but you always grant access!

The sum of all granted permissions defines the final permissions for the engineer.

Roles define:

Access rights to one or more queue(s)

E.g. read, write, and append rights are granted. The rights are valid for all tickets in the queue(s).

• Global permissions

Several system-wide permissions are managed here, e.g. the rights concerning template design, workflow design, and system administration.

- Access rights to customer data Read, write, modify, and delete rights for each distinct customer group.
- Views

To do lists of tickets which will be displayed in the ticket list in the Web Client.

• Engineer functions

Additional engineer function which can be taken by members of this role, e.g. approver.

5.2 Role Administration Using the Admin-Tool

In the Role Administration GUI, you see the list of all available roles on the left-hand side and the permissions which can be granted on the right-hand side. In the list of roles, all roles which have been set as *main role* for at least one engineer are marked with a red dot. You always work with the access permissions of the role which has been selected in the list of roles. Only one role can be selected at a time. On the right-hand side, several file cards are available. During role management you switch between these file cards.



Fig. 1: ConSol*CM Admin-Tool - Role Administration: Queue Permissions

Attention:

All changes on the Role Management file cards are immediately effective resp. after clicking the OK button. You do not have to click on \mathcal{O} in the icon bar. Engineers have to log in again to use their new roles. Views become effective after clicking *F5* (page refresh) in the Web Client.

5.2.1 Create a Role

Click on below the role list to create a new role. A pop-up window appears where you can enter the role name. Afterwards you have to set the permissions of this role using the following file cards on the right side of the page (see also the preceding picture):

- Queue Permissions
- Global Permissions
- Customer Group Permissions
- Views
- Engineer Functions

Just click on the corresponding tab to switch between the file cards.

File Card Queue Permissions

The permissions set in this file card apply to the selected role (left part of page) and the selected queue (center part of page). Without an entry here, an engineer with this role is not able to see tickets or to act in the system.



Fig. 2: ConSol*CM Admin-Tool - Role Administration: Setting Queue Permissions

The following permissions can be set:

Read

Read tickets.

• Write

Edit data fields (default fields, custom fields, etc.) of a ticket. The fields might be located in the ticket header section or in the group section.

• Append

Add information to a ticket (comments, e-mails, attachments), i.e. add content in the ticket protocol.

• Act

Execute workflow activities, i.e. move the ticket forward in the workflow.

• Assign

Assign tickets to another engineer.

• Refer

Assign an additional engineer (with engineer function, see file card Engineer Functions) for a ticket.

• Change queue

Move a ticket from this queue to another queue (appropriate permissions for the *initial* and the *target queue* required).

Attention:

Be very careful when granting the *Change queue* permission!!! Usually it is not required. On the contrary, it can destroy your process chain definition where tickets are passed from one process to another using process/workflow components, namely the *Jump-in* and *Jump-out* nodes.

This permission should only be granted if it is absolutely necessary and when all side-effects have been considered well.

You can define for which range of tickets the permissions are valid:

• Mine

Own tickets.

• Ref

Tickets for which the engineer is assigned as an additional engineer (with engineer function, see file card Engineer Functions).

• None

Tickets without assigned engineer.

Other

Tickets assigned to other engineers of the team, i.e. with the same access permissions.

Click on the corresponding check box to assign one or more permissions to the desired ticket range.

Two general permissions can also be set:

Create

An engineer is allowed to create tickets in this queue.

Get assigned

An engineer can receive a ticket from another engineer who has the permission to assign tickets in

the respective queue(s).

In the Web Client, the engineer can then be selected in the list of engineers within the ticket data section. Please refer to the *ConSol* User Manual* for a detailed description of this functionality.

If you want to select all permissions simultaneously just click on 🗾 below the list. Clicking on 🔟 removes all selections.

File Card Global Permissions

Global permissions are general and queue-independent rights for a role. Setting these permissions is optional.

CM6 Admin-Tool @ cm6-demo.int.consol.de File Views Help			
🎓 🕺 🦻 🍸 🍏 😫 🖻) 🔩 😑 🗞 🗔 🍈 🚸 🖉 📰	•	
😼 Role Administration			
Roles 23 roles	Queue Permissions Global Permissions Customer Group Permissions Views Engineer Functions		
Filter:	Global Permissions		Administrator permissions
Name CM_Administration	Workflow Permissions	=	Process
Change_Queue_HD1_HD2_Role Change_Queue_Sales_Role	Read workflow	+	designer permissions
HD1_create_contact_readown_create_Role HD1_create_contact_ro_wo_do_Role HD1 ro wo do Role	✓ Mile Hockbow ✓ Deploy workflow		Permissions
HD_1st_Level_Role HD_1st_Level_Role_w/o_change_engineer	Template Permissions	\neg	for template administration
HD_2nd_Level_Role HD_2nd_Level_Role_readonly HD_Sales_Role	Representation Permissions	=	Permission to represent
HD_Sales_Role_with_CustomerGroup	Configure representation		other engineers
HD_Supervisor Porter Read write own tickets HD1 Role	Track User Permissions		Permission for CM/Track users
Template_Role Wff_Deploy_Role Wff_Read_Role			to access all tickets of their own company
Wfl_Write_Role Workflow_Admin Write_HD1_Read_HD2			
Write_own_create_tickets_HD2_Role krone			
[CM_Administration]			

Fig. 3: ConSol*CM Admin-Tool - Role Administration: Global Permissions

You can specify the following:

• Global Permissions (Administrate)

Provides administrator access to the system, this applies to the Admin-Tool, the Process Designer, and admin access to the Web Client.

• Workflow Permissions

Provides permissions concerning workflow design and management. These are *Read*, *Write* (modify and store), and *Deploy* (install and put in operation).

Template Permissions

Provides the permission to use the ConSol*CM Template Designer which is used to create and edit e-mail templates, see section The ConSol*CM Template Designer for details.

• Representation Permissions

If this permission is set, engineers with this role can configure themselves as a representation for other engineers, e.g. who are ill and have not defined other engineers to represent them resp. if the defined engineers are not available at the moment. On the Web Client the engineers that can be represented by an engineer with this permission are shown in a list within the engineer profile.

• Track User Permissions

Users with this permission are allowed to access not only their own tickets in CM/Track but all tickets of the company they belong to. This permission makes only sense for roles that define access rights of CM/Track users/user profiles, not for single users.

File Card Customer Group Permissions

In order to let engineers work with customer data from one or more customer groups, e.g. to edit reseller data sets or to create new contact data within the customer group, you have to grant access permissions concerning the user group(s) to one or more roles.

Image: Weight Strategy Image: Weight Strategy <
The access
Roles 17 roles Queue Permissions Global Permissions Customer Group Permissions Views Engineer Functions
Filter: All queues Customer Groups Customer Group Permissions Selected role to
Name Own All data of the sel
AccountManagementReseller DirectOustomers Read V V
CM_Administration MyCustomerCroup Write V V
CustomeManagerMyCustomerG Delete V V
CustomerManager_BreatCustom
HD_tst_level_Role Deactivate/ V
HD 2nd Level Role Activate Activate
HD_Supervisor Details read 🕡 🕡
MarketingTeamletitung Details write VV
TemplateManager Details delete 🗹 🗸
TrackAll Create C
TradReseler Remove all
Workflow_Admin
Select all
permissions
CM_Administration,Workflow_Admin]

Fig. 4: ConSol* Admin-Tool - Assigning Permissions for Customer Groups to a Role

The access rights which can be granted have been modified compared to previous ConSol*CM versions. New rights have been added which concern a new section of the customer page. The contact page as well as the company page in the Web Client have a new section, the *Details* section.



Fig. 5: ConSol*CM/Web Client - Details Section of a Contact Page

The following access permissions can be granted:

• Customer type

Refers to the tickets of the customer.

• Own

All customers which are contacts at tickets which are currently owned by the engineer.

• All

All customers.

- General sections
 - Read

Read the customer data.

• Write

Write/modify the customer data.

• Delete

Delete a customer data set.

• Act

Execute actions for this customer (see section Action Framework for details about customer actions).

Deactivate/activate

Deactivate and (re-)activate the customer or company. It is not possible to create tickets for a deactivated company.

- Details section
 - Details read

Read customer data in the *Details* section.

• Details write

Write/modify customer data in the *Details* section.

• Details delete

Delete customer data in the *Details* section.

- General
 - Create

Create a customer data set. In a two-level customer data model this refers to customer as well as to company data sets.

Attention:

Please keep in mind that an engineer must have at least *read* permissions for a customer group to open and/or create tickets for customers in this group!

File Card Views

Views define which tickets engineers will see in the ticket list of the Web Client. This file card shows the assigned views on the left and the available views on the right (see also View Administration). The displayed views can be filtered by name and queue. Assigning views is optional.

Information:

We recommend to assign at least one view to a role. Otherwise an engineer with this role will see no tickets in the ticket list of the Web Client.



Fig. 6: ConSol*CM Admin-Tool - Role Administration: Views

Select a role on the left side of the page first and then the desired view(s) in the list of *available views*. Click on to move the selected view(s) to the list of *role views*. If you want to remove views from this list, select the respective views and click on .

For regular roles, you cannot define the order of the views here. In the drop-down menu of the Web Client, the views will always be displayed in the order they have in the list of the view administration. Please see also section View Administration. Only in case a role has been marked as *main role* for at least one engineer (and is thus marked with a red dot), the views can be sorted using the arrow buttons 1 and 1.

5.2.2 File Card Engineer Functions

On this file card you can assign engineer functions to a role. Engineer functions are used if you need an additional engineer for a ticket, e.g. a supervisor who has to decide what to do, before the ticket can be moved on in the workflow. Thus you have to assign a role with the respective engineer function to this supervisor. In the Web Client engineer functions and associated engineers are shown when assigning an additional engineer (see section Additional User Attributes for creation of engineer functions).



Fig. 7: ConSol*CM Admin-Tool - Role Administration: Engineer Functions

Select a role on the left side of the page and then the desired engineer function(s) in the list of *available functions*. Click on <a> to move the selected function(s) to the list of *role functions*. If you want to remove functions from this list, select the respective function(s) and click on <a> .

After you have defined the new role by setting permissions, views, and engineer functions in the file cards you can assign the role to the desired engineer accounts. Engineers will obtain the rights of a role immediately after assignment (without an additional update of the system).

5.2.3 Delete a Role

Select the role you want to delete and click on select the role list. If you choose *Yes* in the following confirmation dialog, the role will be removed from the list and the system.

Attention:

If you delete a role, please consider that engineers with only this role will immediately loose all permissions in the system.

5.2.4 Copy a Role

If you want to create a new role and use an existing role as a template you can copy it. Select the existing role and click on below the role list. A pop-up window appears in which you can enter the name for the copy. Afterwards you can modify the copy according to your wishes.

5.2.5 Edit a Role

Select the role you want to edit in the list and modify the permissions in the respective file cards as desired. The changes are immediately effective for engineers with this role. The engineer just has to login again.

5.3 Related Topics

- Engineer administration
- Customer groups
- Queues
- Views
- Additional user attributes

6 View Administration

- View Administration
 - Introduction to View Administration
 - View Administration Using the Admin-Tool
 - Create a View
 - Queue Filter
 - Scope Filter
 - Static Criterion
 - Dynamic Criterion
 - Edit a View
 - Delete a View
 - Copy a View
 - Related Topics

6.1 Introduction to View Administration

Views are used to filter tickets according to certain criteria (e.g. all active tickets in the Queue *Helpdesk*) and display the resulting tickets in the ticket list of the Web Client. Since views are associated with roles engineers obtain their view(s) via the roles which are assigned to them. Engineers can switch between their views in the Web Client.

Engineers need the appropriate permissions to see all tickets filtered by a view. Permissions are not automatically granted when a view is assigned, but they have to be assigned within the definition of roles. One and the same view can result in varying subsets of tickets and information therein for engineers with different roles.

The creation of views is optional. However we recommend it in order to assure central features of the Web Client. Without a view engineers will not see any tickets in the ticket list. They can only access tickets by using the search function.

6.2 View Administration Using the Admin-Tool



Fig. 1: ConSol*CM Admin-Tool - View Administration

6.2.1 Create a View

After clicking on below the view list the pop-up window *View Wizard* appears where you have to define the name for the new view first. You can also enter a description for it.

By clicking on 🗐 you can localize view name and description. The pop-up window *Localize* shows the available locales on the left side. Enter the corresponding view name or description in the *Value* field for each additional language on the right. After clicking *Save* the name or description will be displayed in the respective language of the engineer's locale.

Via *Next* > you can continue with the definition of view criteria:

- queue filter
- scope filter
- static criterion
- dynamic criterion

Queue Filter

At first you choose the queues for the new view. Select the desired queues in the list *Unassigned* and move them to the list *Assigned* by clicking on \checkmark . To remove an assigned queue, select it and click on \checkmark . Continue with the *Next* > button, in order to define scope filters, too.

🚺 View Wizard		
Create view		
j New queue filter.		
Assigned		
Name 🔺	Name 🔺	
Sales(Sales)	HelpDesk_1st_Level(helpdesk1)	
	HelpDesk_2nd_Level(helpdesk2)	
	< Back Next > Finish Can	cel
No		
Move queue to the Back	to Go to Create view	Leave View Wizard
opposite list previous	step next step	without storing

Fig. 2: ConSol*CM Admin-Tool - View Wizard: Queue Filter

Scope Filter

Next you can limit the view to certain workflow scopes of the selected queue(s). Scopes group workflow activities that have a special topic in common, e.g. tickets with an appointment.

Select the desired scopes in the list *Unassigned* and move them to the list *Assigned* by clicking on \checkmark . To remove assigned scopes, select them and click on \checkmark . Continue with the *Next* > button, if you want to define further criteria. Otherwise click on *Finish* to create the view.

Information:

If you do not assign scopes in the *View Wizard*, the view exists by name but will not show tickets in the Web Client.

Attention:

Since for the view definition you can only use scopes which have been defined during workflow development, please make sure that the workflows contain all required scopes. For example, when you want to have *active* and *inactive* tickets, there have to be separate scopes in the workflow, otherwise it will not be possible to define an *active* and an *inactive/waiting* view!

View Wizard Create view j New scope filter. Assigned	Unassigned	
Name Appointment(Sales) FollowUp(Sales) Phone(Sales)	▼ Name ▲ Bid(Sales) Depot(Sales) Lost(Sales) Sales(Sales) Snooze(Sales) Won(Sales) defaultScope(Sales) ♦ </th <th>Finish Cancel</th>	Finish Cancel

Fig. 3: ConSol*CM Admin-Tool - View Wizard: Scope Filter

Static Criterion

You can restrict the view further by a static criterion to show only tickets with a certain value in a defined data field, e.g. tickets concerning a special product or only tickets with high priority. The criterion is static because the engineer cannot change it in the Web Client. Please see the *ConSol*CM User Manual* for a detailed description of working with views.

Choose the data field in the *Field* list (e.g. *product*) and select the desired value in the *Value* list below (e.g. *crm*). Continue with the *Next* > button, if you want to define a dynamic criterion, too. Otherwise click on *Finish* to create the view.

	View	ïew Wizard	
•	i Add r	a te view Add new static criterion	
	Criteria	iteria definition	
	Field:	eld: product	
		not set	
	Value:	lue: management others	
		< Back Next >	Finish Cancel

Fig. 4: ConSol*CM Admin-Tool - View Wizard: Static Criterion

Dynamic Criterion

Like a static criterion, a dynamic criterion is used to show only tickets with certain values in a defined data field, but in contrast to a static criterion, with a dynamic criterion engineers can choose the value(s) for the parameter themselves. This can be done in the Web Client by editing the *User Profile*. Additionally, the administrator can adjust the value individually for each engineer on the *View criteria* file card of the engineer administration (see section Engineer Administration). Please see the *ConSol*CM User Manual* for a detailed description of working with views.

🗾 View Wizard	X
Create view i Add new dynamic criterion	
Criteria definition	
Field: sales_chance	
< Back Next > Finish	Cancel

Fig. 5: ConSol*CM Admin-Tool - View Wizard: Dynamic Criterion

Click on *Finish* to create the view. You can leave the window any time without storing by choosing *Cancel*. Via the *Back* button you can return to the previous step of the view definition.

Now you can see the new view in the view list on the left. The assigned criteria are shown in the *Details* area on the right side of the page.

Attention:

Please note that in a view with a dynamic criterion, only the tickets are displayed which match this criterion. So if an engineer has not selected any criteria in his/her engineer profile or if the administrator has removed all selections using the Admin-Tool (*View criteria* in Engineer Administration), the engineer's view will be empty! Make sure your users know about this fact and make sure you as an administrator are always aware of that fact.

Details
Queues
Sales(Sales)
Scopes
Appointment(Sales)
FollowUp(Sales)
Phone(Sales)
Static criterion
product
Dynamic criterion
sales_chance

Fig. 6: ConSol*CM Admin-Tool - View Administration: View Details

You can expand or collapse all details by clicking on 🖲 or 🖻 below the list.



Conclusion: A view of closed tickets does not help and might decrease the speed of the system for the engineers. Only in test environments, a view for closed tickets might be an option.

6.2.2 Edit a View

Select the view you want to edit in the view list. The view details are shown on the right side of the page. To edit the selected view just click on a filter criterion with the right mouse button. The following drop-down menu appears:



Fig. 7: ConSol*CM Admin-Tool - View Administration: Edit a View

The menu contains these options:

- Add or remove queues
- Add or remove scopes
- Add or remove static criterion
- Add or remove dynamic criterion

Just click on the desired menu item. The respective window of the *View Wizard* appears where you can add or delete filter criteria as described in Create a View. Double-clicking on a filter criterion will also open the *View Wizard*.

Information:

You cannot edit view criteria by clicking on 🖄. Here you can only modify name and description of a view.

6.2.3 Delete a View

Click on selected view. A pop-up window appears where you are asked whether you really want to delete the view. If you choose *Yes*, the view will not be available for any engineer. Engineer permissions are not affected by this operation.

6.2.4 Copy a View

The icon 🖸 allows you to save time when creating a view. The selected view will be copied completely and you can edit the copy afterwards. The new view has the same name as the copied view. You can change it by double-clicking on the name or by clicking on the 🔯 icon.

6.3 Related Topics

- Queues
- Workflow scope (see separate document ConSol*CM Process Designer Manual)
- Roles
- Engineer administration

7 Queue Administration

- Queue Administration
 - Introduction to Queue Administration
 - Queue Administration Using the Admin-Tool
 - Filter the Queue List
 - Create a Queue
 - Edit a Queue
 - Delete a Queue
 - Copy a Queue
 - Enable or Disable a Queue
 - Related Topics

7.1 Introduction to Queue Administration

Queues are a central element of ConSol*CM. Tickets are grouped in queues, e.g. for certain tasks or work groups. To each queue a single workflow is assigned which controls the working steps of the queue's tickets . For example, there might be one queue *Helpdesk*, one queue *Marketing*, and one queue *Sales*.

In a queue you define:

- The workflow of the queue (mandatory), i.e. the process which should be used for all tickets in the queue (e.g. all tickets of a department). A queue can only have one workflow but a workflow can be used by multiple queues.
- The template for the e-mails which are sent to engineers when a ticket is assigned or removed (optional).
- Several scripts that define the behavior of tickets in this queue (optional).
- One or more customer group(s) which are associated with the queue. Only for customers of those customer groups tickets can be created in the queue (one customer group is mandatory, more are optional).
- The business calendar (i.e. the working hours) which should be applied for tickets in this queue (optional).
- The data fields which should be available in tickets of the queue. They are defined by assigning custom field groups to the queue (some mandatory, some optional).
- The classes of text which should be available for tickets in this queue (optional).
- The project(s) which should be available for time booking in tickets of the queue (optional).

Information:

As a central element the queue uses various objects and elements that have been defined at another place, i.e. on another page of the Admin-Tool, so usually the elements which are later required for the queue definition are defined first. However, except for the workflow, all parameters can be modified even after a queue definition has been saved. So you can configure the queue using an iterative approach if you like.

Furthermore, a queue is the basis for the assignment of access permissions, please see section Role Administration for details.

7.2 Queue Administration Using the Admin-Tool



Fig. 1: ConSol*CM Admin-Tool - Queue Administration

7.2.1 Filter the Queue List

Queues you want to edit or copy can be found faster, if you enter filter information in the fields above the queue list.

You can filter for queues which

- · contain a certain text string (blanks are interpreted, too) and/or
- are specific for customer groups.

7.2.2 Create a Queue

	🗾 Edit queue				X		
	Edit queue i Please edit the que	ue's data.					
Queue name (can be localized)	Details]		Workflow for the queue (cannot be changed!)
Queue prefix (optional) —	Queue:	ServiceDesk		Workflow: WF	L_ServiceDesk2		 Calendar for the queue
Marker for FAQ queues —	Prefix:			Calendar: Ser	viceDeskCalendar		Check if queue is enabled
Templates for e-mails to engineers when ticket is assigned to or	Ticket assignment tem	plates engineer-assigned-default-mail	•	Unassign: end	sineer-removed-default-mail		(active)
removed from engineer	Scripts	MailOutServiceDesk.groovy	•				Scripts for outgoing e-mails,
	Default values script:	DefaultValuesServiceDesk.groovy	-			1	 for setting default values, and for cloning tickets (all optional)
Description for admin purposes (optional)	Clone script: Other	CloneServiceTickets.groovy	•	J			
Assignment of custom field groups.	Description:				÷ •		
customer groups, classes of text,	Custom fields Cus	stomer groups Classes of text Projects					
	Assigned Assigned	Fields	Availat	ble 🔺 nFieldsTable			
	LocationFields RequestType		am_fiel feedba	ds ck			
	ServiceDeskDismissF SolutionFields	Fields	qualifica sales s	ation			
	conversation_data		workard	ound			
	helpdesk_standard order_data						
	queue_fields (*) serviceDesk_fields						
					Save Cancel		
						_,	

You create a new queue by clicking on below the queue list. The following pop-up window appears:

Fig. 2: ConSol*CM Admin-Tool - Queue Administration: Create a Queue

Here, you can define the queue details:

• Queue:

Enter the technical queue name in this field. Click on 🗐 to enter the localized queue name for all languages that are available in the system. The localized queue name will be displayed in the Web Client in the ticket header. If no localized values are provided, the name will be displayed in the default language.

• Workflow:

Choose the workflow for the queue from this list.

Best Practice:

When you have developed and deployed a new workflow, it will only be available in the Admin-Tool after a reload \bigcirc of Admin-Tool data!

Warning:

Once you have assigned a workflow to a queue it cannot be changed anymore!

• Prefix:

You can enter a prefix for the ticket IDs of a queue, e.g. if the ticket ID shall indicate to which queue or organizational structure it belongs.

Attention:

The prefix will remain with the ticket name if the ticket is moved to another queue.

• Calendar:

Choose the business calendar for the queue from the list. Calendars define working hours, holidays and the valid timezone (see Configuration - File Card Business Calendars). They are used e.g. for time triggers in the workflow and have to be activated explicitly for each trigger, i.e. in order to work with time calculations based on a business calendar, it has to be configured in two places:

- In the queue configuration page a calendar is assigned to the queue.
- For each time trigger in the workflow the use of the queue-specific calendar can be activated or not. Refer to the *ConSol*CM Process Designer Manual* for a detailed explanation of the work with time triggers.

• Enable:

If this check box is ticked, the queue is immediately available in the system after saving. If the check box is not ticked, the queue is disabled. In enabled queues, you can create tickets, in disabled queues, this is not possible.

• FAQ:

Ticking this check box marks the queue as a knowledge base for CM/Track users. They can search for tickets of this queue in CM/Track, the ConSol*CM Web Portal. Please see also section CM/Track: FAQs in CM/Track on this topic.

Ticket assignment templates:

Here you can choose e-mail templates that shall be used for an automatic e-mail which is sent to the (new) engineer when a ticket is assigned to an engineer (*Assign*) or to the (old) engineer when a ticket is retrieved from an engineer (*Unassign*). When you have defined the templates in the *Script and Template Administration* of the Admin-Tool (see section Admin-Tool Templates) they will be available in the drop-down menu. When you do not want the CM system to send an automatic e-mail in case of the engineer operation, just leave the field empty. Please keep in mind that the system properties *cmas-core-server, mail.notification.engineerChange* (=*true*) and *cmas-core-server, mail.notification.sender* have to be set, see Appendix C (System Properties) for details.

• Scripts:

Scripts are used to automate recurring tasks and activities. They are managed and stored in the *Script and Template Administration* (see section Scripts). You can assign:

• E-mail script

Choose a script from the list if outgoing e-mails for this queue should be modified by the script, e.g. to contain default values like the sender or address fields. The e-mail script indicated here is the last script that processes an outgoing e-mail so all former settings will be overwritten (except for REPLY-TO, see warning below!) in case a variable has been set before. All scripts of type *E-mail* that are stored in the script section are available, please make sure to pick the correct one.

Warning:

When you set the REPLY-TO address in the outgoing e-mail script, the *mail.reply.to* system property must not be set (because it would overwrite the configured value)! That means when you use one outgoing e-mail script for a queue you have to define outgoing e-mail scripts for all queues because the *mail.reply.to* property can no longer be used.

• Default values script

Here you can select a script to preset values of list boxes when creating a ticket for this queue in the Web Client. The script has to be present in the *Script and Template Administration* of the Admin-Tool and has to be of type *Default values*.

Clone script

Here you can select a script which is executed when a ticket in this queue is cloned (duplicated) using the Web Client (*Clone* option in the ticket menu). The script has to be present in the *Script and Template Administration* of the Admin-Tool and has to be of type *Clone*. The clone script sets default values for a ticket which is created using the *Clone* operation.

• Description:

You can enter a free-form description in this field, e.g. to document the purpose of the queue. This information is shown in the Admin-Tool only.

• File card Custom fields:

In order to show data fields (custom fields) in tickets of the queue, you have to assign the respective custom field groups here.

• File card Customer groups:

Tickets in the queue can only be created for customers from the selected customer groups. Please make sure that the engineers who are supposed to work with tickets of the queue also have the respective access permissions to the customer (group) data.

• File card Classes of text

Here you can assign the classes of text which should be available in tickets of this queue. Please see section Classes of Text for an explanation of the text class definition.

• File card Projects

Here you can assign projects to the queue. Engineers who work on a ticket in the queue can book times on the projects that have been assigned to the queue. Projects are defined on the User attributes page.

On each file card you can assign a selected entry by clicking on < and remove it by clicking on 🖻 .

Click on *Save* afterwards to create the queue. The details of the new queue are displayed on the right side of the page.

7.2.3 Edit a Queue

If you want to edit a queue, select it in the list and click on \square or just double-click the name of the queue. Modify the queue details and click *Save* to store your modifications. Attention:

You cannot change the workflow of a queue.

7.2.4 Delete a Queue

Select the queue you want to delete in the list and click on ². If you confirm the following dialog with *Yes*, the queue will be deleted and is no longer available in the system.

Attention:

If there are still tickets for a queue it cannot be deleted. You have to move the tickets to another queue before you can delete it.

7.2.5 Copy a Queue

The icon \square allows you to save time when creating a queue. The selected queue will be copied. The new queue has the same name as the copied queue. Double-click on the name or click on \square to open the edit window where you can modify the name and details of the queue. Click *Save* to store your modifications.

Attention:

You cannot change the workflow of the queue.

7.2.6 Enable or Disable a Queue

You can disable a queue to prevent that new tickets can be opened in this queue. That way you can re-activate the queue later and do not have to delete it. To disable a queue, select the queue in the queue list and click on •. The entry in the list is now shown in italics. Just click on • at the bottom of the page, if you want to enable the queue again.

You can still read tickets in a disabled queue (provided you have the read access rights for this queue), but you cannot process tickets, i.e. they cannot be moved to the next step in the process using workflow activities.

7.3 Related Topics

- Workflow (see ConSol*CM Process Designer Manual)
- Views
- Scripts and templates
- Customer groups
- Custom fields
- Classes of text
- Projects

8 Customer Data Model Section

СМ6 А	nin-Tool @ cm6-demo.int.consol.de		×				
File View	Help						
Â	🗶 📡 🍸 💴 🚢 📼 🔩 🚍 🗞 🧔 🍈 ሩ 🛛 🕻	3 🕗	•				
A Home							
	In the role administration you can manage roles containing permissions on queues, customer groups, and views.						
	View Administration						
	Customer		L	_	Л		_
	Customer	Da	a Ta	3	IVI	OCIE	
					•••		
	In this search form you can search for tickets						
	Section						
	Change global configuration parameters here SCCCIOII						
	Script and Template Administration		_				
1 [CM	ninistration)						

9 CM6 Administrator Manual 6.9 - The CM Customer Data Model: FlexCDM
9.1 The CM Customer Data Model: FlexCDM

Starting with version 6.9, ConSol*CM offers a very flexible and powerful customer administration based on the *FlexCDM*, the Flexible Customer Data Model.

In the following sections, all aspects of the new data model are explained.

9.2 Introduction to FlexCDM

- Introduction to FlexCDM
 - FlexCDM at a Glance
 - Flexible Customer Data Model
 - Introduction to FlexCDM Objects
 - Important Terms
 - Management of FlexCDM Objects Using the Admin-Tool

Because the customer data model *FlexCDM*, which has been introduced to ConSol*CM with version 6.9, is rather complex and very powerful, a separate introduction chapter will help you to understand all the details.

9.2.1 FlexCDM at a Glance

Flexible Customer Data Model

As the name *FlexCDM* suggests, the ConSol*CM customer data model offers a very high degree of flexibility . Various **customer groups** can be defined, each with its particular data model.

Within a customer group, there might be ...

- a *contact* and a *company* level: two-level customer model (where a company can contain several contacts)
- only a *contact* or only a *company* level: one-level customer model



Fig. 1: Types of Customer Data Models in ConSol*CM

For example, you could classify your customers in two customer groups:

1. Resellers

With contact and company level.

2. End customers

With contact level only.

You can configure as many customer data models as required. Every customer data model can be used for one or more customer groups.

A customer data model comprises the general model, i.e. the levels (contact and company or contact/ company only) and all data fields for all components (e.g. name, address, and phone for a company or name , e-mail, and room number for a contact).



Fig. 2: ConSol*CM FlexCDM - General Principle

Information:

For a two-level customer model:

The terms *company* and *contact* are used to indicate the hierarchical level of an object within FlexCDM. An object of type *company* does not necessarily have to be a real company, it can also be a town with several machines (contacts) located in this town, an organization with several subsidiaries (contacts), or even a technical unit (e.g. a ship) with several contacts in the unit. Similarly, an object of type *contact* does not necessarily have to be a person, it can also be a location, a machine, or anything else which should represent the contact level.

For a one-level customer model:

The customer objects in a one-level customer model are either of type *contact* or of type *company*.

The customers which are managed by your ConSol*CM system, the levels and names of all components entirely depend on the configuration of FlexCDM.

Using FlexCDM you can build different realms where each includes a specific customer group and the respective data and processes.



Fig. 3: ConSol*CM FlexCDM - Customer Data Model

Please see section Setting Up the Customer Data Model for a detailed description of the customer management.

9.2.2 Introduction to FlexCDM Objects

In this section, we will give you an overview of all objects which are relevant for the FlexCDM.



Fig. 4: ConSol*CM FlexCDM - Example Configuration

Important Terms

Here are some important terms for the FlexCDM:

• Customer

General term for customer objects, can be of type contact or of type company.

• Company

Data object of type *company*, company level.

• Contact

Data object of type contact, contact level.

Customer group

A group of customers with a specific customer data model. The (contact management) permissions of roles are assigned to a customer group.

• Data object

An object within the customer data model. The object type can be a customer (person) or a company. The technical (Java) equivalent is an object of class *Unit*.

• Data object definition

All definitions pertaining to the unit. For a company these are e.g. all data object groups, all group annotations, and the assignment of all templates (for the display of customer data in the Web Client, not to be confused with other templates in ConSol*CM!)

• Data object group

A group comprising one or more data field(s) (data object group fields), analog to a custom field group when defining ticket data. A data object group can be shown or hidden or it can be displayed as a tab in the (new) customer data group section.

• Data object group field

A single data field (types like custom field types) that can contain customer data, analog to custom fields when defining data fields for ticket data.

• Customer data model

The whole data model that can be applied to a customer group.

The data model can have:

- one level (only contact or only company)
- two levels (company and contact)

The customer data model also contains the definitions of data object groups and data object group fields.

Customer relations

Relations between a company and contacts or between companies or between contacts. All relations in their entirety represent the customer relations network.

9.2.3 Management of FlexCDM Objects Using the Admin-Tool

In the Admin-Tool, most of the new FlexCDM configuration options are to be found in the *User attributes* file cards.

	User attributes:	
	management of all	Access to Relations between
	FlexCDM objects Actio	n Framework customer objects
		1 1
	CM6 Admin-Tool @ cm6doku-cm1.int.consol.de	
	File Views Help	
Definition of		
data models	🏠 🔏 🏹 T 🔍 🖾 🖼 🍽 / 🎙	🕻 🚍 🏷 🥨/ 🖤 🐼 💭 🍤
(with company and		
contact objects)		
	Customer groups Customer data model Data object actions Custo	mer roles Data object relations Engineer functions Projects
Management of	Customer data models	Customer data model details
customer groups		Name:
	👜 🛄 company	Enabled:
	En eustomer	Company optional:
	customer	Company as customer:
		Others
	DirCustCompanyData	oulers
	□ DirCustCustomer	Description:
	DirCustCustomerData	Data objects
	T A Reselemodel	
		Name
	Assigned apportations	-
	Name A Value Apportation group	Customer groups
	Hance Halde Annotation group	Name
	[CM_Administration,Workflow_Admin]	

Fig. 5: ConSol*CM Admin-Tool - User Attributes File Cards Relevant in FlexCDM

Three file cards are relevant for the definition and management of the customer data model:

• Customer data model

Definition of the data model, i.e. definition of the data fields for customers (i.e. contacts and companies) and the GUI design (i.e. placing the data fields on the Web Client GUI). Please see sections Setting Up the Customer Data Model and GUI Design for details.

Data object actions

Definition of company and contact actions, please see section Action Framework for details.

• Data object relations

Definition of relation types for references between customer (i.e. contact and company) objects, please see section Customer (Data Object) Relations for details.

The assignment of the data model to customer groups is done in the file card:

• Customer groups

See section Managing Customer Groups.

9.3 A Short Introduction to FlexCDM-Specific Web Client Functionalities

- A Short Introduction to FlexCDM-Specific Web Client Functionalities
 - Introduction
 - Working with the ConSol*CM Web Client with FlexCDM
 - Example 1: Selecting the Customer Group
 - Example 2: Creating a New Company and Contact
 - Example 3: Using Company and Contact Page
 - Company Page
 - Contact Page
 - Example 4: Setting a Company as Main Customer of a Ticket
 - Example 5: Using Company and Contact Actions
 - Example 6: Setting Relations between Contacts and Companies
 - Example 7: Deactivate a Customer (i.e. a Company or a Contact)
 - Example 8: Using the Ticket Filters on Company or Contact Pages
 - Ticket Filter on Company Page
 - Ticket Filter on Contact Page
 - Example 9: Customer Group Displayed in Quick Search

9.3.1 Introduction

You as an administrator might wonder why a GUI introduction is provided in an administrator's manual. However, when you want to work with the new customer data model, the *FlexCDM*, you have to know the effects of all administration actions. And of course, those actions are visible in the Web Client. So in this section, we will take the role of an engineer and show several examples for the work with the new customer data model.

All configuration details which are required to understand the system's behavior will be explained in the corresponding sections of the manual.

9.3.2 Working with the ConSol*CM Web Client with FlexCDM

Example 1: Selecting the Customer Group

Provided that the engineers have access permissions for more than one customer group, they can **select the customer group** which should be used for certain operations using the drop-down list in the main menu. The name which is displayed is the localized name of the customer group.



Fig. 1: ConSol*CM Web Client - Selecting a Customer Group

The selection influences the following actions:

- The quick search is performed only within the selected customer group.
- In the detail search, the criterion *customer group* is only offered when *All customer groups* has been selected in the drop-down menu. Otherwise the search uses implicitly only data from the selected customer group.
- In the detail search, only the search fields from the selected customer group are offered.
- When a ticket is created, only the selected customer group is offered (implicitly) when a company and /or contact should be created in-line.
- A ticket can be created only in queues for which the selected customer group has been assigned.
- In the ticket list, only views are available which contain tickets from queues for which the selected customer group has been assigned.

Example 2: Creating a New Company and Contact

In case engineers have access to several customer groups (and have selected *All customer groups* in the main menu, see example 1), they can **select the customer group when a new ticket is created** and a contact/company should be created in-line. This also depends on the selected queue. Only the customer groups which are assigned to the selected queue are available. In case the option *All customer groups* has been selected in the drop-down menu, one tab is visible for the customer data of each customer group and the engineer can select the desired group.

MyCustome	erGroup	$\mathbf{X}_{\mathbf{x}}$
Company		
Company	MyNewInformationCompany	*
	Additional company data	
Search name	Short name	
Address	Street	
	Zip code City	
	Choose One	
Internet	WWW	
Phone	Phone	
Fax	Fax	
Version	Choose One	upport
Reaction time	Choose One	
Sales member	Choose One	
Comment	comment_field	
Create	ancel	

Fig. 2: ConSol*CM/Web Client - Creating a New Company within a Customer Group

Example 3: Using Company and Contact Page

Provided there is a two-level customer data model (company and contact) there is **a separate company and a contact page**. On both pages, you can *add comments* and *attach files*. Those operations are then also visible in the history of the company (resp. contact) page.

For the company and for the contact object, icons can be defined for each customer data model which improves the usability.

Company Page

Compan	ıy										Display 🔻	
	MyNew Spac	eCompany S	199 🔻 Reseller									
	Groups										Edit Hide	
	ResellerC	CompanyDa	ta Service Cor	tract D I	nternal res	sponsibilitie	s					
	MyNewSpa Milkyway 7 Unknown 123	aceCompany 77	y 999 Alderaan 7777									
	Tickets (1)										Hide	
	All tickets	·	5 1 UN 1 C 1						N	umber per p	age 10 🔻	
	Add/Remove	e column	Engineer', 'Main Cust	omer, 🤻	OK					amber per p	age to .	
	Engineer		Main Customer			N	lame	Subject				
			hyNewSpaceC	ompany 999		8	100120	AM Ticket N	lyNewSpaceCompany			
	Contacts (1)							N	umber per p	Hide Add	
	Add/Remove	e column	email', 'forename',		OK					umber per p	age IO +	
	Contact		email	fore	ename				customer_name		phone	
	Skywalke	er, Luke	luke@localhost.c	de Luke		MyNew	/SpaceCompany	y 999	Skywalker	12	23	
	Additional	details									Hide	
	Additional c	aotano									Tide	
	Comments Attachments											
	New											
			_	_								
	File Di	urchsuchen	Keine Datei ausg	ew								
	List of atta	chments										
									Nu	umber per pa	age 10 🔻	
	File type	Name		Descriptio	n			Date	Added by	Action	5	
										Apply f	filters	
		ServiceC	ontract docx					3/11/14 15:01	Huber Harald	Clearn	inters	
	0000	derviceo	Shira de Codex					0.11.14 10.01	Habel, Harard	<u> </u>		
	Relations										Add Hide	
	Reseller SEL Add/Remove	column 'C	CUSTOMERS relation ustomer name	n (DirectCuston	OK	ict)			N	umber per p	age 10 🔻	
	Date			Sustance name			Mat	ta	Actions			
	3/7/14 15:41	1	1	Ar. Sample			NO	ie .	Edit Remove			
	History										Hide	
3/11/14	15:01 change	ed by Harald	l Huber									
	 Attachme 	ent Service0	contract.docx added									
3/7/14	15:41 change Relation	ed by Harald added: Rese	Huber Iler SELLS TO END	CUSTOMERS re	elation Mr. S	ample						
3/5/14	15:51 chano	ed by Haralo	Huber									
	 salesRep 	p set to Mrs.	Schwartz									
	- Accietan	an IOffice an	to Mrs. Millor									

Fig. 3: ConSol*CM/Web Client - Company Page

The *Company* page contains the following sections:

• Tickets

All tickets for the company are listed in this section. Starting with version 6.9, it is possible to assign a ticket to a company directly. In the customer data model the option *Company as customer* has to be set to activate this functionality.

• Contacts

This section shows a list of all contacts belonging to this company. Click on a contact name to open the contact page.

Additional details

There are two tabs:

Comments

Here, all comments concerning this company are listed.

• Attachments

All attachments of the company are listed here. The list of attachments can be filtered or sorted based on file type, name, description, date, or engineer.

• Relations

Here, all relations to and from this company are listed.

• History

In this section, all actions which have been performed with this company object are listed, e.g. the change of a name or any other value of one of the data object group fields.

Please refer to the ConSol*CM User Manual for a detailed introduction of how to work with companies.

Contact Page

Contact											D	isplay 🔻
.	Mrs Lea Skywalke Starship Operator Iea@localhost Office Special Forces MySpaceCompa Company MySp Address Milky 7777	any Myr 123 any paceComp way 77 7 Alderaa	CustomerGroup Dany an)								
	Tickets (1)											Hide
	All tickets 🔻											
	Add/Remove colu	ımn 'Eng	gineer', 'Main C	ustomer',		ОК					Number per page	10 👻
	Engineer	Main C	Customer	Name		Subject						
	Huber, Harald	💄 Lea :	Skywalker	SUP-1	24)	X-Cm: Exce	ption during	status chai	nge which r	noves a ticket	t into a new queue	
	Additional detail	ls										Hide
	Comments	s	Attachme	nts								
			71110									
	New											
	Click here to add	d a comm	ent									
	List of comment	ts										
											Number per page	10 👻
	Date		Added by	(Commei	nt					Actions	
				•							Apply filters Clear filters	
	3/7/14 13:03		Huber, Harald	P	Please a organizat	lways call I tion.	Mrs. Skywalk	er for quest	ions of bud	get and	×	
	Relations											Hide
	History											Hide
3/7/14	13:03 - 13:05 chan	iged by Ha	arald Huber									
	Attachment S	ervice_Co	ontract_2014.do	cx added								
	Comment add	led: Pleas	e always call Mr	s. Skywalke	r for que	estions of b	udget and oi	rganization.				
2/28/14	10:10 changed by	Harald Hu	iber									
	Functional dec	cider set to	o yes									
	First name set	t to Lea										

Fig. 4: ConSol*CM/Web Client - Contact Page

These are the sections on the *Contact* page:

• Tickets

All tickets for the contact are listed in this section.

• Additional details

There are two tabs:

• Comments

Here, all comments concerning this contact are listed.

• Attachments

All attachments of the contact are listed here. The list of attachments can be filtered or sorted based on file type, name, description, date, or engineer.

Relations

Here, all relations to and from this contact are listed, e.g. if the contact is the CEO of a company.

• History

In this section, all actions which have been performed with this contact object are listed, e.g. the change of a name or any other value of one of the data object group fields, or adding/removing relations, comments or attachments.

Please refer to the ConSol*CM User Manual for a detailed introduction of how to work with contacts.

Attention:
Please keep in mind that only engineers who have at least one role with the following access permissions for the respective customer group are allowed to access the <i>Additional details</i> section of tickets:
 Details read Details write Details delete

Example 4: Setting a Company as Main Customer of a Ticket

If the configuration option *Company as customer* has been set for a customer data model, a **company can be used as main customer** for a ticket.

Ticket "A	M Ticket MyNewSpaceCompany" created success	fully.	Workflow activities
Ticket		Accept Edit Clone Print Display 💌	Account active
100241	AM Ticket MyNewSpaceCompany AccountManagement Account Management Unassigned Open since 3/10/14 10:37 AM Account started 3/2/14		Workspace Workspace is empty All your unsaved tasks are automatically listed in this
	Customers Main MyNewSpaceCompany 999 💌 Reseller	Add Hide	Favorites
	Engineers	Add Hide	💄 Andreas Hansen
	No relations	Add Hide	💄 Max Mustermann
	History	Comment E-Mail Attachment Time booking Hide	
	Display communication 👻 Sorting latest first	·	
	Add comment, e-mail or attachment		
1 minute a	ago #1 created by Harald Huber Action v default class Please report activities concerning company in t	his ticket	

Fig. 5: ConSol*CM/Web Client - Using the Company as Main Customer for a Ticket

Example 5: Using Company and Contact Actions

For companies and contacts, manual and automatic actions can be defined.

Manual actions are triggered using links in the Web Client, very similar to workflow actions (activities) for tickets. In this way, actions concerning the company or the contact data can be performed which are independent of ticket data. For example, an engineer can load the KPIs of the last month for the company, create a new contact within the company (see following figure), or can update the contact data from another database, or create a ticket for the contact (see figure after next).

Automatic actions can be performed when a system action takes place (create/update/delete of a customer). The company and contact actions are based on the *Action Framework*.

	Company	MySpaceCompany =	. MvCustomer	Croup				Display 🔻	Activities
	171	Address Milkyway 77 7777 Aldera	aan	Group					Workspace
		Tickets (0)						Hide	Workspace is empty All your unsaved tasks are
		All tickets 📼							automatically listed in this
		No search results							workspace.
2		Contacts (1)						Hide Add	Favorites
		Add/Remove column 'Phone 1', 'phonetype 1',			• ОК		Number per page 1		Andreas Hansen Max Mustermann
		Contact	Phone 1	phonetype1	Acad. title	Division	Function	E-mail	
		Lea Skywalker	123	Office	Dr.	Special Forces	Starship Operator	lea@localhost	Maryin Monroe
								L L Data	

Fig. 6: ConSol*CM/Web Client - Manual Company Action

Contact	Skaualkar Luka 📼 Basallar	Display Activities (Re-)Check service status of the
	Iuke@localhost.de 123 MyNewSpaceCompany	Create new Help Desk ticket
	Tickets (1)	Hide
	All tickets Add/Remove column 'Engineer', 'Main Customer', Numb	Workspace is empty All your unsaved tasks are automatically listed in this workspace

Fig. 7: ConSol*CM/Web Client - Manual Contact Action

Attention:

Please keep in mind that only engineers who have at least one role with the following access permissions for the respective customer group are allowed to use the customer actions, i.e. only then the *Activities* will be displayed in the Web Client:

Act

Example 6: Setting Relations between Contacts and Companies

When you work with several customer groups it can be important to establish **relations between contacts and/or companies**. For example, your ConSol*CM system can then represent a reference *sells products to ...* between a company and a contact. Or a relation *is supervisor of ...* between two contacts. In this way, you can create a network of your companies and contacts which improves *Customer Relationship Management* (CRM) functionalities.

In the Web Client, relations between companies and/or contacts are established and displayed similar to ticket relations. In the example, *MyNewSpaceCompany* sells products to the end customer *Mr. Sample*.

Neiaut	113
Add rel	ation
MyNew	SpaceCompany 999
Resell	er SELLS TO EN
Resell	er SELLS TO END CUSTOMERS relation
ОК	Cancel
Reselle	r SELLS TO END CUSTOMERS relation (DirectCustomers) (Contact)
No rel:	ations available.

Fig. 8: ConSol*CM/Web Client - Establishing a Company-Contact Relation

Relations	Relations Add H									
Reseller SELLS TO EN	Reseller SELLS TO END CUSTOMERS relation (DirectCustomers) (Contact)									
Add/Remove column	Add/Remove column 'Customer name		- ок		Number per page 10 🔻					
2.4		a 4			a. 11					
		(HOTOPOOR DOPOO		BLOTO						
Date		customer name		Note	Acuons					
3/7/14 15:41		Mr. Sample		Note	Edit Remove					
3/7/14 15:41		Mr. Sample		note	Edit Remove					

Fig. 9: ConSol*CM/Web Client - Display of Company-Contact Relation

Example 7: Deactivate a Customer (i.e. a Company or a Contact)

A customer, i.e. **a company or a contact**, **can be deactivated**. This feature might be useful when a contract with a company is no longer valid or when an employee (= contact) has left the company. In this way, the tickets can be kept and retrieved under the *old* contact/company name, but it is not possible to create new tickets for this customer. In case the customer has to be deleted, all of its tickets (open and closed) have to be moved. In that case, the former contact-ticket or company-ticket relation is not as easy to find.

The contact or company can only be deactivated if no open tickets are assigned to this contact or company.

Please keep in mind that only engineers who have at least one role with the following access permissions for the respective customer group are allowed to to deactivate (and reactivate) companies and/or customers (contacts), i.e. only then the *Deactivate/Activate* menu items will be displayed in the Web Client:

Deactivate/activate

Contact	
-	Mrs Lea Skywalker MyCustomerGroup Starship Operator D lea@localhost Office 1 Special Forces MySpaceCompan Company MySpa Address Milkyway 77 7777 Alderaan
	T:-k-4- (0)

Fig. 10: ConSol*CM/Web Client - Deactivating a Contact

The following actions **can** be performed for a deactivated customer:

- Edit the customer data (e.g. name, address, phone).
- Delete the customer.
- Transfer the closed ticket to another customer.

The following actions **cannot** be performed for a deactivated customer:

- Create a new ticket.
- Assign a ticket to this customer.
- Assign a deactivated contact to another company.
- Assign contacts to a deactivated company.
- Search for the customer (deactivated contacts and companies are not shown in search results).

Attention:

Deactivation in a two-level model

When a company (or more generally spoken: an object on company level) is deactivated, all assigned contacts are deactivated automatically.

There are two use cases:

- All contacts of the company can be deactivated (no open ticket assigned).
 In this case the company and all assigned contacts will be deactivated. Afterwards the company page will be reloaded, company and contact data are marked as deactivated.
- The company has still contacts which cannot be deactivated because of open tickets. Here, the deactivation of a company is not allowed. The *deactivated* option is not selectable

Reactivation in a two-level model

In case a company is reactivated, the assigned contacts will **not** be reactivated **automatically**. They have to be reactivated **manually**.

Example 8: Using the Ticket Filters on Company or Contact Pages

On the company and contact pages, ticket filters are available, i.e. **filter options** can be used to display selected tickets for the company or contact.

Ticket Filter on Company Page

	Company	,							Display 💌	
		MySpaceC Address	ompany 👻 My Milkyway 77 7777 Alderaan	CustomerGroup						
		Tickets (0))						Hide	
	All tickets 💌									
6		No search	Closed tickets							
1			Company ticke	ts						
		Contacts	Open tickets						Hide Add	
	Add/Rem Open tickets of contacts onetype1', OK Number per page 10									
		Contact		Phone 1	phonetype1	Acad. title	Division	Function	E-mail	
		💄 Lea S	kywalker	123	Office	Dr.	Special Forces	Starship Operator	lea@localhost	

Fig. 11: ConSol*CM/Web Client - Ticket Filter on Company Page

Available options:

Closed tickets

Closed tickets where the company is the main customer or additional customer.

Company tickets

Tickets where the company is the main customer.

• Open tickets

Open tickets where the company is the main customer or additional customer.

Open tickets of contacts

Open tickets of contacts of this company.

Ticket Filter on Contact Page

Contact					Display 🔻
_	Mrs Lea SH Starship Op Iea@localh Special For	xywalker ▼ MyCusto berator Dr. lost Office 123 rces	omerGroup		
	MySpace Compan Address	eCompany V y MySpaceCompany s Milkyway 77 7777 Alderaan			
	Tickets (4))			Hide
	All tickets	7	_		
	Add/Rem	Closed tickets Company tickets	mer', 'Name',	▼ OK Nun	nber per page 10 🔻
	Main C	Open tickets	Name	Subject	Engineer
	💄 Max N	Own tickets	SUP-118	Exception when no template is assigned to queue	
	💄 Lea S	kywalker	3 SUP-54	Admin-Tool: Error during creating queue (Oracle 10g)	Huber, Harald
	💄 Lea S	kywalker	30P-126	Exception when sending mail while changing engineer	
	💄 Lea S	kywalker	SUP-89	Oracle issue concerning Long column type	
	Additiona	I dotaile			Hida

Fig. 12: ConSol*CM/Web Client - Ticket Filter on Contact Page

Available options:

Closed tickets

Closed tickets where the contact is the main customer or additional customer.

• Company tickets

Tickets where the company of the customer is the main customer or an additional customer.

• Open tickets

Open tickets where the contact is the main customer or additional customer.

• Own tickets

Tickets where the contact is the main customer.

Example 9: Customer Group Displayed in Quick Search

The customer group is displayed for all search results in the list. The following notation is used:

<Localized name of data object group> (<localized name of customer group>)

			All customer gr	oups	Q <mark>Sky</mark>
HelpDesk 1st	Level	SUP-89	Oracle issue conce	erning L	ong column type
		SUP-91	AT: NPE when cop	ying ro	les
		SUP-54	Admin-Tool: Error	r during	creating queue (Oracle
		SUP-126	Exception when se	ending i	mail while changing engi
		SUP_118	Exception when n	o templ	ate is assigned to queue
MyCustomer (MyCustomer (MyCustomerGroup) Mia Skydiver ResellerCustomer (Reseller) Skywalker,Lee		r 🔤		
ResellerCustor			ea		
		Skywalker,Lu	uke		
		Show all			
		Create tic	ket		
		Create cus	tomer		
Number per page 10 💌					

Fig. 13: ConSol*CM/Web Client - Search Results for Quick Search

9.4 Setting Up the Customer Data Model

- Setting Up the Customer Data Model
 - Introduction to Setting Up the Customer Data Model Based on FlexCDM
 - Managing Contacts and Companies Using the Admin-Tool
 - Creating a New Two-Level Customer Data Model
 - Step 1: Create the Customer Data Model with the First Data Object
 - Step 2: Create Another Data Object
 - Step 3: Configuring the Parameters for the Defined Objects
 - Parameters for the Customer Data Model
 - Parameters for the Data Object
 - Parameters for the Data Object Group
 - Creating a New Customer Group Using the New Customer Data Model
 - Assigning Access Rights for Customer Groups with the New Model to Roles
 - Assign the New Customer Groups to Queues

9.4.1 Introduction to Setting Up the Customer Data Model Based on FlexCDM

Within *FlexCDM* various customer data models can be implemented. Please refer to section Introduction to FlexCDM for a detailed introduction. To work with a new customer data model within a certain customer group, the following steps have to be performed:

1. Create a customer data model.

(This implies you have already decided if this should be a one- or a two-level data model. In this example, we will create a two-level model.)

- 2. Create a new customer group.
- 3. Assign the customer data model to the group.

A customer data model comprises objects on three model levels:

1. The customer data model definition

2. The data objects within this model

A data object can be of one of two types:

a. Company

E.g. an institution, but can also be a machine, a ship, or anything else which represents the company level.

b. Contact

E.g. a person, but can also be a machine, a hardware device, a product, or anything else which represents the contact level.

If a company level is present, the contact is a sub-level of the company. For a simple customer data model, use only the contact object or only the company object.

3. The data object group fields

These are the data fields for the data objects, i.e. either the data object group fields for company data

(e.g. ZIP, address, phone) or the data object group fields for contact data (e.g. name, forename, e-mail address).

9.4.2 Managing Contacts and Companies Using the Admin-Tool

In the Admin-Tool, most of the FlexCDM configuration is done within the *User attributes* section. For the definition of customer data models use the file card *Customer data model*.



Fig. 1: ConSol*CM Admin-Tool - Customer Data Model Definiton

To explain how to work with the customer data model, we will walk you through an example in the next sections.

Creating a New Two-Level Customer Data Model

To create a new customer data model you have to create the objects on all levels of the data model. In the following example, we will build a customer data model for reseller data. We will create a customer data model with a company and a contact object, i.e. we will have to create the following objects:

- the customer data model itself
- the company data object (1st level)
- the data object group fields for the company
- the contact data object (2nd level)

• the data object group fields for the contact

After having defined an object, the parameters for this object can be (or rather should be) configured.

Step 1: Create the Customer Data Model with the First Data Object

When you create a new customer data model, you have to add a data object and the respective data object group fields in one step.

To create a new customer data model, mark another customer data model (that way you select the level on which you want to work) and use the 🕑 button to open the pop-up window.

CM6 Admin-Tool @ localhost		
ile Views Help	▣ 🔧 ≡ 🗞 🗔 🏟 ↔	S 💽 🗲
User attributes Customer groups Customer data model Data object acti Customer data models	Create customer data model	
BasicModel Company Company Customer Security Customer Security DirectCustomersModel OirCustCompany Security Security	Customer data model Name: ResellerModel () Data object Name: ResellerCompany () Type: Company () Data object group Name: ResellerCompanyData ()	~ ~
Assigned annotations Name Value Annotation	on group Customer groups Name CustomerGroup	

Fig. 2: ConSol*CM Admin-Tool - Creating a New Customer Data Model

You have to fill-in the following fields:

Customer data model

Name

The name of the new customer data model. As usual in ConSol*CM6, there is one (unique) technical object name. By using the 🖲 button you can open a pop-up window where you can enter the values for the name in various languages.

Data object

Name

The unique technical name of the company/contact object, can also be localized using the ebutton.

• Type

Select *Contact* or *Customer*. There can be only one company object and one contact object within one customer data model.

- Data object group
 - Name

The unique technical name of the first data object group for company data within the defined data object. More data object groups can be added later on.

Step 2: Create Another Data Object

In the next step, you have to add the contact object. Select the object *ResellerCompany* (to set the correct level for the following *Add* operation) and use the button to open the pop-up window.

CM6 Admin-Tool @ localhost File Views Help	
🕋 🕺 🍫 🍸 🍩 🚉 🗊	🔩 🗏 % 🕸 🕥 💔 💋 🖉 🌗
User attributes Customer groups Customer data model Data object actions Customer data models Customer data models Customer data model Customer Customer Customer Customer CustCustomersModel CustCustomerData CustCustomerData Cast ResellerModel ResellerCompany Company Company Company Company CustCustomerData Cast ResellerCompany CustCustCustOmerData Cast ResellerCustCustOmerData Cast ResellerCustOmerData Cast ResellerCustOmerData Ca	Customer roles Data object relations Engineer functions Projects Data object details Create data object i Please fill in the required fields. Data object Name: ResellerCustomer Type: Contact Data object group Name: ResellerCustomerData Save Cancel
	Others Description: Icon:
CM_Administration]	

Fig. 3: ConSol*CM Admin-Tool - Adding a New Data Object

You have to fill-in the following fields:

- Data object
 - Name

The unique technical name of the contact object, can also be localized using the 🗐 button.

• Type

Here, *Contact* is pre-selected and cannot be modified, because a company object is already present in the customer data model.

- Data object group
 - Name

The unique technical name of the first data object group for contact data within the defined data object. More data object groups can be added later on.

Step 3: Configuring the Parameters for the Defined Objects

Parameters for the Customer Data Model

Double-click on the name of the customer data model (*ResellerModel* in our example) or mark the customer data model in the list and click on to open the pop-up window where you can define the parameters for the model.



Fig. 4: ConSol*CM Admin-Tool - Parameters for a Customer Data Model

You can fill-in the following fields:

- Name
 - Check or modify the existing name of the model.
- Description

Optional description.

Company optional

If this check box is marked it is possible to add a contact to a ticket without the contact being part of a company. The company might be set later but it is not required. So here, you can enable the system to work with single contacts, even within a two-level customer data model.

• Company as customer

Mark this check box if it should be allowed to create tickets not only for contacts but also for companies within the model.

Parameters for the Data Object

Double-click on the name of a data object, e.g. the *ResellerCompany*, to open the pop-up menu where you can configure the parameters for this object.

Edit data object j Please edit the d Name: Rese Description:	data object's data. ellerCompany		
Name: Rese Description:	ellerCompany		
Type: Comp Icon:	pany		
Templates: Type Defai REST	e ault T	Name company-standard-template	
Drag E-ma Quick Data	iged ail k Search a object search result		
Ticke Ticke	et search result et page et list	company-ticketlist-template	
Ticke Work Histo Sugg	et relation kspace and Favorites pry gestion		
		Save	Cancel

Fig. 5: ConSol*CM Admin-Tool - Parameters for a Data Object

You can fill-in the following fields:

• Name

The unique technical name of the data object with technical name and localized name(s).

• Description

The description of the data object. Will be used in future ConSol*CM versions.

• Type

A read-only field which displays the type (contact or company) of the data object.

Icon

The icon for all companies within this model. It will be displayed in the Web Client. You can either use one of the standard CM icons using the button (...) or upload an icon from the file system using the file explorer button Ξ .

Templates

The templates which are used to render the data of the data object, i.e. the templates which define the data fields that are displayed in the Web Client for objects of this type. There are various positions in the GUI for which the layout of the company or contact data can be defined. The templates are stored in the *Script and Template* section of the Admin-Tool. Please see section Templates for Customer Data for a detailed explanation.

Parameters for the Data Object Group

Double-click on the name of the data object group to change the technical and/or localized name(s) of the group.

To define the data object group fields, use the GUI elements on the right-hand side. In the following figure, an example for the definition of data object group fields for the *ResellerCompany* is shown. Here, only one data object group (*ResellerCompanyData*) is used. You can use as many data object groups in one data object as you consider suitable for your system.



Fig. 6: ConSol*CM Admin-Tool - Parameters for the Data Object Group

The definition of data object group fields within customer data models is based on the same principles as the definition of custom fields for ticket data. For a detailed introduction to the definition and management of custom fields, please refer to sections Custom Field Administration and Data Object Group Field Management and GUI Design.

The available data object group field annotations are listed in section Appendix A (Annotations). The annotation *unit is a contact* is no longer in use, because the level of a unit (i.e. the company or contact) is defined by its unit type (*company* or *contact*).

Attention:

Please make sure that the annotation *field indexed* is set for all fields which should be searchable. This concerns the quick search, the detail search, and all auto-complete operations! See also section File Card Index (Search and Indexer Configuration).

Congratulations! When you have completed all the steps in the previous sections, you have created a new ConSol*CM customer data model and can now go ahead to assign the model to one or more customer group(s).

Creating a New Customer Group Using the New Customer Data Model

When the customer data model has been defined, it can now be assigned to one or more customer groups. In the example, we will create the new customer group *Resellers* which will use the new *ResellerModel*.

Use the file card *Customer groups* in the *User attributes* section of the Admin-Tool to create a new customer group and to assign the desired customer data model.

CM6 Admin-Tool @ localhost	
File Views Help	
🕋 🗶 🦤 🍸 💴 🔩 🗊 🔧 🚍 🗞 🧔 🏟 📣	🖸 💽 🌖
Les User attributes Create customer group	22
Customer groups Customer data model Data object actions Customer re Create customer group	
i Please fill in the required fields.	
Filter: All customer data	
Name A Customer data model Name: Reseller	
CustomerGroup BasicModel Customer data model: ReselerModel	▼
Actions	
Contact actions Company actions	
Automatic	
Create:	▼
	▼
Manual	▼
Assigned	
Name Name	
Save	ancel
2 [CM_Administration]	

Fig. 7: ConSol*CM Admin-Tool - Definition of a New Customer Group

You can fill-in the following fields:

• Name

The unique technical name (and localized name) of the new customer group.

Customer data model

Select the desired data model from the drop-down menu.

• Actions

Here, the customer actions can be defined. This will be explained in detail in section Action Framework.

For an engineer who has access permissions for two customer groups, the Web Client will look as shown in the following figure.

New customer					
CustomerGroup					
ResellerCompany					
Groups					
ResellerCompanyData					
company_name address Choose One phone_frontdesk OK Cancel ResellerCustomer	city zip				
customer, name	forenzme				
email	phone				
Track user					
UK					

Fig. 8: ConSol*CM/Web Client - Creating a New Company and Customer

Assigning Access Rights for Customer Groups with the New Model to Roles

In order to let engineers work with customer data from the new customer group, i.e. to create new reseller data sets or to modify them, you have to grant access permissions for the user groups to one or more roles.

See section Access Rights for Customer Groups.

Assign the New Customer Groups to Queues

Please keep in mind that you have to assign the new customer group to all queues where tickets should be created for customers of this group. See section Queue Administration for details.

9.5 Data Object Group Field Management and GUI Design for Customer Data

- Data Object Group Field Management and GUI Design for Customer Data
 - Introduction
 - Defining Data Object Group Fields for Customer Data Using the Admin-Tool
 - Admin-Tool GUI
 - Data Object Groups
 - Data Object Group Field Definition
 - Scripting Using Objects from the FlexCDM
 - New Scripting Features Since ConSol*CM Version 6.9
 - Extension of the Custom Field Expression Language (CFEL)
 - Changes in Scripting from Consol*CM Version 6.8 to Version 6.9
 - AbstractField
 - ActivityFormFieldsSet
 - ContentFile
 - ContentResource
 - FieldLogEntry
 - Ticket
 - TimerTrigger
 - Unit
 - New (Convenience) Methods
- New Objects in ConSol*CM 6.9 and Up

9.5.1 Introduction

One feature of ConSol*CM version 6.9 is the great flexibility as far as customer data model (*FlexCDM*) and GUI design are concerned. You as an administrator can define any data field which is required and place it on the user interface wherever it is suitable. The basic principle is now the same as the one you know for ticket custom fields: full flexibility.

The management of the ticket data model and GUI design is explained in section Custom Field Administration. The management of objects within the customer model is explained in section Setting Up the Customer Data Model. Please refer to those sections for a detailed explanation. In this chapter, we assume that you have a good knowledge of those topics.

9.5.2 Defining Data Object Group Fields for Customer Data Using the Admin-Tool

Admin-Tool GUI

The data field definition for customer data is part of the definition of the entire customer data model, see section Setting Up the Customer Data Model.

Data fields for data objects within the customer data model are called *data object group fields*. All data object group fields are defined in the *User attributes* section of the Admin-Tool, file card *Customer data model*. The work with data object group fields is based on the same principle as the work with ticket data fields (custom fields): data fields are managed in groups and the groups as well as the single fields can be annotated.

CM6 Admin-Tool @ localhost			
File Views Help			
🕋 🖉 婱 🔍 🖴 💷 💐	. = % 💩	()	S 🛐 🗧
😩 User attributes			
Customer groups Customer data model Data object actions Custom	er roles Data object relations Er	ngineer functions Projects	
Customer data models	Data object group fields		
≗ + BasicModel 	Filter:		
company	Name	Туре	
	company_name	short string	
E Station CustomersModel	company_number	short string	
	address	string	
DirCustCompanyData	city	short string	
⊡-DirCustCustomer	zip	short string	
🖂 🙃 DirCustCustomerData	country	enum	
🚊 🚊 ResellerModel	url	short string	
ResellerCompany ResellerCompanyData Second Structure ResellerCompany_ServiceContractData Second Structure ResellerCustomer ResellerCustomerData		s	
Assigned annotations	Assigned annotations		
Name Annotation group	Name 🔺	Value	Annotation group
show-in-group-section true layout	field indexed	transitive	indexing
	position	0;0	layout
CM_Administration]	, p		

Fig. 1: ConSol*CM Admin-Tool - Definition of Data Object Group Fields

Data Object Groups

Like the custom fields in previous versions, data object group fields are placed in groups, the *data object groups*. Each data object within a customer data model can have as many data object groups as required. For example, for a reseller company, there can be a data object group for the general data, one for the contract data, and one for the persons who are responsible for this reseller. For contacts within the reseller data model, one data object group with general data is defined.



Fig. 2: ConSol*CM Admin-Tool - Customer Data Model with Several Data Object Groups

The organization of data fields in groups has several implications. Please keep them in mind to make sure your data model design meets the users' needs.

A data object group ...

- can be faded in and out in the GUI during the process, but only the whole group, not single fields (= data object group fields) of it.
- can be displayed as tab or in the customer data section. The title (and mouse-over) of the tab is the (localized) name of the data object group.
- is configured by the group annotations.
- is placed on the GUI based on its position in the data object group list (defines e.g. the order of tabs).

Company	Display 🔻
MyNewSpaceCompany 999 Reseller Service Contract Data	
Groups	Edit Hide
ResellerCompanyData Service Contract D Internal responsibilities	
MyNewSpaceCompany 999 Milkyway 77 Alderaan 7777 Unknown 123	

Fig. 3: ConSol*CM/Web Client - Company Data Organized in Tabs (Based on Data Object Groups)

Data Object Group Field Definition

The definition of data object group fields (i.e. data fields like *name*, *address*, or *phone number*) is based on the principle which has been used for custom fields in previous ConSol*CM versions.

A data object group field ...

- is defined by a data type.
- is configured using custom field annotations (e.g. *position* or *field-indexed*), see Annotations.

9.5.3 Scripting Using Objects from the FlexCDM

In this book we use the terms *data object* and *data object definition*. However, the names of the corresponding Java classes are *Unit* and *UnitDefinition*. All other Java classes which deal with customer data objects also are still named *Unit...* Please keep that in mind when you work on the administrator level as well as on the programmer's level. Please refer to the *ConSol*CM Java API Doc* for details.

New Scripting Features Since ConSol*CM Version 6.9

Up to ConSol*CM version 6.8, a *Unit* could have only one custom field group. The expression *unit.get("name ")* was always valid because one custom field with a specified name could exist only once, for example *" group1.name"*.

Starting with ConSol*CM version 6.9, a data object (*Unit*) may have one or more data object group fields with the same field name, e.g *"name"* can be represented as *"group1.name"*, *"group2.name"*. In such cases, the expression *Unit.get("name"*) is not valid and throws an exception.

Attention:

For backwards compatibility the code *unit.get("name")* will work as long as the custom field *"name"* is unique. When another custom field with the same name is added, the code *unit.get("name")* will no longer work!

Now use the following notation to retrieve unit field (data object group field) data:

For one field: unit.get("group1 :name ")
For numerous fields: unit.get(" group1:field1.group2:field2 ")

Example to get contact company name

unit.get("contactFields:companyReference.companyFields:name")

Extension of the Custom Field Expression Language (CFEL)

Starting with ConSol*CM version 6.9, the *Custom Field Expression Language* (CFEL) has been improved to provide simple access to many objects. This concerns scripting for ticket and other objects as well as objects from the customer data model, i.e. Units (data objects: objects on contact or company level). Here, the improvements concerning units (data objects) will be explained. For a detailed explanation on how to write Java or Groovy code which uses customer data model objects, please refer to the *ConSol*CM Process Designer Manual*.

You can access the customer data model objects from different scripts:

- Workflow:
 - Scripts in workflow activities
 - Scripts in workflow conditions
- Admin-Tool (AT) scripts of type:
 - Dependent enum
 - E-mail
 - Clone
 - Default values
 - Data object action
 - Data object condition
 - Workflow

9.5.4 Changes in Scripting from Consol*CM Version 6.8 to Version 6.9

In ConSol*CM version 6.9, some methods were declared deprecated and have to be replaced by new methods. This is only relevant if you have scripts from version 6.8 or older. In this case, the scripts have to be redesigned using the new methods.

AbstractField

Removed custom value accessors for each custom field type.

Removed/changed method	Replacement
StringField.getStringValue()	StringField.getValue()
NumberField.getNumberValue()	NumberField.getValue()

ActivityFormFieldsSet

Removed accessors with plain FieldDefinition, use ActivityFormElement instead.
Removed/changed method	Replacement
ActivityFormFieldsSet.addFieldDefinition(new FieldDefinition)	ActivityFormFieldsSet.addElement(new ActivityFormElement(new FieldDefinition()))
ActivityFormFieldsSet.getFields() returns List< FieldDefinition>	ActivityFormFieldsSet.getElements() returns List< ActivityFormElement>
ActivityFormFieldsSet.setFields(List <fielddefinition>)</fielddefinition>	ActivityFormFieldsSet.setElements(List< ActivityFormElement>)
ActivityFormFieldsSet.removeFieldDefinition(FieldDefinition)	ActivityFormFieldsSet.removeElement(ActivityFormElement)
ActivityFormFieldsSet.removeAllFieldDefinitions()	ActivityFormFieldsSet.removeAllElements()
ActivityFormFieldsSet.getFieldDefinition(index) returns FieldDefinition	ActivityFormFieldsSet.getElement(index) returns ActivityFormElement
ActivityFormFieldsSet.addFieldDefinition(new FieldDefinition, index)	ActivityFormFieldsSet.setElements(ordered list of elements)

ContentFile

Added size parameter to input stream methods.

Removed/changed method	Replacement
new ContentFile(filename, inputstream)	new ContentFile(filename, inputstream, streamsize)
ContentFile.setInputStream(inputstream)	ContentFile.setInputStream(inputstream, streamsize)

ContentResource

Same changes as in ContentFile.

Removed/changed method	Replacement
new ContentResource(filename, inputstream)	new ContentResource(filename, inputstream, streamsize)
ContentResource.setInputStream(inputstream)	ContentResource.setInputStream(inputstream, streamsize)

FieldLogEntry

Removed modification accessors.

Removed/changed method	Replacement
FieldLogEntry.setModification(Modification)	FieldLogEntry.setValue(value) + FieldLogEntry.setPreviousValue(value)
FieldLogEntry.getModification()	FieldLogEntry.getValue() + FieldLogEntry.getPreviousValue()

Ticket

Removed renamed custom fields accessors and other changes.

Removed/changed method	Replacement
Ticket.getField(), Ticket.setFieldValue(), Ticket.removeField()	Previously mixing <i>groupName</i> and <i>fieldName</i> parameters worked, now only the order <i>groupNam e, fieldName</i> is accepted.
Ticket.setField(AbstractField)	Ticket.addField(AbstractField)
Ticket.addOrUpdateField(AbstractField)	Ticket.setFieldValue(pGroupName, pFieldName, Object pValue)
Ticket.getEnumValue	EnumValue enumValue = getFieldValue(String pGroupName, String pFieldName) String enumName = enumValue.getName();
Ticket.setEnumValue(fieldName, groupName, enumName)	EnumValue enumValue = enumService.getEnumValue(enumGroupName, enumValueName); Ticket.setFieldValue(pGroupName, pFieldName, enumValue); For workflow usage: Ticket.setFieldValue(pGroupName, pFieldName,
	getEnumValueByName(enumGroupName, enumValueName));

TimerTrigger

Removed *setDuedate* method.

Removed/changed method	Replacement
TimerTrigger.setDuedate	TimerTrigger.setDueTime

Unit

Removed renamed custom fields accessors.

Removed/changed method	Replacement
Unit.getFieldsSet()	Unit.getFields()
Unit.setFieldsMap(Map)	Unit.addFields(Set)
Unit.setField(AbstractField)	Unit.addField(AbstractField)

New (Convenience) Methods

Examples for new methods:

Object.Method	Explanation
def contacts = unit.get("contacts()")	Using CFEL ("contacts()") a list of all contacts is
List contacts = company.getContacts()	retrieved for the company (unit).
Unit company = mainContact.getCompany()	For a contact, the company can be retrieved easily.
newContact.set("company()", newCompany)	For a (new) contact, the company is assigned the CFEL expression "company()", provides easy access to the company object.
List tickets = company.get("tickets()")	For a company, all tickets are retrieved.
Ticket ticket = getTicket();	For a contact, all tickets are retrieved.
Unit mainContact = ticket.getMainContact()	
List tickets = mainContact.get("tickets()")	
Integer count = contact.get("company().contacts()[0].tickets()[count]");	A chain of expressions is used to get the number of tickets for a specific contact.

Example 1: Search for the tickets of a contact or of a company

```
TicketCriteria ticketCriteria = new TicketCriteria();
Unit patternContact = new Unit("contact", customerGroup);
mdcmCriteriaBuilder.setReferencedContactCriteria(ticketCriteria, patternContact);
```

Example 2: Search for the tickets of the contact who is member of a certain company

TicketCriteria ticketCriteria = new TicketCriteria(); Unit contactPattern = new Unit("contact", customerGroup); mdcmCriteriaBuilder.setReferencedContactCriteria(ticketCriteria, contactPattern); Unit companyPattern = new Unit("company", customerGroup); companyPattern.setFieldValue("name", "ConSol"); mdcmCriteriaBuilder.setReferencedCompanyCriteria(contactPattern, companyPattern);

Example 3: Search for contacts of a certain company

```
UnitCriteria unitCriteria = new UnitCriteria();Unit c
ompanyPattern = new Unit("company", customerGroup);
mdcmCriteriaBuilder.setReferencedCompanyCriteria(unitCriteria, companyPattern);
```

Information:

For detailed information about the methods, including input parameters (method signatures) and output data type, please refer to the *ConSol*CM Java API Doc*.

9.5.5 New Objects in ConSol*CM 6.9 and Up

The objects which are available in the script obviously depend on the script's context. The following examples demonstrate some of the possible use cases:

Starting point	Script	Objects	Example
Company page	data object action script	unit represents the company	<pre>def contacts = unit.get(" contacts()")</pre>
Contact page	data object action script	unit represents the contact	List tickets = unit.get(" tickets()")
Workflow activity	workflow action or condition script	ticket	def id = ticket.getId()
Workflow activity with script in AT	workflow action or condition script	ticket not present implicitly!	import com.consol.cmas.comm on.model.ticket.Ticket def id = ticket.getId()

9.6 Templates for Customer Data

- Templates for Customer Data
 - Introduction to Using Templates for the Display of Customer Data
 - Coding Templates
 - Examples for Templates
 - Template Types
 - Standard
 - REST
 - Dragged
 - E-Mail
 - Quick Search
 - Data Object Search Result
 - Ticket Search Result
 - Ticket Page
 - Ticket List
 - Ticket Relation
 - Workspace and Favorites
 - History
 - Suggestion
 - CM/Phone Customer Details
 - CM/Phone Customer List

9.6.1 Introduction to Using Templates for the Display of Customer Data

In the ConSol*CM Web Client, contact data sets are displayed in short form at various locations, based on templates. For example in the ticket list, the contact name and company name might be required whereas in the contact data section of the ticket, the name, first name, and phone number of a contact might be needed . This section will show you where short forms are used and how the respective templates are configured using the Admin-Tool.

The configuration is based on the following principle (very similar to the principle used in previous ConSol* CM6 versions):

- An annotation is assigned to a data object, i.e. to a contact or company definition, in the file card *Customer data model* of the *User attributes* section in the Admin-Tool. It defines for which section of the Web Client the annotation is valid.
- The referenced template must be the name of a template which is stored in the *Script and Template* section of the Admin-Tool. You as an administrator are free to assign names to the templates. All you have to make sure is that the referenced name in the *Edit data object* window and the template name in the *Script andTemplate* section are identical.

🗾 Edit data c	bject			×
Edit data obj i Please edit	ect the data object's data.			
Name: Description:	ResellerCompany			(*)(*)
Type: Icon:	Company			
Templates:	Туре	Name		
	Default	company-standard-template		
	REST	company_REST-template		
	Dragged	company-dragged-template		
	E-mail	company-email-template		
	Quick Search	company-quicksearch-template		
	Data object search result	company-searchresult-template		
	Ticket search result	company-ticketsearchresult-remplate	_	
	Ticket list	company-ucketpage-template		
	Ticket relation	company-uckeuist-template		
	Workspace and Eavorites	company-workspace-template		
	History	company violaspace compare		
	Suggestion	company-suggestion-template		
	L	Save	Can	cel

Fig. 1: ConSol*CM Admin-Tool - Template Annotations for Data Object (Here: Company)

In the following paragraphs, the syntax and coding for templates and all possible template types are explained.

9.6.2 Coding Templates

The templates are written in *FreeMarker* notation. For detailed information, please refer to the FreeMarker web site.

Within the templates, you work with three object types:

1. Name of the data object

i.e. the name of a company or contact object.

 Name of the data object group within the data object (a data object group is similar to a custom field group for ticket data).
 Name of the fields

within the data object group.

See the following figure for an example:



Fig. 2: ConSol*CM Admin-Tool - Writing Customer Templates

Attention:

The customer templates must be single-row! They must not contain line-breaks!

Examples for Templates

Here are some examples for templates:



```
${company.getFieldValue("company", "name1")!}${company.getFieldValue("company", "name2")!}
${company.getFieldValue("company", "mainaddr_city")!},${customer.getFieldValue("customer", "
firstname")!}
${customer.getFieldValue("customer", "name")!}
```

Example for search-customer-template (has to be written in one line!)

```
<#if company??>${company.getFieldValue("company", "namel")!}${company.getFieldValue("company", "
name2")!}
${company.getFieldValue("company", "mainaddr_city")!},
</#if>${customer.getFieldValue("customer", "firstname")!}${customer.getFieldValue("customer", "
name")!}
```

Setting number format: removing "." in number display

```
<#setting number_format="#"/>${customerModelCompany.getFieldValue("groupName", "numberValueField
")!}
```

9.6.3 Template Types

Standard

This template, respectively format, is used at all following locations if no special templates have been defined, i.e. all other annotations could be omitted if a standard template is defined.



If no template is defined for a certain Web Client location and no standard template has been defined either, there will be an error in the log file and -- unknown -- will be displayed in the Web Client.

So make sure that at least a standard template is defined. In a two-level customer data model, this has to be done for the company and for the contact level!

REST

The display of customer data using the RESTAPI, e.g. in ConSol*CM/Track.

Dragged

This defines the format of the contact/company data of a customer data set while the data set is dragged, e.g. from the Customers section to the Favorites section.

	Customers	Skywalker	
e	Main customer Luke Skywalker luke@consol.de CustomerGroup	d.	
	Technology (
	Engineers		

Fig. 3: ConSol*CM/Web Client - Customer Dragged Template

E-Mail

In the Ticket E-Mail Editor an automatic search provides search results in-line in form of a drop-down list. The format of those search results can be configured using this template.

	show Cc show Bcc	
To	Start	

Fig. 4: ConSol*CM/Web Client - Customer E-Mail Template

	E-mail template (has to be written in one line!)
	< #if customer.getFieldValue("customer","name")?has_content
	&& customer.getFieldValue("customer","firstname")?has_content
	&& customer.getFieldValue("customer","division")?has_content>
	<pre>\${customer.getFieldValue("customer","name")!},</pre>
	<pre>\${customer.getFieldValue("customer","firstname")!},</pre>
	<pre>\${customer.getFieldValue("customer","division")!}</pre>
	<#else> \${customer.getFieldValue("customer","name")!},
	<pre>\${customer.getFieldValue("customer","division")!}<!--#if--></pre>
i.	

Quick Search

This template defines the format of the search result for contacts or companies in the quick search. The template has to be short and single-line.

	All cust	omer groups	
HelpDesk 1st Leve	:I	SUP-22 100520 SUP-32	Error handling in ticket-s Printer error Adding attachments is po
Contact (Customer	Group)	Luke Skywa	Login not possible Ilker (-4711)
		Show all	Favoritos

Fig. 5: ConSol*CM/Web Client - Customer Quick Search Template

Data Object Search Result

This template defines the search results for automatic searches in auto-complete fields.

New Tick	et	
10 0	Subject	
	Queue: HelpDesk 1st L Assigned to: Unassigned	
	Priority Choose One Module Choose One	
	Reaction time Ask for feedback	
	Category None 🔻	
	Customers	
	Main	
\overline{O}	ResellerCompany	
	MyN	
	MyNewSpaceCompany 999	

Fig. 6: ConSol*CM/Web Client - Customer Data Object Search Result Template

This is the applied template:

ResellerCompany search result template (has to be written in one line!)	
<pre>\${ResellerCompany.getFieldValue("ResellerCompanyData","company_name")!} \${ResellerCompany.getFieldValue("ResellerCompanyData","company_number")!}</pre>	

Ticket Search Result

In the results page of the detail search the tickets found by the search are displayed as a list. One column of this list contains the main contact of the ticket. The *Ticket search result* template defines the layout of the customer data in this column.

Search							
Search criteria							
Queue 'HelpDesk 1st Level' - Choose One Search							
Tickets	CustomerGroup (cust	omer) Custom	nerGroup (Company) Reseller (ResellerCustomer)				
View as: List BGrid Search results (99) Add/Remove column 'Engineer', 'Main Customer', OK Number per page 20							
1 to 20 of 99							
Huber Harald	Marvlin Monroe	SUP-17	Subject Take over as primary contact doesn't work				
Thabbil, Thanana	Minnie Mouse	SUP-103	"Send mail" action: attachment selection is lost after clicking "Quote ticket"				
Dieter Macher Max Mustermann Daisy Duck		SUP-57	"Vanishing" locales				
		SUP-32	Adding attachments is possible for worker which has got only "Read tickets" permission				
		SUP-98	Administrate permission				
Meier, Friedrich	Admin-Tool: Broken layout						
	Peter Diermau	3 SUP-15	Admin-Tool: Confirmation Dialog is missed during delete Customer Attributes				
Marylin Monroe 🥂 🧾 SUP-54 Admin-Tool: Error during creating queue (Oracle 10g)							

Fig. 7: ConSol*CM/Web Client - Customer Ticket Search Result Template

Ticket Page

This template defines the presentation of the contact/company data in the *Customers* section of a ticket.

Ticket	
100520	Printer error HelpDesk 1st Level Qualify Assigned to Chef, Charly Open since 11/19/13 1:26 PM Priority normal Reaction time 11/20/13 Ask for feedback no Country Germany
	Customers
	Main austomor
	Luke Skywalker luke@consol.de Y CustomerGroup
-	Fnnineers

Fig. 8: ConSol*CM/Web Client - Customer Ticket Page Template

Ticket List

This template defines the presentation of the contact data in the ticket list.

Attention:

If you would like to work with this template type, please make sure that the page customization parameter *accordionTicketList.mainCustomerDescriptionVisible* has been set to *true*. Otherwise contact data cannot be displayed in the ticket list.

Customer: 777 - Luke Skywalker		
Customer: 777 - Luke Skywalker		
	Luke Skywalker	ŚP
100520 Assigned to: Oner, Onany	er, Criany	100520

Fig. 9: ConSol*CM/Web Client - Customer Ticket List Template

Ticket Relation

This template defines the presentation of the contact data in ticket references in the *Relations* section of a ticket. Please keep in mind that contact data of referenced tickets are only displayed in the extended display level.



Fig. 10: ConSol*CM/Web Client - Customer Ticket Relation Template

Workspace and Favorites

This template defines the presentation of contact data in the Favorites section.

Favorites
Andreas Hansen
Max Mustermann
Marylin Monroe

Fig. 11: ConSol*CM/Web Client - Customer Favorites Template

History

This template defines the presentation of contact data in the ticket protocol, i.e. in the *History* section of a ticket.

Ticket	Edit Clone Print Display 🔻					
SUP-124	X-Cm: Exception during status change which moves a ticket into a new queue HelpDesk 1st Level Qualify Assigned to Huber, Harald Open since 5/5/08 11:39 AM Priority high Module inventory Reaction time 8/8/09 Ask for feedback no					
	Customers Add Hide					
@	Main Mrs Lea Skywalker CustomerGroup Starship Operator Dr. lea@localhost Office 123 Special Forces					
	History Comment E-Mail Attachment Time booking Hide					
	Display all entries 🔻 Sorting latest first 🔻					
	Add comment, e-mail or attachment					
40 minute	40 minutes ago #39 changed by Harald Huber Main customer changed from Dieter Macher Lea Skywalker					

Fig. 12: ConSol*CM/Web Client - Customer History Template

Suggestion

This template defines the presentation of contact data for suggestions which are displayed when a ticket is created.

New Tick	et
I	Subject
	Queue: HelpDesk 1st L Assigned to: Unassigned
	Priority Choose One Module Choose One
	Reaction time Ask for feedback
	Category None 💌
	Customers
	Main
0	Company Find Create
	Please enter keywords such as name or e-mail
	customar
	Suspection
	Select
	Choose One First name sky
	Function Acad. title

Fig. 13: ConSol*CM/Web Client - Customer Suggestion Template

CM/Phone Customer Details

See section CTI with ConSol*CM: CM/Phone.

CM/Phone Customer List

See section CTI with ConSol*CM: CM/Phone.

10 Managing Customer Groups

- Managing Customer Groups
 - Basic Principle for Customer Data Models and Customer Groups
 - Managing Customer Groups Using the Admin-Tool
 - Customer Groups List
 - Customer Group Details
 - Creating a New Customer Group
 - Editing a Customer Group
 - Deleting a Customer Group
 - Disabling and (Re-)Enabling a Customer Group
 - Assigning Access Rights for Customer Groups

10.1 Basic Principle for Customer Data Models and Customer Groups

In a ConSol*CM system several customer groups can be used.

A Principles:

There can be any number of customer groups and any number of customer data models.

Each customer group has exactly one customer data model.

Each customer data model can be assigned to any number of customer groups.

In the following example, the system contains three customer groups, each with its specific customer data model.

10.2 Managing Customer Groups Using the Admin-Tool

In the Admin-Tool, customer groups are managed using the *Customer groups* tab in the *User attributes* section.

CM6 Admin-Tool @ cm6doku-cm1.int.consol.de	
File Views Help	
A Z S T E	= % 🔕 🌒 <> 🗳 📓 🜖
😩 User attributes	
Customer groups Customer data model Data object actions Customer	roles Data object relations Engineer functions Projects
Customer groups	Details
Filter: All customer data models	Name:
Name A Customer data model	Customer data model:
DirectCustomers DirectCustomersModel	Contact actions
MyCustomerGroup BasicModel	Create: Manual
Reseller ResellerModel	Update:
	Delete:
	Company actions
	Create:
	Manual
	Delater
	Delete:
	E-Illack Dana Number Configuration
	Country prefix:
	Area prefix:
	Company prefix:
	Subscriber pattern:
	Internal pattern:
	Mobile pattern:
[CM_Administration, Workflow_Admin]	
ť	

Fig. 1: ConSol*CM Admin-Tool - Managing Customer Groups

10.2.1 Customer Groups List

On the left side, all customer groups are listed:

• Name

The technical name of the customer group.

• Customer data model

The name of the customer data model which has been assigned to the customer group.

You can apply two sorts of filters:

• Name filter

Enter a text or some characters in the field *Filter*. Only the customer groups where the name contains the text/characters will be displayed in the list.

• Customer data model filter

Select a customer data model from the drop-down list. Only customer groups with the selected data model will be displayed in the list.

10.2.2 Customer Group Details

On the right side, the details of the customer group, which is selected in the list, will be displayed. An explanation of all parameters is given in the following section.

10.2.3 Creating a New Customer Group

You create a new customer group by clicking on below the group list. A pop-up window is opened where you have to enter the customer group parameters.

	Edit customer group	Teres d	×	
Technical name of	Edit customer group i Please edit the customer group data.			Localization of the customer
Assigned customer data model Parameters for Action Framework	Name: Reseller Customer data model: ResellerModel Contact actions Company actions CMPhone Automatic Create: Update: UpdateResellerCustomerData			Tab for CM/Phone parameters (only available when CM/Phone is active)
	Delete: Manual Assigned Name CheckServiceStatus OfferCreateTicketPageOnGUI	Available Name LoadReport DoSomethingInteresting GoToCompanyURL GoToAM_TicketOnGUI OfferCreateUnitPageOnGUI LoadData		
		Save	Cancel	

Fig. 2: ConSol*CM Admin-Tool - Parameters for a Customer Group

Name

The technical and unique name of the customer group. Click on 🗐 to enter the localized name of the customer group for all languages that are available in the system. The localized queue name will be displayed in the Web Client in the ticket header. If no localized values are provided, the name will be displayed in the default language.

Customer data model

Select the customer data model from the drop-down list. All customer data models which have been defined (see section Setting up the Customer Data Model) are available.

- Contact actions Part of the Action Framework.
- Company actions Part of the Action Framework.
- CMPhone

Tab for all CM/Phone parameters. Only available if CM/Phone is active, see section CTI with ConSol* CM: CM/Phone.

10.2.4 Editing a Customer Group

If you want to edit a customer group, select it in the list and click on D or just double-click the name of the customer group. Modify the customer group parameters and click *Save* to store your modifications.

10.2.5 Deleting a Customer Group

Select the customer group you want to delete in the list and click on <a>

 with Yes, the customer group will be deleted and is no longer available in the system. A customer group can only be deleted if it is not assigned to a queue and if there are no tickets for customers of the group. In a system which has been in operation for a while, it will usually not be possible to delete a customer group.

10.2.6 Disabling and (Re-)Enabling a Customer Group

To disable a customer group, select the customer group in the list and click on
 The entry in the list is now shown in italics. Just click on
 at the bottom of the page, if you want to enable the customer group again. When a customer group is disabled, it is not possible to create new tickets for companies or contacts of the group. Tickets of the group are still visible.

10.3 Assigning Access Rights for Customer Groups

In order to let engineers work with customer data of a customer group, e.g. to create new reseller data sets or to modify them, you have to grant access permissions for the user groups to one or more roles.

CM6 Admin-Tool @ localhost		
File Views Help		
🏫 🌋 🦤 🍸 🤎	🚨 🖷 🔧 🚍 🗞 🧔	🍈 < 💭 💽
😼 Role Administration		
Roles Filter: All queues	7 roles Oueue Permissions Customer Group Permissions	Global Permissions Views Engineer Functions
	Customer Groups	Customer Group Permissions
Name	Name	Own All
CM_Administration CustomerManager_Reseller	CustomerGroup	Read 🔽 🔽
HD_1st_Level_Role	Reseller	Write 🔽 🔽
HD_2nd_Level_Role HD_Sales_Role		Delete 🔽 🔽
HD_Supervisor		Act 🗸 🗸
Workflow_Admin		Deactivate/
		Details read 🔽 🔽
		Details write 🔽 🔽
		Details delete 🔽 🔽
		Create 🔽
[CM_Administration]		

Fig. 3: ConSol* Admin-Tool - Assigning Permissions for Customer Groups to a Role

The access rights which can be granted have been modified compared to previous ConSol*CM versions. New rights have been added which concern a new section of the customer page. The customer page in the Web Client has a new section, the *Details* section.

	Contact	Display 🗸	ו
	0	Skywalker Luke Verseller luke@localhost.de 123 ConSol* Verseller	
		Tickets (0) Hide	
		All tickets This customer does not have any tickets	
		1 I	
		Comments Attachments New	
General sections		Click here to add a comment	Details section
\backslash		List of comments	
\mathbf{i}		This contact does not have any comments.	
	•	Relations	Ĭ
		History Hide	
	2/28/14	08:56 changed by Harald Huber = email set to luke@localhost.de = customer_name set to Skywalker = phone set to 123 = forename set to Luke	-

Fig. 4: ConSol*CM/Web Client - Contact Page: Details Section

The following access permissions can be granted:

• Customer type

Refers to the tickets of the customer.

• Own

All customers which are contacts at tickets which are currently owned by the engineer.

• All

All customers.

- General sections
 - Read

Read the customer data.

• Write

Write/modify the customer data.

Delete

Delete a customer data set.

• Act

Execute actions for this customer (see section Action Framework for details about customer actions).

• Deactivate/activate

Deactivate and (re-)activate the customer or company. It is not possible to create tickets for a deactivated company.

- Details section
 - Details read

Read customer data in the *Details* section.

• Details write

Write/modify customer data in the *Details* section.

• Details delete

Delete customer data in the *Details* section.

- General
 - Create

Create a customer data set. In a two-level customer data model this refers to customer as well as to company data sets.

Attention:

Please keep in mind that an engineer must have at least read permissions for a customer group to open and/or create tickets for customers in this group!

11 Customer (Data Object) Relations

- Customer (Data Object) Relations
 - Introduction to Customer (Data Object) Relations
 - Management of Customer Relations Using the Admin-Tool
 - Creating Customer Relations Using the Web Client
 - Scripting Using Relations

11.1 Introduction to Customer (Data Object) Relations

Customer relations represent relations between customers (data objects), i.e. companies and contacts. They can be one of two types:

- directional (different levels in a hierarchy)
- reference (same level, no hierarchy)

A relation is of one of the following types:

- company company
 - e.g. ... has a cooperation with ... (company X cooperates with company Y)
 - The companies can belong to the same or to different customer groups.
 - The involved customer groups can have the same or different customer data models.
- company contact

e.g. ... is customer of ... (contact X is customer of company Y)

- The company and the contact can belong to the same or to different customer groups.
- The involved customer groups can have the same or different customer data models.
- contact contact
 - e.g. ... is serviced by ... (contact X from company X is serviced by contact Y from company Y)
 - The companies and contacts can belong to the same or to different customer groups.
 - The involved customer groups can have the same or different customer data models.



Fig. 1: ConSol*CM FlexCDM - Examples of Customer Relations

11.2 Management of Customer Relations Using the Admin-Tool

To make customer relations available to the engineers the relations have to be defined in the Admin-Tool. Open the file card *Data object relations* in the *User Attributes* section. All relations are listed, new relations can be added, or old ones can be deleted.



Fig. 2: ConSol*CM Admin-Tool - Managing Customer Relations

The following elements are available:

- List of relations
- Filter
 - Filter for an expression which has to be entered into the field *Filter*. Use the asterisk as a placeholder for any character.
 - Filter for customer groups using the drop-down menu.
- Add button 🖸

Add a new relation. The pop-up window *Create data object relation* with the details fields (see next section) is opened.

• Edit button 🕑

Modify the parameters of a relation. The pop-up window *Edit data object relation* with the details fields (see next section) is opened.

Delete button

Delete an existing relation. This is only possible when no relations of this type have been set (using the Web Client).

Change order (arrows up 1 and down 1)

Place a relation at a specific position in the list. This defines the order of the manual relations as they are displayed in the Web Client.

• Activate 🖉 / deactivate 😑 relations

A deactivated relation is not available in the Web Client, i.e. a relation of this type can no longer be created. Existing relations of this type are not modified and are displayed in the GUI.

1	CM6 Admin-Tool @ localhost	- Annotation		B 10 1000			23
F	ile Views Help						
	🏫 🔏 🍢 🕇	🤲 🚉 🗊	Edit	data object relation	6 O D	X	•
	4 User attributes		Edit da	ita object relation			
	Outbours and Outbours data an	del Dete etitet estima l Ou	i Plea	ase edit data object relatio	on's data		
ľ	Customer groups Customer data mo	oder Data object actions Cus	no				
	Data object relations						
	Filter:	All customer groups	Name	2	ResellerDirectCustomersRelation		
	Namo	Relation Type	Туре	:	Directional -		
	ResellerDirectCustomersRelation	Directional	Repo	rtable:			
			Only	configurable via workflow			
			Source	:e		-	-11
			Level	:	Company -	1	
			Custo	omer group:	Reseller	1	
			Descr	ription:	ls products to end = direct customers		di
							F I
					4 III +		
			Targe	2t		-	
			Level	:	Contact -		
			Custo	omer group:	DirectCustomers -		
			Descr	ription:	A person. A direct = end customer		
						-	
					Save		
Ļ							
L	[CM_Administration]						

Fig. 3: ConSol*CM Admin-Tool - Details of a Customer Relation

To create a new relation, use the 🕑 button, to edit a relation use the 🖄 button. In both cases, the detail information pop-up window for a relation is opened where you can edit the following fields:

• Name

Name of the relation. The technical name is used for internal use cases (scripts), the localized name will be displayed in the Web Client as for most fields in ConSol*CM.

• Type

Select one of two types:

Directional

A directional relation has a defined source and a defined target. A data object can be source and target for different relation types at the same time. An example for a directional relation is a reseller (company) to end customer (contact) relation: *sells products to*. A company (reseller) sells products to a contact (end customer). Or a relation between two contacts of a company:

is boss of. The other direction *works for* can also be used. However, a consistent structure for the entire system should be designed to avoid misunderstandings.

Reference

A reference is an undirected relation with no hierarchical implications, e.g. *has a cooperation with*.

Reportable

Defines if the relations of this type should be transferred to the data warehouse.

• Only configurable via workflow

If this check box is marked the relation is not available in the Web Client but can only be created via workflow scripts. Therefore such relations cannot be manipulated manually.

- For a directional relation select:
 - Source
 - Level

Level of the relation source, i.e. company or contact.

Customer group

The customer group of the source data object.

Description

Will be displayed in the Web Client as description of the relation on the source side.

- Target
 - Level

Level of the relation target, i.e. company or contact.

• Customer group

The customer group of the target data object.

• Description

Will be displayed in the Web Client as description of the relation on the target side.

11.3 Creating Customer Relations Using the Web Client

In spite of this book being an administrator's manual, we will show you how relations are set using the Web Client, because as an administrator you should always know what the consequences of administration modifications are.

As an engineer who has the access permissions to the source and to the target customer group, you can add a relation of one data object to another in the *Relations* section of the source data object. You have to have at least one role with the access permission *Write* for the source customer group and the target customer group to perform this operation. You can set the relations on the data object-specific page, i.e. open the company page or the contact page of the potential source object.

For example, you can create a relation *Sells products to* from a company in the *Reseller* customer group to a contact in the *Direct customers* customer group. Of course, this relation has to be defined in the Admin-Tool first. Use the *Add*/link in the *Relations* section and then select the relation from the drop-down menu. Enter the target name (e.g. contact name) in the auto-complete text field. You can also add a note. Then press *OK* . The relation can be edited or deleted afterwards using the respective links (*Edit, Remove*).

	Polations	
	Add solution	
	Add relation	
mpany	Consor	
inpany .	Reseller SELLS TO EN	×]*
ConSol* - Reseller	Note Mr. Sample	
Groups	OK	
ResellerCompanyData Service Contr	Reseller SELLS TO END CUSTOMERS relation (DirectCustomers) (Co	ntact)
Resenercompanyoura Service contra	No relations available.	
ConSol*		workshare
Franziskanerstraße 38 München 81669		Workspace is empty
Germany		All your unsaved tasks are
+49 89 45841 - 0		automatically listed in this
		workspace.
Relations		
Add relation		Favorites
Con Sol*		💄 Andreas Hansen
Chasse One		
Choose One		Max Mustermann
Reseller SELLS TO END CUSTOMERS relation		🚨 Marylin Monroe
OK Const		
UK Cancel		
Reseller SELLS TO END CUSTOMERS relation (Directo	ustomers) (Contact)	
No relations available.		
History	Hide	
motory		

Fig. 4: ConSol*CM/Web Client - Setting a Relation

11.4 Scripting Using Relations

A new class, the UnitRelationService, is available. For details please refer to the ConSol*CM API Java Doc.

In this book we will use the terms *data object* and *data object definition*. However, the names of the corresponding Java classes are *Unit* and *UnitDefinition*. All other Java classes which deal with customer data objects also are still named *Unit...* Please keep that in mind when you work on the administrator level as well as on the programmer's level. Please refer to the the *ConSol*CM Java API Doc* for details.

```
// Creates the unit relation
UnitRelation create(UnitRelation pUnitRelation)
// Deletes the unit relation
void delete(UnitRelation pUnitRelation)
// Get a set of relations by criteria
PageResult<UnitRelation> getByCriteria(UnitRelationCriteria pCritieria)
// Gets unit relations by source and target units
Set<UnitRelation> getBySourceAndTarget(Unit pSourceUnit, Unit pTargetUnit)
// Gets unit relations by source or target units
Set<UnitRelation> getByUnits(Collection<Unit> pUnits)
// Updates the unit relation
void update(UnitRelation pUnitRelation)
```

Please refer to the *ConSol*CM Process Designer Manual* for a detailed explanation on how to write scripts which use customer relations.

12 Action Framework

- Action Framework
 - Introduction to Data Object Actions
 - Managing Data Object Actions Using the Admin-Tool
 - Step 1: Write the Data Object Action Script
 - Step 2: Create Data Object Action(s) Which Use the Script
 - Step 3: Assign Data Object Action(s) to Customer Group(s)
 - Using Data Object Actions as an Engineer (User)
 - Examples for Data Object Action Scripts
 - Example 1: Simple Manual Action
 - Example 2: New Ticket for Contact
 - Scripts for the Action Framework: Programming Data Object Actions
 - Data Object Action Scripts
 - Automatic Data Object Action Scripts
 - Manual Data Object Action Scripts
 - Create a Unit
 - Create a Ticket
 - Open a Unit Page
 - Open a Ticket Page
 - Open a Web Page
 - Object UnitActionScriptResult
 - Data Object Condition Scripts

12.1 Introduction to Data Object Actions

Data object actions are actions which can be performed for a data object, i.e. a contact or a company. The actions can be performed automatically by the system or manually, triggered by an engineer who has the required permissions. You might want to apply data object actions for use cases like the following:

- Load additional data into a company's data set.
- Build an automatic report about the company-specific KPIs.
- Transfer ConSol*CM data to another system (e.g. an ERP system).
- Create/update a Google Maps link from the address data.

You can use the following types of data object actions:

- Automatic actions which are performed by the system after one of the following data object operations:
 - CREATE
 - UPDATE
 - DELETE
- **Manual** actions which are performed by the engineer using *Activities* links in the data object page (*Company* or *Contact* page) of the Web Client (similar to *Workflow activities* for tickets). Manual actions are executed for the data object which is displayed, i.e. when the company page is open, company actions will be offered, when the contact page is open, contact actions will be offered.

A Please keep in mind that only engineers who have at least one role with the following access permissions for the respective customer group are allowed to use the data object actions, i.e. only then the *Activities* will be displayed in the Web Client:

Act

Load report Do something interesting Edit Hide Load data
Do something interesting Edit Hide Load data
Edit Hide Load data
Workspace
Workspace is empty All your unsaved tasks are automatically listed in this

Fig. 1: ConSol*CM/Web Client - Example for Manual Data Object Activities

Data object actions are defined as Groovy scripts which are stored in the *Script and Template* section of the Admin-Tool.

The execution of data object actions can be controlled using condition scripts, i.e. you can implement a condition script which is executed before the data object action itself. Only when this script returns *true*, the following action script is executed.

So there are two types of scripts you have to deal with when you use the ConSol*CM Action Framework:

• Data object action scripts

Defines the action which should be performed.

Data object condition scripts

Defines one or more conditions for the display of the action in the Web Client. Has to return *true* or *false*. If *false* is returned the action is not displayed on the GUI and therefore cannot be performed.

When you want to use a data object action you have to proceed in three steps:

- 1. Create data object action script (either action script only or action script and condition script).
- 2. Create the data object action(s) which use(s) the script(s).
- 3. Assign the data object action(s) to the customer group(s) where they should be available.

In the following sections, all three steps are explained in detail.

12.2 Managing Data Object Actions Using the Admin-Tool

In this book we will use the terms *data object* and *data object definition*. However, the names of the corresponding Java classes are *Unit* and *UnitDefinition*. All other Java classes which deal with customer data objects are also still named *Unit...* Please keep that in mind when you work on the administrator level as well as on the programmer's level. Please refer to the the *ConSol*CM Java API Doc* for details.

12.2.1 Step 1: Write the Data Object Action Script

Create a new Admin-Tool script of type *Data object action*. If required, create another script of type *Data object condition*.

For a detailed explanation of Admin-Tool scripts, please refer to section Admin-Tool Scripts. For an introduction to Admin-Tool scripts used for data object actions, please read section Scripts for the Action Framework in this chapter.

All arrist to man	
All script types	
Name	Туре
AppendToTicket.groovy	E-mail
ChangeOutgoingMail.groovy	E-mail
CheckAndUpdateCompanyServiceStatus	Data object action
CloneTicket.groovy	Workflow
ConditionUpdateContactData	Data object condition
CreateTicket.groovy	E-mail
DisplayCustomerData.groovy	Workflow
Do something interesting	Data object action
GoToAMTicketScript	Data object action
GoToCompanyURL	Data object action
incomingMailRouting.groovy	E-mail
.oad data	Data object action
MailToClosedTicket.groovy	E-mail
OfferCreateTicketPage	Data object action
OfferCreateUnitPage	Data object action
Open report	Data object action
JpdateContactData	Data object action
• 2 8 1	

Fig. 2: ConSol*CM Admin-Tool - Scripts for Data Object Actions

```
Example data object action script:
//do something with the unit (data object)
unit.setFieldValue("personalData", "name", "Kowalski")
unitServiceImpl.update(unit);
```

```
//create and return action result that will tell the web to create new ticket with unit as
//a main contact
def queueId = queueService.getByName("Helpdesk").getId();
Map<String, Object> valuesMap = new HashMap<String, Object>
valuesMap.put(PostActionParameter.UNIT_ID, unit.getId())
valuesMap.put(PostActionParameter.QUEUE_ID, queueId)
return unitActionScriptResultFactory.getPostAction(PostActionType.CREATE_TICKET, valuesMap)
```

12.2.2 Step 2: Create Data Object Action(s) Which Use the Script

Open the file card *Data object actions* under *User attributes* in the Admin-Tool and add a new action using the *Plus* button **•**.

CM6 Admin-Tool @ localhost	
	s 🔹 = % 🕸 🔿 ሩ 🔊 🕄 🗐
â User attributes	
Customer groups Customer data model Data object action	Customer roles Data object relations Engineer functions Projects
Data object actions Filter: All action types Name Typ i	Create data object action reate data object action Please fill in the required fields.
	Name: UpdateResellerCustomerData Type: Update Condition Script: ConditionUpdateContactData Execution Script: UpdateContactData Description: Retrieve orders for previous week from ERP
	Save Cancel
CM_Administration]	

Fig. 3: ConSol*CM Admin-Tool - Creating Data Object Actions

In the pop-up window, the parameters for the new action have to be defined:

• Name

The unique technical name of the action. Can be localized using the *Localize* button 🗐 .The localization is required for manual actions, because the localized name is displayed under *Activities* in the Web Client.

• Type

The action type which defines when it should be executed. Select one of the following types:

Create

This script will be executed automatically when the contact/company is created.

• Update

This script will be executed automatically when the contact/company is updated, i.e. when the data has been modified (either manually or automatically) and is saved again.

• Delete

This script will be executed automatically when the contact/company is deleted.

• Manual

This script will be offered on the contact/company page as manual activity.

Condition Script

In case a condition script should be executed before the action script, the name of the condition script has to be entered here. Only when the condition script has returned *true*, the action script will be executed. If there is no condition, just leave this field empty.

• Execution Script

The name of the action script which should be executed. This has to be the exact name under which the script is stored in the *Script and Template* section of the Admin-Tool.

• Description

Enter the description which should be displayed as mouse-over in the Web Client (for manual actions only).

Save the action. Then you can assign it to customer groups. Please see following step.

12.2.3 Step 3: Assign Data Object Action(s) to Customer Group (s)

Open the file card *Customer groups* in the *User attributes* section of the Admin-Tool. Select the customer group you would like to edit and click on to open the pop-up window to assign the data object actions. Only data object actions which have been stored as Admin-Tool scripts will be offered here.
CM6 Admin-Tool @ localhost	
File Views Help	Ldit customer group
🕋 🗶 🍢 🍸 📖 😫 💷 🔧 🚍 🤇	Edit customer group j Please edit the customer group data.
≜e User attributes	
Customer groups Customer data model Data object actions Customer roles Data of	Name: Reseller
Customer groups	Customer data model: ResellerModel
Filter: All customer data models	Actions
Name A Customer data model	Contact actions Company actions
CustomerGroup BasicModel	Automatic
Reseller ResellerModel	
	Manual
	Assigned Available
	Name I Name
	Save Cancel
CM_Administration]	

Fig. 4: ConSol*CM Admin-Tool - Assigning Data Object Actions to a Customer Group

You can define the following action types:

• Contact actions

The script will be executed for the contact. Manual actions are offered on the contact page only.

Company actions

The script will be executed for the company. Manual actions are offered on the company page only.

For each type you can determine the system behavior for the following actions:

Create

This script will be executed automatically when the contact/company is created.

• Update

This script will be executed automatically when the contact/company is updated, i.e. when the data has been modified (either manually or automatically) and is saved again.

• Delete

This script will be executed automatically when the contact/company is deleted.

Manual

This script will be offered on the contact/company page as manual activity.

12.3 Using Data Object Actions as an Engineer (User)

As an engineer (user), only the data object action type *manual* is relevant for you. The *DELETE*, *UPDATE*, and *CREATE* scripts run in the background.

Manual actions are offered in the Web Client similar to workflow activities for a ticket. Please see *Example 1* in the next section.

12.4 Examples for Data Object Action Scripts

12.4.1 Example 1: Simple Manual Action

A manual action is coded and stored as an Admin-Tool script, then a company action is defined using the script, and the action is assigned to a customer group.

icripts	
All script types	
Name	Туре
AppendToTicket.groovy	E-mail
BuildLocationDependentEnum	Dependent enum
BuildLocationDependentEnumForTable	Dependent enum
ChangeOutgoingMail.groovy	E-mail
CheckAndUpdateCompanyServiceStatus	Data object action
CheckClosedChildTickets.groovy	Workflow
CloneServiceTickets.groovy	Clone
CloneTicket.groovy	Workflow
ConditionUpdateContactData	Data object condition
CreateTicket.groovy	E-mail
DefaultValuesServiceDesk.groovy	Default values
DisplayCustomerData.groovy	Workflow
Do something interesting	Data object action
GoToAMTicketScript	Data object action
GoToCompanyURL	Data object action
IncomingMailRouting.groovy	E-mail
Load data	Data object action
MailOutServiceDesk.groovy	E-mail
MailScriptServiceDesk	E-mail
MailToClosedTicket.groovy	E-mail
MessageToEngineerRemove.groovy	E-mail
● 👔 😵 👘	

Fig. 5: ConSol*CM Admin-Tool - Data Object Action Script to Be Used as Company Script

1	CM6 Admin-Tool @ localho	ost			he
File	Views Help				
1	N 🛛 🧐	(iii) 24 (iii)	Edit data objec	t action	x
	User attributes ustomer groups Customer dat	ta model Data object actions C	Edit data object a j Please edit data	action object action's data	
F	Filter: All action typ	pes ↓] [All customer groups ↓]	Name:	CheckServiceStatus	۲
	News		Type:	Manual	
	Name CheckServiceStatus	Nanual Manual	Condition Script:		
	DoSomethingInteresting	Manual	Execution Script:	CheckAndUpdateCompanyServiceStatus 👻	
	CoToAM_TicketOpGUI	Manual	Description:		a
	LoadData	Manual		(Re-)Check Service Status: Platin Gold Silver	
	LoadReport	Manual			
	OfferCreateTicketPageOnGUI	Manual			
	OfferCreateUnitPageOnGUI	Manual			
	UpdateResellerCustomerData	Update		Save Cancel	
					Π
			Name Localizations		ш
			Locale	Value	ш
111			English	(Re-)Check service status of the company	ш
					ш
	• 🕑 😵				
2	[CM_Administration]				

Fig. 6: ConSol*CM Admin-Tool - Defining the Company Action

CM6 Admin-Tool @ localhost	
File Views Help	
🕋 🌋 🦤 🍸 🍬 🏝 🗊 🔧 🗄	= % 🕸 🔿 < 🖉 🗐 📢
âs User attributes	
Customer groups Customer data model Data object actions Customer roles	Edit customer group
Customer groups	i Please edit the customer group data.
Filter: All customer data models	-
Name 🔺 Customer data model	Name: MyCustomerGroup
MyCustomerGroup BasicModel	Customer data model: BasicModel
	Actions
	Contact action Company actions
	Automatic
	Create:
	Update:
	Delete:
	Manual
	Assigned Available
	Name
	CheckServiceStatus
	Save
CM_Administration]	

Fig. 7: ConSol*CM AdminTool - Assigning a Company Action

The engineer can use the action manually in the Web Client:

Company MySpaceC Address	ompany 💌 MyCust Ailkyway 77 '777 Alderaan	omerGroup				Display 🔻	Activities (Re-)Check service status of the company
Tickets (0						Hide	Workspace
All tickets	Ŧ					Tilde	Workspace is empty All your unsaved tasks are
No search	results						automatically listed in this workspace.
Contacts	1)					Hide Add	Favorites
Add/Rem	ve column 'Phone	1', 'phonetype1',	• ОК		Number	perpage 10 🔻	Andreas Hansen
Contact	Phon	e 1 phonetype1	Acad. title	Division	Function	E-mail	Max Mustermann
📃 Lea S	kywalker 123	Office	Dr.	Special Forces	Starship Operator	lea@localhost	Marylin Monroe

Fig. 8: ConSol*CM/Web Client - Using a Manual Company Action

12.4.2 Example 2: New Ticket for Contact

This script opens the *Create ticket* page for the contact from which the action has been performed. The target queue is *Reminders*. That way a new reminder ticket can be created in no time for the open contact. For an introduction to Admin-Tool scripts for the Action Framework, please read the following section.

```
Example contact script:
import com.consol.cmas.common.model.scripting.unit.PostActionParameterimport
import com.consol.cmas.core.server.service.UnitActionScriptResultFactoryimport
import com.consol.cmas.common.model.scripting.unit.PostActionType
def queueId = queueService.getByName("Reminders").getId();
Map<String, Object> valuesMap = new HashMap<String, Object>()
valuesMap.put(PostActionParameter.UNIT_ID, unit.getId())
valuesMap.put(PostActionParameter.QUEUE_ID, queueId)
return unitActionScriptResultFactory.getPostAction("createTicket", valuesMap)
```

12.5 Scripts for the Action Framework: Programming Data Object Actions

Data object actions are defined by Admin-Tool scripts, i.e. by Groovy scripts which are stored in the *Script and Template* section of the Admin-Tool. The predefined object *unit* (i.e. an object of class *Unit*) is available for those scripts. Objects of the class *Unit* can represent a company or a contact, depending on the context.

There are two types of scripts for the Action Framework:

- Data object action scripts
- Data object condition scripts

12.5.1 Data Object Action Scripts

The actions in this script are executed either triggered automatically by the system operations *CREATE*, *UPDATE*, or *DELETE* or by a manual action (using *Activities* in the Web Client) of the engineer.

Automatic Data Object Action Scripts

Example script: Set a value in customer data and update the unit

```
unit.setFieldValue("personalData", "name", "Skywalker")
unitService.update(unit)
```

Attention:

When you use *unitService.update(unit)* as in the example above, you can use a data object condition script to avoid infinite loops. See note in section *Data Object Condition Scripts*.

Manual Data Object Action Scripts

For manual data object action scripts you can make use of some specific methods and objects:

- Methods (fields of the Interface PostActionType):
 - CREATE_UNIT Create a unit.
 - CREATE_TICKET Create a ticket.
 - GOTO_UNIT Open unit page.

- GOTO_TICKET
 - Open ticket page.
- GOTO_PAGE
 - Open a web page (URL).
- Objects:
 - UnitActionScriptResult

Create a Unit

(*PostActionType.CREATE_UNIT*) redirects the user to the create unit page. It uses the optional parameter *PostActionParameter.CUSTOMER_GROUP_ID* to decide for which customer group a new unit has to be created and optionally the map of data object group fields (*PostActionParameter.FIELDS_MAP*) to fill the unit's data object group fields with the passed values.

Example company action script which fills some unit data	
<pre>import com.consol.cmas.common.model.customfield.meta.FieldKey</pre>	
<pre>import com.consol.cmas.common.model.customfield.AbstractField</pre>	
<pre>import com.consol.cmas.common.model.customfield.StringField</pre>	
<pre>import com.consol.cmas.common.model.scripting.unit.PostActionParameter</pre>	
<pre>import com.consol.cmas.common.model.scripting.unit.PostActionType</pre>	
<pre>Map<fieldkey, abstractfield<?="">> fieldsMap = new HashMap<fieldkey, abstractfield<?="">>()</fieldkey,></fieldkey,></pre>	
<pre>FieldKey firstName = new FieldKey("customer", "firstname")</pre>	
<pre>FieldKey name = new FieldKey("customer", "name")</pre>	
fieldsMap.put(firstName, new StringField(firstName, "Han"))	
<pre>fieldsMap.put(name, new StringField(name, "Solo"))</pre>	
<pre>Map<string, object=""> valuesMap = new HashMap<string, object="">()</string,></string,></pre>	
valuesMap.put(PostActionParameter.CUSTOMER_GROUP_ID, unit.getCustomerGroup().getId())	
valuesMap.put(PostActionParameter.FIELDS_MAP, fieldsMap)	
return unitActionScriptResultFactory.getPostAction(PostActionType.CREATE_UNIT, values	Map)

Company					Display 🔻	Activities
MySpaceCompany VyCustomerGro Address Milkyway 77	oup					Create New Customer
7777 Alderaan						Workspace
Tickets (0)					Hide	Workspace is empty
All tickets 🐨						automatically listed in this
No search results						workspace.
Contacts (1)					Hide Add	Favorites
Add/Remove column 'Phone 1', 'phone	netype1',	- ОК		Number p	erpage 10 🔻	Andreas Hansen
						Max Mustermann
Contact Phone 1	phonetype1	Acad. title	Division	Function	E-mail	
Lea Skywalker 123 C	Office	Dr.	Special Forces	Starship Operator	lea@localhost	Marylin Monroe

Fig. 9: ConSol*CM/Web Client - Company Action Script

customer	Logged in	: <u>Harald Huber</u> 💽			MyCustomerGroup	Q
	New cust	Company Find Create Please enter keywords such customer	as name or e-mail	·		Workspace Workspace is empty All your unsaved tasks are automatically listed in this workspace.
21		Function E-mail	e Choose One Choose One Choose One Choose One Choose One Choose One	Acad dido Robinson Phone 1 Phone 2 Phone 3 Phone 4]	Max Mustermann Marylin Monroe
		Doma Comment Track user	In Choose One	 Budget responsible Preparer]	

Fig. 10: ConSol*CM/Web Client - Create Unit Page Opened and Pre-Filled by Company Action Script

Of course, the names of the data object group fields which are used in the script have to be the ones from the customer data model which has been assigned to the customer group for which a new contact should be created.



Fig. 11: ConSol*CM Admin-Tool - Script for Creating Unit Page as Company Action

Create a Ticket

(*PostActionType.CREATE_T/CKET*) redirects the user to a create ticket page. It uses the optional *PostActionParameter.UNIT_ID* with the ID of the main contact, *PostActionParameter.QUEUE_ID* with the ID of the queue, and the custom fields map *PostActionParameter.FIELDS_MAP*.

```
Script creates and returns action result that will tell the web to create a new ticket with unit as the main contact
import com.consol.cmas.common.model.scripting.unit.PostActionType
import com.consol.cmas.common.model.scripting.unit.PostActionParameter
def queueId = queueService.getByName("HelpDesk_lst_Level").getId()
Map<String, Object> valuesMap = new HashMap<String, Object>()
valuesMap.put(PostActionParameter.UNIT_ID, unit.getId())
valuesMap.put(PostActionParameter.QUEUE_ID, queueId)
return unitActionScriptResultFactory.getPostAction(PostActionType.CREATE_TICKET, valuesMap)
```

Attention:

Please remember that the customer group for which the script should be applied has to be assigned to the queue where the ticket is to be created (*HelpDesk_1st_Level* in the example).

	Display 👻	Activities
O Skywalker Luke 🔻 Reseller	_	(Re-)Check service status of the
luke@localhost.de 123		Create new Help Desk ticket
MyNewSpaceCompany 🔻		
Tickate (1)	Hide	Workspace
All tickets 🔻	Tilde	Workspace is empty
Add/Remove column 'Engineer', 'Main Customer', Number provide the second s	erpage 10 👻	All your unsaved tasks are automatically listed in this workspace.

Fig. 12: ConSol*CM/Web Client - Example Contact Action Script

New Ticket	Workspace
Subject Queue: HelpDesk 1st L Assigned to: Unassigned	Workspace is empty All your unsaved tasks are automatically listed in this workspace.
Reaction time Ask for feedback	Favorites Image: Andreas Hansen
Customers Main	Add Marylin Monroe

Fig. 13: ConSol*CM/Web Client - Create Ticket Page Opened and Pre-Filled by Contact Action Script

Open a Unit Page

(*PostActionType.GOTO_UNIT*) redirects to a unit page. It uses the obligatory parameter *PostActionParameter.UNIT_ID* with the ID of the unit.

Go to company page

```
import com.consol.cmas.common.model.scripting.unit.PostActionType
import com.consol.cmas.common.model.scripting.unit.PostActionParameter
Map<String, Object> valuesMap = new HashMap<String, Object>()
valuesMap.put(PostActionParameter.UNIT_ID, unit.get("company()").getId())
return unitActionScriptResultFactory.getPostAction(PostActionType.GOTO_UNIT, valuesMap)
```

Open a Ticket Page

(*PostActionType.GOTO_TICKET*) redirects to a ticket page. It uses the obligatory parameter *PostActionParameter.TICKET_ID* with the ID of the ticket.

Go to ticket page

```
import com.consol.cmas.common.model.scripting.unit.PostActionType
import com.consol.cmas.common.model.scripting.unit.PostActionParameter
import com.consol.cmas.common.model.customfield.Unit
import com.consol.cmas.common.model.ticket.TicketCriteria
import com.consol.cmas.common.model.customfield.ListField
import com.consol.cmas.common.model.customfield.ContactReferenceField
import com.consol.cmas.common.model.customfield.UnitReferenceSearchField
import com.consol.cmas.common.model.customfield.ContactReferenceSearchField
import com.consol.cmas.common.model.customfield.meta.FieldKey
import com.consol.cmas.common.model.ticket.Ticket
import com.consol.cmas.common.model.ContactTicketRole
import com.consol.cmas.common.model.customfield.StringField
import com.consol.cmas.common.model.scripting.unit.UnitActionScriptResult
//get AM queue for search
def q_id = (workflowApi.getQueueByName("AccountManagement")).id
def q_ids = new HashSet()
q_ids.add(q_id)
//find AM ticket for the company
def crit = new TicketCriteria()
crit.setQueueIds(q_ids)
// Listenfeld-Key erzeugen
def contactSearchListFieldKey = new FieldKey("queue_fields","contacts")
// Listenfeld vorbereiten
def contactsListField = new ListField(contactSearchListFieldKey )
// Memberfeld-Key erzeugen
def contactSearchFieldKey = new FieldKey("queue_fields","contacts_member")
// Unit-Memberfeld mit Unit und Ticket-Hauptrolle erzeugen
def contactsMember = new
ContactReferenceSearchField(contactSearchFieldKey, unit,
ContactTicketRole.MAIN ROLE)
// Member-Feld in Unit-Listenfeld stopfen
contactsListField.addChild(contactsMember)
// Feld(er) in die Kriterien stopfen
crit.setFields([contactsListField] as Set)
// Suchen und finden
def foundTickets = ticketService.getByCriteria(crit)
if ( foundTickets ) {
 def AM_tic = foundTickets.first()
  def AM_tic_id = AM_tic.id
```

// go to AM ticket	
<pre>Map<string, object=""> valuesMap = new HashMap<string, object="">()</string,></string,></pre>	
valuesMap.put(PostActionParameter.TICKET_ID, AM_tic_id)	
return unitActionScriptResultFactory.getPostAction(PostActionType.GOTO_TICKET, valuesMap)	
}	
// Default: found nothing	
return null	

Attention:

When you use the script above, please keep in mind that the ticket search requires that the data object group fields of the company be indexed (annotation *field-indexed = true*).

Groups	Edit Hide	to now Halp Dealsticket
ResellerCompanyData	Go to	o AM ticket
MyNewSpaceCompany Milkyway 77 Alderaan 7777	World	kspace
Unknown 123 999	All yo autor works	ur unsaved tasks are natically listed in this space.

Fig. 14: ConSol*CM/Web Client - Company Action Available on Company Page (1)

Ticket		Accept Edit Clone Print Display 🕶	Workflow activities
8	AM Ticket MyNewSpaceCompany AccountManagement Account Management Unassigned Onen since 3/4/14 3:21 PM		End account
	Account started 3/2/14 Customers	Add Hide	Workspace is empty All your unsaved tasks are automatically listed in this
	Main		workspace.
Ξi	MyNewSpaceCompany 999 🔻 Reseller		Favorites
		denstant den ster i in tirr	Andreas Hansen

Fig. 15: ConSol*CM/Web Client - AM Page Opened after Company Action Go to Ticket

Open a Web Page

(*PostActionType.GOTO_PAGE*) redirects to URL. It uses the obligatory *PostActionParameter.URL* with the URL.

The following code shows a simple example with a fixed URL for each company.

Go to URL page
<pre>import com.consol.cmas.common.model.scripting.unit.PostActionType</pre>
<pre>import com.consol.cmas.common.model.scripting.unit.PostActionParameter</pre>
<pre>Map<string, object=""> valuesMap = new HashMap<string, object="">()</string,></string,></pre>

valuesMap.put(PostActionParameter.URL, unit.get("company:www"))
return unitActionScriptResultFactory.getPostAction(PostActionType.GOTO_PAGE, valuesMap)

Company	Display Activities	
ConSol* GmbH ConSol* GmbH ConSol* GmbH Address Franziskanerstr. 38	Open Web Site of Company	
81543 München http://www.consol.de	Workspace	Ŋ

Fig. 16: ConSol*CM/Web Client - Company Action Available on Company Page (2)

Attention:

To open a fixed URL, you can use a data object group field of type *string* with the annotation text-type *url*. This will automatically create a hyperlink. So the use of the *GOTO_URL* parameter in data object action scripts is recommended when a URL is built dynamically within a script.

Object UnitActionScriptResult

The object *UnitActionScriptResult* is only taken into account for manual actions. For actions like *CREATE*, *UPDATE*, or *DELETE* it is not available. The *UnitActionScriptResult* object is created by the *unitActionScriptResultFactory.getPostAction(String, Map<String, Object>)* method. This class (resp. the object) is used to store information that will influence the process flow of the Web Client after the manual action has been executed. The *UnitActionScriptResult* object contains the manual action type, the IDs of the ticket, the unit, the queue, and the customer group. After having executed the manual action the user can be redirected to a different page.

12.5.2 Data Object Condition Scripts

A data object condition script defines whether the action should be shown in the Web Client or not. It is executed before executing the data object action script. If it returns *false*, the data object action script will not be executed.

```
Example data object condition script

if(unit.getFieldValue("customer.personalData") == null) {
    return true
} else {
    return false
}
```

Attention:

The data object actions *CREATE*, *UPDATE*, and *DELETE* are executed in the core methods *create*, *update*, and *delete* of the object *unitService*.

So if the update action script updates the data object using the *unitService.update(Unit)* method then a *java.lang.StackOverflowError* error can be thrown, because the update action will be executed infinitely. In that case a data object condition script can be used to avoid such infinite loops.

13 Additional User Attributes: Customer Roles, Engineer Functions, and Projects

- Additional User Attributes: Customer Roles, Engineer Functions, and Projects
 - Introduction
 - File Card Customer Roles
 - Create or Edit a Customer Role
 - Delete a Customer Role
 - Disable or Enable a Customer Role
 - Localize a Customer Role
 - File Card Engineer Functions
 - Create or Edit an Engineer Function
 - Delete an Engineer Function
 - Disable or Enable an Engineer Function
 - File Card Projects
 - Create or Edit a Project
 - Delete a Project
 - Disable or Enable a Project
 - Localize a Project
 - Related Topics

13.1 Introduction

Most of the *user attributes* settings have been explained in sections Setting Up the Customer Data Model, Action Framework, and Customer (Data Object) Relations, because they are related to FlexCDM, the ConSol*CM Flexible Customer Data Model. In this section, the three non-FlexCDM user attributes will be explained:

1. Customer roles

This attribute is used for additional customers and has to be assigned in the Web Client. See section Customer Roles.

2. Engineer functions

This attribute is used for additional engineers and has to be assigned to a role. See section Engineer Functions.

3. Projects

This attribute is used for time booking and has to be assigned to a queue. See section Projects.

13.2 File Card Customer Roles

On this file card you can create customer roles.

	CM6 Admin-Tool @ cm6doku-cm1.int.consol.de		3
	👔 🖉 🦆 🍸 💷 🚉 🗉 💐 🚍 🗞 🧔 🍈 <>	Ø 💽 🇧]
	28 User attributes		
	Customer groups Customer data model Data object actions Customer roles Data object relations Engineer functions Projects		
List of available customer roles	Name end customer Team-MemberIT Team-MemberMarketing		
	AdministrationOffice ProjectManagement		
	Com_Administration, Workflow, Admin)		
create Ec	ait Delete Move role up or down	a customer rc	bié ble

Fig. 1: ConSol*CM Admin-Tool - User Attributes: Customer Roles

In the Web Client these can be assigned to additional customers of a ticket to show the function of these customers, e.g. project manager or end customer.

There are two implications of the assignment of a customer role to an additional customer:

- 1. Information in the Web Client is provided (e.g. you would not want to send a log file to a *manager* but to the *IT contact*).
- 2. The customer role can be used in workflow programming to control the process flow (e.g. send an e-mail to all *IT contacts* but not to contacts with other roles).

	Customers		Add Hide
	Main		
0	Skywalker Luke 💌 Reseller		
	katja@consol.de 123		
	no		
	luke *******		
	MyNewSpaceCompany 999 💌		
	Additional		
0	Skywalker Lea 💌 Reseller No role	▼	
	katja@consol.de 123	end customer	
	yes	Team Member IT	
	ConSol* 💌	Team Member Marketing	
	Engineero	Administration Office	LANA LUDAN
	Engineers	Project Management	Add Hide
	Relations		Add Hide

Fig. 2: ConSol*CM/Web Client - Setting a Customer Role for an Additional Contact

13.2.1 Create or Edit a Customer Role

A customer role is defined by its name. By clicking on
a pop-up window appears where you can enter the name. Using the globe icon
next to the name field you can localize the name subsequently (see below). The check box *Enabled* is already selected to set the customer role active in the system (see also Disable or Enable a Customer Role). You will get the same window when you click on in order to edit a customer role.

🗾 Create	a new customer role
Create a i Please	new customer role fill in the required fields.
Name: Enabled:	manager 🔹
	OK Cancel

Fig. 3: ConSol*CM Admin-Tool - User Attributes: Create or Edit a Customer Role

13.2.2 Delete a Customer Role

A customer role can only be deleted if it is not assigned to any customers. Otherwise you get a warning and you can only disable this customer role (see below).

In order to delete a customer role, select it in the list and click on **2**. After choosing *Yes* in the confirmation dialog the customer role will be removed from the list and the system.

13.2.3 Disable or Enable a Customer Role

If a customer role is still assigned to a customer but is not needed anymore you can disable it. To do this select the customer role and click on <a>>. The entry in the list is shown in italics afterwards. The customer role cannot be assigned anymore. Just click on <a>> at the bottom of the page, if you want to enable the role again.

You can also enable or disable a customer role in the window used for editing customer roles by selecting or de-selecting the check box *Enabled*. When you create a customer role this check box is automatically selected.

13.2.4 Localize a Customer Role

Click on the globe icon in the create or edit window to enter the localized name of a customer role. In the pop-up window *Localize* all languages that are available in the system are listed. Enter the customer role name in the *Value* field for each additional language on the right and click *Save*. The localized customer role name, according to the locale of the web browser, will be displayed in the Web Client. If no localized value is found, the default value is displayed. This is the value of the default language. If this has not been defined either, the technical name of the customer group is displayed.

13.3 File Card Engineer Functions

Engineer functions are used if you need an additional engineer for a ticket, e.g. a supervisor who has to decide what to do, before the ticket can be moved on in the workflow.



Fig. 4: ConSol*CM Admin-Tool - User Attributes: Engineer Functions

The corresponding activities for such a process have to be created in the workflow. Engineer functions are assigned to engineer roles which in turn need to be assigned to the respective engineers. In the Web Client you can choose a function and an appropriate engineer when adding an engineer to the ticket.

Ticket	Accept Edit Clone Print Display 🔻
SUP-32	Adding attachments is possible for worker which has got only "Read tickets" permission HelpDesk 1st Level Qualify Unassigned Open since 4/14/08 1:43 PM Priority low Module AdminTool Reaction time 7/1/11 Ask for feedback no
	Customers Add Hide
	Main customer
	Mr Luke Skywalker CustomerGroup luke@consol.de ConSol* GmbH Company ConSol* GmbH Address Franziskanerstr. 38 81543 München No comment Engineers Visor, Susanne X* Supervisor * The supervizor has to approve the time bookings on this ticket
	Ne relations
	Display communication = Secting latest first =
01.07.11 10	Add comment, e-mail or attachment .18 #4 created by admin Action
Ţ	10:18 default class

Fig. 5: ConSol*CM/Web Client - Assigning an (Additional) Engineer with an Engineer Function

13.3.1 Create or Edit an Engineer Function

An engineer function is defined by its name. By clicking on 🕑 a pop-up window appears where you can enter the name. You will get the same window when you click on 🖄 in order to edit an engineer function. The check box *Checkable* has to be ticked if additional engineers shall have the permission to execute a certain activity, e.g. give their approval, before the ticket can be moved on. The approval state is then displayed in the ticket.



After creation of an engineer function the check box *Checkable* cannot be de-selected anymore.

Figineer function	
Engineer function	
i Create new engineer function	
Function details	
Name: consultant	
Checkable:	
Localized values	
Locale	Value
English(default)	
German	
Polish	
	OK Cancel

Fig. 6: ConSol*CM Admin-Tool - User Attributes: Create or Edit an Engineer Function

You can also localize the name of an engineer function in this window. The available locales are shown on the left side of the table. Enter the corresponding engineer function name in the *Value* field for each additional language on the right. After clicking *OK* the engineer function is created and the name will be displayed in the respective language of the engineer's locale.

13.3.2 Delete an Engineer Function

An engineer function can only be deleted if it is not assigned to any roles. Otherwise you get a warning and you can only disable this engineer function (see below).

In order to delete an engineer function, select it in the list and click on <u>select</u>. After choosing *Yes* in the confirmation dialog the engineer function will be removed from the list and the system.

13.3.3 Disable or Enable an Engineer Function

If an engineer function is still assigned to a role but is not needed anymore you can disable it. To do this select the engineer function and click on <a>
. The entry in the list is shown in italics afterwards. The engineer function cannot be assigned anymore. Just click on <a>
 at the bottom of the page, if you want to enable the function again.

13.4 File Card Projects

With ConSol*CM you can book amounts of time on projects, please see section Time Booking for a detailed explanation. The projects are created on this file card and have to be assigned to queues. In the Web Client you can book amounts of time on tickets that are in one of the queues where the project has been assigned. An engineer can see his/her time bookings on the engineer profile page.

	CM6 Admin-Tool @ cm6doku-cm1.int.consol.de File Views Help	
	🕋 🖄 🌾 🍸 📖 🚉 🗊 🔧 🚍 🗞 🏟 🏟 ሩ>	S 💽 🌖
	🖄 User attributes	
	Customer groups Customer data model Data object actions Customer roles Data object relations Engineer functions Projects	
List of	Name	
available	Project 1	
projects	Project 2 Project 3	
	[CM_Administration, Workflow_Admin]	
Cr	eate Edit Delete	Enable Disable
	a project	a project

Fig. 7: ConSol*CM Admin-Tool - User Attributes: Projects

13.4.1 Create or Edit a Project

A project is defined by its name. By clicking on 🕒 a pop-up window appears where you can enter the name. Using the globe icon 🖷 next to the name field you can localize the name subsequently (see below). The check box *Enabled* is already selected to set the project active in the system (see also Disable or Enable a Project). You will get the same window when you click on 🕑 in order to edit a project.

🛃 Projec	t create	— ×
Project o i Create	reate project for time booking	
Name: Enabled:	Consulting	•
	ОК	Cancel

Fig. 8: ConSol*CM Admin-Tool - User Attributes: Create or Edit a Project

13.4.2 Delete a Project

A project can only be deleted if it is not assigned to any queues and has not been used for any time bookings. Otherwise you get a warning and you can only disable this project (see below).

In order to delete a project, select it in the list and click on ². After choosing *Yes* in the confirmation dialog the project will be removed from the list and the system.

13.4.3 Disable or Enable a Project

If a project is still assigned to a queue or has been used for a time booking in a ticket but is not needed anymore you can disable it. To do this select the project and click on <a>

Image: The entry in the list is shown in italics afterwards. The project is not available for time bookings anymore. Just click on <a>
 at the bottom of the page, if you want to enable the project again.

You can also enable or disable a project in the window used for editing projects by selecting or de-selecting the check box *Enabled*. When you create a project this check box is automatically selected.

13.4.4 Localize a Project

Click on the globe icon in the create or edit window to enter the localized name of a project. In the pop-up window *Localize* all languages that are available in the system are listed. Enter the project name in the *Value* field for each additional language on the right and click *Save*. The localized project name, according to the locale of the web browser, will be displayed in the Web Client in the time booking section of a ticket. If no localized value is found, the default value is displayed. This is the value of the default language. If this has not been defined either, the technical name of the project is displayed.

13.5 Related Topics

- Queues
- Roles
- Engineer administration

14 Ticket Data Model and GUI Designer Section



15 Custom Field Administration

- Custom Field Administration
 - Introduction to Custom Field Administration
 - Custom Field Administration Using the Admin-Tool
 - File Card Ticket Data
 - Create a Custom Field Group
 - Edit a Custom Field Group
 - Annotate a Custom Field Group
 - Delete a Custom Field Group
 - Enable or Disable a Custom Field Group
 - Create a Custom Field
 - Edit a Custom Field
 - Annotate a Custom Field
 - Delete a Custom Field
 - Enable or Disable a Custom Field
 - File Card Activity Form Data
 - Create an Activity Control Form
 - Edit an Activity Control Form
 - Delete an Activity Control Form
 - Enable or Disable an Activity Control Form
 - Localize an Activity Control Form
 - Frequently Used Annotations
 - Related Topics

15.1 Introduction to Custom Field Administration

Custom fields are fields that contain ticket data (e.g. *priority*, *software module*, *reaction time*, or *sales potential*) of the ConSol*CM system.

Attention:

Custom fields (CFs) are defined as distinct fields, but the system configuration concerning custom fields is always based on custom field groups (CF groups), never on single CFs.

A custom field group ...

- can be assigned to a queue, e.g. the CF group *helpdesk_data_fields* is assigned to the queue *HelpDesk*.
- can be faded in and out in the GUI during the process; only the whole group, not single fields (CFs).
- can be displayed as tab or in the group section. The title (and mouse-over) of the tab is the (localized) name of the CF group.
- is configured by the group annotations. Annotations are used to define special parameters and characteristics for a CF, e.g. the position in the user interface. Please see section Appendix A for a list of all available annotations.
- is placed on the GUI based on its position in the CF group list (defines e.g. the order of tabs).

15.2 Custom Field Administration Using the Admin-Tool



Fig. 1: ConSol*CM Admin-Tool - Custom Field Administration

15.2.1 File Card Ticket Data

On this file card you can define groups and fields for *ticket* data. The file card Activity Form data will be explained in one of the subsequent sections.

Create a Custom Field Group

To create a new custom field group just click on the 🕑 icon below the list on the left side of the page. The following pop-up window appears.

	Create group		
	Create group i Create a new group of custom fields.		
Custom field group name —	Group details		
Custom fields of this group	Name: Car_type For all queues:		
are visible in all queues	Dependent Enum Scripts Assigned scripts	Available scripts	
Assigned scripts for multi-level lists	Assigned DaimlerDependentEnum	Available A MultipleChoiceDependentEnum	
Move selected script up or down in the list			
			Assign selected script(s)
	Localized values		
	Locale Va English(default) Ca	lue r type	Localized values for the
	German Au Polish	to-Typ	custom field group name
		OK Cancel	

Fig. 2: ConSol*CM Admin-Tool - Custom Field Administration: Create a Custom Field Group

• Name

Enter a name for the custom field group. The name must be unique.

• For all queues

If this check box is activated, this group's custom fields are visible in all queues. Usually custom field groups for ticket data are only valid in specific queues (see Queue Administration).

Dependent Enum Scripts

Dependent enum scripts define the structure of *dependent enums* (hierarchical multi-level lists) used in custom fields of this custom field group. With dependent enums you can limit the choices in multi-level lists. You select an element in a list and based on this selection only matching results will be shown in the next lower hierarchy level of the list. The enums (single lists) for the custom fields have to be created within the Enum Administration while the scripts that couple the lists to create the dependent enum are created using an Admin-Tool script, see section Admin-Tool Scripts. To assign dependent enum scripts to a custom field group select the desired script(s) in the list *Available scripts* and move them to the list *Assigned scripts* by clicking on

Localized values

Enter the corresponding group name in the *Value* field for each additional language. In the Web Client's user interface the name will be displayed in the language of the engineer's web browser locale. If you do not make an entry here the object name, i.e. the content of the *Name* field, will be taken instead.

Edit a Custom Field Group

If you want to edit a custom field group, select it in the list and click on D. The same window as described above for creating a custom field group will appear. You can modify all fields and save your changes by clicking *OK*.

Annotate a Custom Field Group

Custom field groups are annotated to define their characteristics, e.g. where a group is displayed in the Web Client, if a group is indexed, or if it should be visible. You can define e.g. if a group is visible in the Web Client (annotation *group-visibility*) or if it is shown in the *Groups* section of the Web Client (annotation *show-in-group-section*). To assign annotations select a group and click on



Fig. 3: ConSol*CM Admin-Tool - Custom Field Administration: Assign Custom Field Group Annotations

The right part of the window contains the available annotations. Using the selection field above the list you can filter the display according to annotation type (e.g. *common* or *layout*). Select the desired annotations and move them to the *Assigned annotations* list on the left by clicking on •. This list can also be filtered according to annotation type. Click on *OK* to assign the annotations to the custom field group and to close the window. See Appendix A (Annotations), section *Group Annotations* for detailed information.

The annotations are now shown with a default value (if available, e.g. *true* or *false*) in the bottom left-hand corner of the administration page. The value can be modified by double-clicking into the corresponding *Value* field and typing the desired value. Press the *Enter* key afterwards.

Custom field groups will appear in the Web Client as they are ordered in the list. Select a group and use the icons 1 and 1 if you want to change the position of this group in the list.

Delete a Custom Field Group

A custom field group can only be deleted if it is not assigned to a queue or a ticket. Otherwise you get a warning stating you can only disable this group (see below). In order to delete a custom field group select it in the list and click on 2. If you confirm the following dialog with *Yes*, the group with its corresponding fields will be removed from the list and the system.

Enable or Disable a Custom Field Group

If you cannot delete a custom field group or if you do not want to delete it, because you might need it again, you can disable it. To do so select the group and click on <a>. The entry in the list is shown in italics afterwards. Disabled custom field groups are not displayed in the Web Client. Just click on <a>> below the group list, if you want to enable the group again.

Create a Custom Field

Custom fields contain the data for tickets, e.g. priority, service level, deadline, or hardware module. The fields of a custom field group are created in the right part of the page. Select the desired group first on the left and then click on the \bigcirc icon below the custom field area on the right. The following pop-up window appears:

Custom field name —	Create field Create field j Create new field. Field details Name: testlist_struct Data type: struct			Data type of
Defines that the custom field belongs to another custom field	Belongs to: testist testist qa_list qa_struct Localized values	ongs to: testiist testiist qa_list qa_struct calized values		
	Locale English(default) German Polish	Value		Localized values for the custom field name

Fig. 4: ConSol*CM Admin-Tool - Custom Field Administration: Create a Custom Field for Ticket Data

• Name:

Enter a name for the custom field. The name must be unique.

• Data type:

Choose one of the following data types for the new custom field:

• boolean

Values: true/false. Depending on the annotation *boolean-type*, the value is displayed as check box, radio buttons, or drop-down list.

• date

Format and accuracy can be set by annotations.

• enum

For sorted lists. The engineer can choose one of the enum values on the Web Client. Enums and values have to be created previously within the Enum Administration. Select the desired *Enum type* and *group* in the fields below.

• list

A custom field of this data type is the first step to create a list (one column) or a table (multiple columns) of input fields in the Web Client.

- For a **table** the next step will be to create another custom field of type struct (see below) to contain the input of the individual list fields (which will become the columns of the table). So, if you want to create a table you have to define a custom field of the type *struct* first (see below) before you can add the custom fields for the table columns.
- For a **simple list**, the next step will be to create fields which belong to the list. No struct is required.

For all custom fields belonging to a list or table you have to set the dependencies in the field *Belongs to* (see below). For example, a table field (which is a regular CF) always belongs to a struct, a struct always belongs to a list.

struct

A custom field of this type defines a data structure (line of a table) which groups one or multiple custom field(s). It is the second step to build a table after you have created a custom field of the type *list.* Add the custom fields for the columns of the table in the next step. The dependencies have to be set for each custom field in the *Belongs to* field (see below), i.e. a struct always belongs to a list.



Fig. 5: Scheme: List of Structs

• number

For integer values.

• fixed point number

For numbers with a fractional part, e.g. currencies. You have to enter the total number of digits (*Precision*) and the number of digits that fall to the right of the decimal point (*Scale*) in the respective fields below.

string

For up to 4000 alphanumeric characters.

long string

For large objects, unrestricted length.

- short string For up to 255 alphanumeric characters.
- contact data reference

Special data type used internally for referencing the contacts associated with a ticket.

• MLA field

This data type is used for custom fields that contain hierarchical lists with a tree structure called *MLA* (Multi Level Attributes). The name of the custom field will be the name of the new MLA that has to be defined within the MLA Administration. The group of the custom field has to be referenced when the MLA is created.

• Belongs to:

This field shows the available custom fields of the data types *list* and *struct* used to create lists or tables. Choose in the drop-down box to which list or structure the custom field belongs (if applicable).

Localized values:

Enter the corresponding custom field name in the *Value* field for each additional language. In the Web Client, the name will be displayed in the respective language of the user's web browser locale. If you do not make an entry here the object name, i.e. the content of the *Name* field, will be taken instead.

Attention:

The data type you choose on creating a custom field cannot be changed afterwards!

Edit a Custom Field

If you want to edit a custom field, select it in the list and click on \square . The same window as described above for creating a custom field will appear. Except *data type*, *enum type*, and *enum group* you can modify all fields and save your changes by clicking *OK*.

Annotate a Custom Field

Just like custom field groups custom fields are annotated to define the properties of the field, e.g. is it read-only, should it be indexed, where should it be displayed on the GUI (please see section Appendix A for a list of all available annotations). Select a field and click on below the list. The following pop-up window appears:



Fig. 6: ConSol*CM Admin-Tool - Custom Field Administration: Assign Custom Field Annotations

The right part of the window contains the available annotations. Using the selection field above the list you can filter the display according to annotation type. Select the desired annotations and move them to the *Assigned annotations* list on the left by clicking on • This list can also be filtered according to annotation type. Click on *OK* to assign the annotations to the custom field and to close the window.

The annotations for the selected field are now shown with a default value (if available, e.g. *true* or *false*) in the bottom right-hand corner of the administration page. The value can be modified by double-clicking into the corresponding *Value* field and typing the desired value. Press the *Enter* key afterwards.

Custom fields will appear in the Web Client as they are ordered in the list unless you have assigned a layout via the *position* annotation. You can change the position of a field in the list by using the icons 1 and 1 below.

Delete a Custom Field

A custom field can only be deleted if it is not assigned to a queue or a ticket. Otherwise you get a warning stating you can only disable this field (see below). In order to delete a custom field select it in the list and click on 0. If you confirm the following dialog with *Yes*, the custom field will be removed from the list and the system.

Enable or Disable a Custom Field

If you cannot delete a custom field or if you do not want to delete it, because you might need it again, you can disable it. To do so select the field and click on <a>

. The entry in the list is shown in italics afterwards. A disabled custom field is not displayed in the Web Client. Just click on <a> below the custom field list, if you want to enable the field again.

15.2.2 File Card Activity Form Data

On this file card you can create activity control forms (ACF) which can be assigned to activities in the Process Designer. They are used to gather input in the Web Client when a manual workflow activity needs more information for the next step, e.g. if a ticket has to be qualified before it can be moved on or if you want feedback for a ticket. ACFs are basically a set of custom fields already created on the file card *Ticket data*. An ACF can contain custom fields of more than one custom field group. However, all custom fields have to be allowed in the queue to which the workflow using the ACF is assigned. Please read the chapter on ACFs in the *ConSol*CM Process Designer Manual* for detailed information about the process flow with ACFs and the features provided using programming ACF scripts.



Fig. 7: ConSol*CM Admin-Tool - Custom Field Administration: Activity Form Data

Create an Activity Control Form

To create an ACF just click on the disconsistent icon below the list on the left side of the page. The following pop-up window appears.


Fig. 8: ConSol*CM Admin-Tool - Custom Field Administration: Create an Activity Control Form

Please enter or select the following data:

Name

Enter the name of the ACF in this field. You can localize the name by clicking on 🗐 (see below).

Description

Enter a description for the ACF in this field. The description will be shown as the title of the ACF in the Web Client. You can localize the description by clicking on (see below).

• Show queue

Mark this check box if the queue of the ticket shall be displayed with the ACF in the Web Client.

• Show Engineer

Mark this check box if the engineer of the ticket shall be displayed with the ACF in the Web Client.

• Filter

You can enter a string of characters into this field to filter the assigned custom fields by name.

• Group filter

Select a group of custom fields from this list if you want to display only custom fields belonging to this group in the list of available custom fields below.

Custom field lists

The list on the right shows the available custom fields with their respective custom field group. You can sort the entries in ascending or descending order by clicking into the title field of the list. The icons
or
show the sort order. Select the custom fields for the ACF in this list and move them to the list *Assigned* on the left by clicking on
.

For each assigned custom field you can define if it shall be displayed in a new row by marking the corresponding check box. The assigned custom fields will appear in the Web Client as they are

ordered in the list. You can rearrange the list by selecting an item and clicking on $\textcircled{\bullet}$ or $\textcircled{\bullet}$. To remove assigned custom fields, select them and click on $\textcircled{\bullet}$.

Click on OK afterwards to store your entries and to close the window.

Edit an Activity Control Form

If you want to edit an ACF, select it in the list and click on \square or just double-click the name of the ACF. The same pop-up window as for creating an ACF will appear where you can modify the details. Store your changes by clicking *OK*.

Delete an Activity Control Form

An ACF can only be deleted if it is not assigned to a workflow activity. Otherwise you get a warning stating you can only disable this ACF (see below). In order to delete an ACF select it in the list and click on ¹/₂. If you confirm the following dialog with *Yes*, the ACF will be removed from the list and the system.

Enable or Disable an Activity Control Form

If you cannot delete an ACF or if you do not want to delete it, because you might need it again, you can disable it. To do so select the ACF and click on <a>Image: The entry in the list is shown in italics afterwards. A disabled ACF is not available in the Process Designer. ACFs which are in use cannot be disabled. Just click on <a>Image: Delow the ACF list, if you want to enable the form again.

Localize an Activity Control Form

By clicking on the respective globe icon in the create or edit window you can localize name and description of an ACF. The pop-up window *Localize* shows the available locales on the left side. Enter the corresponding name or description in the *Value* field for each additional language on the right. After clicking *Save* the name or description will be displayed in the respective language of the engineer's locale.

15.2.3 Frequently Used Annotations

Here are some frequently used annotations on field level. You can find a complete list of group and field annotations in Appendix A.

Annotation	Annotation Type	Description	Value	Comment
groupable	cmweb-common	Enables grouping of fields in the ticket list.		Used only with <i>enu</i> <i>m</i> custom fields. No value is needed
sortable	cmweb-common	Used to enable sorting of the ticket list.		

Annotation	Annotation Type	Description	Value	Comment
				Used with custom fields of type <i>enum</i> or of type <i>Date</i> . No value is needed.
readonly	common	Used to indicate that the custom field cannot be modified.	true / false	Field is read only if value is set to <i>true</i> . Lack of value or any value except <i>f</i> <i>alse</i> is also treated as <i>true</i> .
visibility	common	Defines when the field is visible.	edit	Field will be displayed in <i>edit</i> mode.
			view	Field will be displayed in <i>view</i> mode.
			none	Field is not visible.
text-type	component-type	Defines the possible types of a string field.	text (default)	Single-line input field.
			textarea	Multi-line input field
			password	Input field for passwords. Password will be displayed as ******* in <i>view</i> mode.
			label	Input will be displayed as a label, i.e. the field is displayed only, no input is possible
			url	Input will be displayed as a hyperlink in <i>view</i>

Annotation	Annotation Type	Description	Value	Comment
				mode. String has to match a specific URL pattern.
reportable	dwh	Indicates that the field is reportable and that it should be transferred to the DWH.	true / false	Field is reportable if value is set to <i>tru</i> <i>e</i> .
field indexed	indexing	Used to indicate that a database index will be created for this field.	transitive (default)	All data is displayed (ticket and customer).
			unit	Used for customer data. Only the unit and the parent unit (i.e. company) is given as a search result, no tickets are provided.
			local	Used for customer data. Only the unit is given as a search result, no company and no tickets are displayed.
			not indexed	Field is not indexed.
position	layout	Defines the position of a field within a grid layout.	<number>;< number></number>	Values define <i>row</i> and <i>column</i> (row; column), numbering starts at 0;0. If no values are set, the custom field will take the next free grid cell.
		Defines the position of a field within a list (struct).	0; <number></number>	

Annotation	Annotation Type	Description	Value	Comment
				Only the <i>column</i> value is used, the <i>r</i> <i>ow</i> value is ignored
colspan	layout	Defines how many columns are reserved for the field in the layout.	<number></number>	Number of columns.
rowspan	layout	Indicates how many rows within the layout are occupied by this field.	<number></number>	Number of rows.
field-group	layout	Allows grouping of fields in <i>view</i> mode . Annotation is ignored in <i>edit</i> mode.	<string></string>	To group fields the same string value has to be set in the annotation of each field.
fieldsize	layout	Displayed field size within ticket layout.	<rows>;<cols></cols></rows>	For <i>string</i> custom fields with annotation <i>text-typ</i> <i>e</i> and value <i>textare</i> <i>a</i> . <rows> defines the number of displayed rows and <cols> defines the number of characters displayed per row. Used only for layout purposes.</cols></rows>
			<number></number>	For <i>enum</i> custom fields. Defines how many values are directly visible in the list box. Used only for layout purposes.
enum field with ticket color	ticket display	Defines the background color	true / false	The field has to exist within enum

Annotation	Annotation Type	Description	Value	Comment
		of the ticket icon for ticket list and ticket.		administration where lists, values, and colors are defined.
accuracy	validation	Used for date fields, to define the level of detail displayed.	date (default)	Show date without time.
			date-time	Show date with time.
			only-time	Show only time, no date.
format	validation	Used to check the correct format of <i>d ate</i> fields.	<date format=""></date>	The pattern for the date is based on <i>Si mpleDateFormat</i> , e.g. dd.mm.yyyy.
maxLength	validation	Defines the maximum length of input for <i>string</i> custom fields.	<number></number>	May be used with <i>s tring</i> custom fields.
minLength	validation	Defines the minimum length of input for <i>string</i> custom fields.	<number></number>	May be used with <i>s tring</i> custom fields.
required	validation	Indicates that this is a required field.	true / false	Field is required if value is set to <i>true</i> . The user cannot save the ticket without having entered a value in a required field. In the Web Client, required fields are marked by a red asterisk.

15.3 Related Topics

- Annotations
- Enums
- MLA
- Queues
- Workflow (see ConSol*CM Process Designer Manual)

16 Managing Sorted Lists: Enum Administration

- Managing Sorted Lists: Enum Administration
 - Introduction to Enum Administration
 - Enum Administration Using the Admin-Tool
 - Enum Types
 - Create an Enum Type
 - Edit an Enum Type
 - Delete an Enum Type
 - Enable or Disable an Enum Type
 - Enum Groups
 - Create an Enum Group
 - Edit an Enum Group
 - Delete an Enum Group
 - Enable or Disable an Enum Group
 - Enum Values
 - Create an Enum Value
 - Edit an Enum Value
 - Set a Background Color
 - Delete an Enum Value
 - Change the Order of the Value List
 - Enable or Disable an Enum Value
 - Placing an Enum in the Data Model
 - Enums for Ticket Data
 - Enums for Customer Data
 - Related Topics

16.1 Introduction to Enum Administration

In the *Enum Administration* you can configure enums = sorted lists. They are part of the ConSol*CM6 data concept. You define an enum once and can use it multiple times:

- as a selection list (in drop-down menus) for custom fields or data object group fields of type enum
- as hierarchical lists for custom fields or data object group fields of type *MLA field* (Multi Level Attributes, see section MLA Administration)
- as dependent enums, i.e. as enums that form a hierarchy, a data construct implemented by Dependent Enum Scripts

Attention:

You only define the lists, i.e. the structures with various list values, in the enum administration. To display the enum in the Web Client (as custom field values or data object group field values), you have to complete one of the following steps:

- create a custom field of type *enum* and assign the respective enum there
- create a data object group field of type enum and assign the respective enum there
- create an MLA which is linked automatically as custom field to the custom field group or as data object group field to the data object group that has been indicated during MLA set-up
- create a dependent enum script and assign this to a custom field group

Examples:

A list of country names (Germany, Italy, France, etc.) is used in the data object group field *Country* belonging to an address data set. The same list can also be used in the ticket data custom field *Machine location* of queue *A* or in further custom fields. Priority lists (high, normal, low, etc.) are other typical examples.

Depending on the annotation *enum-type*, an *enum* field is displayed in the Web Client as follows:

- enum-type not set or enum-type = select.
 drop-down menu (default, see example in the picture below)
- enum-type = radio.
 radio buttons
- enum-type = autocomplete.
 self-completing (autocomplete) list

Ticket	Accept Clone Print Display 💌
	AT: Unexpected behaviour in 'Deployment Administration'
SUP-100	Queue: HelpDesk 1st Le Assigned to: Unassigned
	Priority low Module misc
	Reaction time low
	Category high
	QA Test MLA
	QA List Date Enum Price Number Text Department QA_Test_Mla_For_Struct
	Add row
	Country Choose one Choose one Choose one
	OK Cancel

Fig. 1: ConSol*CM/Web Client - Enum for Priority (Localized Enum Values Displayed as List Items)

16.2 Enum Administration Using the Admin-Tool

Enums are organized in three levels:

• Type

The *type* helps to organize your lists within the Admin-Tool. Its name is never displayed in the Web Client and does not have any other implications.

• Group

The group represents a group of enum values, i.e. the list.

• Value

The value represents one value within a list.



Fig. 2: ConSol*CM Admin-Tool - Enum Administration

16.2.1 Enum Types

Create an Enum Type

To create a new enum type just click on below the list in the *Type* area on the left of the window. The following pop-up window appears.

1	Create enum type		X
C	reate enum type		
i	Please fill in the required field	ds.	
	Details		
	Name: sales		
	Localized values		
	Locale	Value	
	English(default)	Vertrieb	
	Polish		
		ОК	Cancel
			Cancel

Fig. 3: ConSol*CM Admin-Tool - Enum Administration: Create an Enum Type

• Name:

Enter a name for the new enum type. The name must be unique.

• Localized values:

Enter the corresponding type name in the *Value* field for each additional language. If you do not make an entry here the object name, i.e. the content of the *Name* field, will be taken instead.

Click on *OK* to create the enum type and to close the window.

Edit an Enum Type

If you want to edit an enum type, select it in the list and click on \square . The same window as described above for creating an enum type will appear. You can modify all fields and save your changes by clicking *OK*.

Delete an Enum Type

An enum type can only be deleted, if there are no enum groups for it anymore. Either you have to delete all groups belonging to this type first or you have to assign them to another type. In order to delete an enum type select it in the list and click on ². If you confirm the following dialog with *Yes*, the type will be removed from the list and the system.

Enable or Disable an Enum Type

If you do not want to delete an enum type, because you might need it again, you can disable it. To do so select the type and click on <a>. The entry in the list is shown in italics afterwards. Just click on <a> below the type list, if you want to enable the type again.

16.2.2 Enum Groups

Create an Enum Group

An enum group represents a list, i.e. the enum group is a collection of list (enum) values. All groups of an enum type (i.e. all lists which belong to this type) are created and managed in the middle part of the *Enum Administration* window. To create a new enum group select the desired type on the left, then click on below the *Group* area. The following pop-up window appears:

📔 Create en	um group		×
Create enu	m group		
j Please fill	in the required fields.		
Enum Grou	up Details		
Name:	support		
Type:	priority	•	
Order by:	user-defined	•	
			_
Localized	values		
Locale		Value	
English(de	efault)	Support	
German		Hilfe	
POIISIT			
		OK Cancel	

Fig. 4: ConSol*CM Admin-Tool - Enum Administration: Create an Enum Group

• Name:

Enter a name for the enum group. The name must be unique.

• Type:

This field shows the selected enum type for the group. You can also choose any other type from the selection list e.g. if you want to assign the group to a different type.

• Order by:

Here you can define the way the values of a group shall be ordered. If you select *user-defined* you can determine the sort order by means of arrow icons below the value list. If you choose *name* the values will be ordered alphabetically when you create them.

• Localized values:

Enter the corresponding group name in the *Value* field for each additional language. If you do not make an entry here the object name, i.e. the content of the *Name* field, will be taken instead.

Click on OK to create the enum group and to close the window.

Edit an Enum Group

If you want to edit an enum group, select it in the list and click on \square . The same window as described above for creating an enum group will appear. You can modify all fields and save your changes by clicking *OK*.

Delete an Enum Group

An enum group can only be deleted if it is not used in a ticket or an MLA. In order to delete a group select it in the list and click on 0. If you confirm the following dialog with *Yes*, the group will be removed from the list and the system.

Enable or Disable an Enum Group

If you cannot delete an enum group or if you do not want to delete it, because you might need it again, you can disable it. To do so select the group and click on <a>. The entry in the list is shown in italics afterwards. Just click on <a> below the group list, if you want to enable the group again.

Information:

An enum group cannot be disabled if it is still used in an MLA.

16.2.3 Enum Values

Create an Enum Value

The individual values of an enum group (i.e. the list values) are created in the right part of the window. Select the desired group and click on below the *Value* area. The following pop-up window appears.

📔 Create ei	num value		X
Create enu	im value		
j Please fil	l in the required fields.		
Enum Val	ue Details		
Name: p	printer		
Localized	values		
Locale		Value	
English(d	lefault)	printer	
German		Drucker	
	Save and next	ок	Cancel

Fig. 5: ConSol*CM Admin-Tool - Enum Administration: Create an Enum Value

• Name:

Enter a value which shall be displayed in the sorted list on the Web Client.

• Localized values:

Enter the corresponding value name in the *Value* field for each available language. In the Web Client's user interface the name will be displayed in the language of the user's web browser locale. If you do not make an entry here, the technical object name, i.e. the content of the *Name* field, will be displayed.

Click on *Save and next*, if you want to continue to create values for this enum group. To finish the creation of the list click *OK*.

Edit an Enum Value

If you want to edit an enum value, select it in the list and click on 🔯. A pop-up window will appear where you can modify the name and the localized values. Click *OK* to save your changes.

Set a Background Color

You can assign a color to a selected enum value, if you click on S. This can be used for example for priorities. The priority of a ticket in the Web Client can be recognized immediately by its background color. This will be effective when the respective annotation is set, see the following info box.

Information:

Please note that only one enum can determine the color of the ticket icon for a queue. You have to assign the annotation *enum field with ticket color* to the respective custom field of type *enum* in the Custom Field Administration. For example, you can use the custom field *priority* to determine the ticket icon color in the helpdesk queue and the custom field (enum) *likelihood of closing a deal* in the sales queue.

The pop-up window contains a range of colors from which you can choose the desired background color. Click on the desired color to set it for the marked list value. You can check the selected color in the *Preview* area. Click on *OK* to save your choice. Click on *Reset* if you want to return to the last saved color.



Fig. 6: ConSol*CM Admin-Tool - Enum Administration: Set a Background Color

Delete an Enum Value

An enum value can only be deleted if it is not used in an MLA. To delete a value select it in the list and click on ^(a). If you confirm the following dialog with *Yes*, the value will be removed from the list and the system.

Attention:

Before you delete an enum value, make sure there are no references to it in workflow scripts! This is not checked in the Admin-Tool!

Change the Order of the Value List

If you have chosen *user-defined* in the *Order by* field of an enum group you can arrange the enum values by using the arrow icons below the list. Click on to move the selected value one line up resp. click on to move it one line down. If you change the value for *Order by* from *user-defined* to *name*, the enum values will automatically be ordered by name in alphabetical order.

Enable or Disable an Enum Value

Information:

An enum value cannot be disabled if it is still used in an MLA.

16.2.4 Placing an Enum in the Data Model

Enums can be used in custom fields (i.e. for ticket data) and for data object group fields (i.e. for customer data). The example below shows an enum for ticket data.

Enums for Ticket Data

In order to place an enum in the ticket data model, i.e. to make it available in queues and visible in the Web Client, a custom field of type *enum* has to be defined. Please see section Custom Field Administration for a detailed explanation of the work with custom fields.

Enums for Customer Data

In order to place an enum in the customer data model, i.e. to make it available for company or contact data in the Web Client, a data object group field of type *enum* has to be defined. Please see section Data Object Group Field Management and GUI Design for Customer Data for a detailed explanation of the work with data object group fields.

			Edit field		X
CM6 Admin-Tool @ cm6-demo.int.consol.de			Edit field i Edit field.		
File Views Help		ö () ()	Field details	5	
Custom Field Administration			Name: Data type:	priority enum	
Groups	Fields		Belongs to:		
Filter: All queues	Filter:		belongs to.	Please select type and group of enum	values.
Ticket data Customer data Activity Form data	Name	Data type	Enum type:	priority	
Name	OA Test MLA	MLA field	Enum group	helpdesk priorities	
helpdesk_standard	categories	MLA field			
sales_standard	country	enum			
qualification	feedback	boolean	Localized va	alues	
workaround		CIGIN	Locale	Value	
dependent enum	da date struct member	enum date	Eoclich (dof	Foult) Driarity	
queue fields	testlist	list	German	Priorität	
fag	ga enum department	enum	Polish	Thomas	
numbers	ga_enum_struct_member	enum			
	qa_fixedpoint_struct_member	fixed-point number			
	qa_invisible_struct_member	string			
		ist		11	OK Cancel
Assigned annotations	Assigned annotations				
Name Value Annotation group	Name Value	Annotati	on group		
	groupable true	cmweb-co	mmon 🔺		
	sortable true	cmweb-co	mmon		
	reportable true	dwh	-		
CM_Administration]					

Fig. 7: ConSol* Admin-Tool - Definition of a Custom Field of Type Enum

16.3 Related Topics

- Custom fields
- MLA

17 MLA Administration

- MLA Administration
 - Introduction to MLA Administration
 - MLA Administration Using the Admin-Tool
 - Create an MLA
 - Create an MLA Level
 - Edit a Level Value
 - Delete a Level
 - Enable or Disable a Level
 - Edit an MLA
 - Delete an MLA
 - Enable or Disable an MLA
 - Related Topics

17.1 Introduction to MLA Administration

MLA means *Multi Level Attributes*. An MLA is used to represent a hierarchical data set and consists of several lists which form a tree structure. Each item of a list can lead to a list of the next level with the item name being the name of the subordinate list. An MLA can be used for ticket data or for customer data.





Fig. 1: ConSol*CM Admin-Tool - MLA Construction Principle

Example:

For quality management you need to specify hardware or software products in a ticket. For this purpose you can create an MLA with the name *QA_MLA*. The next step will be to create the first level with the items *Hardware* and *Software*. For each item of a level you can create further levels, e.g. *Graphics Card*, *Monitor*, and *Mainboard* for item *Hardware* and so on. The picture below shows such an MLA in the Web Client.

Ticket								Accept Clone Print Display 🔻
	Adding att	achments is	pos	sible for worker	r whi	ch	has got only "Read [*]	
SUP-32	Queue:	HelpDesk 1st Le	-	Assigned to: Una	assigne	ed		
	Priority	low .	-	Module Adr	minToo	d		
	Reaction time	7/1/11		A	Ask for	fe	edback	
	Category	Category Software Operating systems 💌						
	QA Test MLA	Mla					×	
	QA List	Hardware	•	Office		*	Windows XP	
		Software	۶.	Operating systems	•		Windows Vista	
							Windows 7	
	Country						Windows 8	one 💌
	-	_					Suse Linux 10	
	OK Can	c					Suse Linux 11	
			Ŧ			Ŧ	Fedora 12 👻	
	Customers						OK Cancel	Add Hide

Fig. 2: ConSol*CM/Web Client - MLA for Hardware and Software Selection

The sorted lists (enums) for each level of an MLA ...

- can be created within the Enum Administration and are just referenced when a new MLA level is defined.
- can be completely created within the MLA Administration during set-up of a new MLA.

17.2 MLA Administration Using the Admin-Tool



Fig. 3: ConSol*CM Admin-Tool - MLA Administration

All entries are shown with their localized names (i.e. how they are displayed on the Web Client) in the selected language. You can change the display language of this page by choosing a different locale in the *Select language* field above the list.

17.2.1 Create an MLA

To create an MLA click on 🕒 below the MLA list in the bottom left corner of the page. The following pop-up window appears.

MLA D	efinition Form		x			
MLA Defir i Please	ittion Form fill in the required fields.					
MLA det	finition details					
Name:	QA_MLA					
Type:	Ticket		•			
Group:	Group: serviceDesk_fields					
Localize	d values					
Locale		Value				
Deutsc	h					
Englisc	h(default)	QA_MLA	_			
Poinisci	1					
		OK Car	ncel			

Fig. 4: ConSol*CM Admin-Tool - MLA Administration: Create an MLA

• Name:

Enter a name for the new MLA. The name must be unique.

- Type:
 - Ticket

MLA will be used in ticket data, i.e. in a custom field.

• Data object

MLA will be used in customer data, i.e. in a data object group field.

• Group:

Choose the required custom field group (ticket data) or data object group (customer data) in the list box. For the new MLA a custom field or data object group field of type *MLA field* will be created automatically in this group. This is necessary to display the MLA on the Web Client. The custom field or data object group field can be annotated as described in sections Custom Field Administration and Data Object Group Field Management and GUI Design for Customer Data.

• Localized values:

Enter the corresponding MLA name in the *Value* field for each additional language. On the Web Client the name will be displayed in the respective language of the user's browser locale. If you do not make an entry here the object name, i.e. the content of the *Name* field, will be taken instead.

Click on OK to save the details of the new MLA.

Information:

You can also create the custom field or data object group field for the MLA first. In this case you will find the localized name of the custom field or data object group field already in the list of available MLAs.

Create an MLA Level

Having created a name and a custom field or data object group field for the MLA you can go on with the definition of levels. Select the MLA in the list and click on below *Level 1*. You will get the *Enum level form* where you can specify an enum for this level:

	🔢 Enum level form		X	
	Enum level form i Choose enum gro	up to assign.		
Tree path of this level – Type, group, and values of the enum for this level	Tree path: Select enum type Select enum group Enum values:	QA_MLA category support_categories Fnums hardware software		Create, edit, delete an enum type Create, edit, delete an enum group Create, edit, delete enum values
		ОК	Cancel	

Fig. 5: ConSol*CM Admin-Tool - MLA Administration: Create an MLA Level

• Tree path:

This field shows the tree path of the new MLA level. Thus you can always see the position of the level within the MLA. The field is read only.

• Select enum type:

Choose an enum type from the list to use the corresponding enum groups (which have been created in the enum administration first) or create a new enum type directly here in the MLA administration. The new type will also be visible in the enum administration afterwards.

• Select enum group:

Choose the desired enum group for this level from the lists in the enum administration which are located within the selected type. If you have created a new enum type in the previous step you also have to create a new enum group. The new enum group will also be visible in the enum administration afterwards.

• Enum values:

These are the list values of the new level which will be displayed in the Web Client. You can either take the list as is or you can enter/add or delete values. The changes will be immediately visible in the respective enum values in the enum administration. If you have created a new enum group you also have to create one or more enum values for the new group.

Click on OK to create the new MLA level and to close the window.

You can either create all enum types, groups, and values you need before you start to define an MLA or create an enum during the definition of a level in the MLA Administration by clicking on next to the respective fields in the window. By clicking on or vou can also edit or delete enum types, groups, and

values here but please consider that changes will affect other MLAs using the same enum. You cannot delete an enum if it is already used in another MLA.

For each value of a level you can create further levels as previously described. Just select the value in the list and click on below the next level area to the right.

Information:

If you have finished your MLA definition and see that you need an additional value for one of the levels, you have to create that value in the respective enum group within the Enum Administration.

Edit a Level Value

If you want to edit a value of the level, select it in the list and click on 🗵. You can change the object name and the localized values but please consider that changes will affect other MLAs using the same enum.

Delete a Level

A level can only be deleted if it is not used in a ticket. In order to delete it click on 2 below the respective level. If you confirm the following dialog with *Yes*, the level and all its dependent levels will be removed from the list and the system.

Enable or Disable a Level

If you cannot delete a level or if you do not want to delete it, because you might need it again, you can disable it. Just click on elevel were the respective level. The level values (including the values of dependent levels) are shown in italics afterwards. Click on if you want to enable the level again.

17.2.2 Edit an MLA

If you want to edit an MLA, select it in the list and click on 🔯. The same window as described above for creating an MLA will appear. You can modify all fields except the custom field group. Click *OK* to save your changes.

17.2.3 Delete an MLA

You can only delete an MLA if it is not in use. Otherwise you get a warning stating you can only disable this MLA (see below). In order to delete an MLA select it in the list and click on ². If you confirm the following dialog with *Yes*, the MLA (and the custom field within *Custom Field Administration* or the data object group field within *User attributes*) will be removed from the list and the system.

17.2.4 Enable or Disable an MLA

17.3 Related Topics

- Enums
- Custom fields
- Data object group fields

18 Ticket Administration

- Ticket Administration
 - Introduction to Ticket Administration
 - Ticket Administration Using the Admin-Tool
 - Search Tickets
 - Delete or Reopen Tickets
 - Related Topics

18.1 Introduction to Ticket Administration

In the ticket administration you can:

• Delete tickets

e.g. if a ticket was created by mistake.

• Reopen tickets e.g. if a ticket has been closed too early.

Attention:

Please keep in mind that a ticket, which is reopened, starts in the process at the start node of the respective workflow. So when a ticket has passed nodes where events are triggered that should be performed only once (e.g. the ticket is passed to an approver) it might be better to open a new ticket. An alternative way is to modify the workflow to contain a shortcut.

18.2 Ticket Administration Using the Admin-Tool



Fig. 1: ConSol*CM Admin-Tool - Ticket Administration after Ticket Search

18.2.1 Search Tickets

To search for tickets you want to delete or reopen click on sin the bottom left corner of the page. A pop-up window appears where you can enter the search criteria.

	Select tickets			X	
	Select tickets				
	i Please enter criteria fo				
-					
	Search parameters				
	Ticket id:	from: 100100	to 100300		
	Creation date:	from: 1/1/13	t to 11/11/13		Search criteria
	Name pattern:				name or subject pattern)
	Subject pattern:	test			name er easjeet panem,
	Max number of tickets:	50		-	Maximum number of
	Ticket State				tickets displayed
Select a ticket state	Open tickets	Closed tick	ets 💿 All tickets		
	Queues				
	Search in queues 🔺		Available queues 🔺		
	HelpDesk_1st_Level		Frequently_Asked_Questions		List of
Queues to search in			HelpDesk_2nd_Level Sales		available queues
		•	•		
		7			
		/	ОК	Cancel	
		/	\		
	I	Remove queue from.	Add queue to		
		searc	n list		

Fig. 2: ConSol*CM Admin-Tool - Ticket Administration: Ticket Search

The following parameters can be used for searching:

• Ticket id:

You can enter an ID range for the tickets here.

• Creation date:

Via calendars you can define a time period within which the tickets have been opened.

• Name pattern:

Here you can enter keywords or search patterns for the ticket name.

Subject pattern:

In this field you can enter keywords or search patterns for the ticket subject.

• Max number of tickets:

Here you can specify the maximum number of tickets displayed in the list.

• Ticket State:

Using the radio buttons you can determine if you want to search for open, closed, or all tickets.

• Queues:

The list on the right shows the available queues. Select the queues to search in here and click on to move them to the search list on the left. If you do not choose any queues the search will be extended to all available queues.

Click on *OK* to start the search. The result will be displayed on the *Ticket Administration* page. If the list is too long, you can limit the display using the name and queue filters above the list.

In the area next to the ticket list on the right you can find an overview of the search criteria you have chosen. The list box *History* above this area contains your last searches. If you click on an entry in this list a pop-up window with the criteria of the selected search will open. You can modify the search here or just start it again

18.2.2 Delete or Reopen Tickets

Select the desired tickets in the list and click on stock to delete tickets resp. click on to reopen tickets. If you confirm the following dialog with *Yes*, the corresponding action will be executed.

18.3 Related Topics

Queue

19 Expert Section

CM6 Ad	dmin-Tool @ cm6-demo.int.consol.de			ſ
File Views	; Help			
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A Home				
	View Administration			
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		Expe	ι σείι	ION
	In this search form you can search for tickets and operate on the	e search result.		
sile.	General Configuration			
10	General Conliguration			
A.	Change global configuration parameters here. There is also an a workflows and scripts.	advanced view for creating new configurati	on variables which then can be used in	
1	Script and Template Admin	nistration		
\sim	In this section you can manage and edit scripts (e.g. for custom	nizing the e-mail handling) and templates (e.	g. e-mail templates).	
💄 [CM_A	dministration]			

Only experienced system administrators and ConSol*CM consultants are allowed to perform the operations explained in the following sections!!!

When wrong configuration parameters are applied, the system will not work properly or will not work at all!!!

20 CM6 Administrator Manual 6.9 - Configuration
20.1 Configuration

- Configuration
 - Introduction to the Configuration Page
 - Perform Configuration Operations Using the Admin-Tool
 - Related Topics

20.1.1 Introduction to the Configuration Page

On the *Configuration* page the general settings of the ConSol*CM server can be configured. Because changes done here affect the central functionality of the server significantly or even deactivate it, there is a security lock (see *enable/disable lock* in the following figure) on the bottom left corner of the page which has to be disabled to change the settings.

Attention:

If you are not sure about the effects of your changes please contact the ConSol*CM6 support team first and ask for help.

20.1.2 Perform Configuration Operations Using the Admin-Tool

	File cards for configuration areas Icon for configuration page
	CM6 Admin-Tool @ cm6-demo.int.consol.de
	🕋 🗶 🦤 T 💷 🔩 💷 🔧 🧑 🕼 🗘 🗳 📓 😜
	© Configuration
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	Adminese adoli
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If functions or fields	Polish
are shown in gray,	
still enabled	
	Click the lock to make changes
	2 [CM_Administration]
Enab	le/disable lock / Show properties
	(for experienced users only

Fig. 1: ConSol*CM Admin-Tool - Configuration Page

Using the tabs on top of the page you can switch to the file cards of the different configuration areas:

- File card General
- File card CM Services
- File card E-mail
- File card E-mail Backups
- File card Licence
- File card ESB Services
- File card Business Calendars
- File card Classes of text
- File card Ticket history
- File card Index

The *Advanced* button on the bottom right corner leads to a special page that contains all settings which are stored as system properties. This page should only be used by trained staff or upon request by ConSol*CM support or consultants. See section Appendix C (System Properties) for a detailed list with explanations of all system properties.

20.1.3 Related Topics

• Workflow (see ConSol*CM Process Designer Manual)

20.2 File Card General

On this file card you can set the administrator e-mail address and the locales for the administration interface, i.e. for the Admin-Tool and the Process Designer.

	CM6 Admin-Tool @ cm6-demo.int.consol.de	- • ×
	Configuration	
E-mail address that	General CM Services E-mail E-mail Backups Licence ESB Services Business Calendars Classes of text Ticket history Index	
receives information	Administration	
and warnings from the system	Admin e-mail: strohmei@consol.de	
,	Configured Locales	
List of configured locales	English(default)	
3	German Polish	
	Click the lock to prevent further changes	Advanced
	Administration]	
/		
Add.	Delete Set default locale	

Fig. 1: ConSol*CM Admin-Tool - Configuration: General

• Admin e-mail:

Enter the e-mail address which shall receive general messages or warnings from the system. Multiple addresses separated by commas are possible, the total number of characters should not exceed 72. If there are many recipients we recommend using a mailing list on the mail server system.

• Configured Locales:

In this list, the locales which will be available in the entire system are configured. This influences the lists for localized values in the Process Designer (e.g. for activities) and in the Admin-Tool (e.g. for custom field values). The displayed values for those activities or fields then depend on the locale of the web browser which is used to display the ConSol*CM Web Client.

- Click on 🔮 to add more locales.
- Click on 🙆 to remove the selected locale from the list.
- Click on set the selected locale as default locale. The default locale will be used if the browser locale is not present in CM, e.g. when the engineer has set the browser locale to FR and in the CM administration only English (default), German, and Polish are available, the English values will be displayed.

Attention:

Make sure that the configured languages are installed on each machine where ConSol*CM is running or is used. This will not be checked automatically.

20.2.1 The Use of Locales

For an engineer who works with the ConSol*CM Web Client, the GUI is displayed in the language that is configured in the web browser if it is a locale that is configured in ConSol*CM. If no matching locale can be found, the default locale which has been set in the Admin-Tool is used.

When an administrator configures custom fields or data object group fields he/she can always indicate a translation for each configured language/locale, see following figure.

CMS Admin-Tool © cmódoku-cm1.int.consol.de File					Edit field		X
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Image: Second Secon	in thems themp						
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Fig. 2: ConSol*CM Admin-Tool - Custom Field Administration: Localized Values for a Custom Field

In the Process Designer, the locales which have been configured in the Admin-Tool are offered. However, you can also delete locales in the Process Designer. Please refer to the *ConSol*CM Process Designer Manual* for details.

20.3 File Card CM Services

On this file card you can start **D** or stop **I** the individual sub-services of the CM system, e.g. data indexing or mail connectivity.

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Stopped services	ESS service	
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	Rest API service	
	Server Session Service	
	index changes nother	
	Index changes received	
	Click the lock to prevent further changes	Advanced
	Start Stop	
	a service	

Fig. 1: ConSol*CM Admin-Tool - Configuration: CM Services

Attention:

The status of a service should only be changed by an experienced ConSol*CM consultant or by a member of the ConSol*CM support team! ConSol*CM core functionalities might not work when a service is not running!

List of services:

• CMRF log message listener

Reads and processes CMRF log messages for Admin-Tool and stores them in CM DB. The entries are used for the log protocol in the Admin-Tool. See section Data Warehouse (DWH) Management.

• DWH live service

Controls just-in-time DWH update in LIVE mode.

- DWH transfer service Controls DWH transfer.
- Job Executor Controls the escalations for processes resp. workflows.
- Kerberos v5 authentication provider Required if Kerberos authentication is in operation.
- ESB service

Retrieves incoming e-mails (ESB = Mule).

- Remote client pooling Controls that Web Clients get changes from Admin-Tool.
- Rest API service Activates or deactivates REST (*Representation State Transfer* interface).
- Server Session Service Checks sessions and stops session when end of client or Admin-Tool session end has been reached. See for example system properties *admin.tool.session.check.interval* and *server.session.timeout*.
- Index changes notifier Creates JMS (*Java Message Service*) messages with notifications that there has been one or more change(s) that concern(s) the index.
- Index changes receiver Reads JMS queue and starts update in Indexer.
- Unused content remover

Removes attachments and comments which have been marked as *deleted* in the Web Client (in the protocol section of a ticket).

20.4 File Card E-Mail

- File Card E-Mail
 - Introduction to E-Mails in ConSol*CM
 - Sending E-Mails from ConSol*CM
 - Manual E-Mails
 - Automatic E-Mails
 - Receiving E-Mails with ConSol*CM
 - E-Mail Configuration Using the Admin-Tool
 - General E-Mail Configuration (File Card E-mail configurations)
 - Incoming E-Mail
 - Outgoing E-Mail
 - E-Mail Encryption
 - General Explanation about E-Mail Encryption in ConSol*CM
 - Requirements
 - Certificate Import from LDAP
 - Certificates Management in the Admin-Tool
 - Server Certificates
 - Client Certificates
 - Use Cases
 - Sending Encrypted E-Mails
 - Choosing if E-Mails Should be Sent Encrypted from the Web Client
 - Sending an Encrypted E-Mail from the Workflow
 - Sending Encrypted E-Mails by Default
 - E-Mail Duplication in the ConSol*CM Web Client
 - Related Topics

In this section, the file card *E-mail* in the Admin-Tool will be explained, including e-mail encryption. Furthermore, the e-mail-related system properties and the configuration for e-mail duplication will be shown.

20.4.1 Introduction to E-Mails in ConSol*CM

Before we explain the administration of e-mail accounts using the ConSol*CM Admin-Tool, we will give you a short introduction on the subject *e-mail with ConSol*CM*, because this represents a core functionality of the application. ConSol*CM can send and receive e-mails.

Sending E-Mails from ConSol*CM

Manual E-Mails

E-mails can be sent manually by an engineer or automatically by the system. *Manual* e-mails are sent using the *Ticket E-Mail Editor*. As default, the ticket's main contact is the receiver of the e-mail, but the engineer can select or type any other e-mail address. Furthermore, he can use e-mail templates and/or quote ticket text. Please see the *ConSol*CM User Manual* for a detailed introduction about working with the Ticket E-Mail

Editor. The default setting can also be modified by using page customization, see section Page Customization.

Display communication 🔻 Sorting latest first 💌	
Comment E-Mail Attachment Time booking	
New E-mail	
show Cc show Bcc	
To: "Martin Huber" <martin.huber@devnull.consol.de></martin.huber@devnull.consol.de>	
Subject: Ticket (SUP-58) Exception during import data	
Template Signatur standard 💌	
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Best regards, Charly Chef -Chef ConSol* Software GmbH Franziskanerstraße 38 81669 München Tel: 089 / 45841-1234 / Fax: -111	
Send Cancel	

Fig. 1: ConSol*CM/Web Client - Ticket E-Mail Editor

Automatic E-Mails

Automatic e-mails might be sent by ConSol*CM in situations like the following:

- 1. Initiated by the workflow engine, e.g.
 - a. when the engineer to whom the ticket is assigned should be reminded to take care of the ticket
 - b. when the customer should receive an automatic confirmation that a ticket has been opened for him/her.
 - c. when the customer should receive an automatic confirmation that his/her ticket has been closed.

d. when a supervisor or approver should receive a message that a new case has to be approved. In any workflow activity, an e-mail can be sent to every valid e-mail address. Please see the *ConSol* CM Process Designer Manua*/for a detailed explanation of the methods to use.

- 2. Initiated by the system in case of an error or for a success message, e.g.
 - a. system error
 - b. e-mail error
 - c. DWH synchronization (error or success)
 Usually, those e-mails are sent to the ConSol*CM administrator. However, for most special

error cases a special receiver e-mail address can be configured using system properties. Please see section Appendix C (System Properties) for details.

- 3. Initiated by the CM system to remind engineers
 - a. When an engineer receives a ticket or a ticket is retrieved from the engineer, an e-mail can be sent to this engineer. This can be configured for every queue, see section Queue Administration.

Receiving E-Mails with ConSol*CM

The ConSol*CM system can fetch e-mails from one or more mailboxes (= e-mail accounts) on one or more e-mail server(s). The mailboxes are configured in the Admin-Tool (E-mail configuration). Please keep in mind that ConSol*CM works with mailboxes here. Each of the mailboxes can be reached by at least one e-mail address. In certain cases, one mailbox might be used for more than one e-mail address. This can be of importance for writing e-mail scripts.

ConSol*CM acts towards the e-mail server like a regular e-mail client by fetching the e-mails using a standard mail protocol: IMAP(s), POP3(s). Depending on the mail server configuration and on the ConSol* CM system property *cmas-esb-mail, mail.delete.read*, the e-mails are deleted from the mailbox on the e-mail server after ConSol*CM has picked them up. The default setting is *mails are not deleted after pick-up*.

In case you do not want ConSol*CM to delete e-mails from the e-mail server, please make sure to control the mailbox(es) manually to avoid a data overflow and server or performance problems.

All incoming e-mails are first stored in an incoming mail pool in ConSol*CM and are then processed in a chain of mail scripts. Please see section E-Mail Scripts for a detailed explanation of those scripts. When an e-mail cannot be processed, the administrator will receive a notification e-mail. The unprocessed e-mail is listed under E-mail Backups.

There are different possibilities concerning the default system behavior concerning an incoming e-mail:

- The subject of the e-mail does not contain any ticket number with a valid syntax (i.e. it does not contain the pattern which is defined as regular expression (RegEx) for the ticket subject): A new ticket is created.
- The subject of the e-mail does contain a ticket number with a valid syntax (RegEx) and the ticket is still open:

The e-mail is attached to the existing ticket.

• The subject of the e-mail does contain a ticket number with a valid syntax (RegEx), but the ticket is closed:

A new ticket is created and a reference to the old ticket is established.

By modifying the e-mail scripts (see section E-Mail Scripts), the default system behavior can be changed. However, this can corrupt core functionalities of the system and should not be done or only done by very experienced ConSol* consultants!

20.4.2 E-Mail Configuration Using the Admin-Tool

General E-Mail Configuration (File Card E-mail configurations)

On this file card you can set parameters for the e-mail connection.

	🗜 CM6 Admin-Tool @ cm6-demo.int.consol.de 💿 💷 🌄	
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	` 🖄 🍹 🤍 🚉 💷 🔧 🚍 🗞 🧔 🍈 💠 💋 💆 📓 🕣	
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	General CM Services E-mail Backups Licence ESB Services Business Calendars Classes of text Ticket history Index	
	E-mai	
	E-mail configurations Server certificates Client certificates	
	Incoming e-mail	Regular expression to
List of accounts for	Configured accounts	extract the ticket number
incoming e-mail	map://cm-qa2:consol@imap.consol.de:143	from incoming e-mail
		Template for the ticket
Add, edit, delete		number to be inserted
un o mai account		outgoing e-mail
	Configuration	
	Outooing e-mail subject template: Ticket. (S(ticketName))	pattern and template
	Maximum number of restarts: 3	
	Error e-mail address: strohmei@consol.de	Number of restarts after an error during mail delivery
		,
Definition of	Outgoing e-mail	Mail address to be
outgoing mail server	Outgoing e-mail connector: Smtp://127.0.0.1:10025	mail system errors
	Click the lock to prevent further changes	
	2 [CM_Administration]	

Fig. 2: ConSol*CM Admin-Tool - Configuration: E-Mail

Incoming E-Mail

The configuration of incoming e-mail is divided into two areas:

• Configured accounts:

Here you can use a pop-up window to add or edit accounts from which e-mails are retrieved. The connection to the mailbox is checked during set-up, so it is not possible to configure an account that cannot be used when the system is in operation (provided the mail server has not changed etc.). The value(s) are saved as system property *cmas-esb-mail, mail.incoming.uri*. Please see the e-mail properties section in Appendix C for detailed information. Required values are:

Protocol

The protocol used to retrieve e-mails from the server. Supported protocols are IMAP4, IMAP4s , POP3, and POP3s. Please keep in mind that ConSol*CM acts towards the e-mail server like a regular e-mail client. When the secure protocol version is used, the corresponding certificate is required! This has to be stored in the security store of the application server.

• Server

The name or IP address of the e-mail server.

• Port

The port on the e-mail server where the mail daemon/service is listening.

• User name

The user name of the e-mail account.

Password

The password of the e-mail account.

Attention:

Please keep in mind that one e-mail account can have more than one e-mail address. So here, you are dealing with the account name, i.e. with the mailbox. When you edit the Admin-Tool script(s) that process the incoming e-mails, it might be required to use the e-mail address. The e-mail address is also required when you configure the *Reply-to* address, the *From* address, and queue-specific e-mail addresse! So be sure to use the correct parameter: mailbox or e-mail address!

• Configuration:

Incoming e-mail subject pattern:

Describes the elements that the subject of an incoming e-mail has to contain in order to assign this e-mail to a certain ticket. The pattern is defined in form of a regular expression (RegEx). **Example:** . *?*Ticket*|*s*+|((|*S*+)|). *would match every subject line that contains *Ticket* (< *Ticketnumber>*).

Outgoing e-mail subject template:

Describes the pattern which is used to create the ticket ID in the subject of an outgoing e-mail. The template should be matched by the incoming e-mail subject pattern. Via the *Edit* button on the right you can modify the incoming e-mail subject pattern and outgoing e-mail subject template and verify if they match.

Example: *Ticket (\${ticketName})* would match the example RegEx above.

Attention:

You can check if the pattern for the incoming e-mail subject pattern and for the outgoing e-mail subject template match by using the *Edit* button and the editor that is opened. Please make sure that the e-mail subject has been set correctly at **all** locations, e.g. also in all workflow scripts and Admin-Tool scripts!

Maximum number of restarts:

Shows the maximum number of restarts after an error when ConSol*CM fetches e-mails. Valid for all e-mail pollers.

• Error e-mail address:

E-mail address to which messages and warnings of the mail sub-system are sent. This is usually the same as the general administrator address.

For the configuration of incoming e-mail you might also want to check the e-mail-related system properties, see Appendix C (System Properties). Particularly, the polling interval (the time interval for fetching e-mails from the mail server, system property *cmas-esb-mail, mail.polling.interval*) might be of interest.

Outgoing E-Mail

The connection data for outgoing e-mails are set here:

- Outgoing e-mail connector
 - Use the following format:

smtp://<IP address of mail server>:<port>

Example:

smtp://10.0.1.151:25

E-Mail Encryption

Due to increasing security policies, it might be required to encrypt the e-mail traffic (including the e-mails which are sent and received by the ConSol*CM installation) using standard S/MIME encryption.

In order to enable ConSol*CM to work with encrypted e-mails, you first have to enable the e-mail encryption in the system:

1. Mandatory:

Set the system property *cmas-esb-mail, mail.encryption* to *true*. It is set to *false* as default value. This is the basic configuration for the entire system to enable e-mail encryption.

2. Optional:

Set the page customization property *mailEncryptionAvailable* to *true*. This activates the possibility in the Web Client to choose if the e-mail should be encrypted.

General Explanation about E-Mail Encryption in ConSol*CM

There are two types of certificates:

• Personal Information Exchange Certificates

For incoming e-mails (here, server certificates are relevant).

• The *Personal Information Exchange* certificate can be manually imported to the system from the *PKCS12* (.p12) files. This file contains the public and the private key for the corresponding e-mail address. If the certificate file is protected with a password, the administrator must enter it during the import process.

• Security Certificates

For outgoing e-mails (here, client certificates are relevant).

Security certificates can be imported into the system in two ways:

• Manually

By selecting the X.509 (.cer or .crt) file.

• Automatically

From the LDAP repository which holds it in the same format as for the file import. This can be done on demand during the e-mail sending.

Attention:

The certificates treated here, are used for e-mail encryption only and **not** for the access of ConSol* CM (as e-mail client) to the e-mail server! This has to be managed by certificates which are stored in the security store of the application server.

Requirements

- The client certificate must contain the e-mail address of the customer in the attribute SubjectDN (E= or EMAILADDRESS=) or the X509v3 Subject Alternative Name element from the Extensions section of the certificate must contain the e-mail address.
- Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files has to be installed on the server and on the machine where the Admin-Tool is started. This is required to enable the Admin-Tool to import certificates.
- X.509 Base64 encoded certificates are supported.

Certificate Import from LDAP

If LDAP is configured, ConSol*CM will lookup the certificate for the requested contact in the LDAP repository . This is done in the following way:

- 1. Someone tries to send an encrypted e-mail.
- 2. The cryptography service is looking for a client certificate for the recipient.
- 3. If a client certificate is found, the e-mail is encrypted and sent.
- 4. If a client certificate is not found in the Admin-Tool or it has expired, it is looked up in the LDAP repository.
- 5. If it is found, it is imported to ConSol*CM and the e-mail is encrypted and sent.
- 6. If it is not found, the e-mail is sent unencrypted.

The following configuration properties have to be set for the certificate lookup via LDAP:

- Idap.certificate.basedn
- Idap.certificate.searchattr
- Idap.certificate.content.attribute

Please see section LDAP certificate parameters in Appendix C (System Properties) for details.

Certificates Management in the Admin-Tool

Server Certificates

Server certificates are used to decipher incoming e-mail messages and also to encrypt outgoing e-mail messages. They each contain the public and the private key for the given e-mail address. If you define an incoming e-mail account (see section above), you have to upload a server certificate for that e-mail address (or for all e-mail addresses covered by this mailbox) to be able to receive encrypted messages. If you have several incoming accounts, you either have to upload a server certificate for each of them or you can upload one certificate with all required e-mail addresses.

When you open the file card *Server certificates*, a list of all existing server certificates is displayed. To add a new server certificate, click on and use the file browser to find the required certificate. The certificate is checked before it is imported. If there are any incompatibilities, an error message is displayed and the certificate is not imported.

Supported formats for server certificates are:

- *PKCS #12* archive file containing certificate (public) and private key (password protected). Supported filename extensions for *PKCS #12* files are:
 - .p12
 - .pfx

Client Certificates

A client certificate contains only the public key of a user. It allows encrypting messages going to that user.

When you open the file card *Client certificates*, a list of all existing client certificates is displayed. To add a new client certificate, click on and use the file browser to find the required certificate. The certificate is checked before it is imported. If there are any incompatibilities, an error message is displayed and the certificate is not imported.

Supported formats for client certificates are:

• *X509* standard format.

Supported filename extensions for *X.509* certificates are:

- .cer
- .crt
- .der
- .pem

CM6 Admin-Tool @ localhost			Name and	
	. 🗈 🛋	= % @	◎ <>	Ç 🛐 🌖
Configuration General CM Services E-mail E-mail Ba E-mail E-mail Client certificates to encrypt outgoing Either: Valid certificates only	ckups Licence ESB Services E tes Client certificates e-mails	Business Calendars Classes o	f text Ticket history Index	
Serial number	Issued on Add client certificate Add client certificate i Please select a file with a va	Expires on	E-mail a	ddress
	File: D:\CM6\docu1 Serial number: 339104612 Issued on: May 24, 2013 Expires on: May 24, 2023 E-mail: to@localhost	Handbuecher \TESTDATA \to@ 3:24:00 PM 3:24:00 PM	localhost_EXT.crt	
Click the lock to prevent further cha	anges		Imp	ort Cancel

Fig. 3: ConSol*CM Admin-Tool - Pop-up Window for Adding a Client Certificate

Use Cases

Here are some example use cases:

- An engineer uses the ConSol*CM Web Client and writes an encrypted e-mail using the Ticket E-Mail Editor. When he/she presses the *Send* button, the ConSol*CM system looks up the receiver address in the list of mail addresses under *Client certificates* and uses the public key of the recipient to encrypt the outgoing e-mail. If ConSol*CM cannot find a matching certificate (the e-mail address is not mentioned in the list), the e-mail is loaded from LDAP. If this does not work either, the e-mail is sent unencrypted. If one of the recipients is the same as one of the incoming e-mail accounts, then also the server certificate will be used to encrypt that message.
- 2. ConSol*CM receives an e-mail and checks the *TO* address. If this is found in the list under *Client certificates*, ConSol*CM uses the private key given in this certificate to decrypt the message and to either create a new ticket or append the message to an existing ticket.

Sending Encrypted E-Mails

Choosing if E-Mails Should be Sent Encrypted from the Web Client

If the page customization property mailEncryptionAvailable has been set to *true*, a check box *Send encrypted* is available in the Ticket E-Mail Editor in the Web Client. Thus, the user can choose if the e-mail should be sent encrypted.

Comment	E-Mail	Attachment	Time booking
New E-mail			
	show Cc show Bcc		
To:	"Martin Huber" <mar< td=""><td>tin.huber@devnull.consol.</td><td>.de></td></mar<>	tin.huber@devnull.consol.	.de>
Subject	Ticket (SUP-91) AT: N	VPE when copying roles	
Template	Signatur standard 🔻		
Send encrypted			
<u>в и ц</u>		DIV (default) - Font Fam	ily - Font Size

Fig. 4: ConSol*CM/Web Client - Send Encrypted E-Mail

Sending an Encrypted E-Mail from the Workflow

An encrypted e-mail can be sent by using the method *enableEncryption()*. Please see the *ConSol*CM Process Designer Manual* for a detailed explanation.

Sending Encrypted E-Mails by Default

If the system property *cmas-esb-mail, mail.encryption* is set to *true*, all outgoing e-mails from the workflow and Web Client are encrypted by default.

If users would like to send selected e-mails unencrypted, they can uncheck the check box *Send encrypted* in the Web Client. For e-mails sent by the workflow the method *disableEncryption()* has to be used.

20.4.3 E-Mail Duplication in the ConSol*CM Web Client

Please see explanations on the *Page Customization* page at showCloneOption and appendOrReplaceOnClone.

20.4.4 Related Topics

- E-mail properties see section Appendix C (System Properties)
- E-mail scripts see section E-Mail Scripts

20.5 File Card E-Mail Backups

Incoming e-mails which could not be processed are stored in a special store in the CM system. You as an administrator can then try to re-send the e-mails to the system manually. The e-mails stored here can also be deleted, e.g. spam e-mails.

In the file system, those e-mails are stored in the following directory (as .em/files):



Fig. 1: ConSol* Admin-Tool - Configuration: E-mail Backups

The list panel for unparsable e-mails contains the following elements:

• File name

This field provides a filter. When you enter the name or part of the name of e-mail files, only the matching file names will be displayed in the list.

Name

The name of the e-mail file (usually with an .em/extension).

Date modified

The last date when the file was modified. Usually the date when the e-mail has been stored on the CM server.

In an error-free ConSol*CM6 system, the list panel for unparsable e-mails should be empty. In case there are e-mails listed, an error has occurred concerning the processing of the incoming e-mail(s) in the system. Please see section E-Mail Scripts for a detailed explanation of the processing pipeline.

To delete an e-mail from the list, select the list entry and press the *Delete* button <u>Selecter</u>. Please keep in mind that the information will be lost! It will not be saved or transferred to CM in any way!

You can also try to re-send the e-mail to the processing pipeline (e.g. when a script was not working correctly and has been fixed now) by selecting it in the list and by pressing the *Resend* button \bowtie . In case the processing in the system works correctly, the mail is also transferred from the *unparsable* directory to the following directory (as *.em*/file):

<CMAS_DATADIR>/mail/reimported

20.6 File Card Licence

- File Card Licence
 - General Information about Licenses in ConSol*CM
 - Managing the ConSol*CM License Using the Admin-Tool

20.6.1 General Information about Licenses in ConSol*CM

A ConSol*CM license file contains entries for several modules. For each module, the number of valid licenses is indicated. For example, the following excerpt of a license file shows the Web Client, REST section. Ten licenses have been purchased.

```
[CONCURRENT_USERS]
contractParty = Demo-Licence ConSol
products = WEB_CLIENT,REST
version = 6.9
expirationDate = 31.12.2014
licenses = 10
signature = XXX
```

ConSol*CM works with concurrent users (sometimes also called floating licenses), i.e. the number of users who are logged in simultaneously is registered, no user names are checked. That means, the number of engineers who are managed in the Admin-Tool (see section Engineer Administration) does not have to be identical to the number of Web Client licenses.

A license is consumed when the user logs in. The license is handed back to the server when the user session is terminated, i.e. when the user logs out or when the user session is terminated automatically by the server because the session timeout has been reached (see system property *cmas-core-server*, *server.session.timeout*, Appendix C (System Properties)).

20.6.2 Managing the ConSol*CM License Using the Admin-Tool

Here you have to import a valid license for your ConSol*CM system. You will receive a license for a test and/ or a productive system when you have signed the software contracts with ConSol*.

Please ask your consultant for details. The license is a plain text file.

Attention:

There is no *Back* button to undo changes with one click when you enter or delete text in the *Licence* field. If you accidentally changed parts of the license, close the Admin-Tool **without** clicking *Save*. This will discard all changes you made to the license text. When you restart the Admin-Tool afterwards, the license will be in the same condition as it was before you made the changes.

CM6 Admin-Tool @ cmbdoku-cm1.int.consol.de ile Views Help			^
🚡 🖉 🐨 T 🔍 🛎 🗉 📢 = 🗞 🔯 🚳 😣	S		
Configuration			
General CM Services E-mail E-mail Backups Licence ESB Services Business Calendars Classes of text Ticket history Index			
			-
Licence file:			
contractParty = Demo-Lizenz ConSol products = TRACK version = 6.9 expirationDate = 31.12.2014 licenses = 200 signature = XXX [CONCURRENT_USERS] contractParty = Demo-Lizenz ConSol products = WEB_CLIENT,REST version = 6.9 expirationDate = 31.12.2014 licenses = 10 signature = XXX		II	
[PROCESS_DESIGNER] contractParty = Demo-Lizenz ConSol products = PROCESS_DESIGNER version = 6.9 expirationDate = 31.12.2014 licenses = 5 signature = XXX			
		-	
Save			
Click the lock to prevent further changes		Advanced	

Fig. 1: ConSol*CM Admin-Tool - Configuration: Licence

Choose one of the two ways to import your ConSol*CM license file. In either case you have to unlock the editor panel first.

- Insert the entire text of the license file by copy and paste. In case an old license is present, just replace the entire text. Click on *Save*.
- Load the license using the file browser next to the field *Licence file*. Click on *Save*.

You should receive a message that the license has been imported into the system successfully. It is in operation at once, without further action.

20.7 ConSol*CM ESB Services

- ConSol*CM ESB Services
 - Introduction to ESB Services
 - Starting and Stopping ESB Services Using the Admin-Tool

20.7.1 Introduction to ESB Services

The ESB services are in operation for incoming e-mails. Please see the following figure for the functions of the ESB services and also section E-Mail Scripts for a detailed description of the general principle of ConSol *CM mailing.

ESB stands for *Enterprise Service Bus* and ConSol*CM has integrated an ESB (Mule ESBTM) as one of the application modules.



Fig. 1: ConSol*CM ESB Services

ESB services:

esb_mail_preprocessorService

Responsible for fetching e-mail messages from the configured incoming mailboxes. Retrieved messages are stored in the directory *%DATA_DIR%/mail/unparsable* as *.em*/files. Stopping this service will cause the ConSol*CM server to disconnect from configured e-mail servers. This means that e-mails will not be fetched and initially processed. After starting this service again, ConSol*CM will connect to configured e-mail servers and process all queued messages.

esb_mail_scriptService

This service calls the *IncomingMailRouting.groovy* script to determine the script name to execute. It can be one of *CreateTicket.groovy*, *AppendToTicket.groovy*, or *MailToClosedTicket.groovy*. Then the determined script is executed. On success, the *esb_mail_SuccessService* is called. On error, an e-mail with detailed cause is sent to the administrator. When this service is stopped e-mail messages will be retrieved from the mailboxes and stored in the directory *%DATA_DIR%/mail/unparsable*. Then the processing will stop. After the service is started again, the messages will be picked up from the *unparsable* directory and processed.

esb_mail_SuccessService

Responsible for deleting e-mail files that were processed correctly from the backup folder. Stopping this service will cause e-mail copies to remain in the backup folder (*%DATA_DIR%/mail/unparsable*) after processing.

Warning:

When this service (*esb_mail_SuccessService*) is started again, it will delete all messages which were not removed when it was stopped.

20.7.2 Starting and Stopping ESB Services Using the Admin-Tool

In this file card you can start and stop the sub-services of the *Enterprise Service Bus* (ESB). You should only change the service status upon request of CM Consulting or CM Support!



Fig. 2: ConSol*CM Admin-Tool - Configuration: ESB Services

20.8 File Card Business Calendars

- File Card Business Calendars
 - Configuration of Business Calendars in the Admin-Tool
 - Creating a New Calendar
 - Defining the Working Hours for a Calendar
 - Defining the Holidays for a Calendar
 - Defining the Holidays for a Calendar Manually
 - Importing the Holidays for a Calendar from an Excel File

On this file card you can create and manage business calendars. These define times when automatic workflow actions shall be active. In order to use a business calendar for a certain process the calendar has to be assigned to the respective queue, see section Queue Administration for details. Furthermore, the workflow element that should use the calendar has to be configured, this is explained in the *ConSol*CM Process Designer Manual*.

Example:

Tickets which have not been assigned to an engineer more than one hour after opening shall be automatically moved to an escalation level. If a calendar defines working hours from 8 a.m. to 5 p.m. and a ticket arrives at 4:45 p.m., the ticket will not escalate at 5:45 p.m. but at 8:45 a.m. the next day. This time is calculated as follows: 15 minutes between ticket arrival and end of the working hours *plus* 45 minutes from next beginning of the working hours until the full hour given by the escalation limit is reached.

SLA = Reaction time 4 hours within the regular business hours Monday - Friday 9:00 - 17:00



Fig. 1: ConSol*CM Principle - Business Calendar

Besides working hours you can define holidays, too. On these days the automatic escalation pauses entirely . Holidays have to be defined per calendar. It is not possible to define a holiday that is valid for all existing calendars simultaneously.

20.8.1 Configuration of Business Calendars in the Admin-Tool



Fig. 2: ConSol*CM Admin-Tool - Configuration: Business Calendars

Creating a New Calendar

Click on 🕑 in the left part of the page to create a new calendar. The following window appears:

📔 Create ne	🚺 Create new business calendar 🛛 🛛 🔀			
Create new business calendar i Please fill in business calendar name.				
Name:	Regular Workdays			
ninezone:	Save Cancel			

Fig. 3: ConSol*CM Admin-Tool - Configuration: New Calendar

• Name:

Enter a unique name for the calendar.

• Timezone:

Choose the time zone to be used for the calendar.

Attention:

This field only describes to which time zone the defined hours refer. The calendar itself is valid worldwide for the respective workflow!

Example:

The ConSol*CM server is located in Detroit, MI, USA. In the business calendar, Europe/ Berlin is set as timezone. A time trigger which uses the business trigger would fire according to the Berlin time and not the Detroit time.

Click on Save afterwards to create the calendar.

Clicking on 2 you can modify a selected calendar in the same way. Click on selected calendar.

Defining the Working Hours for a Calendar

Select a calendar on the left and click on in the middle part of the page to create the days and hours for this calendar. The following window appears:

🚺 Add [Day Part			X
Add Day i Pleas	r Part e fill in the re	quired fields.		
Time ra	nge			
From:	8:00 AM			▲ ▼
To:	5:30 PM			▲ ▼
Days				
📝 Ma	nday			
🔽 Tu	esday			
Ve We	ednesday			
🔽 Th	ursday			
🔽 Fri	V Friday			
Sa Sa	Saturday			
Sunday				
		Save	Ca	ncel

Fig. 4: ConSol*CM Admin-Tool - Configuration: Working Hours of a Calendar

• Time range

Enter the time range for which the automatic workflow escalations shall be active.

• Days

Mark the check boxes of the days for which the time range shall be valid. It is possible to choose individual or all days (check box *All*).

Information:

In case, the system detects an inconsistency of the time you define here with an already existing time, you will get a corresponding message.

Click on Save afterwards to create this time range for the marked days.

If you want to edit the time range later, you have to do it separately for each day. Select the respective day, click on 2 and change the time range in the window that appears. Or click on 2 if you want to delete the time range for a selected day. It is not possible to edit or delete the time range for multiple days at once.

Defining the Holidays for a Calendar

You can define the dates and time periods for holidays using one of two approaches:

- Defining the holidays manually.
- Importing the holidays from an *Excel* file.

Defining the Holidays for a Calendar Manually

Select a calendar and click on in the right part of the page to create a new holiday entry. The following window appears:

🗾 Create	🗾 Create new holiday 🛛 🔀		
Create n	ew holiday		
i Pleas	e fill in the required fields.		
Name	Vesse		
Name:	Ands		
From:	12/25/14		
To:	12/26/14		
	Save Cancel		

Fig. 5: ConSol*CM Admin-Tool - Configuration: Holidays of a Calendar

• Name:

Enter the name of the holiday here.

• From:

Enter the date of the holiday in this field.

• To:

If it is a multi-day holiday (e.g. Christmas), you can enter the last date of the holiday here.



Click on *Save* afterwards to create the holiday.

If you want to edit a selected holiday entry just click on 🗵 . Clicking on 🙆 deletes an entry.

Importing the Holidays for a Calendar from an Excel File

Holiday data can be imported from an Microsoft Excel file which is based on the following format:

	A	В	С	
1	Christmas	24/12/2014	26/12/2014	
2	New Year	01/01/2015		
3	Easter	03/04/2015	06/04/2015	
4				

Fig. 6: Excel File for Holiday Import

In the Admin-Tool, file card *Configuration - Business Calendars*, select a calendar and click on *Import holidays* and enter the path for the Excel import file.

📔 Import holidays		-				×	
Import holidays i Please select a file to	Import holidays i Please select a file to import. Selecting option 'Delete before import' will remove all current holiday entries!						
File:	D:\CM6\INFOS\NewFeatu	res\images_6.9.2	_6.9.3\Holiday	ImportEx.csv			
Delete before import:							
				_			
					Import	Cancel	

Fig. 7: Consol*CM Admin-Tool - Configuration: Importing Holidays

The new holidays will be imported in the holiday list of the selected business calendar.

lolidays		
Name	From	То
Easter	Apr 3, 2015	Apr 7, 2015
New Year	Jan 1, 2015	
Christmas	Dec 24, 2014	Dec 27, 2014

Fig. 8: ConSol*CM Admin-Tool - Configuration: Newly Imported Holidays

20.9 File Card Classes of Text

- File Card Classes of Text
 - Installing a New Class of Text
 - Defining a Class of Text
 - Assigning the Class of Text to a Queue
 - Edit a Class of Text
 - Delete a Class of Text
 - Setting the Default Class of Text

A class of text is a class that you assign to a ticket entry. This entry can be:

- a comment
- an e-mail that was sent from the ticket
- an e-mail that was received in the ticket
- an attachment

Assigning a class of text can have one or more of the following purposes:

- Highlighting the text in the ticket with a special color to make it easier to find it (e.g. an important note as shown in the following figure). An icon can also be used for each class of text.
- Marking a ticket entry to make it visible in CM/Track, i.e. to make it available for customers who log into the CM customer portal.
- Marking the entry to control the process flow, e.g. a ticket can only be finished when exactly one entry has been marked as *solution*.
- Marking the entry for hand-over to another process, e.g. the entries marked *question* and *answer* are automatically used for an FAQ ticket.

Thus, with classes of text you can organize ticket information within the ticket and can also control the process flow and the availability of information.

Ticket		Edit Clone Print Display 🔻		
SUP-22	Error handling in ticket-search by id (in ticket relations) HelpDesk 1st Level Qualify Assigned to Sommer Open since 4/14/08 11:47 AM Priority low Module Web Client Reaction time 7/1/11 Ask for feedback no			
	Customers	Add Hide		
	Main customer			
e	Mr Luke Skywalker 🔻 CustomerGroup luke@consol.de			
	ConSol* GmbH Company ConSol* GmbH Address Franziskanerstr. 38 81543 München No comment			
	Engineers	Add Hide		
	No relations	Add Hide		
	History	achment Time booking Hide		
	Display communication 🔻 Sorting latest first 🔻 Internal important note			
-	Add connect, a neil or attackment			
29.01.14 15	.49 #10 created by Charly Chef Action ▼ 15:49 Internal Important Note This can only be fixed by installing the patch release 47.11 #			
In the second of the second				

Fig. 1: ConSol*CM/Web Client - Using a Class of Text for an Internal Important Note

20.9.1 Installing a New Class of Text

Two steps are required to install a new class of text for tickets in a certain queue:

- 1. Defining the class of text in the *Classes of text* file card.
- 2. Assigning the class of text to the queue where it should be available for tickets (see section Queue Administration for more information).

Defining a Class of Text

Classes of text are defined and managed in the corresponding file card in the Admin-Tool (see following figure).



Fig. 2: ConSol*CM Admin-Tool - Configuration: Classes of Text

You define a new class of text by clicking on 🕒 below the list. The following pop-up window appears:

1	Class of text modification						
ci i	Class of text modification i Please edit the dass of text						
	Class of text details						
	Name: Internal Important Note						
	Color:						
	Availability:	Attachment					
		Comment					
		Incoming mail					
		Outgoing mail					
	Visibility:	all levels full			•		
	Icon:	92		Browse.			
	Customer readable:						
	Localized values						
	Locale		Value				
	Deutsch		Interne wichtige Notiz				
	Englisch(default) Polnisch		Internal Important Note				
			ОК	Can	icel		

Fig. 3: ConSol*CM Admin-Tool - New Class of Text

Here, you have to define the class details:

• Name

Enter a name for the new class of text. The name must be unique.

Color

When you click into the *Color* field a pop-up window appears. It contains a range of colors from which you can choose the desired color for the class by clicking on it. You can check the selected color in the *Preview* area. Click on *OK* to save your choice. Click on *Reset* if you want to return to the last saved color.



Fig. 4: ConSol*CM Admin-Tool - Choose a Color for the Text Class

• Availability

You can choose here for which ticket information the class of text shall be available. Mark one or several of the following options:

- Attachment
- Comment
- Incoming mail
- Outgoing mail

Visibility

There are three ticket history levels History in the Web Client:

- Basic (1st level)
- Extended (2nd level)
- Detail (3rd level)

The terms *short* and *full* refer to the display mode the user has chosen:

- short communication
- full display all entries

Select in the drop-down menu on which history levels the marked ticket information shall be visible (see picture below).

all levels full	-
1st level short, 2nd level full, 3rd level full	*
1st level short, 2nd level full, 3rd level full	_
1st level short, 2nd level short, 3rd level full	
2nd level full, 3rd level full	
2nd level short, 3rd level full	Ξ
3rd level full	
3rd level short	
hidden	Ŧ

Fig. 5: ConSol*CM Admin-Tool - Choose a History Level

If you choose *hidden*, the marked ticket information will not be visible in the ticket history.

Icon

When you click into the box next to *Icon* you will get a selection of standard CM icons. Select one of these icons for the new class of text or load your own individual icon by clicking on the *Browse*...



Fig. 6: ConSol*CM Admin-Tool - Choose an Icon for the Text Class

• Customer readable

Select this check box if ticket information marked with this class of text shall be visible for customers in CM/Track, the CM customer portal.

Localized values

You can localize the name of a class of text. Enter the corresponding class name in the *Value* field for each additional language. In the Web Client the name will be displayed in the respective language of the locale of the web browser. If you do not make an entry here the object name, i.e. the content of the *Name* field, will be taken instead.

Click on OK to save the details of the new class of text and to close the window.
Assigning the Class of Text to a Queue

After assigning the class of text to a queue within the Queue Administration it will be available for tickets of this queue in the Web Client.

20.9.2 Edit a Class of Text

If you want to edit a class of text, select it in the list and click on \square . The same window as described above for creating a class will appear. You can modify all details and save your changes by clicking *OK*.

20.9.3 Delete a Class of Text

You can only delete a class of text if it is not used within any tickets and if it is not assigned to a queue. In order to delete a class select it in the list and click on 3. If you confirm the following dialog with *Yes*, the class will be removed from the list and the system.

20.9.4 Setting the Default Class of Text

To define the default class of text, use the system property *cmweb-server-adapter*, *defaultContentEntryClassName* (see Appendix C). The default class of text will be applied to any ticket entry which is not explicitly marked with another class of text.

20.10 File Card Ticket History

On this file card you can configure the visibility level for each major action or event that has taken place concerning a ticket. The entries of the indicated type(s) will be visible in the ticket history when the user has selected the respective visibility level. This is of importance when the display mode *Display all entries* is used.

	CM6 Admin-Tool @ cm6-demo.int.consol.de File Views Help Configuration General CM Services E-mail E-mail Backups Licence ESB Services Busines Visibility of Kidet bistory antise	s Calendars Classes of text Ticket history Index		
Available action types	Type Queue changed Custom field changed Ticket created or dosed Subject changed Qustomer changed Assigned engineer added/removed Reference added/removed Attachment added Ticket transferred to activity after workflow deployment Manual activity or activity with overlay executed Activity executed after escalation Automatic activity after	Visibility on every level 2nd level and 3rd level only 3rd level 2nd level and 3rd level only 3rd level on every level on every level on every level on every level		Visibility levels for action types
	CICk the lock to prevent turbier changes CM_Administration]		Advanced	

Fig. 1: ConSol*CM Admin-Tool - Configuration: Ticket History

The editing panel for the ticket history shows a list of all configured values, each with:

• Type

The type of action that has been performed.

• Visibility

The visibility level in the Web Client GUI. There are three levels History :

- Basic (1st level)
- Extended (2nd level)
- Detail (3rd level)

The following figures show the action type time booking added configured for 2nd level and 3rd level.



Fig. 2: ConSol*CM/Web Client - Time Booking Entry Not Visible on 1st Level

	No comment					
	Engineers				Add	Hide
	No relations				Add	Hide ,
	History	Comment	E-Mail	Attachment	Time booking	Hide
	Display all entries v Sorting latest first v Add comment, e-mail or attachment					
29.01.14 16	19 #10 created by Charly Chef Action ▼ no class This can only the fixed by installing the patch release 47.11 #					
	Time booking added: 1/29/14 3:48 PM Duration: 00:30 Project: Project1 WindowsMigration (Server preparation)					
26.11.13 12	26 #9 changed by Charly Chef Main customer changed from Silke Kaufmann to Luke Skywalker					
07.07.11 10	18 #7 changed by cmasjbpm:timer • Reaction overdue has been triggered					
01.07.11 10 (1)	18 #6 created by admin Action v default class					
	l orem insum dolor sit amet: consectetuer adiniscion elit. Aenean commodo linula enet dolor. Aenean massa. Cum sociis natoque n	enatihus et mar	i sih sinn	narturient mor	ites nascetur	

Fig. 3: ConSol*CM/Web Client - Time Booking Entry Visible on 2nd Level

It is not possible to add new action types to the list. To edit the visibility for an existing entry, double-click on the visibility value you would like to modify and select the desired option from the drop-down menu.

Activity executed after escalation	on every level
Automatic activity executed	only 3rd level
Time booking added	2nd level and 3rd level
	on every level
	2nd level and 3rd level
	only 3rd level

Fig. 4: ConSol*CM Admin-Tool - Selecting the Visibility Level for an Action Type

The next picture shows the visibility for the action type *time booking added* after the setting has been modified in the file card *Ticket history* to be *on every level*.

			No comment						
		Engin	eers				Add	Hide	
Г		No re	lations				Add	Hide	÷
L		Histo	ry	Comment	E-Mail	Attachment	Time booking	Hide	ľ
5		Displa	ay all entries 🔻 Sorting latest first 💌						
		Add o	comment, e-mail or attachment						
	29.01.14 1	6.19	#10 created by Charly Chef Action 💌						
		_	This can only be fixed by installing the patch release 47.11.						
		_	Time booking added: 1/29/14 3:48 PM Duration: 00:30 Project: Project1 WindowsMigration (Server preparation)						
	01.07.11 1	0.18	#6 created by admin Action 💌						
	- Y		Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Aenean commodo ligula eget dolor. Aenean massa. Cum sociis natoque p mus. Donec quam felis, utricies nec, pellentesque eu, pretium quis, sem. Nulla consequat massa quis enim. Donec pede justo, fini	enatibus et magnis gilla vel, aliquet ne	s dis part c, vulput	turient montes tate eget, arcu	, nascetur ridic J. In enim justo,	ulus	

Fig. 5: ConSol*CM/Web Client - Time Booking Entry Visible on 1st Level

20.11 Search Configuration and Indexer Management (File Card Index)

- Search Configuration and Indexer Management (File Card Index)
 - Search Modes
 - Introduction to the ConSol*CM Indexer
 - Indexer and Index Management Using the Admin-Tool
 - Field Indexed Annotation
 - Indexer Management: File Card Index
 - Indexer and Index-Relevant System Properties

ConSol*CM provides a powerful search for all objects involved in the business processes, e.g. customers and tickets. Technically, the search is based on the *Indexer*, a module of ConSol*CM.

The following paragraphs will explain the entire topic *Search in ConSol*CM* from an administrative point of view. Please refer to the *ConSol*CM User Manual* for a detailed explanation about how to use the search as an engineer.

20.11.1 Search Modes

A ConSol*CM engineer can use two search modes:

• Quick search

This is performed using the quick search field in the upper right-hand corner of the Web Client GUI. The display of the results (i.e. the fields and the order of the fields in the result list) can be formatted using templates, please see section Templates for Customer Data for details. Please keep in mind that you can adapt the size of the result list using the system property *cmweb-server-adapter*, *globalSearchResultSizeLimit*, see Appendix C (System Properties) for details.



Fig. 1: ConSol*CM/Web Client - Quick Search

Detailed search

This is performed using the *Detailed Search* GUI. To open this GUI, click on the magnifier icon next to the quick search entry field.

Search										
Search criteria	Search criteria									
Lastname Mouse -										
Queue ServiceDesk'										
Choose One	Choose One									
	Search									
Tickets D	irectCustomers (DirCustCus	tomer) Direct	Customers (DirCustCompany)	MyCustomerGroup (MyCustomer)	MyCustomer	Group (Company)	Reseller (ResellerCustomer)	≣▼		
View as: List	BB Grid									
Search results (2)										
Add/Remove column 'Engin	eer', 'Main Customer',	- OK					Number per p	age 20 🔻		
Engineer	Main Customer	Name	Subject	Creation date	Status	Module	Priority (Helpdesk standard)			
ServiceDesk, Susan	💄 Minnie Mouse	100255	Switch on 1st Level out of order?	3/31/14 2:42 PM	Open	misc	normal			
ServiceDesk, Susan	💄 Minnie Mouse	100259	Login not possible	5/2/14 3:36 PM	Open	misc	normal			

Fig. 2: ConSol*CM/Web Client - Detailed Search

Please keep in mind that the size and paging of the result list for the detailed search can be configured using the system properties *cmweb-server-adapter*, *searchPageSize* and *cmweb-server-adapter*, *searchPageSizeOptions*. See Appendix C (System Properties) for an explanation.

Information:

Please refer to the *ConSol*CM User Manual*, section *Search* to learn how to use the search functionality.

For the administrator it is important to know how to configure ConSol*CM in a way that ...

- all required fields can be searched.
- no overhead is produced (i.e. not too many fields are configured for searching).
- the results are displayed in the desired way.

Those tasks will be described in the following sections.

First, some background knowledge about the Indexer, the system which manages the search in ConSol*CM, is provided. This will help you as an administrator to look behind the scenes and understand the configuration in a better way.

20.11.2 Introduction to the ConSol*CM Indexer

The Indexer is a module of ConSol*CM which creates indexes. For each data field (custom field or data object group field) that should serve as search criterion (see next section), an index is created.

The indexes are stored on the hard disc in a sub-directory of the data directory that you have indicated during system set-up (the data directory is stored as a system property: *cmas-core-shared*, *data.directory*). The following picture shows an example for index files of a ConSol*CM installation (here used for a demo environment). The *demo_Datadir* is the data directory you have provided during set-up, all other directories are created automatically by ConSol*CM.

D:\CM6_Installation3\demo_Datadir\index\index.0								
	Name							
	퉬 asset							
	🌗 asset.uuid							
	퉬 engineer							
	퉬 engineer.uuid							
	퉬 ticket							
	퉬 ticket.uuid							
	퉬 unit							
	🐌 unit.uuid							

Fig. 3: ConSol*CM Indexer - Directory demo_Datadir

Please make sure that ...

- the data directory is always available for the ConSol*CM server system if it has been created on another server and is linked to the application server.
- that the ConSol*CM datadir is part of the daily backup (and can be restored if required).

If the index directory should be corrupt or the index should not be available, the index can be rebuilt or repaired. Please see the following sections for details.

20.11.3 Indexer and Index Management Using the Admin-Tool

Field Indexed Annotation

By default, the entire ticket text and all attachments are indexed. For all custom fields and data object group fields, the field(s) which should be indexed has/have to have the annotation *field indexed*. Please refer to the sections Custom Field Administration and Data Object Group Field Management and GUI Design for Customer Data for details about setting annotations to custom fields (ticket data) and data object group fields (customer data). There are three possible values for this annotation:

local

Used for customer data. Only the unit (= data object) is given as a search result (e.g. when a field for a customer name is *indexed* = *local*, no company and no tickets are displayed when you search for the name of a contact, only the contact is listed).

• unit

Used for customer data. Only the unit (= data object) and the parent unit (i.e. company) are given as a search result, no tickets are provided (e.g. when a field for a contact name is *indexed* = *unit*, the company is listed in the search result but no tickets of this contact are displayed when you search for the name of a user).

transitive

All data is displayed, this is the standard value for this annotation. If you are not sure what to choose, set *transitive*.

• **not indexed** The field is not indexed.

Indexer Management: File Card Index

Usually, you do not have to do anything concerning the Indexer. ConSol*CM will handle everything regarding the indexing automatically. There are only two cases when you have to perform manual administrative operations:

- 1. You would like to change the configuration concerning the commitment of changes concerning the indexed annotation.
- 2. Errors have occurred in the indexing process.

In the Admin-Tool, go to Configuration and use the file card Index to configure and manage the Indexer.



Fig. 4: ConSol*CM Admin-Tool - Configuration: File Card Index

In the first line the current status of the Indexer is displayed (this is the value of the system property *cmas-core-index-common, index.status*):

• GREEN 🥏

All Indexer tasks have run correctly, no action required. At the beginning of the synchronization process, the index status is set to green. If it is completed successfully it remains green. If there is any problem it will change to yellow or red.

• YELLOW 📏

Fixable problems were identified, collected and persisted. The status is set when an administrative task (with auto-commit *off*) or a retry task is created.

• RED 🔯

Errors have occurred. Please check. The index needs full synchronization.

The following operations can be performed:

• Synchronize index

The index is rebuilt completely (from scratch), all open Indexer tasks are discarded.

• Repair index

Indexer tasks which have not run successfully are restarted. The tasks can be selected in the Indexer task list.

Recover index

A time range can be selected. All changes which have been committed to ConSol*CM during this period of time will be (re-)indexed.

Commit administrative changes

Click this button to commit the changes when you have set a custom field or data object group field to *indexed* that was not indexed before. This has to be used if the check box *No automatic commit of administrative changes* has been selected. If the check box is inactive, the changes will be committed automatically when you have set the new annotation(s).

Attention:

There is a difference in CM versions concerning the meaning of *administrative changes* - this influences the manual index management!

In versions prior to 6.9.3.0, setting the annotation *field indexed* from *false* (or not set) to *true* is **1** not considered an administrative change. That means, when you have added the annotation *field indexed = true* for a custom field which was present before, you have to modify the index manually by using either *Synchronize index* or *Recover index*. **Starting with version 6.9.3.0**, setting the annotation *field indexed* from *false* (or not set) to *true* is considered an administrative change. That means, when you have added the annotation *field indexed = true* for a custom field which was present before, you have to the true is considered an administrative change. That means, when you have added the annotation *field indexed = true* for a custom field which was present before, you have to

- modify the index manually by clicking on *Commit administrative changes* in case *No automatic commit of administrative changes* **is** set.
- or
- do nothing in case *No automatic commit of administrative changes* is **not** set.

If there are open tasks in the Indexer task list, the following data is displayed for each task:

• ID

Task ID

Task type

Three types are available:

- Synchronization
 - Recreates whole index.
 - Triggered manually using the Admin-Tool, *Synchronize index* command.
 - Before the start all other index tasks are removed.
- Administrative changes
 - Created automatically when one of the following was updated: scope, queue, enum value, ticket function, ticket engineer, supported locale, role.

- Processed automatically if *No automatic commit of administrative changes* option is unchecked.
- Using *Commit administrative changes* command will start all administrative changes tasks.
- Retry
 - Created automatically when error was encountered during index update process.
 - Holds information about entities which caused problems.
 - Using Repair index command will start all retry tasks.
- Status

E.g. RUNNING

• Created at

Time stamp when the task was created.

• Progress

A progress bar that indicates the percentage of the task that has already been executed.

Details

A list of objects that are (re-)indexed in the task.

20.11.4 Indexer and Index-Relevant System Properties

The following system properties are also relevant for the Indexer, see following figure. Please refer to Appendix C for a detailed explanation of the Indexer system properties.

110		1	
	cmas-core-index-common	index.attachment	true
	cmas-core-index-common	index.history	false
I	cmas-core-index-common	index.status	GREEN
	cmas-core-index-common	index.task.worker.threads	1
	cmas-core-index-common	index.version.current	2
	cmas-core-index-common	index.version.newest	2
	cmas-core-index-common	indexed.assets.per.thread.in.memory	200
	cmas-core-index-common	indexed.engineers.per.thread.in.memory	300
1	cmas-core-index-common	indexed.tickets.per.thread.in.memory	100
	cmas-core-index-common	indexed.units.per.thread.in.memory	200

Fig. 5: Admin-Tool: System Properties for Indexer

21 Deployment

- Deployment
 - Introduction to Deployment in the Admin-Tool
 - Introduction to ConSol*CM Scenarios
 - File Card Deployment
 - Export
 - Import
 - Workflow Deployment (for Deployment Error Recovery Only)
 - Related Topics

21.1 Introduction to Deployment in the Admin-Tool

Here, you can import and export scenarios (file card *Deployment*) and you can manage the DWH (Data Warehouse, file cards *DWH tasks* and *DWH Administration*). In the subsequent sections, the deployment will be explained. Please refer to chapter Data Warehouse (DWH) Management in order to learn about DWH management.



Fig. 1: ConSol*CM Admin-Tool - Deployment Page

21.2 Introduction to ConSol*CM Scenarios

A scenario is a file in a proprietary ConSol*CM format (similar to *zip* and *tar*) that contains the data of a ConSol*CM installation. It can be exported from one CM system and imported into the same or another system. This can be very helpful e.g. when a test scenario is built on a test system which can then be transferred to a production server.

When an export file is created (see detailed explanation in sections below) the administrator can decide which data should be included.

A scenario will **always** contain:

• all customer-specific system properties, i.e. system properties where the module name starts with *custom*-

A scenario **can** contain, depending on the selection of the administrator (see figure below):

- runtime data
- configuration data

A scenario will never contain:

• general (not customer-specific) system properties (e.g. mail server, LDAP directory etc.)

21.3 File Card Deployment

On the *Deployment* file card you can import or export scenarios (i.e. the whole configuration or part of it) in an application specific format. You usually do this to transfer data between different CM installations. A typical example is transfer of the configuration from a test system to a production system.

Warning:

The import of external data can modify or delete existing data irrecoverably. Although the user is prompted for confirmation at critical points during deployment, this cannot prevent erroneous handling. Use this function only if you are very sure what you are doing. In case of doubt please ask the ConSol*CM support team or a ConSol*CM consultant for assistance.

21.3.1 Export

• Export-Archive:

Enter path and name of the file you want to create. Alternatively, you can click on to open a selection window where you can search for a file.

Click on Export afterwards to start the data export.

You will have to select the data that should be included in the export file (scenario):

Export configuration
Export configuration i Please select the data you want to export.
Selection of the data to be exported
Runtime data
All
All without tickets
Only customer data
Configuration data
✓ Scripts
✓ Templates
✓ Word templates
✓ Customer model
☑ Queue related and other data
OK Cancel

Fig. 2: ConSol*CM Admin-Tool - Deployment: Export Configuration

• Runtime data

This refers to data that is stored as operating data, e.g. tickets and customer data.

• All

Ticket data and customer data is exported completely **and** the complete configuration is exported. When you select the check box *All*, all other check boxes are selected automatically.

• All without tickets

The complete installation beside the tickets is exported, i.e. the customer data **and** the complete configuration. When you select the check box *All without tickets*, all other check boxes except for *All* are selected automatically.

• Only customer data

Only customer data (i.e. the customer data model and the actual customer data) is exported. Nothing else. (The check box *Customer model* is checked automatically.)

• Configuration data

This refers only to the configuration in the Admin-Tool, no runtime data is exported.

• All

The complete configuration is exported. When you select the check box *All*, all other check boxes under *Configuration data* are selected automatically.

• Engineers

Only the engineers with their data are exported. This also includes the roles the engineers have been assigned.

• Admin-Tool templates

Only the Admin-Tool templates (see section Admin-Tool Templates for details) are exported.

Scripts

Only the Admin-Tool scripts are exported (see section Admin-Tool Scripts for details).

• Templates

Only the templates that are stored in the Template Designer (see section The ConSol*CM Template Designer for details) are exported.

• Word templates

Only the MS-Word templates are exported, this is only relevant when CM/Office is in operation (see section CM/Office for details).

Customer model

Only the data object group fields that are used to define the customer model are exported. No runtime customer data is included.

Queue related and other data

Only queue configuration and general configuration settings are exported (workflows, queues, custom fields, enum values, MLAs, roles, views, properties, ...), in short: everything which is not included above.

If you would like to export the complete configuration, select *All* in the *Configuration data* section. The export /import of subsets (e.g. templates only) is usually applied when selected data (e.g. from a test environment) has to be transferred to another (e.g. live) system.

21.3.2 Import

The general principle of ConSol*CM scenario import is:

- If the check box *Delete existing data* has **not** been **selected**, the scenarios are **merged**, based on the following principles:
 - Data are only **added**, nothing is deleted.
 - If the imported scenario contains the **same field/parameter** as the original scenario, the value from the imported one **overwrites** the one of the original scenario.

Example: For the field *priority*, there is the annotation *position* = 0;2 in the imported scenario. The original scenario contains the value *position* = 2;2 for the field *priority*, i.e. in the resulting scenario after the import, the value for *position* is 0;2.

• If the imported scenario contains **more parameters** than the original scenario, the parameters are **added** to the original one.

Example: In the imported scenario, there is the annotation *visibility* = *none* for the field *Person/D*. In the original scenario, the field *Person/D* is present, but does not have the annotation, i.e. in the resulting scenario after the import, the field *Person/D* will have the annotation *visibility* = *none* and will thus be invisible.

- If the imported scenario contains less data/parameters than the original one, the original data will be present in the resulting scenario. Nothing is deleted.
 Example: If the field *PersonID* in the imported scenario does no longer contain the annotation *visibility = none*, but the original scenario does contain the annotation, it will remain, i.e. in the resulting scenario the field *PersonID* is still invisible.
- Scripts and templates, the latest version (according to the time stamp) is used, no matter from which scenario.
- Objects are identified by an internal key (transfer key).

When an imported scenario contains an object with the same name but another transfer key, technically, these are two objects, and the new object will be added from the import to the original scenario (e.g. when a user *Mr. Miller* exists in both scenarios, there will be one user *Mr. Miller* and one user *Mr. Miller* (1) in the resulting scenario after the import.

To make sure you can transfer another import scenario from the same source (test system), you can delete the original *Mr. Miller* user and transfer the tickets to *Mr. Miller (1)*, an operation that is supported by the CM/Web Client. Then rename *Mr. Miller (1)* to *Mr. Miller*. Now, the *Mr. Miller* user has the transfer key that originated in the import scenario and during the next import , there will be no problem.

The general use case is: The transfer key is created by the ConSol*CM system and allows the re-import and/or the update of the configuration data.

- If the check box *Delete existing data* has been **checked**, the entire system is deleted, i.e. **all** existing data are **deleted**. All data means:
 - Configuration data
 - Runtime data

That means when *Delete existing data* has been selected, it is not possible to preserve anything from the original scenario. Everything is deleted! Only system properties are **not** deleted.

The following parameters have to be set for an import operation:

• Import-Archive:

Enter path and file name of the archive from which the data shall be imported. Alternatively, you can click on = to open a selection window where you can search for the archive.

• Mode:

Here you can choose what the import shall do if an error occurs:

• Abort on error

This mode is recommended for production systems.

• Skip corrupt data

This mode is recommended for imports into test systems. It might even be reasonably applied to production systems, because an unexpected error can lead to a corrupt system, but the import continues even when an error appeared. The problem can be probably handled afterwards in a short time. A new import might take longer to perform.

Example: A referenced object is not found, e.g. during the import of a view which references a queue which cannot be found.

• Force import of corrupt data

Choose this mode only if you want to clone a system with corrupt data, e.g. on a development server or if the support team is doing an error analysis.

Click on Import afterwards to start the data import.

21.3.3 Workflow Deployment (for Deployment Error Recovery Only)

Usually, all operations concerning workflow design and deployment are performed using the Process Designer. However, in case an error has occurred during workflow deployment, you can transfer the tickets that could not be transferred into the new workflow using the following options.

First select the queue(s), then choose the transfer mode:

• Remain at last activity

The ticket will try to stay at its position in the process:

- If the activity and scope have not been changed, i.e. no change in position for the ticket.
- If the activity is no longer present, i.e. the ticket goes as far back in the process as it has to find the last consistent position in the process.

Restart process

The ticket goes back to the *START* node of the process/workflow.

Please read also the detailed explanation of the workflow deployment process in the ConSol*CM Process Designer Manual.

21.4 Related Topics

• Process Designer (see separate document ConSol*CM Process Designer Manual)

22 CM6 Administrator Manual 6.9 - Script and Admin-Tool Template Administration

22.1 Script and Admin-Tool Template Administration

In this chapter, you will learn how to work with scripts and templates that are stored in and managed with the Admin-Tool.

Scripts are used in various contexts in ConSol*CM, particularly in the Process Designer within workflows. Please see the *ConSol*CM Process Designer Manual* for a detailed explanation concerning this topic. However, various scripts are also stored in the Admin-Tool, in the *Scripts* section. This will be explained in section Admin-Tool Scripts.

Templates are also stored in several locations, in the Template Designer and in CM/Office which can both be accessed using the Web Client GUI and in the Admin-Tool. For explanations of the work with e-mail templates using the Template Designer and for configuring CM/Office, please refer to section Working with Text Templates. For an explanation of templates in the Admin-Tool, please read section Admin-Tool Templates.

22.2 Introduction to Scripts in the Admin-Tool

- Introduction to Scripts in the Admin-Tool
 - The Source Code Editor
 - Script Types
 - Scripts of Type Clone
 - Scripts of Type Data Object Action
 - Scripts of Type Data Object Condition
 - Scripts of Type Default Values
 - Overwrite Mode for Default Values Scripts
 - Scripts of Type Dependent Enum
 - Scripts of Type E-Mail
 - E-Mail Scripts for the Processing of Incoming E-Mails
 - E-Mail Scripts for Outgoing E-Mails
 - Scripts of Type Workflow
 - Default Workflow Activity Script

Scripts are stored in the *Scripts* section of the Admin-Tool. They are written in Groovy and should only be edited by experienced ConSol*CM consultants and administrators.

To work with scripts, open the *Script and Template Administration* in the Admin-Tool. The file card *Scripts* is opened initially.

CM6 Admin-Tool @ localhost	
<u>File Views H</u> elp	
🕋 🗶 🔖 🍸 🍬 🖴 🗖	s = % 🕸 🔿 < 🞜 🖉 🗧 🌖
Script and Template Administration	
Scripts Template	
Scripts	Source
All script types	import com.consol.cmas.common.model.content.MailEntry
Name Type	
AppendToTicket.groovy ChangeOutdeti.groovy E-mail CreateTicket.groovy CreateTicket.groovy.old DeleteSpamTickets.groovy Workflow IncomingMailRouting.groovy Verster	<pre>/* * Description: Appends to a ticket. * * Variables: * - MuleMessage <code>msg</code> containing the incoming mail * - Logger <code>log</code> for logging</pre>
MailToClosedTicket.groovy sendMailToCurrentEngineer.groovy Workflow sendMailToMainContact.groovy Workflow	* - Logger <code>mailLog</code> for logging to mail log * - All beans from the Spring context matched by name */
	<pre>if (mailLog.isDebugEnabled()) { mailLog.debug("Appending to ticket message \$msg") }</pre>
	<pre>// get ticket def existingTicketName = mailContextService.extractTicketNameFromMail(msg, TICKET_NAME_ Ticket existingTicket = ticketService.getEyName(existingTicketName) if (!existingTicket) { throw new IllegalStateException("No ticket found with name %existingTicketName") }</pre>
	<pre>// append mail entry to existing ticket MailEntry mailEntry = mailContextService.prepareMailEntry(msg); </pre>
CM_Administration]	

Fig. 1: ConSol*CM Admin-Tool - Script and Template Administration

On the left you see the list of all scripts. The list can be filtered using the drop-down menu where the script type can be selected. Two parameters have to be set for each script:

Name

This is the name by which the script will be referenced, e.g. from the workflow or from other objects like queues.

• Type

The script type. One of the following possible script types has to be selected:

Clone

Script which is executed when the *Clone* option is selected for a ticket. Has to be assigned to a queue. See section Queue Administration for details.

• Data object action

Script which is executed when a data object action has taken place, see section Action Framework for details.

• Data object condition

Script which is executed to evaluate if a data object action should be offered in the Web Client, see section Action Framework for details.

Default values

Scripts of this type are used to define default values, i.e. values that are (pre)set in data fields when a new ticket is to be created. Please see section Scripts of Type Default Values for details.

• Dependent enum

Scripts of this type are used to define *dependent enums*, a structure that provides hierarchical lists. Please see section Scripts of Type Dependent Enum for details.

• E-mail

Scripts of this type are used to manage incoming and outgoing e-mails. Please see section Scripts of Type E-mail for details.

• Workflow

Scripts of this type are referenced from the workflow. Please see section Scripts of Type Workflow for details.

The buttons below the list offer the standard Admin-Tool functionalities:

- Add a script
- Edit a script 🗵
- Delete a script 🧕
- Copy a script

On the right you see the *Source Code Editor*. The script that is selected in the list on the left is displayed. Here you can write the script source code when you have selected the *edit* mode.

22.2.1 The Source Code Editor

The Source Code Editor provides an editing panel with syntax highlighting. You have to check for correct code yourself.

```
Source
import com.consol.cmas.common.model.customfield.UnitReferenceField
import com.consol.cmas.common.model.customfield.meta.FieldKey
import com.consol.cmas.common.model.content.AttachmentEntry
import com.consol.cmas.common.model.content.ContentEntryCategory
import com.consol.cmas.common.model.content.MailEntry
import con.consol.cmas.esb.mail.MailContextService
import javax.activation.DataHandler
import org.mule.transport.email.MailProperties
import javax.mail.internet.MimeUtility
if(mailLog.isDebugEnabled()) {
      mailLog.debug("Creating ticket from message $msg")
}

      String contactEmailFieldName = "email"
      // type of contact unit

      String contactEmailFieldName = "email"
      // name of contact unit email string fie

      String contactNameFieldName = "name"
      // name of contact unit name string fie

      String contactCompanyRefName = "companyRef"
      // name of contact unit customer group

      String contactCompanyRefName = "companyRef"
      // name of contact unit company reference

                                                                           // name of contact unit email string field
// name of contact unit name string field
                                                                              // name of contact unit company reference field

      String companyUnitType = "company"
      // type of unit which represents company

      String companyNameFieldName = "name!"
      // name of company unit name string field

      String companyNameFieldValue = "ConSol* GmbH"
      // name of company referenced by contact

String ticketQueueName = "HelpDesk 1st Level"; // name of queue for created ticket
String ticketPriorityFieldGroupName = "helpdesk_standard" // name of queue field group
String ticketPriorityFieldName = "priority" // name of queue enum field
String ticketPriorityFieldValue = "normal" // value of ticket priority enum field
findContact = {
     String email = mailContextService.extractMailFromField(msg)
```

Fig. 2: ConSol*CM Admin-Tool - Source Code Editor

In the lower section of the Source Code Editor, there are the following buttons:

• Edit 👱

Press this button to switch to *edit* mode in the Source Code Editor. When you open the *Script and Template Administration* in the Admin-Tool, all scripts are in *read-only* mode to prevent an administrator from changing something accidentally.

Quit and save <a>

Save the script and quit *edit* mode, i.e. switch to *read-only* mode again.

- Quit without saving Switch to *read-only* mode again, without saving the changes you might have made to the source code
- Open script from file Image:

Import a script from a file. This will import the file and display it in the Source Code Editor. No checks are performed.

Save script to file

Here you can save the text of the script as a plain text file in the file system of the machine you are working on.

22.2.2 Script Types

In the following section, the possible script types are explained. Some examples are provided to give you an impression of the potential of scripts in the system.

Scripts of Type Clone

In the Web Client, a ticket can be cloned (duplicated) using the Clone option in the ticket menu.



Fig. 3: ConSol*CM/Web Client - Clone Option in Ticket Menu

In case the queue where the ticket is located uses a *Clone* script (see section Queue Administration), this script will be executed when the engineer has clicked on *Clone*. The script can be used similar to a *Default values* script (see respective section below): you can preset values in the ticket which will be created. In the cloning process the values are pre-filled in the custom fields in the Web Client, i.e. before the ticket is generated. The engineer can change the values if required.

Ticket		Edit	Clone	Print	Displa	у 🖛
100245	Printer does not work ServiceDesk Work in progress Assigned to ServiceDesk, Susan Open since 3/19/14 2:58 PM Priority normal Module Web Client Ask for feedback no Desired deadline 4/14/14 12:00 AM Continent Europe Request Type Request Type Complaint					
	Groups				Edit	Hide
	Conversations/Meetings Orders Open Customer Tickets on Create Date					
	conversation_list Date of meeting 11/12/14 12/31/14					
	orders_list Hardware Contact person Number					
	Medium printers Mr. Miller 4					
	Customers				Add	Hide
	Main					
	Mrs Mia Skydiver V MyCustomerGroup Starship Operator Dr. Special Forces MySpaceCompany V Company MySpaceCompany Address Milkyway 77 7777 Alderaan http://www.consol.de					
	Engineers				Add	Hide
	ServiceDesk, Susan assigned					
	Supervisor					
	Holler, Konrad 🔻					
	Relations				Add	Hide
	referenced by					
?	100254 User cannot activate product key ▼ ServiceDesk Pre-qualify ticket Assigned to ServiceDesk, Susan Open since 3/31/14 2:24 PM Customer Mia Skydiver Note Connected?					

Fig. 4: ConSol*CM/Web Client - Original Ticket

New Tick	et
	Printer does not work
	Queue: ServiceDesk Assigned to: ServiceDesk St
	Continent Europe
	Add row
	Groups
	Conversations/Meetings Orders Open Customer Tickets on Create Date
	Customers Add
	Main
	Mrs Mia Skydiver V MyCustomerGroup Starship Operator Dr. Special Forces
	Content
	Add comment
	Template none 💌
	B I U S ≣ ≣ ≣ DIV (default) ♥ Font Family ♥ Font Size ♥ A ♥ _ ♥
	x² x₂ Ξ Ξ ∰ ∰ II = = Y → - ¹ / ₂ → - ¹ / ₂ = ² = = Ω Θ 5
	1.
	Add attachment

Fig. 5: ConSol*CM/Web Client - Cloning the Ticket (without Clone Script)

Information:

When a ticket is cloned, the following data is transferred from the original ticket (compare the two images above):

- the ticket subject
- the queue
- the engineer (if it was set)
- the values of all custom fields (ticket data section and group section)
- the main customer
- additional customers

When a ticket is cloned, the following data is *not* transferred from the original ticket (compare the two images above):

- all ticket text:
 - comments
 - e-mails
 - attachments
- the ticket history
- additional engineers
- ticket relations

Information:

Please keep in mind that in a *Clone* script, you do not work in the workflow context! That means the *workflowApi* object (implementation of *WorkflowContextService*) is not available!

In the following example, the *Clone* script is used to reset the data field *Desired deadline* to avoid wrong service dates in the (cloned) *Service Desk* ticket.

Clone script to reset custom field for desired deadline

ticket.set("serviceDesk_fields.desiredDeadline", null)

When the script is assigned to the queue (*Service Desk* in the example), the field for the desired deadline is empty when the cloned ticket is offered to the engineer. See following image:

New Tick	et									
	Printer does not	work								*
	Queue:	ServiceDesk	-	Assigne	ed to:	ServiceDesk	, Sı 🗙			
	Priority	nomal	▼ *	M	odule [Web Client	×			
	Reaction time				[Ask for fe	edback			
	Category	None 🔻			_					
	Desired deadline		0	\$ tar 00	¢ ice	evel None	•	QA_MLA	None	•
	Continent	Europe		•	-					
	Request Type	Request Typ	e							
		Complaint	-							
		Add row								
	Groups									
	Conversations	/Meetings	Orders	Open C	ustomer	Tickets on C	Create Date			
	Customers									Add
	Main									
-	Mrs Mia Skydi Starship Operat	ver 👻 MyC	ustomerGro	up						

Fig. 6: ConSol*CM/Web Client - Cloned Ticket (with Clone Script Assigned to the Queue)

Scripts of Type Data Object Action

See section Action Framework.

Scripts of Type Data Object Condition

See section Action Framework.

Scripts of Type Default Values

Sometimes it is required that a data field of a ticket has a certain value when the ticket is to be created, i.e. when the engineer presses *New ticket* and the respective form is opened in the GUI, one or more value(s) should be preset. This saves the engineer from setting the value every time, e.g. when the default priority is *normal*, this can be preset. In case *high* or *low* is required, the engineer can switch to another value.

This ConSol*CM behavior can be achieved by using one or more *Default values* scripts. The default values can be defined specifically for each queue. Please see the following example.

New Tick	et						
TO ^O	Subject						*
	Queue:	HelpDesk 1st Le	Assigned to:	Unassigned			
	Priority	Choose One 🗨	Module	Choose One			
	Reaction time			Ask for feed	lback		
	Category	None 🔻					

Fig. 7: ConSol*CM/Web Client - New Ticket without Default Values

Without a default script, no value is set for the priority when an engineer opens the Web Client GUI to create a new ticket.

To define a default value, the script of type *Default values* has to be created. First, we have to look up where the respective custom field is to be found (in which custom field group and under which name) within the *Custom Field Administration*. See section Custom Field Administration for details.

Information:

Please keep in mind that in a *Default values* script, you do not work in the workflow context! That means the *workflowApi* object (implementation of *WorkflowContextService*) is not available!

CM6 Admin-Tool @ localhost	light a Horney	1 Ata 18		
File Views Help				
🕋 🌋 🦤 🍸 📖 🚉 💷	🔩 🗏 🗞 🕴	🔅 🕥 <>	🖸 🛐 🌖	
Custom Field Administration				
Groups	Fields			
Filter: All queues 🗸	Filter:			
Ticket data Activity Form data				
Activity Form data	Name	Data type		
Name	categories	MLA field		
helpdesk_standard	feedback	boolean		
sales_standard	module	enum		
qualification	priority	enum	enum	
workaround	quick_response	boolean	boolean	
feedback	reaction_time date			
		3		
Assigned apportations				
Assigned annotations	Assigned annotations			
Name Value Annotation group	Name	Value	Annotation group	
	groupable	true	cmweb-common	
	sortable	true	cmweb-common	
	reportable	true	dwh	
	neia indexed	transitive	lavout	
	enum field with ticket color	true	ticket display	
[CM_Administration]				

Fig. 8: ConSol*CM Admin-Tool - Custom Field Administration

Since *priority* is an *enum* field (i.e. an ordered list), we have to check the possible values that can appear in the list and to look for the required default value within the *Enum Administration*.

CM6 Admin-Tool @ localhost	O. G. Minnes Laget a. (1970)	ang hi 🕺 kan dink namo. 👘	. o x
File Views Help			
🟫 🗶 🦤 🍸 🚥	🚑 🗉 🔧 🚍 🗞	💩 🍈 <> 🖸	•] •]
C Enum Administration			
Туре	Group	Value	
Name	Name	Name Color	
category	Sales_priority	low	
countryType	helpdesk_priorities	normal	
domain	qualification	high	
feedback			
hardware			
module			
origin			
phoneType			
priority			
product			
reaction			
s_members			
sales_chance			
salutation			
software			
version			
workaround			
[CM_Administration]			

Fig. 9: ConSol*CM Admin-Tool - Priority Values in Enum Administration

The group, the field, and the correct value can then be used in the respective Java method in the new script.

↔ Script and Template Administration				
Scripts Template				
Scripts		ce		
All script types	•]	ket.set("helpde	esk_standard.priority","normal")	*
Name	Туре			
AppendToTicket.groovy	E-mail			
ChangeOutgoingMail.groovy	E-mail			
CreateTicket.groovy	E-mail			
CustomerXXDependentEnum	Dependent enum			
DDependentEnum	Dependent enum			
IncomingMailRouting.groovy	E-mail			
MailToClosedTicket.groovy	E-mail			
MultipleChoiceDependentEnum	Dependent enum			
setDefaultPrioMedium.groovy	Default values			

Fig. 10: ConSol*CM Admin-Tool - Include Group, Field, and Value in Script

In the *Queue Administration* we have to assign the script to the queue where the default value should be used.

Edit queue				X
Edit queue j Please edit the queu	e's data.			
Details				
Queue:	HelpDesk_1st_Level	۲	Workflow:	helpdesk1 👻
Prefix:			Calendar:	Standard 👻
FAQ:			Enabled:	
Ticket assignment temp	lates			
Assign:	engineer-assigned-default-mail	•	Unassign:	engineer-removed-default-mail 👻
Scripts				
E-Mail script:		•]		
Default values script:	setDefaultPrioMedium.groovy	•		
Clone script:		•		
Other		· · ·		
Description				
Description:				
Curture Califa				
Custom neids Cust	omer groups Classes of text Projects			
Assigned 🔺		Available 🔺		
LocationFieldsTable		CustomerTick	etListFields	
feedback belodesk_standard		LocationFields	3	
qualification		ServiceDeskD	ismissFields	
queue_fields (*)		SolutionFields		
workaround		am_fields		
		conversation_	_data	
		order_data		
		sales_standar	ra fields	
				Save Cancel

Fig. 11: ConSol*CM Admin-Tool - Assign Default Values Script to Queue in Queue Administration

When the engineer starts the *create ticket* operation now in the Web Client, the default value *normal* will be set in the *Priority* field.

New Tick	et							
10 0	Subject	t					 	*
	Qu	leue:	HelpDesk 1st Le💌	Assigned to:	Unassigned			
	Pr	iority	nomal 🗨	Module	Choose One			
	Reaction	n time			Ask for fee	dback		
	Cate	egory I	None 🔻					
	o (

Fig. 12: ConSol*CM/Web Client - New Ticket with Default Value

Important information:

Please keep in mind that for every queue there can be only one *Default values* script. So if you have to define various default values, they have to be defined in one script. You might want to adapt the script name in this case.

In case the same default value has to be set in different queues and is set together with other default values, this has to be coded in one script for each queue also.

Overwrite Mode for Default Values Scripts

By default the fields of a ticket that are pre-filled by a *Default values* script are not overwritten, i.e. when the ticket is sent to another queue that has a different *Default values* script assigned, this second default script will try to set fields that were already filled by the first script. Since this is not possible the default value of the first script will be persistent.

If a *Default values* script should overwrite already existing values, the *overwrite* mode has to be activated. To activate this mode insert the following code at the beginning of your *Default values* script:

```
import com.consol.cmas.common.model.ticket.TicketPrototypeContext
TicketPrototypeContext.enableOverwriteMode()
```

Scripts of Type Dependent Enum

Dependent enums are hierarchical lists which provide a data structure similar to the one provided by *MLAs* (see section MLA Administration). In contrast to MLAs, with dependent enums only one level at a time is displayed. Depending on the value the user has selected in the list on this level, another list, the one on the sub-level, is opened. There do not have to be sub-lists for every list entry, so in graph notation, the list might be a combination of nodes and leaves. A dependent enum script is assigned to the custom field group where it is required.

Please see the following example:

In help desk tickets a category can be selected. When the user has selected *hardware* a hardware sub-list is displayed, when the user has selected *software*, the software sub-list is displayed. All custom fields have first to be defined as regular *enum* fields. In the script, the value of the first level list is checked and, depending on this value, another list is displayed in the second level. This can be used for as many levels as required, but please keep in mind that the editing of the script will become more and more complex.

The *Dependent enum* script is placed in the Admin-Tool. Please ask our CM consultants for support when creating and/or editing the script since this is a rather complex task.

CM6 Admin-Tool @ localhost		×
File Views Help		
🔺 💓 🍕 🔻 📶 🔹 👝 🔊		
n 🛆 🤎 I 🤍 🏜 🛄 🔨		
Script and Template Administration		
		_
Scripts Template		
Scripts	Source	
All script types	import com.consol.cmas.common.model.customfield.meta.FieldKey	•
Namo Turo	def regult = new DependentFnumMan()	
AppendToTicket groowy E-mail		
ChangeOutgoingMail.groovy E-mail	// log.info("DEPENDENT ENUM SCRIPT REACHED ///")	
CreateTicket.groovy E-mail		
IncomingMailRouting.groovy E-mail		
MailToClosedTicket.groovy E-mail	EnumFieldScriptContext categoryEnumContext = createEnumField('helpdesk standard', 'categories levell')	
categoriesHardAndSoftware Dependent enum	EnumFieldScriptContext hardwareEnumContext = createEnumField('helpdesk standard', 'hardware categories level2')	
loadContactData Data object action	EnumFieldScriptContext softwareEnumContext = createEnumField('helpdesk standard', 'software categories level2')	
setDefaultPrioMedium.groovy Default values		
	ticketBinding = {	
	result[categoryEnumContext.key] = getAllValues(categoryEnumContext, FILLED)	Ξ
	result[hardwareEnumContext.key] = getNoneValues(hardwareEnumContext, HIDDEN)	
	result[softwareEnumContext.key] = getNoneValues(softwareEnumContext, HIDDEN)	
	switch(categoryEnumContext.field?.value?.name) {	
	case 'hardware':	
	result[hardwareEnumContext.key] = getAllValues(hardwareEnumContext, FILLED)	
	switch(categoryEnumContext.field?.value?.name) {	
	case 'software':	
	result[softwareEnumContext.Key] = getAllValues(softwareEnumContext, FILLED)	
	return fesuit	
	(in the set of the set	
	<pre>categotyEndmoontext.field = ticket.getField(bacdyrefDutUontext.Key) bacdgraphumContext field = ticket.getField(bacdyrefDutext.key)</pre>	-
	A A A A A A A A A A A A A A A A A A A	
[CM_Administration]		
		 _

Fig. 13: ConSol*CM Admin-Tool - Dependent Enum Script

The *Dependent enum* script is assigned to the custom field group where it is required.

Edit group	x				
i Manage data and locales for group.					
Group details					
Name: helpdesk_standard					
For all queues:					
Dependent Enum Scripts					
Assigned scripts	Available scripts				
Assigned	Available 🔺				
categoriesHardAndSoftware					
Locale Val	ue				
English(default) Helpdesk standard German Helpdesk standard					
Polish					
	OK Cancel				

Fig. 14: ConSol*CM Admin-Tool - Assign Dependent Enum Script to Custom Field Group

In the Web Client the engineer only sees the sub-list of the value selected in the first level list.

New Tick	et				
T	Printer does not	work			*
	Queue:	HelpDesk 1st Le	Assigned to:	Unassigned	
	Priority	nomal 💌	Module	misc 💌	
	Reaction time			Ask for feedback	
	Category	Hardware 💌	hardware	Printer 💌	
			categories		

Fig. 15: ConSol*CM/Web Client - Sub-List of Category Hardware
P	Problems with M	IS/Office				*
	Queue:	HelpDesk 1st Le	Assigned to:			
F	Priority Reaction time		Module	Ask for feedback		
	Category	Software 💌			software categories	Office 🗨

Fig. 16: ConSol*CM/Web Client - Sub-List of Category Software

Scripts of Type E-Mail

Scripts of this type are used for several functionalities. Some of the scripts are part of the default system configuration and have to be modified according to the customer-specific system configuration. You can also add your own scripts.

E-Mail Scripts for the Processing of Incoming E-Mails

When an e-mail is received by ConSol*CM, it is processed by several scripts, see following figure.



Fig. 17: ConSol*CM Admin-Tool - E-Mail Scripts

• IncomingMailRouting.groovy

Standard script. This is the first script that is executed when an e-mail comes in. Here, it is decided if a new ticket has to be created or if the e-mail concerns an existing open ticket (then *AppendToTicket.groovy* is executed) or if it concerns a closed ticket (then *MailToClosedTicket.groovy* is executed). This script does not require any changes to adapt it for a customer-specific environment.

CreateTicket.groovy

Standard script which is responsible for the creation of a ticket when an e-mail has been received in one of the ConSol*CM-configured mailboxes (see section File Card E-Mail for details). When the ticket subject does not match the regular expression for appending the e-mail to an existing ticket, this script is performed. All e-mails which are received by ConSol*CM (and have not been assigned to an existing ticket) are processed here, no matter from which mailbox they have been collected. In the script, the default queue for incoming e-mails has to be defined, more values of custom fields can be defined (like e.g. the default priority for e-mail tickets). Or decisions can be made in which queue the new ticket should be created, depending on the *TO* address or other parameters. So usually, this script has to be adapted heavily. Please ask a CM consultant for support concerning this task.

AppendToTicket.groovy

Standard script which is responsible for appending an e-mail to a ticket that already exists. The assignment of the e-mail to the ticket is performed using the comparison between the ticket subject and the required regular expression. Please see section File Card E-Mail for a detailed explanation of this context. Usually no changes are required for this script.

• MailToClosedTicket.groovy

Standard script which is responsible for handling the e-mail when it concerns a closed ticket. The default system behavior is to create a new ticket for the customer (sender of the e-mail) and to create a reference to the old/closed ticket. So usually, no changes are required in this script.

E-Mail Scripts for Outgoing E-Mails

For every queue, an *E-mail* script can be configured. Please see section Queue Administration for an explanation how to configure this. An e-mail which is written from a ticket in this queue (automatically by the workflow or manually by an engineer) passes through this script before it leaves the ConSol*CM system. So in this *E-mail* script you can change or set queue-specific settings for the outgoing e-mail. A common use case is the setting of a queue-specific *Reply-to* address in order to use team-specific *Reply-to* addresses.

An example of an outgoing *E-mail* script is the following script which is part of the CM default application:

ChangeOutgoingMail.groovy

Standard script that is not in operation but serves as a template for outgoing *E-mai*/scripts. You might want to use them to configure queue-specific *E-mai*/scripts.

Within the outgoing *E-mai*/script, the Java object *mai*/*Entry* is implicitly available as object *mai*/. You have to set all required attributes for the outgoing e-mail using the *mail.setAttribute()* or *mail.setAttributes()* methods.

Example:

```
def queueReplyAddress = "serviceteam@mycompany.com"
// you might also use system properties for the queue-specific e-mail addresses and fetch an
// address using the configurationService!
mail.setAttribute('Reply-to', queueReplyAddress)
```

Common e-mail attributes are:

- BCC
- From
- Reply-to
- To
- CC
- Subject

In case you would like to read a very detailed description of the e-mail format, please refer to RFC 5322.

Scripts of Type Workflow

Scripts of that type are stored in the Admin-Tool, because they are used in numerous workflow scripts, i.e. the code in the Admin-Tool script is needed more than once in one or more workflow(s). It is easier, less error-prone, and less time-consuming to store the scripts at one central location (Admin-Tool) and just reference them in the workflow(s) than to edit the same code at different locations in every workflow where it is used. Furthermore, during workflow development the Admin-Tool script can be modified easily and the change is in operation at once whereas when editing a workflow it has to be deployed first.

Please see the *ConSol*CM Process Designer Manual* for a detailed introduction to workflow programming. A short example will be provided here.

This code in a workflow activity will only reference the script, e.g.:

scriptExecutionService.execute(scriptProviderService.createDatabaseProvider(" initializeEscalationTriggers.groovy"))

CM6 Admin-Tool @ cm6-demo.int.consol.de							
File Views Help							
🕋 🔏 🍢 🍸 🍬 🚉 🗊	🔩 🚍 % 🕲 🕼 💠 🏾 🖸 💽 🌖						
Script and Template Administration							
Scripts Template							
Scripts	Source						
All script types 🗸	import java.util.*						
	import con.consol.cmas.*						
Name Type	1mport com.consol.cmas.common.model.ticket.Ticket						
AppendToTicket.groovy E-mail	import com.consol.cmas.core.*						
ChangeOutgoingMail.groovy E-mail	import com.consol.cmas.core.server.service.*						
CreateTicket.groovy E-mail	import com.consol.cmas.common.model.util.*						
CustomerXXDependentEnum Dependent enum							
IncomingMailRouting.groovy E-mail							
Mail I oClosed I Icket, groovy E-mail Multiple Chaice Dependent Source Dependent on un	log.info("Executing STARTUP initializeEscalationTriggers.groovy ")						
dv Default values							
dv overwrite Default values	der tic = workriowApi.getlicket() =						
initializeExcalationTriggers.groovy Workflow	Date year - new Date()						
	Date now = new Date()						
	// in millisecs:						
	// in miniscls.						
	def time add = 60 * 60 * 1000L						
	def time add = 60 * 60 * 1000L * 2						
	def mycal = businessCalendarService.getByName("My Kalenderl")						
	def tic create date = tic.getCreationDate()						
	def escal date = BusinessCalendarUtil.getBusinessTime(now,time add,mycal)						
	def escal date2 = BusinessCalendarUtil.getBusinessTime(now,time add2,mycal)						
	<pre>if (wfl.equals("SD")) {</pre>						
	//Service Desk Triggers:						
	workflowApi.reinitializeTrigger("defaultScope/SD_GlobalScope/Eskalationstrigger 🗸						
	۲ III ا						
]]						
A Total Administration							

In the Admin-Tool, the respective script is stored:

Fig. 18: ConSol*CM Admin-Tool - Workflow Script

It is also possible to pass parameters (key-value pairs) to the Admin-Tool script. This is explained in detail in the *ConSol*CM Process Designer Manual*.

Default Workflow Activity Script

For certain use cases it might be required to execute a script when a ticket has run through a workflow activity. You might want to use this to display another ticket in the GUI after the workflow activity has been executed. From a user's (engineer's) point of view, the GUI *jumps* to the next ticket. The latter can be a child ticket or another ticket in a list, depending on the use case.

The system behavior is defined in an Admin-Tool script. The name of the script has to be set in the system property *cmweb-server-adapter*, *postActivityExecutionScriptName*, see Appendix C (System Properties).

This script is executed after every *A* workflow activity. That means you have to insert all control mechanisms and *intelligence* into the script:

- After which activity the script should do something? (for all other activities, nothing will happen)
- What should happen?

Example: Jump to the next ticket in a list.

Г. II		ne encourse moder name		н.н.
ш	cmweb-server-adapter	pagemapLockDurationInSeconds	60	ш.
ш	cmweb-server-adapter	postActivityExecutionScriptName	postActivityExecutionHandler	ш.
Ш	cmweb-server-adapter	queuesExcludedFromGS		

Fig. 19: Property for Definition of postActivityExecutionScriptName

ripts		Source*	Source*						
All script types		 import con.consol. 	import com.consol.cmas.common.model.ticket.Ticket						
Name	Type		OGNODO OTONOO OD	OPON DISALOGICO O DICACO	mich nocus data				
AppendTaTicket graavy		if (activity.getNam	e().equals("defav	ultScope/missing part da	ta/jump to sub request")) {				
ChangeOutgoingMail groowy		recurn fingeirst		devata i ti cketi					
CreateTicket groovy			1	,,					
CreateTicketAuta graavu	E-mail	- L'arian and a second							
ITA GenerateStandardPackagesEnumList groovy		if (activity getWe	me() emula("Acf-	ultScope/ready to provi	sion/hack to narent")) {				
TTA_GenerateSubDequests_groovy		- lactivity.getha	methodatat dera	arosope/ready_co_provi	ston/bdox_co_parene // {				
ITA PackageSelection Groovy	Dependent enum		Concentration of the second se	-georgeneoioneo, na	The second se				
ITA_Paguast_Dafaulti/aluas	Default values	- return relations	[0].getSourceTick	.eu()					
TTA_IndateSelectedPackages_groow	Derduit Values								
In A_opualescielleur ackdges.groovy	Workflow		,		data 1				
Importes v to Envon-Snarpstemplatz, groovy	WORKHOW	if (activity.getNa	me().equals("defa	ultScope/ready_to_provi	sion/next_subrequest")) {				
Importraruware.groovy ImportSouicoo groovy		parent = cickets	eracionservice.ge	CBYIICKEC(CICKEC, Rull,	RULL DU DE SUITE DE SUITE				
Importiser vices.groovy		- return findFirst	return findFirstSubRequestThatNeedsData(parent) Check after which a						
nconingmaiikouung.groovy		Check after which							
u iconni igriankouting_ola.groovy					activity there should be n				
main ocrosed nexet, groovy	Described and	//default: return	current ticket		actions				
ServicesHargwareLists.groovy	vepenaent enum	return ticket		Return the ticket					
calculaterriority.groovy									
cleanHardwareList.groovy		def Ticket findFir	at SubDomiestThatN	(and a Date (regTicket) (
cleanServicesList.groovy	1411-0	relations _ tick	atDalationSarria	getBwTicket(regTicket) {	null null)				
deleteCustomersWithoutFickets.groovy	Workflow	- I Fractons = tick	etRelationpervice		nutt, nutt)				
aeletecustomersWithoutTickets_old.groovy	vvorktiow	Ior(subkeqRela	tion in relations						
nitializeEscalation I riggers, groovy		subReq = sub	ReqRelation.getTa	rgetlicket()					
postActivityExecutionHandler		if (subReq.g	etScopeInfo().get	Scope().getName().equal	s("defaultScope/user_data_needed"				
sendEscalation2Mail.groovy		return sub	Req						
setCFGroupVisibility.groovy	Workflow								
setInitialEnumsSD	Detault values	}							
setMailbestaetigungenYes	Default values	}	Method	which should be executed,	called				
setPrioDefault		_111	from coo	de blocks above					
setPrioDefault_HT	Default values								

Fig. 20: ConSol*CM AdminTool - postActivityExecutionScript

22.3 Introduction to Templates in the Admin-Tool

- Introduction to Templates in the Admin-Tool
 - The Admin-Tool Template Editor
 - Working with Admin-Tool Templates
 - System Templates
 - Templates for Definition of Contact Format in GUI
 - Ticket Assignment Templates
 - Custom Defined Templates

In ConSol*CM, several types of templates are used:

- E-mail and text templates Stored either in the *Template Designer* or in the *Script and Template Administration* of the Admin-Tool.
- Non-e-mail templates

(e.g. templates for representation of contact data) Stored in the *Script and Template Administration* of the Admin-Tool only.

In this chapter, the templates in the *Script and Template Administration* of the Admin-Tool will be explained. Please see section The ConSol*CM Template Designer for a detailed introduction to the Template Designer (where e-mail and text templates are created and stored).

Admin-Tool templates are written according to the *FreeMarker* notation (see FreeMarker web site) and should only be edited by experienced ConSol*CM consultants and administrators. A ConSol*CM standard installation already contains system templates and some example templates which might help you as an administrator to define new templates for your special use cases.

22.3.1 The Admin-Tool Template Editor

To work with templates, open the *Script and Template Administration* in the Admin-Tool and switch to the *Templates* file card.

In the templates list, all templates are listed with:

• Name

A template is referenced by its name when it is referenced by other objects.

Group

Groups help you sort the templates in the templates list. They do not have a technical implication.

To open a template in the editor panel, mark it in the list and open it by clicking on the edit button 🖄. Each template must have a name, whereas the group name is optional.

If your system works with various languages, you can define each template for each language. Use the drop-down menu *Language* above the editor panel. According to ConSol*CM standard behavior, the ConSol *CM/Web Client will display the template for the configured locale of the web browser. If there is no template

for this language, the default language will be used. Each template always has to be defined for the default language.

CM6 Admin-Tool @ cm6doku-cm1.int.consol.de		
File Views Help		
🕋 🕺 🦻 🍸 📖 🚉 🗉 🔧	= % 🙆 🔿 🖒 🖸) 🛐 🌖
Script and Template Administration		
Cwinte Template		
Scipis		
Template	Source	
Name Group	Language Englisch 👻	
RegisCustemorEmpiTemplate	<pre>k{ResellerCompany.getFieldValue("ResellerCompanyData","company name")!} \${Resell</pre>	lerCompany. 🔺
CMDbaseCustemerDatale		
CMPhoneCustomer Details remplate		
DisCustCempapy standard template		
Dir Cust Company is tandard - template		
Dir Custoustomer-standard-template		
Reseller Company-standard-template		
Reseller Customer Standal di template		
Reseller customer Emain emplate		
Attachment type error mail template		
maa deu dese mai		
company standard template		
company tideatist template		
customer-standard-template		
amphy letter		
empty letter		
engineer description template name		
engineer profile description template name		
engineer-assigneu-uerauit-mail		
index errer mail template		
representation info email html		
representation info email plain text		
search-company-template		
cearch-customer-template		
cionature		
ticket-mail-example-1		-
ticket-mail-example-?		
J		
[CM_Administration, Workflow_Admin]		

Fig. 1: ConSol*CM Admin-Tool - Template Editor

22.3.2 Working with Admin-Tool Templates

The Admin-Tool templates represent a template pool. Each template can be referenced from different modules of the system and is always referenced by its name. In the following paragraphs, all modules where templates can be used are explained. Within a template the data object group fields and custom fields are referenced by group name and field name, e.g. the company name within the data object group *ResellerCompany* will be referenced as shown in the following example.

\${ResellerCompany.getFieldValue("ResellerCompanyData","company_name")!}

For a detailed explanation of the work with custom fields, please see section Custom Field Administration. Data object group fields are explained in section Setting Up the Customer Data Model.



Do not use line breaks in template statements!

System Templates

A default ConSol*CM installation comes with several system templates. They are used in standard situations like error messages to an administrator. Please see the following list for an overview of the system templates :

• attachment-type-error-mail-template

An e-mail with this template is sent to the e-mail administrator (e-mail address given in system property *mail.process.error*) when the attachment type of an incoming or outgoing e-mail is not supported and thus the e-mail cannot be processed.

- **cmas-dev-close-mail** Not used and will be removed in one of the next ConSol*CM versions.
- engineer description template name Template used to render the engineer label, e.g. ticket owner.
- engineer profile description template name Template used to render the label on a header of the page, next to logout button.
- index-error-mail-template Not used and will be removed in one of the next ConSol*CM versions.
- password-reset-template

Template for the body of the e-mail which is sent when a user requests a password reset (on login page).

- representation_info_email_html
 All e-mails sent by CM6 to the represented engineer are also sent to the representing engineer (see *Global Permissions: Representation Permissions* in section Role Administration). The template is used to configure the text which is added to the forwarded e-mail.
- representation_info_email_plain_text Same as above, as plain text.

Templates for Definition of Contact Format in GUI

The appearance of contact data (e.g. name, phone number, and room number or name and forename only) in different sections of the Web Client GUI can be formatted using templates. The definition has to be made for each data object so that specific templates can be used within each customer group. The configuration of templates for a data object is explained in section Parameters for Data Objects. Section Templates for Customer Data provides a detailed explanation of the templates used for customer data.

In the following example, the contact data within the *ResellerCustomer* data object should be represented in the standard template with first name and name.

CM6 Admin-Tool @ cm6doku-cm1.int.consol.de	
File Views Help	
🕋 🗶 🦤 🍸 💷 🖴 💷	🔩 = % 🕸 🛯 🔇 🖉 🗧 4
Script and Template Administration	
Scripts Template	
Template	Source
Name Group	Language Englisch 👻
BasicCustomerEmailTemplate	<pre><#if ResellerCustomer.getFieldValue("ResellerCustomerData","customer_name")?has_content && 1 *</pre>
CMPhoneCustomerDetailsTemplate	
CMPhoneCustomerListTemplate	
DirCustCompany-standard-template	
Beceller Company standard tamplate	
ResellerCustomer-standard-template	
Reseller Customer EmailTemplate	
Resellercompany-searchresult-template	
attachment-type-error-mail-template	
company-standard-template	
company-ticketlist-template	A III P
[CM_Administration, Workflow_Admin]	

Fig. 2: ConSol*CM Admin-Tool - Example of a Contact Format Definition Template

L	Example of a contact format definition template
	<pre><#if ResellerCustomer.getFieldValue("ResellerCustomerData","customer_name")?has_content && ResellerCustomer.getFieldValue("ResellerCustomerData","forename")?has_content>\${ ResellerCustomer.getFieldValue("ResellerCustomerData","customer_name")!},\${ ResellerCustomer.getFieldValue("ResellerCustomerData","forename")!}<#else> \${ ResellerCustomer.getFieldValue("ResellerCustomerData","customer_name")!}</pre>
	Workgroup tickets (16)



Fig. 3: ConSol*CM/Web Client - Example of a Contact Format Definition Template

Ticket Assignment Templates

In the queue administration (see section Queue Administration), ticket-engineer-assignment templates can be selected. There are templates for the two use cases *assign* and *remove*. The *assign* template (*Assign*) is used as text template for an automatic e-mail, which is sent by the system to the (new) engineer when a ticket is assigned to the engineer. The *remove* template (*Unassign*) is used as text template for an automatic e-mail which is sent by the system to the (old) engineer when a ticket has been removed from the engineer. You have to write and save the templates here in the *Template* section first. Then they will be available in the drop-down menu in the *Ticket assignment templates* section of the queue administration (see section Queue Administration).

	Script and Template Administration										
5	cripts Template										
	Template		Source								
	Name	Group	Language English +								
	attachment-type-error-mail-template	1	Bubject: Ticket #6(ticket.name) assigned to you								
	attachment-type-error-mail-template (1)										
	cmas-dev-close-mail		<pre>djsetting number_formate"0.#######//></pre>								
	company-standard-template		The ticket #f(ticket.name)								
	contact-ticketlist-template										
	customer-standard-template		"s(ticket.subject)"								
	empty letter										
	engineer description template name		has been assigned to you by <#if engineer exec7724(engineer exec.name) #else the workflow #if <#if engineer old??>(former engineer: f(engineer old,name)) #else (no former engineer) #if								
	engineer profile description template name										
	engineer-assigned-default-mail		Please take care.								
	engineer-removed-default-mail										
	index-error-mail-template		IRL: http://localhost:8080/cm-client/ticket/name/6(ticket.name)								
	password-reset-template		oral requiring contactor or or or a called or								
	representation_info_email_html										
	representation_info_email_plain_text										
	search-company-template										
	search-customer-template										
	signature										
	ticket-mail-example-1										
	ticket-mail-example-2										

Fig. 4: ConSol*CM Admin-Tool - Example of an E-Mail Template for Ticket Assignment to an Engineer

Edit queue					23
Edit queue j Please edit the queu	ie's data.				
Details					
Queue:	HelpDesk_1st_Level		Workflow:	helpdesk1	
Prefix:			Calendar:		•
FAQ:			Enabled:		
Ticket assignment temp	olates				
Assign:	engineer-assigned-default-mail	•	Unassign:	engineer-removed-default-mail	•
Cuipto	r				
E-Mail script:		•			
Default values script:	dv	•			
Other					
Description:					•
Custom fields Cust	omer groups Classes of text Projects				
Assigned 🔺		Available 🔺			
feedback		dependent_enum			
helpdesk_standard		faq			
qualification		sales standard			
workaround					
		1			
	\Rightarrow				
				Sava	Cancel
					Cancer

Fig. 5: ConSol*CM Admin-Tool - Configuration of a Ticket Assignment Template for a Queue

Custom Defined Templates

A ConSol*CM administrator or workflow developer can define any template that is required and store it in the *Script and Template Administration*. When you use it in automatic e-mails which are sent by a workflow activity, you can always use the workflow API *renderTemplate()* method to reference a template. However,

most e-mail templates should be managed using the Template Designer (see section The ConSol*CM Template Designer). There are only very few use cases which might require that e-mail templates or parts of e-mail templates have to be stored in the *Script and Template Administration* of the Admin-Tool.

23 CM6 Administrator Manual 6.9 - Working with Text Templates

23.1 Working with Text Templates

Text templates are pre-defined texts which an engineer can open and either use as-is or modify. Text templates may be used for e-mails where text, headers, and footers can be specified. Another example are documents which have to be edited using MS Word.

In both cases, the templates do not offer only texts but certain data fields can also be pre-filled with data from the ticket, e.g. customer name or ticket subject.

ConSol*CM includes two modules which provide text templates:

• The *Template Designer* for editing and managing e-mail templates (see section The ConSol*CM Template Designer)

and

• *CM/Office* for editing and managing MS Word templates (see section CM/Office).

23.2 The ConSol*CM Template Designer

- The ConSol*CM Template Designer
 - Introduction to the Work with E-Mail and Ticket Text Templates
 - E-Mail Templates
 - Why E-Mail Templates?
 - E-Mails in ConSol*CM
 - Ticket Text Templates
 - Why Ticket Text Templates?
 - Ticket Text Templates in ConSol*CM
 - E-Mail and Ticket Text Templates in ConSol*CM
 - E-Mail and Ticket Text Template Components
 - Storage and Management of E-Mail and Ticket Text Templates
 - E-Mail Templates
 - Ticket Text Templates
 - Introduction to the Template Designer
 - Work with the Template Designer
 - Basic Template Designer GUI: The Template Library
 - Filter
 - Context
 - List
 - Create a New Template
 - Create a New Letter
 - The Library of Markers
 - Create a New Include or Workflow Include
 - Create New Text Blocks
 - Create and Use a Script
 - Binding Templates to Queues or to Specific Parameters
 - Hard and Soft Binding
 - Migrating Templates from CM Version 6.8 and Less to CM Version 6.9 and Up
 - Page Customization for E-Mail Template Functionalities

23.2.1 Introduction to the Work with E-Mail and Ticket Text Templates

Using the Template Designer, two types of templates can be defined:

- E-mail templates for e-mails written from the ConSol*CM system
 - manual e-mails (written by an engineer using the Ticket E-Mail Editor)
 - automatic e-mails initialized by the system (e.g. sent by a workflow script when a certain workflow activity is executed)
- Text templates for ticket texts
 - during ticket creation

• during ticket editing

E-Mail Templates

Why E-Mail Templates?

When a system works with e-mails, several criteria have to be considered. If all those requirements are met, e-mail templates are a very helpful tool in every-day working life.

- The e-mails have to have a strictly defined layout, usually according to a company's CI (corporate identity).
- The texts have to follow the company's letter/text guidelines.
- Texts that are used very frequently have to be provided by templates in order to save time and to avoid typos and other errors while typing the text.
- Customer-, system-, and engineer-specific data have to be integrated into the text.
- The template management should be performed by an administrator and/or power user. No system configuration by the software company should be required.

ConSol*CM provides the function set to take all those criteria into consideration.

E-Mails in ConSol*CM

E-mails are used for core functionalities in ConSol*CM. Those functionalities have been described in detail in chapter File Card E-mail, so here, only a short review is given.

ConSol*CM can receive and send e-mails. Sending e-mails can serve various purposes:

• An engineer writes an e-mail directly from the ticket, using the Ticket E-Mail Editor.

This can be an e-mail to the customer, to a co-worker, or to any other person with a valid e-mail address. Often, there are standard texts which are used every day for several recipients. To avoid typing the same text over and over again, ConSol*CM offers e-mail templates. These are text templates where parameters like customer name, ticket number or engineer name and phone number can be integrated. When the template is used, the system fills in the parameters automatically with the valid data from the current ticket. The engineer can add more text or modify the text as required, so e-mail templates are not static but dynamic.

E-mails which are sent manually either do not use a template or are based on a template from the *Template Designer*. Templates from the *Script and Template Administration* of the Admin-Tool are not available here.

• The system sends an e-mail automatically.

This can be an internal e-mail like a reminder for an engineer when the ticket has entered the escalation status or an internal e-mail to a supervisor when a ticket needs approval to be continued. Or it can be an external e-mail to the customer like a confirmation of receipt or a notice that a ticket has been solved. The e-mail is generated automatically based on the respective e-mail template. This can be an e-mail template from the *Template Designer* or from the *Script and Template Administration* of the Admin-Tool.

Ticket Text Templates

Why Ticket Text Templates?

Using ticket text templates, i.e. predefined text segments you can access when you create or edit a ticket, serves several purposes:

- You as ticket engineer save a lot of time by not typing the same text over and over again.
- You do not risk forgetting important points (e.g. in questions for a pre-qualification when you talk to your customer on the phone).
- You do not have to worry about typos.
- You do not have to look up ticket and/or customer data, because all data is integrated into the text automatically.

Ticket Text Templates in ConSol*CM

Ticket text templates are defined very similar to e-mail templates. Only the *Used within* parameter is set in a different way.

Attention:

Technically, there is no difference between e-mail and ticket text templates! So for each template you as an administrator can decide if the template should be used as ticket text template, as e-mail template, or both.

E-Mail and Ticket Text Templates in ConSol*CM

E-Mail and Ticket Text Template Components

In e-mail and ticket text templates in ConSol*CM you can use free text and all data that is available for a customer, an engineer, and/or the ticket. In section The Library of Markers all available components will be explained.



Fig. 1: ConSol*CM - Availabe Components / Data for E-Mail Templates

Please refer to the *ConSol*CM User Manual* section *Creating a New Ticket, Editing a Ticket*, and *Writing E-Mails from a Ticket* for a detailed description how to use the ticket editing functionalities and the Ticket E-Mail Editor.

Storage and Management of E-Mail and Ticket Text Templates

E-Mail Templates

E-Mail templates are stored and managed at two different locations in ConSol*CM:

- 1. In the Template Designer
- 2. In the *Script and Template Administration* of the Admin-Tool (this will not be treated here, but in the respective section of this manual; see Admin-Tool Templates)

Ticket Text Templates

Ticket text templates are stored and managed at two locations in ConSol*CM:

- 1. In the Template Designer (here, ticket text templates are managed)
- 2. In the *CM/Office Designer* (here, MS-Word documents can be stored for use with CM/Office, see section CM/Office)

23.2.2 Introduction to the Template Designer

The ConSol*CM Template Designer is a Web Client-based tool for the creation and management of e-mail and ticket text templates. See section Work with the Template Designer.

	Manage templates	Manage Word templates									All customer gro
	Templates										New
	Template I	brary									
	Filter										
	Active										
	For Ch queue	oose One 💌									
la l	Used Ch within	oose One 💌									
	Context										
	1. None	None 🕶									
	2. Non	•									
	Group	Template	Language	Туре	None	None	Usage	Used within workflow	Used within email	Used within ticket create	Used within ticket edit
	Rückfrag	e Catalogue 1 0.0.1 👻	en	Text Block			0	no	yes	yes	yes
	Rückfrag	e Catalogue2 0.0.1 -	en	Text Block			0	no	yes	yes	yes
	Rückfrag	e Katalog PC 0.0.1 -	de	Text Block			0	no	yes	yes	yes
	Vertrag	New offer 0.0.1 💌	de	Text Block			0	no	yes	yes	yes
	Werbung	New products 0.0.1 -	en	Text Block			0	no	yes	yes	yes
	general	SalutationScript 0.0.1	en	Script			0	yes	yes	yes	yes
	allgemein	Signatur Company 0.0.1 -	de	Include			0	no	yes	yes	yes
	allgeme	n Signatur standard (E-mail standard) 0.0.1 🔻	de	Letter				no	yes	no	no

Fig. 2: ConSol*CM/Web Client - Template Designer

Every user who has been assigned a role with the permission *Write template* can access the item *Manage templates* (which opens the Template Designer) in the main menu.

CM6 Admin-Tool @ localhost	
File Views Help	
🕋 🗶 🔖 🍸 🍬 🖴	💷 🔧 🚍 🔕 🚳 🔇 🖸 🌖
😼 Role Administration	
Roles 6 roles Filter: All queues Name CM_Administration Kontaktmanager ServiceQueue SpamAdmin Templatemanager Workflow_Admin Workflow_Admin	Queue Permissions Global Permissions Lustomer Group Permissions Engineer Functions Global Permissions Administrate Views Engineer Functions Administrate Workflow Permissions Image: State St
[CM_Administration]	

Fig. 3: ConSol*CM Admin-Tool - Permissions for Role Templatemanager

Consulting Best Practice:

We recommend to create a role (*e.g. Templatemanager*) that has only the permission *Write template*, no queue permissions or other permissions are granted. Every user who should have access to the Template Designer can be given this role. That way, there is no merge between regular user permissions and Template Designer permissions and you can grant and retrieve the template manager permission in a very flexible way.

When the permission has been granted, the user has access to the main menu item Manage templates.



Fig. 4: ConSol*CM/Web Client - Main Menu with Template Designer Access

23.2.3 Work with the Template Designer

Basic Template Designer GUI: The Template Library

When you open the Template Designer, the Template library is displayed:

Templates											New			
	Template libr	rary												
	Fiter													
	Active													
	For													
	queue Choo	se One												
	Used Chee													
	within Crioo	se one												
	Context													
	2 None	•												
	~ None	*												
	Group	Template	Language	Туре	None	None	Usage	Used within workflow	Used within email	Used within ticket create	Used within ticket edit			
	Vertrag	Ablehnung, Vertrag abgelaufen 0.0.1 💌	en	Letter			0	no	yes	no	no			
	Vertrag	Annahme, Vertrag abgelaufen 0.0.1 💌	de	Letter			0	no	yes	no	no			
	allgemein	Begrüßung 0.0.1 🔻	de	Include			0	no	yes	yes	yes			
	Rückfrage	Catalogue 1 0.0.1 💌	en	Text Block			0	no	yes	yes	yes			
	Rückfrage	Catalogue2 0.0.1 🔻	en	Text Block			0	no	yes	yes	yes			
	Rückfrage	Erinnerung 0.0.1 💌	de	Letter			0	no	yes	no	no			
	Rückfrage	Initiale Rückfrage 0.0.1 💌	de	Letter			0	no	yes	no	no			
	Rückfrage	Katalog PC 0.0.1 V	de	Text Block			0	no	yes	yes	yes			
	general	MyNewtemplate 0.0.1 -	en	Letter			0	no	yes	no	no			
	Vertrag	New offer 0.0.1 💌	de	Text Block			0	no	yes	yes	yes			
	Werbung	New products 0.0.1 -	en	Text Block			0	no	yes	yes	yes			
	annoral	Droquelify Tomolate 0.0.4 -		Lottor			0							

Fig. 5: ConSol*CM/Web Client - Template Designer GUI

A list of all existing templates is shown.

Filter

You can filter the displayed list entries by using the filters in the upper part of the page:

• Active

Only active templates are displayed (i.e. deactivated templates will not be seen).

• For queue

Only templates which have been assigned to the selected queue will be displayed. Only one queue can be selected. The display of templates which have not been assigned to a certain queue will not be affected here. They will be displayed.

• Used within

Only the templates of the selected type will be displayed, i.e. e-mail, workflow, ticket texts (creation or editing). Only one type can be selected.

Context

This provides another kind of filter. Here you can select ticket data. For each selected criterion, one of the columns named *none* in the list will be named according to the selected parameter. For the templates where the selected custom fields are used, this will be indicated in the list.

List

The list contains the following columns. It can be sorted according to a column by clicking on the column header. Another click will reverse the display order.

• Group

The group of a template does not have any technical or functional implications, it is only used to order the list in a certain way, i.e. to group templates with a common context.

• Template

The template name. This is also used in workflows to indicate the required template and it is displayed in the Ticket Editor in the template selection.

• Language

The language that has been selected during creation of the template (can be modified). The web browser of an engineer will display the template according to the browser locale. So when you need a template in different languages, make sure to set this value correctly.

• Type

There are five different types of templates which will be explained in detail in the subsequent sections:

• Letter

This is the basic form of a template. *Letter* templates are offered in the Ticket E-Mail Editor and can be used as workflow e-mail templates. All other template types are only sub-components of a *letter*.

Include

This is a sub-component of a *letter* which can be used in *letters*. In this way, you can use the same text in several templates. A typical example is the signature of a company which is used in every other template. The signature should be defined as *include* and then be integrated in all other (*letter*) templates where the signature is required. Thus, the template administrator has to maintain the signature at exactly one location and can be sure that it is used in every other template correctly.

Workflow Include

This is the same as an *include* but used only for workflows.

Text Block

This is also a sub-component of a *letter*. It can be checked or unchecked during the writing of e-mails, i.e. the text will be displayed or not. A good example is the first analysis in a help desk team where the same questions are sent to every customer. One text block can contain hardware questions, one software questions. Depending on the purpose of the e-mail, the engineer uses either one.

• Script

This template type is only available for administrators (i.e. a user who logs into the Web Client using an administrator account). Here, *intelligent* templates can be constructed like a template that sets *Dear Sir* for a male and *Dear Madam* for a female customer, depending on the value of the field *salutation*.

• Context (here None)

Can be used to define dependencies or conditions (e.g. field values). Only when the condition is met the template is offered in the Web Client GUI, e.g. the template is only offered for tickets with high priority.

• Usage

Indicates how often the template is used.

• Used within workflow

Boolean. A template can be marked as *workflow template*. Then it is not available in the Ticket E-Mail Editor but can only be used by the workflow for automatic e-mails.

Used within email

Boolean. All templates which have been marked as Available in Email will be marked yes.

Used within ticket create

Boolean. All templates which have been marked as Available in Ticket create will be marked yes.

• Used within ticket edit

Boolean. All templates which have been marked as Available in Ticket edit will be marked yes.

For every template you can select an operation by using the context menu:

ServiceDeskTemplates	Pre-qualify questions 0.0.1	▼ en
general	Prequalify Template 0.0.1	Edit
general	SalutationScript 0.0.1 💌	Disable
allgemein	Signatur Company 0.0.1 🤜	Delete
allgemein	Signatur standard (E-mai	Clone
general	TEST 0.0.1 💌	Use as e-mail standard
general	receipt_notice_ServiceDesk	Use as comment standard

Fig. 6: Template Designer - Context Menu of a Template

• Edit

Edit the template. The same functionalities as described for creating a new template are available.

Disable

(or Enable for disabled templates)

Only enabled (= active) templates are active and available in the system.

Delete

Delete the template. This is not possible when the template is used by a workflow or when an *include* or *text block* is used in other templates (*letters*).

Clone

Create a copy of the template. A new name is required in this case.

• Use as e-mail standard

(or **Unset standard** for the current standard template)

Only one template can be marked as standard e-mail template. This will be automatically inserted into any e-mail that is opened in the Ticket E-Mail Editor. It can then be removed by the engineer or used in the e-mail. Usually a signature or footer is defined as standard template.

• Use as comment standard

(or **Unset standard** for the current standard template)

Only one template can be marked as comment standard template. This will be automatically inserted into a comment that is opened in the Ticket Comment Editor. It can then be removed by the engineer or used for the comment.

Information:

A standard template must not contain text blocks or variables.

Create a New Template

Here, an example for an e-mail template is shown. The same principle can be applied to ticket text templates

Create a New Letter

To create a new template, click on the *New* link in the Template Designer GUI. In the GUI, you can enter all parameters for the new template. In our first example, a *letter* is created which serves as confirmation of receipt for the customer. It can be automatically sent from the workflow or be used in the Web Client.

Template	•	
	Details	
	Title	receipt_notice_ServiceDesk *
	Group	ServiceDeskTemplates <a>Add new group
	Release	
	Languaga	
	Language	
	Active	
	Type	Letter
	Available in	'Email'
	BODY	
	DI	
	<u>в т</u>	2 ↔ = = = DIV (default) ♥ Font Family ♥ Font Size ♥ A ♥ _ ♥
	X ² X ₂	E E # # 🗹 🗇 🗉 ¥ 🖻 A % & 4 3° 🎟 💷 O 🥥 🖳
	Dear [sa	lutation] [Acad. title][Lastname],
		environd using an environ (Could and 1, 14 is transfer with souther (Marcoll
	We have We will ge	et back to you as soon as possible.
	[Signatu	r Company (en)]
		<i>l.</i>
	Library of	markers
	Ticket	► A Begrüßung (de)
	Engineer	 Signatur Company (en)
	Additional p	varameters
	Includes	• • • • • • • • • • • • • • • • • • •
	Text blocks	
	Workflow i	ncludes
	Scripts	• •
		Add parameter Insert

Fig. 7: ConSol*CM/Web Client - Create a New Template

• Title

The name of the template.

• Group

The group (see previous section). You can either use an existing group or create a new one.

Release

If you want to set up a versioning system for the e-mail templates, you can set the release, i.e. version, here.

• Language

Choose the language of the template. This can be important, if you work in an international team. ConSol*CM can be used in as many languages as required, this can be configured using the Admin-Tool and in the Process Designer. To make sure the e-mails are sent in the correct language, the corresponding locale has to be set here.

• Active

Select if the template should be active (= enabled) or inactive (disabled). This can be changed later, so you can design a template and work on it and set it *active* when you are finished.

• Type

Select the type (letter, include, text block, script) of the template. See previous section for explanation

Available in

• Workflow

Select if the template should be available in workflows (i.e. not available in the Ticket E-Mail Editor).

• Email

Select if the template should be available in e-mails.

• Ticket create

Select if the template should be available during ticket creation.

• Ticket edit

Select if the template should be available when the ticket is edited.

• Body

Here you define the content of the template/letter. You can combine any free text and components of the *Library of Markers* (below the body, see section The Library of Markers for details). Write the text and select the desired element from the library by clicking on it and by pressing *Insert*.

• Binding

Here you can define one or more

- queue(s)
- context(s)

where the template should be available, see section Binding Templates to Queues or to Specific Parameters for details.

In the Web Client GUI, i.e. in the Ticket E-Mail Editor, the template *receipt_notice_ServiceDesk* would have the following layout:

New E-m	ail					
	show Cc show Bcc					
To:	" Pepper," <g.pepper@berkl< th=""><th>ey-consulting.com></th><th></th><th></th><th></th><th></th></g.pepper@berkl<>	ey-consulting.com>				
Reply-To:	cmdoku1@consol.de					
Subject:	Ticket (100262) Internet doe	s not work				
Template	receipt_notice_ServiceDe	esk 🔻				
_						
Dear M	Irs Pepper,				*	
Dear N	Irs Pepper,			TE (- 6		
Dear M we hav	Irs Pepper, /e received your request (concerning Internet do	es not work.	It is treated with	n *	
Dear M we hav numbe We will	Irs Pepper, ve received your request of r 100262. I get back to you as soon	concerning Internet do as possible.	es not work.	It is treated with		
Dear M we hav numbe We will	Irs Pepper, re received your request or r 100262. I get back to you as soon	concerning Internet do as possible.	es not work.	It is treated with		
Dear № we hav numbe We will	Irs Pepper, ve received your request or r 100262. I get back to you as soon	concerning Internet do as possible.	es not work.	It is treated with		
Dear M we hav numbe We will Best re	Irs Pepper, re received your request or r 100262. I get back to you as soon egards,	concerning Internet do as possible.	es not work.	It is treated with		
Dear M we hav numbe We will Best re	Irs Pepper, ve received your request of r 100262. I get back to you as soon egards, ServiceDesk	concerning Internet do as possible.	es not work.	It is treated with		
Dear M we hav numbe We will Best re Susan	Irs Pepper, ve received your request of r 100262. I get back to you as soon egards, ServiceDesk	concerning Internet do as possible.	es not work.	It is treated with		
Dear M we hav numbe We will Best re Susan ConSol	Irs Pepper, ve received your request of r 100262. I get back to you as soon egards, ServiceDesk I* Software GmbH	concerning Internet do as possible.	es not work.	It is treated with		
Dear M we hav numbe We will Best re Susan ConSol Franzis	Irs Pepper, ve received your request of r 100262. I get back to you as soon egards, ServiceDesk I* Software GmbH skanerstraße 38	concerning Internet do as possible.	es not work.	It is treated with		
Dear M we hav numbe We will Best re Susan ConSol Franzis 81669	Irs Pepper, ve received your request of r 100262. I get back to you as soon egards, ServiceDesk I* Software GmbH ikanerstraße 38 München	concerning Internet do as possible.	es not work.	It is treated with		
Dear M we hav numbe We will Best re Susan ConSol Franzis 81669 Tel: 08	Irs Pepper, ve received your request of r 100262. I get back to you as soon egards, ServiceDesk I* Software GmbH skanerstraße 38 München 19 / 45841- / Fax: -111	concerning Internet do as possible.	es not work.	It is treated with		
Dear M we hav numbe We will Best re Susan ConSol Franzis 81669 Tel: 08	Irs Pepper, ve received your request of r 100262. I get back to you as soon egards, ServiceDesk I* Software GmbH skanerstraße 38 München 19 / 45841- / Fax: -111	concerning Internet do as possible.	es not work.	It is treated with		

Fig. 8: ConSol*CM/Web Client - E-Mail Template in Ticket E-Mail Editor

The Library of Markers

The Library of Markers provides a collection of all data fields that are available in the system. These are:

• Default fields

Like *queue* or *engineer* with all corresponding data like *queue name* or *engineer forename* or *engineer lastname*.

- Ticket custom fields and/or data object group fields That have been designed specifically for the system like e.g. *customer service number*.
- Components of the Template Designer That are used in other components, e.g. *includes* or *workflow includes*.
- Scripts That have been defined by an administrator and can help provide content in a dynamic way.

The following table provides examples for fields that could be found in a system. The names displayed in the Library of Markers are the localized names of the custom fields resp. of the data object group fields. If no

localization is provided, the (technical) field name is displayed. If you would like to re-read the information about custom fields, please refer to chapter Custom Field Administration. For data object group fields (i.e. customer data), see section Setting Up the Customer Data Model.

Field Group or Main Component	(Example) Custom Field Resp. Data Object Group Field	Explanation
Customer data models		<entry all<br="" for="" point="">customer-specific fields></entry>
Customer data models	Customer groups	<entry all<br="" for="" point="">customer-specific fields of the selected customer group></entry>
<customer company="" or=""></customer>	Salutation	
	Academic title	
	Forename	
	Lastname	
	Phone	
	Email	
	<more depending="" fields="" on<br="">FlexCDM definition></more>	
Customer Group	Name of the customer group	
Queue	Name	The name of the queue where the ticket is being processed at the moment
Custom fields for queue	All custom fields of custom field groups that have been assigned to the queue	
Ticket	ID	The internal ticket ID, not displayed in the Web Client GUI
	Name	The ticket name, the <i>ID</i> in the Web Client GUI
	Subject	
	Engineer	The current engineer who owns the ticket. Can be <i>NULL</i> (empty) i f no engineer is set.
	Creation Date	Opening date of the ticket

Field Group or Main Component	(Example) Custom Field Resp. Data Object Group Field	Explanation
Engineer	Login	The login of the engineer who is currently logged into the system
	Firstname	First name, last name, e-mail of
	Lastname	the engineer, be sure that the
	Email	respective field has been filled in the engineer data, see chapter Engineer Administration for details about engineer management.
Includes	<all available="" includes=""></all>	
Text Blocks	<all available="" blocks="" text=""></all>	
Workflow Includes	<all available="" includes="" workflow=""></all>	
Scripts	<all available="" scripts=""></all>	

Attention:

In case customer-specific fields are used in a template, this template will only be offered when the ticket is assigned to a customer from the respective customer group!

Since data object group fields differ between customer data models, it might be necessary to define a similar template for several customer groups.

By clicking on *Add parameter* you can define a field where the engineer has to fill in data at run-time. When you have defined the field, it will be available under *Additional parameters*.

B I <u>U</u> S ≣			DIV (default) V Fon	nt Family 🔻 Fo	ont Size		• <u>A</u> •	~
$\mathbf{x}^2 \mathbf{x}_1 \mid = \frac{1}{2} = \mathbf{x} $			1 = = = + = _			910		1
				n m += =		- •		•
Dear [salutation] [Acad. title][Lastname],								
we have received your request concerning [Subject]. It is treated with number [Name]. We will get back to you as soon as possible.			e].					
Signatur Company	/ (en	01						
Library of markers								
Library of markers Ticket	•	•	Begrüßung (de)			*		1
Library of markers Ticket Engineer	ŀ	*	Begrüßung (de) Signatur Company (en)			*		1.
Library of markers Ticket Engineer Additional parameters	•	*	Begrüßung (de) Signatur Company (en)			*		
Library of markers Ticket Engineer Additional parameters Includes		•	Begrüßung (de) Signatur Company (en)			*		1
Library of markers Ticket Engineer Additional parameters Includes Text blocks)))	* III	Begrüßung (de) Signatur Company (en)			*		li
Library of markers Ticket Engineer Additional parameters Includes Text blocks Workflow includes		* 	Begrüßung (de) Signatur Company (en)			*		1

Fig. 9: ConSol*CM/Web Client - Template Designer: Add Parameter in Library of Markers

B I <u>U</u> S ≣	🖀 📑 📄 DIV (default) 🔻 Font Family 💌 Font Size 🔍 🕂	~_~ *
$\mathbf{x}^2 \mathbf{x}_2 \mid \Xi \stackrel{\scriptscriptstyle \pm}{\equiv} \mid \blacksquare$	i≇ 🖬 🖽 🖼 Ψ 🗲 📲 🐜 🔩 3° 🖼 🛄 Ω 🥥	B
Dear [salutation] [/	Acad. title][Lastname],	
we have received you We will get back to yo	r request concerning [Subject]. It is treated with number [Na u as soon as possible.	ime].
We will call you back	at [CallBackDate]	
[Signatur Company	(en)]	
[Signatur Company	(en)]	
[Signatur Company	(en)]	<u>l</u> e
[Signatur Company Library of markers Type of markers	r (en)]	le le
[Signatur Company Library of markers Type of markers Customer data models	(en)]	1
[Signatur Company Library of markers Type of markers Customer data models Customer Group	(en)]	1,
[Signatur Company Library of markers Type of markers Customer data models Customer Group Queues	r (en)]	
[Signatur Company Library of markers Type of markers Customer data models Customer Group Queues Queue Custom Fields	(en)]	1
[Signatur Company Library of markers Type of markers Customer data models Customer Group Queues Queues Queue Custom Fields Ticket	r (en)]	1

Fig. 10: ConSol*CM/Web Client - Template Designer: Library of Markers After Adding Parameter

When the engineer opens the Ticket E-Mail Editor in the ticket and enters data in the field (here *CallBackDate*), the (new) data is automatically written into the field in the template.

Comment	E-Mail	Attachment	Time booking
New E-ma	il a basse Call a basse Daa		
-		le .	
10:	Pepper, <g.pepper@berkie< td=""><td>y-consulting.com></td><td></td></g.pepper@berkie<>	y-consulting.com>	
Reply-To:	cmdoku1@consol.de		
Subject:	Ticket (100262) Internet does	not work	
Template	receipt_notice_ServiceDes	sk 🔻	
	Additional paramotoro		
	CallBackDate August 1, 2014	4	
Dear Mr	s Pepper,		<u> </u>
we have	received your request	opeoming Internet dev	as not work. It is tracted with
number	100262.	oncerning Internet do	es not work. It is treated with
We will g	get back to you as soon	s possible.	=
we will o	all you back at August 1	. 2014.	
Best reg	ards,		
Susan	ServiceDesk		
 ConCold	Software Ceebl		
Franzisk	anerstraße 38		
81669 M	lünchen		·

Fig. 11: ConSol*CM/Web Client - Ticket E-Mail Editor: Enter Data for New Parameter

Create a New Include or Workflow Include

An *include* is a template that cannot be selected by the engineer directly (in the Ticket E-Mail or Comment Editor) but a component which is integrated in other e-mail or ticket text templates, mostly in *letters*.

A standard use case for an *include* is the signature, so we will show you the corresponding example. In order to define the standard company signature, define a signature as *include* and integrate it into the standard company signature which is a *letter*.

New Template
Details
Title Signature_Company *
Group general Add new group
Release 0.0.1 * + + +
Type Include
Is Workflow
Body
B I U S ≡ ≡ ≡ □ DIV ▼ Font Family ▼ Font Size ▼ A ▼ ▼
X A2 = = # # # 2 ⊡ ⊡ ⊡ # = * =* m* *m Pa ∃ ⊞ ⊡ M ⊌ K5
Kanzlerstr. 8
40472 Düsseldorf
Fax: 0211/339903-111
http://www.consol.de
library of markers
Customer Group
Queues Name
Custom fields for queue
Ticket Crastice date
Engineer Escalation date
Additional parameters
Add parameter Insert
OK Cancel

Fig. 12: ConSol*CM/Web Client - Template Designer: Signature Include

Template	
Details	
Title	Standard_Signature *
Group	general Add new group
Release	0.0.1 * +++
Language	English
Active	
Туре	Letter
ls Workflow	
body	
B I <u>U</u>	J 😌 臣 臣 彊 📕 DIV (default) 🔻 Font Family 👻 Font Size 👻 <u> イ</u> マ 🔤
X ² X ₂	目 註 孝 律 🗹 🗃 🗉 🏋 🕂 州 礼 部 🎟 💷 Ω 🥥 🔍
[Signature	e_Company (en)]

Fig. 13: ConSol*CM/Web Client - Template Designer: Standard Signature Letter

If you follow the example, two purposes can be met:

- The *Standard_Signature* can be defined as e-mail standard. In this way it will automatically be displayed for every new e-mail. Of course, the engineer can change the template.
- The *Signature_Company* can be used in any other template if required (compare image of the new template).

Create New Text Blocks

A *text block* is a template that cannot be selected by the engineer directly (in the Ticket E-Mail or Comment Editor) but a component which is integrated in other e-mail or ticket text templates, mostly in *letters*. Usually, several text blocks are offered in one *letter* so that the engineer can select which one(s) to use.

The following example shows how to use three *text blocks* to ask some initial analysis questions to the customer.

First, the *text blocks* are created:

New Templ	ate	
[Details	
	Title	Questions_Software_Browser *
	Group	Service Team Add new group
	Release	0.0.1 * ++++
	Language	English
	Active	
	Туре	Text Block
ŀ	s Workflow	
t	Body	
	В <i>I</i> <u>U</u>	S ≣ ≡ ≡ ■ DIV v Font Family v Font Size v <u>A</u> v v
	X ² X ₂	目 注 録 譯 🖬 🗃 💷 判 🖓 🐂 🎭 評 🎟 🕮 Ω 🥯 喝
	Browser:	
	Version:	

Fig. 14: ConSol*CM/Web Client - Template Designer: Create First Text Block

	New Templ	late	
	I	Details	
		Title	Questions_Software_OS *
		Group	Service Team Add new group
		Release	0.0.1 * ++++
		Language	English
1		Active	
		Туре	Text Block
		s Workflow	
		Body	
		B <i>I</i> <u>U</u>	S = = = DIV ▼ Font Family ▼ Font Size ▼ <u>A</u> ▼ ▼
		X ² X ₂	目 注 幸 幸 🖬 🗇 💷 Ψ 글- ボ 🐂 弐, 🖆 🎟 🕮 Ω 🥯 🔍
		Operating	System:
		Version:	
		Patch:	
		Further inf	ormation:

Fig. 15: ConSol*CM/Web Client - Template Designer: Create Second Text Block

New Temp	late		
	Details		
	Title	Questions_Hardware *	
	Group	Service Team Add new group	
	Release	0.0.1 * + + + +	
	Language	English	
	Active		
	Туре	Text Block	
	ls Workflow		
	bouy		
	в <i>і</i> <u>U</u>	S E E E I DIV V Font Family V Font Size V A v V	*
	X ² X ₂	Ξ Ξ 律 津 🗹 📑 🗔 Ψ 🗦 🖓 🐂 🛬 🗗 🎟 🛅 Ω 🥥 🔍 👘	
	PC or Lapt	top?	^
	Brand:		
	RAM size:		
	# CPUs:		
	Monitor bra	and:	
	Monitor me	odel:	
			-
			1.

Fig. 16: ConSol*CM/Web Client - Template Designer: Create Third Text Block

New Template	
Details	
Title Questions_Analysis_Error *	
Group Service Team 💽 * Add new group	
Release 0.0.1 * + + +	
Language English	
Active	
Type Letter	
Is Workflow	
Body	
B $I \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	*
Dear [Salutation] [Acad. title] [Lastname],	
to analyze the error in the ticket [Name] as fast as possible, please answer the following questions and send us this email as reply.	
[Questions_Hardware (en)]	
[Questions_Software_OS (en)]	
[Questions_Software_Browser (en)]	
Thank you very much in advance. Sincerely, [Signature_Company (en)]	
library of markers	
Custom news for queue A Questions Hardware (en)	
Ticket Questions_Software_Browser (en)	
Additional parameters	
Includes	
Text blocks	
Add parameter Insert	

Then the *letter* is created where the *text blocks* should be used:

Fig. 17: ConSol*CM/Web Client - Template Designer: Create Letter for Text Blocks

In the Web Client, the engineer can then decide which *text blocks* to use and which ones to deactivate:

New E-m	ail	
	show Cc show Bcc	
To:	"Luke Skywalker" duke@localhost>	
Subject:	Ticket (100003) Test 2	
Template	Questions_Analysis_Error 💌	
	Selected text blocks	
	Questions_Hardware	
	Questions_Software_OS	
	Questions_Software_Browser	
Quote	Select entries Entries visible to the customer	
B I	U S = = = I DIV V Font Family Font Size A -	
X ² X ₂	注 注 律 律 🗹 🗃 💷 🏋 🖮 👫 🐂 💷 🗂 💷 🛯 🛛 🕥 🥥 🎩	
Dear M	Ir Skywalker,	-
to ana	lyze the error in the ticket 100003 as fast as possible, please answer the following questions and send us this	
PC or I	Laptop?	
Brand:		
RAM si	ze:	_
# CPU	5:	=
Monito	r brand:	
Monito	r model:	
Operat	ting System:	
Version	1.	
Patch:		
Further	r information:	
Browse	r:	
Version	n:	
		-
		1.

Fig. 18: ConSol*CM/Web Client - Ticket E-Mail Editor: All Text Blocks Selected

To: "Luke Skywaker" duke@locahost> To: Ticket (100003) Test 2 singlet Questions_Analysis_Error ▼ Selected text blocks Questions_Software_OS Questions_Software_Browser Quest Select entries Entries visible to the customer B I I Select entries Entries visible to the customer B I I Select entries Entries visible to the customer B I I Select entries Entries visible to the customer B I I Select entries Entries visible to the customer B I I Select entries Entries visible to the customer B I I Select entries Entries visible to the customer B I I Select entries Entries visible to the customer Dear Mr Skywalker, to analyze the error in the ticket 100003 as fast as possible, please answer the following questions and send us 'email as reply. Operating System: Version: Patch: Environmentation: Browser: Charly Chef Wy Special ConSol* Company Kanzlesthabe 8 04072 Dusselofort		show Coll show Boo
Take of younds Text (100003) Test 2 subject Taket (100003) Test 2 sended text blocks Questions_Analysis_Error ▼ Questions_Software_OS Questions_Software_Browser Quote Select entries Entries visible to the customer B I I S I	To	"Like Skwalker", duke@localhost>
Number: Interact food test blocks Image: Control test blocks <t< td=""><td>Subject</td><td>Ticket (100002) Test 2</td></t<>	Subject	Ticket (100002) Test 2
Analysis _ rror * Clustions_Hardware Cuestions_Software_OS Cuestions_Software_OS Cuestions_Software_Browser B I U S E I I <th>Subject.</th> <th></th>	Subject.	
Questions_Hardware Questions_Software_OS Questions_Software_Browser Questions_Software_Browser Questions_Software_Browser Questions_Software_Browser Questions_Software_Browser Questions_Software_Browser Questions_Software_Browser Quest Select entries Entries visible to the customer B I U S I	emplate	Questions_Analysis_Error V
☑ Questions_Software_Browser Quete Select entries Entries visible to the customer B I U S E E E E E E DIV Font Family Font Size I = I = I = I = I = I = I = I = I = I =		Questions_Hardware Questions_Software_OS
Quote Select entries Entries visible to the customer B I		Questions_Software_Browser
B I U Select entries relatives visible to the customer B I U Select entries relatives visible to the customer R X IE IE IE V Y Font Family Font Size I I V X ² X IE IE IE IE V Dear Mr Skywalker, to analyze the error in the ticket 100003 as fast as possible, please answer the following questions and send us temail as reply. Operating System: Version: Patch: Further information: Browser: Version: Charly Chef My Special Consol* Company Kanzlerstrate 8 My Special Consol* Company Kanzlerstrate 8 40472 Düsseldorf Tel.: 0211/339903-100 Fax: 0211/339903-111 E	Quete	Select entries Entries visible to the sustemen
B I U S I ≡ ≡ ≡ I DIV Font Family Font Size A ⊂ _ ~ x ² X ₂ I ≡ ≡ I ≡ ≡ I I = I = I = I = I = I = I	Guore	
x ² x ₂ ≡ ≡ ;	B 1	US S E E E IDIV ▼ Font Family ▼ Font Size ▼ <u>A</u> ▼ _ ▼
Dear Mr Skywalker, to analyze the error in the ticket 100003 as fast as possible, please answer the following questions and send us email as reply. Operating System: Version: Patch: Further information: Browser: Version: Thank you very much in advance. Sincerely, Charly Chef My Special ConSol* Company Kanzlerstraße 8 40472 Düsseldorf Tel.: 0211/339903-110	x ² X	· E_ E_ ∉ ∉ 🗹 🖽 💷 Ψ ∋· # "h 12 3" 🖼 🕮 Ω 🥥 🖳
to analyze the error in the ticket 100003 as fast as possible, please answer the following questions and send us email as reply. Operating System: Version: Patch: Further information: Browser: Version: Thank you very much in advance. Sincerely, 	Dear	Mr. Skywalker.
Operating System: Version: Patch: Further information: Browser: Version: Thank you very much in advance. Sincerely. 		we the even in the ticket 100002 as fact as possible, places around the following eventions and conduct
Operating System: Version: Patch: Further information: Browser: Version: Thank you very much in advance. Sincerely, 	to ana	aryze the error in the ticket 100003 as fast as possible, please answer the following questions and send us
Operating System: Version: Patch: Further information: Browser: Version: Thank you very much in advance. Sincerely. 	email	as reply.
Version: Patch: Further information: Browser: Version: Thank you very much in advance. Sincerely. 	email	as reply.
Patch: Further information: Browser: Version: Thank you very much in advance. Sincerely, 	email Opera	as reply. ting System:
Further information: Browser: Version: Thank you very much in advance. Sincerely, 	email Opera Versio	as reply. iting System: in:
Browser: Version: Thank you very much in advance. Sincerely, 	opera Versio	as reply. iting System: in:
Version: Thank you very much in advance. Sincerely. 	opera Versio Patch: Furthe	as reply. iting System: in: : :
Thank you very much in advance. Sincerely, 	email Opera Versic Patch Furthe Brows	as reply. Iting System: In: It information: er:
Thank you very much in advance. Sincerely, 	email Opera Versic Patch: Furthe Brows	as reply. in: : er information: er:
Charly Chef My Special ConSol* Company Kanzlerstraße 8 40472 Düsseldorf Tel.: 0211/339903-100 Fax: 0211/339903-111	email Opera Versic Patch Furthe Brows Versic	as reply. iting System: in: : er information: er: in:
Charly Chef My Special ConSol* Company Kanzlerstraße 8 40472 Düsseldorf Tel.: 0211/339903-100 Fax: 0211/339903-111	email Opera Versic Patch: Furthe Brows Versic	as reply. iting System: in: : : : information: er: in:
My Special ConSol* Company Kanzlerstraße 8 40472 Düsseldorf Tel.: 0211/339903-100 Fax: 0211/339903-111	email Opera Versic Patch: Furthe Brows Versic Thank Sincer	as reply. iting System: in: it information: er: in: in: c you very much in advance. ely,
40472 Düsseldorf Tel: 0211/339903-100 Fax: 0211/339903-111	email Opera Versic Patch: Furthe Brows Versic Thank Sincer	as reply. iting System: in: er information: er: in: syou very much in advance. ely,
Tel.: 0211/339903-100 Fax: 0211/339903-111	email Opera Versic Patch: Furthe Brows Versic Versic Thank Sincer Charly My Sp	as reply. iting System: in: er information: er: in: system in advance. ely, / Chef ecial ConSol* Company system 6 2
	email Opera Versic Patch Furthe Brows Versic Versic Thank Sincer Charly My Sp Kanzle 40472	as reply. ting System: tin: trinormation: er: trinormation: er: trinormation: er: trinormation: er: trinormation: er: trinormation: trinormation: er: trinormation: trinormation:

Fig. 19: ConSol*CM/Web Client - Ticket E-Mail Editor: One Text Block Deactivated

Create and Use a Script

Sometimes a system has to have a certain *intelligence* regarding the words and phrases used in e-mail templates, because they are not static but have to be adapted in a dynamic way. A standard example is the use of *Dear Sir* for male customers (salutation = "Mr") and *Dear Madam* for female customers (salutation = "Mrs").

Use cases like this can be covered using *scripts* in the Template Designer.

This can only be realized by a ConSol*CM administrator. When you log into the Web Client as a regular user with template managing permissions, you can define all template types but no *scripts*. In order to be able to select *Script* as template type, you have to log in with an administrator account.

For information about the syntax that is used, please see the following web links:

- FreeMarker
- FreeMarker directives
An example *script* is the following:

Template	
Details	
Title	Salutation_Script_MyCustomerGroup *
Group	general Add new group
Release	0.0.1 * + + +
Language	English custom group-specific fields!
Active	
Туре	Script -
Body	
[#fi salu [#assig [/#if] [#if salu [#if salu [#elsei [#else] \${lastna [#else][<pre>tation != _] n salutation=salutation.name!] hame??] tation??l utation?lower_case = "mr"]Dear Mr. \${title!} f salutation?lower_case = "mrs"]Dear Mrs. \${title!} [Dear Mr./Mrs. \${title!}[/#if] ame},[/#if] bear customer,[/#if]</pre>
	OK Cancel

Fig. 20: ConSol*CM/Web Client - Template Designer: Example Script for Salutation

Please keep in mind that ...

- the values of the fields are the technical values (in the example, the technical value of the field *salutation* is *mr* / *mrs*, the localized value for EN would be *Mr* / *Mrs*). Always use the technical values!
- the fields are the custom fields and data object group fields managed in the Admin-Tool. Please refer to sections Custom Field Administration and Setting Up the Customer Data Model for details.

Templ	
	Details
	Title Info_MyCustomerGroup *
	Group general Add new group
	Release 0.0.1 * + + +
	Language English
	Active 🔽
	Type Letter 💌
	Available in Email
	Body
	X* X₂ := 3= ¥≓ ≦≓ ⊠ ⊡ ⊡ ⊡ Y ∋* m* *m P ₄ 3 * ⊞ ⊡ Ω 🥥 🖏
	[Salutation_Script_MyCustomerGroup (en)]
	thank you for using ConSol*CM.
	[Signatur Company (en)]
	Library of markers
	Ticket
	Additional parameters
	Text blocks
	Workflow includes
	Scripts

The *script* is then integrated into a *letter* template:

Fig. 21: ConSol*CM/Web Client - Template Designer: Insert Script into Letter

In the Web Client, the e-mails are formatted as requested.

Example 1 (for Mrs):

	Customers		
	Main MvCustomer		
<u> </u>	Mrs Gina	Pepper	*

Fig. 22: ConSol*CM/Web Client - E-Mails Formatted by Script (Customer Data, Example 1)

ConSol*CM Administrator Manual (Version 6.9, up to 6.9.3)

Comment	E-Mail	Attachment	Time boo	oking					
New Care									
New E-ma	show Cc show Bcc								
To:	" Pepper," <g.pepper@berkle< th=""><th>y-consulting.com></th><th></th><th></th><th></th></g.pepper@berkle<>	y-consulting.com>							
Reply-To:	cmdoku1@consol.de								
Subject:	Ticket (100262) Internet does	not work							
Template	Info_MyCustomerGroup	•							
Dear Mr	s. Penner.				*				
thank yo	ou for using ConSol*CM.								
Best reg	jards,								
Susan S	ServiceDesk								
 ConSol*	Software CmbH								
Franzisk	anerstraße 38								
81669 M	München								
Tel: 089	/ 45841-/ Fax: -111								

Fig. 23: ConSol*CM/Web Client - E-Mails Formatted by Script (E-Mail, Example 1)

Example 2 (for Mr):

Customers	
Main MyCustomer	
Mr Dieter	Macher *

Fig. 24: ConSol*CM/Web Client - E-Mails Formatted by Script (Customer Data, Example 2)

Comment	E-Mail	Attachment	Time bo	oking	
New E-ma	show Collishow Boo				
To:	" Macher," <macher@stem-ed< th=""><th>lv de></th><th></th><th></th><th></th></macher@stem-ed<>	lv de>			
Penly-To:	cmdoku 1@consol de				
Subject:	Ticket (100262) Internet door	not work			
Subject.	Incket (100262) Internet does	-			
Template	into_mycustomerGroup				
Dear M	r. Macher,				
thank y	ou for using ConSol*CM.				
Reation					
Best re	garos,				
Susan	ServiceDesk				
ConSol	* Software GmbH				
Franzis 81669	kanerstraße 38 München				
Tel: 08	9 / 45841- / Fax: -111				

Fig. 25: ConSol*CM/Web Client - E-Mails Formatted by Script (E-Mail, Example 2)

Binding Templates to Queues or to Specific Parameters

The section *Binding* is the last section on the *Template Designer* page.

For every template you can decide if it should be displayed everywhere without any restrictions (i.e. in every queue and without regarding any parameters) or if it should be bound (= restricted) to specific criteria. This can be ...

- queues
- queue-specific parameters (e.g. display the template only when the priority *high* has been set for the ticket)

You can select queues and/or parameters by selecting a *context*, see the following pictures for examples. Use the "+" button to add more binding parameters or the "-" button to remove existing parameters.

The template should only be displayed in the 1st Level Helpdesk queue:

customer	• •	
Customer Group	•	
Queues	▶ =	
Custom fields for queue	•	
Ticket	•	
Engineer	•	
Additional parameters	-	
Binding		
Binding context		soft
Binding context 1 Queues is HelpDesk 1st Level 💌		soft
Binding context 1 Queues is HelpDesk 1st Level 💌		soft
Binding context 1 Queues is HelpDesk 1st Level The template is available for following queues: HelpDesk 1st Level		soft

Fig. 26: ConSol*CM/Web Client - Show Template for Specific Queue

The template should only be displayed in the 1st Level Helpdesk queue and only if the priority is high.

custo	mer									► ▲	
Custo	omer Gr	oup									
Queu	es									▶ E	
Custo	om field	s for o	luene	e						•	
Ticke	t									•	
Engin	eer									•	
Addit	ional pa	ramet	ers							-	
							Add parameter	r (In	sert	
							(
Dinami	y										
context											soft
context	Queue	s is H	elpDe	esk 1st Level 🔻							soft
context 1 2	Queue None	sisH ▼	elpDe	esk 1st Level 🔻							soft
context 1 2	Queue None Sele	s is H	elpDe nding	esk 1st Level 🔻						×	soft
context 1 2	Queue None Sele e	s is H ect bil	elpDe nding De	esk 1st Level 🔻	•		Helpdesk priorities	•	· ·	low .	soft
context 1 2	Queue None Sele	s is H T ect bin	elpDe nding De Fe	esk 1st Level 👻	•		Helpdesk priorities Department	•		low normal	soft
context	Queue None Sele	s is H	elpDe nding De Fe He	esk 1st Level 💌	• •	^	Helpdesk priorities Department Priority	• •	*	low normal high	soft
context 1 2	Queue None Sele	s is H ect bin	elpDe nding De Fe He Qu	esk 1st Level 💌	• •		Helpdesk priorities Department Priority Country	• •	*	low normal high	soft -
context 1 2	Queue None Sele	s is H Ct bin	elpDe nding De Fe He Qu Sa	esk 1st Level 💌		* III	Helpdesk priorities Department Priority Country Enum	> > > >		low normal high	Soft -
context 1 2	Queue None Sele	s is H	elpDe nding De Fe He Qu Sa We	esk 1st Level 💌		•	Helpdesk priorities Department Priority Country Enum Module			low normal high	Soft -
context 1 2	Queue None Sele	s is H	elpDe nding De Fe He Qu Sa Wo fac	esk 1st Level 💌	• • •		Helpdesk priorities Department Priority Country Enum Module	+ + + +	*	low normal high	soft .

Fig. 27: ConSol*CM/Web Client - Display Template for Specific Queue and Priority

Hard and Soft Binding

When the template is only displayed in one (or more) selected queue(s) as shown in the example above, the template is *bound* to those queues or to any other selected (restricting) parameter. There are two types of binding:

• Hard binding

The check box *soft* is **not** checked:

The template is only displayed (offered in the Ticket E-Mail Editor) in the selected queues or for the selected parameters. The engineer who works with the template cannot change this configuration.

Soft binding

The check box *soft* is checked:

As default setting, the template is only displayed (offered in the Ticket E-Mail Editor) in the selected queues or for the selected parameters. However, the engineer can change the display by clicking on the button *More templates*. Then all softly bound templates are displayed as well.

23.2.4 Migrating Templates from CM Version 6.8 and Less to CM Version 6.9 and Up

When a ConSol*CM system is updated from a version 6.8 and less to a version 6.9 and up, the scripts in the Template Designer have to be checked and modified manually.

All parameters which refer to tickets and queues do not have to be changed. However, due to the new customer model, *FlexCDM*, the syntax for references to data object group fields has to be adapted.

23.2.5 Page Customization for E-Mail Template Functionalities

Please refer to section Page Customization to learn some details about how to adapt e-mail template parameters.

23.3 CM/Office

- CM/Office
 - Introduction to CM/Office
 - Requirements for Using CM/Office
 - Availability of CM/Office
 - Configuring the ConSol*CM System for CM/Office
 - Creating an Engineer Role with Permissions for the Word Template Manager
 - Creating MS Word Templates and Making Them Available
 - Creating MS Word Templates
 - Making MS Word Templates Available in ConSol*CM
 - Using Customer Data within the Word Template
 - Using MS Word Templates from within the Web Client
 - Creating a New MS Word Attachment Using a Word Template
 - Working with Existing MS Word Attachments

23.3.1 Introduction to CM/Office

Even in companies where most processes are managed by IT applications, a great number of documents still have to be printed out or are required in *.doc* or *.pdf* format for other reasons. These can be for example:

- invoices
- contracts
- documents concerning the acceptance of IT systems
- orders

ConSol*CM offers the standard module CM/Office to print documents directly from the business management process. CM/Office supports MS Word documents.

Templates guarantee that ...

- all documents of one type are identical (text and layout).
- all documents match the company's CD (corporate design).
- no engineer has to type the same text over and over again.

Data from the ticket can be integrated into the template automatically, these can be:

- ticket data (e.g. amount in an invoice, service level in a contract)
- customer data (name and address of the customer and/or of the company)
- engineer data (name, phone number, e-mail address of the engineer who works on the case)

When CM/Office is active in ConSol*CM, the engineer can select the required MS Word template in the ticket. The document is opened in MS Word automatically with all required data fields already filled in. The

engineer can then work on the document and save it. It is automatically attached (as regular attachment) to the ticket and can be opened by users who have *read* access to the ticket and who have installed the required software (MS Word) on their PCs.

With special adaptations implemented by the ConSol*CM consulting team, the CM system can be extended in a way that *.docx* documents can also be converted to *.pdf* files in order to make sure no further changes can be made to the document.

23.3.2 Requirements for Using CM/Office

On the PC or laptop, the following requirements have to be met to use CM/Office:

- A JRE (Java Runtime Environment) for the web browser has to be installed, because CM/Office is based on Java applets. For the supported Java versions, please refer to the current *System Requirements*.
- MS Word has to be installed. For the supported MS Word versions, please refer to the current System Requirements.

23.3.3 Availability of CM/Office

CM/Office is available in ConSol*CM version 6.7 and higher and is part of the standard function set of the application.

23.3.4 Configuring the ConSol*CM System for CM/Office

If you want to activate CM/Office in your ConSol*CM system, the first step is to set the system property *cmweb-server-adapter*, *cmoffice.enabled* to *true*.

			Edit configurati	on entry	
			Edit configuration i Please edit the c	entry onfiguration entry	
CM6 Admin Tool @ cm6 domo interneol do			Module:	cmweb-server-adapter	· •
CM0 Admin-1001 @ cm0-dem0.int.consol.de			Property:	cmoffice.enabled	
File Views Help			Type:	Boolean	
🕋 🌋 🦤 🍸 🍩 🚉	· 🗉 🔩 🚍 🗞 🧔 🔇		Value field:	true	
Configuration			Description:		
Module: All modules		-			
Module	Property A	Value			
cmas-core-security	admin.email	stronmel@con			
cmas-app-admin-tool	admin.togin admin.tool.session.check.interval	30			
cmas-core-server	attachment.max.size	100	Restart required:		
cmas-core-security	authentication.method	DATABASE	Optional:		
cmas-dwh-server	autocommit.cf.changes	false			
cmas-core-index-common	big.task.minimum.size	15			
cmas-core-cache	cache-cluster-name	e49ca5e1-0b0			Save Cancel
cmweb-server-adapter	checkUserOnlineIntervalInSeconds	180			
cmas-core-shared	cluster.mode	false			
cmas-setup-hibernate	cmas.dropSchemaBeforeSetup	false			
cmweb-server-adapter	cmoffice.enabled	false			
cmweb-server-adapter	commentRequiredForTicketCreation	true			
cmweb-server-adapter	customization/version	22 7e4426b6-4227	11a2-0456-1205dfar	9-12	
cmas-core-shared	data.directory	/home/cmas/cma	is-data	0010	
cmweb-server-adapter	data.optimization	MINIFICATION			
cmas-core-server	defaultCommentClassName				
cmweb-server-adapter	defaultContentEntryClassName	default_class			
cmas-core-server	defaultIncommingMailClassName				
cmweb-server-adapter	defaultNumberOfCustomFieldsColumns	3			
cmas-core-server	defaultOutgoingMailClassName				
cmas-core-index-common	disable.admin.task.auto.commit	false			
cmas-dwh-server	dwh.mode	ADMIN			
cmas-esb-core	esb.directory	/home/cmas/cma	is-data/mule		
Icmas-core-cache	leviction.event.aueue.size	1200000			
				Basic	
[CM_Administration]					

Fig. 1: ConSol*CM Admin-Tool - Configuration of Property for CM/Office

23.3.5 Creating an Engineer Role with Permissions for the Word Template Manager

Only an engineer who has the permission *Write template* (see the following figure) can start the Word Template Manager in the Web Client. So, as a second step, you have to create one or more role(s) with the respective permissions. For a detailed explanation about setting role permissions, please refer to section Role Administration.

e Views Help	
🟫 🔏 🦤 🍸 📖 🕯	💵 🖬 🔧 🚍 🗞 🧔 🕼 🗲 🔳
Role Administration	
toles 26 roles	Customer Group Permissions Views Engineer Functions Queue Permissions Global Permissions
CM_Administration Change_Queue_HD1_HD2_Role Change_Queue_Sales_Role HD1_create_contact_readown_create_Role HD1_create_contact_ro_wo_do_Role HD1_tro_wo_do_Role HD_1st_Level_Role HD_1st_Level_Role HD_1st_Level_Role HD_2nd_Level_Role HD_2nd_Level_Role HD_2nd_Level_Role HD_Sales_Role HD_SALE HD_	Workflow Permissions Read workflow Write workflow Deploy workflow Template Permissions Write template Representation Permissions Configure representation Track User Permissions Access tickets of the own company

Fig. 2: ConSol*CM Admin-Tool - Necessary Template Permissions

Consulting Best Practice:

We recommend to create a role (*e.g. Template_Role*) that has only the permission *Write template*, no queue permissions or other permissions are granted. Every user who should have access to the Word Template Manager can be given this role. That way, there is no merge between regular user permissions and Word template permissions and you can grant and retrieve the Word template permission in a very flexible way.

23.3.6 Creating MS Word Templates and Making Them Available

Creating MS Word Templates

As a third step, you have to create the MS Word templates. This is done using MS Word. Please create .doc or .docx files as templates, **not** .dot files!

Making MS Word Templates Available in ConSol*CM

As a fourth step, you have to fill in the requested data fields as *merge* fields in the MS Word template, i.e. you create a CM/Office template from your regular MS Word document. This is done using the ConSol*CM/ Web Client.

To perform steps three and four, log in to the Web Client and click on *Manage Word templates* in the main menu to open the Word Template Manager.

Con	Sol券				0	
	CM6		Logged in: <u>Susan Sen</u>	ijceDesk 🔹		0
Overview	Create ticket	Create customer	Manage templates	Manage Word templates		All customer groups
View:	ServiceDeskAll	• • • •	Word templates			
	Own tickets (1)	New Word te	emplate		
		ts (1)	Name	NewTemplate		
	eadline läuft ab - A	ingebot	Group			
	<u>nreichen!</u> ssigned to: Huber, I	Harald	Language	Choose One		
100255	Unassigned ticke	te (1)	Queues	Select queues		
	ondoorgned dere		Word template			
		· · · · ·				
				UK Cancel		
			Word MailM	erge fields		
			Show MailMo	erge fields available for a ticket		
			Ticket name of	r subject		
			Reset			
			Template lib	rary		
			List of temp	lates		
			There are no f	templates available.		

Fig. 3: ConSol*CM/Web Client - Word Template Manager

The Word Template Manager is opened.

Enter the following data for each new template, then click on OK:

• Name

The name of the (new) template. This will be displayed for engineers in the Web Client GUI.

• Group

The name of the template group. This does not have any technical implications but serves as an easy-to-use parameter to sort the templates in the template list in the Word Template Manager.

• Language

Select the required language. The languages that have been activated in the Admin-Tool are offered.

• Queues

Select the queues for which the template should be available.

• Data object

For the selection of the data object which should be used as reference object for customer data within the template.

• Word template

Use the file browser to select the . doc or . docs file that should serve as a template in the file system.

The new template appears in the *Template library, List of templates*. You can perform the following step directly after entering the new template data or you mark the template name (in the *Word template* column) you would like to edit in the list.

In the next step, *MailMerge* fields, which represent the fields of ticket and customer data, can be added to the template. Select a ticket which has all the requested fields by using the *Word MailMerge fields* section. Enter the ticket name or subject in the field under *Show MailMerge fields available for a ticket* and select the correct one from the search result list. All available *MailMerge* fields are displayed:

ord templates						
Edit Word template						
Ne		Template 1				
No		empiate_1	_			
Gr	oup invoices					
Langu	age English					
Que	ues 'HelpDe	sk 1st Level', 'H	lelpD 👻			
Download Word temp	late InvoiceTe	emplate.docx				
Update Word temp	late Durch	suchen Kei	ne Datei ausgewäł	ılt.		
	ОК	Cancel				
Word MailMerge fi	ahle					
Show MailMerge fie	elds available	for a ticket				
Available MailMerge fi	elds for SUP-2	2 Error handling	in ticket-search by	y id (in ticket relation	IS)	
1 to 20 of 111					H	< 1 2 3 4 5 6 ▶ ▶
Key			Group	Field	Value	
engineer_Company						
engineer_Description	n					
engineer_Division						
engineer_Email					katja@consol.de	
engineer_Fax						
engineer_Firstname	•				Charly	
engineer_Function						
engineer_Lastname)				Chef	
engineer_Login					Chef	
engineer_Mobile						
engineer_Phone						
ticket_CreationDate	1				4/14/08 11:47 AM	
ticket_Engineer_Co	mpany					
ticket_Engineer_De	scription					
ticket_Engineer_Div	rision				aammar@dayayil.consol	10
ticket_Engineer_Em					sommer@devnuil.consol.o	le
ticket_Engineer_Fa	x ataoma					
ticket_Engineer_Fils	nction					
ticket_Engineer_Fu	etname					
1 to 20 of 111	stranic				L	4123456
						A PERIOR A
Reset						
Template library						
List of templates						
Name	Group	Language	Queues		Word template	Delete
InvoiceTemplate_1	Invoices	en	HelpDesk 1st Le	vel,HelpDesk 2nd Le	evel InvoiceTemplate.doo	x ×
1 1	tootOroup	en	Sales		Test doox	X

Fig. 4: ConSol*CM/Web Client - Show Available MailMerge Fields

In the MS Word document, go to the position where you want to insert the first field (in our example this will be the customer name). Use *Insert -> Quick parts -> Field* to insert the *MergeField*. Copy and paste the key of the merge field you need into the respective field (*Field properties, Field name*) in MS Word:

Field Image: Service period Services: Image: Service period	Recipient: Date of invoice Service period Performed by: NumPages	Invoice			Consulting & Solutions
Field Please choose a field Field properties Field options Categories: Field name; Text to be inserted before: Text to be inserted after: Categories: Field name; Text to be inserted after: Text to be inserted after: Service period MacroButton MacroButton MargeField MergeField First capital Title case Vertical formatting	Field Image: Contracts_member_firstname Please choose a field isid properties (Al) isid properties Pield names: isid properties (Al) isid properties Field names: isid properties Uppercase isid properties Next in Marrobutton isid propercase Next in NoteRef NumPages NumWords Field Page PageRef Private Quote Quote Ro Description: Insert a mail merge field Pield Codes OK Cance	Recipient:		~	
Please choose a field Field properties Field options Categories: Field name: Text to be inserted before: (All) Image: Service period Text to be inserted after: Service period MergeField First capital MergeRec First capital Vertical formatting	Please choose a field Field properties Field options Date of invoice Field names: Inverte field scontacts_member_firstname Inverte to be inserted before: Inverte to be inserted before: Services: IstNum MacroButton Invergefield Invergefield Invergefield MergeRec MergeRec MergeRec Invertige Invergefield Invergefield Invergefield Invergefield NumNages NumWords Field Invergefield Invergefield	ſ	Field		8
	performed by: Next Next Next NoteRef NumChars NumPages NumWords Page Page Page Page Page Quote Quote Insert a mail merge field Pleease: pag. the Discription: Thank you. OK	Date of invoice Service period Services:	Please choose a field Categories: (AI) Field names: ListNum MacroButton MergeField MergeField MergeRec MergeRec	Field properties Field name: [ueue_fields_contacts_member_firstname] Format: [none] Uppercase Lowercase First capital Title case	Field options Text to be inserted <u>b</u> efore: Text to be inserted <u>a</u> fter: Mapped field Vertical formatting
	Please pay the Field Codes OK Cano Thank you		Description: Insert a mail merge field		\overrightarrow{v} Preser <u>v</u> e formatting during updates
Image: Construction of the second	Thank you	Please pay the	Field Codes		OK Canc
Preserve formatting during updates Description: Insert a mail merge field Please pay the Field Codes OK Cance		Thank you			
Image: Second Structure Image: Second Structure Image: Second Structure Image: Second Structure Image: Second Structure Image: Second Structure					

Fig. 5: MS Word - Insert MergeField into Document

Do this with all fields you would like to have pre-filled when the MS Word template is opened. In the end, your template might look like the example in the following figure.

onSol Invoice Recipient: «ticket_queue_fields_contacts_member_firstname» «ticket_queue_fields_contacts_member_name» Date of invoice: November 26, 2013 Service period: August - October 2013 Services: ConSol*CM Consulting, 4 PT performed by: «engineer_Firstname» «engineer_Lastname» Please pay the amount of \$X.000 according to the contract. Thank you Sincerely, ConSol* Software

Fig. 6: MS Word Example Template

Save the template in the Word Template Manager.

Using Customer Data within the Word Template

In order to provide access to all levels of the *FlexCDM*, a specific format for customer field names has to be applied. Please use the following syntax:

Syntax for CM/Office field names
[ticket_customer_data object name]_[group of fields]_[field name]

When you create a new template, you have to select the *data object*, i.e. the unit which will represent the reference object for the fields. In the following example, this is the customer object from the *Reseller* data

model. Therefore, the contact (=customer) represents the reference object. If the company data is referenced, this is only possible via the contact object. This is the reason why the *company_reference_field* is present in the company field names.



Fig. 7: ConSol*CM/Office - Use of Field Names for Template

Some fields are available using either the short form of the field name or the extended form, e.g.

• ticket_queue_fields_contacts_member_companyReferenceField_company_name

and

 ticket_queue_fields_contacts_member_companyReferenceField_ResellerCompany_ ResellerCompanyData_company_name

Template	Filled-in document
DOCUMENT	DOCUMENT
Engineer: «engineer_Lastname»	Engineer: ServiceDesk
Document for: «ticket_queue_fields_contacts_member_comp»	Document for: MyNewSpaceCompany
Company complete path: «ticket_queue_fields_contacts_member_comp»	Company complete path: MyNewSpaceCompany
Contact: «ticket_queue_fields_contacts_member_cust»	Contact: Skywalker
Contact complete path: «ticket_queue_fields_contacts_member_Rese»	Contact complete path: Skywalker
Ticket subject: «ticket_Subject»	Ticket subject: Printer does not work
Best regards, your ConSol* Service Team	Best regards, your ConSol* Service Team

Fig. 8: ConSol*CM/Office - Template and Filled-in Document with Use of Different Field Notations

23.3.7 Using MS Word Templates from within the Web Client

Creating a New MS Word Attachment Using a Word Template

When MS Word templates are available for a queue, an engineer can use them by clicking on *Attachments* in the *History* section of the ticket and by selecting the requested template. MS Word is started (if it is not already open) and a document based on the selected template is created. The document is opened, with all values/parameters filled-in at the correct positions. This might look like the example in the following figures.

	History				Comr	nent E-Mail	Attachment	Time booking
	Display commur	nicat	ion 🔻 Sorting la	atest first 🔻				
Cor	nment		E-Mail	Attachment	Time bool	king		
	Add Attachment	:						
		File	Durchsuchen	Keine Datei ausgewählt]			
	Descrip	tion						
	Add Cance	ł						
	Word template							
	None 👻							
	Templates					×		
08.11.2013	All 🕨	*	InvoiceTemplate_1	(en)		*		
P	Invoices							
		-				-		
					Choo	se		

Fig. 9: ConSol*CM/Web Client - MS Word Templates Available as Attachments

Invoice Recipient: Luke Skywalker	Consulting & Solutions
Date of invoice: November 26, 2013 Service period: August – October 2013	
Services: ConSol*CM Consulting, 4 PT performed by: Charly Chef	
Please pay the amount of \$X.000 according to the contract.	
Please pay the amount of \$X.000 according to the contract. Thank you	
Please pay the amount of \$X.000 according to the contract. Thank you.	

Fig. 10: MS Word Example Document

The engineer can then edit the document if requested and save it. This will attach the new version of the document automatically to the ticket.

Working with Existing MS Word Attachments

An engineer can also open an MS Word document which has been attached to the ticket. As an engineer, click on the attachment name. This will open the file in MS Word. Edit the document and save it. A new version of the document will be attached to the ticket automatically.

24 Time Booking Using ConSol*CM

- Time Booking Using ConSol*CM
 - General Introduction to Time Booking Using ConSol*CM
 - Configuration of Time Booking Using the Admin-Tool
 - Time Booking from a User's Point of View (Web Client)
 - Reports about Times Booked
 - Engineer Reports
 - DWH Reports
 - Page Customization for Time Booking

24.1 General Introduction to Time Booking Using ConSol*CM

In ConSol*CM, an engineer can book working hours on a ticket. Those working hours can then be reported.

Working hours are always booked on projects which have to be assigned to one or more queues. For example, if your company plans to perform a migration from Windows 7 to Windows 8 clients and all the working hours should be registered for this migration project, the ConSol*CM administrator has to create a migration project and assign it to all queues where tasks for this project might be completed. Then engineers can book times on the project and can see their own reports for the project. Additionally, a report over all time bookings, of all engineers, might be implemented using the DWH (data warehouse, see section Data Warehouse (DWH) Management).

24.2 Configuration of Time Booking Using the Admin-Tool

In order to enable engineers to book working hours on projects the ConSol*CM administrator has to perform two steps using the Admin-Tool:

- 1. Create the projects on the file card *Projects*, see section Additional User Attributes.
- 2. Assign one or more projects to the desired queues within the Queue Administration.

In the following example, three projects are created. Engineers in the *1st Level Helpdesk* queue should be able to book working hours on two of them. Thus, the two projects have to be assigned to the *1st Level Helpdesk* queue.

	<u>a</u> s	User attributes									
	C	ustomer groups	Customer data model	Data object actions	Customer roles	Data object relations	Engineer functions	Projects			
]	1	Name									
	P	Project1_WindowsMigration									
	P	roject2_NewBPM	ISystem								
J	P	roject3_WebServ	verUpdate								
1	S	erviceProjekt									
ł											
J											
1											
l											
ł											
	2	[CM_Administra	ation,Workflow_Admin]								

Fig. 1: ConSol*CM Admin-Tool - User Attributes: Management of Projects

Edit queue				×
Edit queue i Please edit the queu	e's data.			
Details				
Queue:	HelpDesk_1st_Level	0	Workflow:	helpdesk1 👻
Prefix:			Calendar:	
FAQ:			Enabled:	
Ticket assignment temp	lates			
Assign:	engineer-assigned-default-mail	•	Unassign:	engineer-removed-default-mail 🚽
Scripts		1		
E-Mail script:		•		
Default values script:	dv	•		
Other	· · · · · · · · · · · · · · · · · · ·			
Description:				×
Custom fields Cust	omer groups Classes of text Projects			
Assigned 🔺		Available	A	
Project1_WindowsMi	gration	Project3_\	WebServerUp	date
Project2_NewERP_sy	/stem	_		
				Save Cancel

Fig. 2: ConSol*CM Admin-Tool - Queue Administration: Assigning Projects to a Queue

24.3 Time Booking from a User's Point of View (Web Client)

Please see the *ConSol*CM User Manual* for a detailed explanation of the time booking feature. Here, only a short overview is provided.

The user (engineer) can book working hours on a ticket using two different modes:

1. Using the *Time booking* section in a ticket to book working hours directly to this ticket.

Ticket	Accept Edit Clone Print	Display	y 🔻
100520	Printer error HelpDesk 1st Level Qualify Unassigned Open since 11/19/13 1:26 PM Priority normal Reaction time 11/20/13 Ask for feedback no Country Germany		
	Customers	Add	Hide
	Main customer		
e	Mr Luke Skywalker 💌 CustomerGroup luke@consol.de		
	ConSol* GmbH ▼ Company ConSol* GmbH Address Franziskanerstr. 38 81543 München No comment		
	Engineers	Add	Hide
	No relations	Add	Hide
	History Comment E-Mail Attachment Ti	me boo	king
	Display communication 👻 Sorting latest first 💌	_	_
Co	mmont E Mail Attachmont Time booking		
0	Add Time Booking		
	Today's time bookings: 00:00 Starting from 1/13/14 or Choose One		
7	Project Choose One Description OK Car Project 1 WindowsMigration Project 2 NewERP system		
19.11.13 13	3.26 #1 created by Harald Huber Action ▼ 13:26 default class Please fix, thanks		

Fig. 3: ConSol*CM/Web Client - Time Booking in a Ticket

2. Using the *Time booking* section in the **personal settings** to book working hours on a selected ticket (only tickets where the engineer has performed certain activities and tickets owned by the engineer can be selected).

Engineer profile	
Password change	
Old password *	
New password *	
Repeat password *	
OK Cancel	
Representation	
Engineers representing me	
Engineer	
Engineers represented by me	
General settings	
View criteria	
Priority Please choose	
Default Customer Group	
Choose One	
Time booking	bba
Add Time Booking	700
Todav's time bookings: 00:05	
Ticket name or subject 100	Assigned Tickets
	Duration Duration
or Choose One	
Project Choose One	Description Description
OK Cancel New ticket search	
Day 1/13/14	
Time period Day Week Month	
lan 13 2014	Today
Time Duration Project	Ticket Comment
+00:05 Project1 WindowsMigration	#100520 Printer error Prepare SW distribution
	Total bookings on this day: 00:05

Fig. 4: ConSol*CM/Web Client - Time Booking in the Personal Settings Section

24.4 Reports about Times Booked

24.4.1 Engineer Reports

Engineers can see a list of their time bookings on the personal settings page, see following figure.

Engineer	profile								
	Password change								
	Old password		*						
	New password		*						
	Repeat password		*						
	OK Cancel								
	Representation								
	Engineers represent	ing me							
	Engineer								
	Engineers represent	ed by me							
	General settings								
	View criteria								
	Priority Please choose	se .	*						
	Default Customer Gr	0.00							
	belaut customer of	oup							
	Choose One								
	Time booking				Ado				
	Dov 2/5/1/								
	Time period Day W	• 📖							
	Time period Day v	CER MOTUL							
	Feb 05, 2014	Duration	Designed		▲ <u>Today</u> ▶				
	Time	Duration	Project	HICKET #SUP-80 Temporary files created during	Comment				
	5:00 AM - 5:04 AM	00:04	Project1 WindowsMigration	import/ex	Fix for the problem				
		00:56							
	6:00 AM - 8:00 AM	02:00	Project2 NewERP system	#100424 without overwrite mode	DB connection fixed				
	7:00 AM - 10:00 AM	03:00	Project1 WindowsMigration	<u>#SUP-59 Setup: problem with constraints on</u> setup.					
	7:00 AM - 7:01 AM	00:01	Project1 WindowsMigration	#100520 Printer error					

Fig. 5: ConSol*CM/Web Client - Time Booking Report in the Engineer Profile

As an engineer, you can select if you would like to see the bookings for the current day, week, or month. In the *Day* view, the projects are indicated, in the *Week* and *Month* view, only the sum of the booked times per day/week is indicated.

24.4.2 DWH Reports

If your company would like to have reports on a more detailed level, the DWH provides a good basis. Reports can be developed that use the DWH data and provide e.g. the times booked on a certain project by all engineers.

24.5 Page Customization for Time Booking

In case the time booking feature is not required, you as an administrator can turn off the feature by using *ConSol*CM Page Customization*, see section Page Customization for details.

The following two parameters are relevant in this context:

- timeBookingSection
- timeBookingFeature

25 Page Customization

- Page Customization
 - General Introduction to Page Customization
 - Page Customization in the Web Client
 - Page Customization Using Parameters
 - Possible Pages (Scopes) for Page Customization
 - Page Customization Parameters (in Alphabetical Order)
 - acimSection
 - accordionTicketList
 - attachmentSection
 - autocomplete
 - cmRichTextEditor
 - contactSection
 - customerSectionPanel
 - detailSearch
 - enumAutocomplete
 - engineerAutocomplete
 - globalSearchField
 - mailTemplate
 - navigationLinks
 - ticketsAutocomplete
 - ticketsBookingAutocomplete
 - ticketPanel
 - timeBookingSection
 - unitAutocomplete
 - unitFormPanel
 - unitSearch
 - unitSearchHeader
 - viewDiscriminatorsSection
 - Order and Priorities of Page Customization

25.1 General Introduction to Page Customization

In addition to the design of the Web Client GUI in the process of defining custom fields (see section Custom Field Administration) and data object group fields (see section Data Object Group Field Management and GUI Design), an administrator can configure more GUI layout features and functionalities using page customization.

When you log in to the Web Client as an administrator, you see the item *Enable page customization* in the main menu. Depending on the context, i.e. on the page that is currently displayed, the page customization offers different, page- and context-specific functionalities.

For example, when you have opened a ticket and start the page customization, you can configure parameters for the ticket in general. When the Ticket E-Mail Editor is open, you can also configure e-mail editor-specific parameters.

In the following sections, the general principle of page customization and all available page customization parameters are described and explained in detail. In all other sections of this *ConSol*CM Administrator Manual*, references to this sections will be included where required.

25.2 Page Customization in the Web Client

When you start the page customization mode, the *Page Customization Definition Section* (PCDS) is displayed in the lower half of the GUI. On the right side you see a tree that reflects the structure of the current page. Within the page, every element of the page is marked by a blue border. When you move the mouse over an element, the name is displayed and it is marked in the tree. That way you can easily identify the component you would like to modify.

ConSol CM6	Logged in: <u>admin</u>	•	
Overview Create ticket Create custom	er Manage templates Manage Word templates Enable page customization	All customer groups	Q
View: No view available View (0) Own tickets (0) List is empty No tickets available Workgroup tickets (0) Unassigned tickets (0)	Ticket Login not possible HepDesk 1st Level [Jouality Unassigned] Open since 12/10/13.35 PM Protry high Module Web Client Reaction time 12/11/13.35 PM Protry high Module Web Client Country USA Reaction time CustomerSectionPanel (# / ficketEdtPage) Main customer Min Luke Skywalker ▼ CustomerGroup Mke@consolde Engineers No relations No relations Tipslay all entries ▼ Sorting latest first ▼ Add comment, e-mail or attachment 10.12.2013 15.35 Please help, thanks Ticket created Queue set to HelpDesk 1st Level 0ueue set to HelpDesk 1st Level	Accept Edit Clone Print Display ♥ Add Hide Add Hide Add Hide Add Hide Add Hide Add Hide	Workflow activities Close immediately Deny ticket Ask for approval Workspace Workspace is empty Al your unsaved fasts are automatically listed in this workspace Favorites Image: Test wg. ABB
	Attachments	Hide	
giovardearchi ieiu fucketcu type scope	ClassName Configure	ation script:	awnik aviaationLinks
Customization of Global Search, context={}		Ē - (į	L III ticketEditPage
Attribute name	Description	Value	accordionTicketList
searchResultItemsOrder	ed values defining order and visibility of search result items. Possible values are:	TICKET, COMPANY, CC	LicketList

Fig. 1: ConSol*CM/Web Client - Page Customization Definition Section

The tree might display the following elements (see next figure). Since the PCDS is rather small you might have to scroll to see all elements. In this example the administrator has opened the *ticketEditPage* (see following paragraphs for details).



Fig. 2: ConSol*CM/Web Client - Page Customization Tree

Icon	Description
	Configuration of all components of this type
	Configuration of this specific component deployed within the identified scope

You can now click on an element in the tree to open the editor for this element in the left area of the PCDS, e.g. for the element *navigationLinks* (see following figure).

ConSol*CM Administrator Manual	(Version 6.9,	up to 6.9.3)
--------------------------------	---------------	--------------

200	Sal 🐇				0	
,011	301				5	
	CIVI6		Logged in: ad	imin 💌		
rview	Create ticket	Create customer	Manage tem	plates Manage Word templates Enable page customization	All customer groups	Q
•	No view available	- = 0	Ticket "Logi	n not possible" created successfully.		Workflow activities
			Ticket		Accept Edit Clone Print Display 🔫	Close immediately
Lis	st is empty			ogin not possible		Deny ticket
N	o tickets available		He He	IpDesk 1st Level Qualify		Ask for approval
	Workgroup tickets (0)	100620 Ur	nassigned Open since 12/10/13 3:35 PM Priority high Module Web Client		Workenson
	Unaccigned tickets	0)	R	eaction time 12/11/13 Ask for feedback no		Workspace is empty
	onussigned devets	07		county con		All your unsaved tasks are
		1		ustomers	Add Hide	automatically listed in this workspace.
			M	ain customer		
			i M	r Luke Skywalker 🔻 CustomerGroup te@consol.de		Favorites
						Test wg. ABB
			E	igineers	Add Hide	
			N	o relations	Add Hide	
			E E H	story	Comment E-Mail Attachment Time booking Hide	
			Di	splay all entries v Sorting latest first v		
				dd comment, e-mail or attachment		
			10.12.2013 15	.35 #1 created by admin Action 💌		
			-	Please help, thanks		
				Ticket created		
				 Queue set to neipuesk 1st Level 		
			A	ttachments	Hide	
Customiz	cation or navigation in	iks, context-0			▶ bitation	6 domo int consol do
					/cm-clier	1 <u>t/</u>
Attri	ibute name			Description	Value	avigationLinks
reateCon	ntactLinkVisible li	/hether the create nk)	eContact link ca	n be shown (note: apart from this property user must have appropriate permissions to see o	createContact true	ticketEditPage lobalSearchField ticketEditPage

Fig. 3: ConSol*CM/Web Client - Selected Tree Element in PCDS

The entire page is built according to a strictly hierarchical structure and every element is defined by a type, a scope, and a class. These are displayed in the blue header section of the PCDS when you mark an element either in the tree or in the GUI. Using the page customization, you can decide on which level you want to configure parameters. When you work on the *type* level, you define the parameters for all sub-elements of this type, i.e. for all scopes and classes. When you work on the *scope* level you define the parameters for all (sub-)elements of this scope, i.e. all classes. When you work on the *class* level, you define the parameters for this class only.

Please see the following example for ticket list configuration.

• Type level:

ConSol∛		0	6
CM6	Logged in: admin 💿	0	
verview Create ticket Create custome	er Manage templates Manage Word templates Enable page customization	All customer groups	٩
accordionTicketList / ticketEditPage / ticketList ew: no ew available 🐨 📰 O	Ticket	Accept Edit Clone Print Display 💌	Workflow activities
Own to kets (0)	Login not possible		Close immediately
List is empty	HelpDesk 1st Level Qualify		Deny ticket
No tickets available	1006/0 Unassigned (Open since 12/10/13 3:35 PM Priority high Module Web Client Reaction time 12/11/13 Ask for feedback no		Ask for approval
Workgroup tickets (0)	Country USA		Workspace
Unassigned tickets (0)	Customers	Add Hide	Workspace is empty All your unsaved tasks are
	Main customer		automatically listed in this workspace,
	luke@consol.de		
	Engineers	Add Hide	Favorites
	No relations	Add Hide	Test wg. ABB
	History	Comment E-Mail Attachment Time booking Hide	
	Display all entries 🔍 Sorting latest first 👻		
	Add comment, e-mail or attachment		
	10.12.2013 15.35 #1 created by admin Action V		
	Please help, thanks		
	 Ticket created 		
	Queue set to HelpDesk 1st Level		
	Attachments	Hide	
			ticketEditPage
accordionTicketList scope	AccordionTicketListCustomization NEW configuration scri	pt:	accordionTicketList
()po			B ticketl ist
		- 13	ticketPanel
ustomization of accordion ticket list, conte-	κτ=υ		ticketEditPage
			customerSectionPanel
Attribute name	Description	Value	ticketEditPage

Fig. 4: ConSol*CM/Web Client - Defining Parameters on Type Level

• Scope level:

ConSol [∗]	0		6
CM6	Logged in: admin	-	
Overview Create ticket Create customer	Manage templates Manage Word templates Enable page customization	All customer groups	٩
A accordionTicketList / ticketEditPage / cketList View: No view available	Ticket	pt Edit Clone Print Display 💌	Workflow activities
Own tickets (0)	Login not possible HelpDest 1st Level Quality		Close immediately Deny ticket
No tickets available	100520 Unassigned (open since 12/10/13 3:35 PM Priority, high Module Web Client Reaction time 12/11/13 Ask for feedback no		Ask for approval
Workgroup tickets (0)	Country USA		Workspace
Unassigned tickets (0)	Customers	Add Hide	Workspace is empty All your unsaved tasks are
	Main customer Mr Luke Skywalker ▼ CustomerGroup Wee@consol de		automatically listed in this workspace.
			Favorites
	Engineers	Add Hide	Test wg. ABB
	No relations	Attachment Time booking Hide	
	Display all entries V Sorting latest first V	Automicia This booking The	
	Add comment, e-mail or attachment		
	10.12.2013 15.35 ≠1 created by admin Action ▼ 10.12.2013 15.35 ≠1 created by admin Action ▼ 10.12.2013 15.35 ≠1 created by admin Action ▼		
	 Ticket created Queue set to HelpDesk 1st Level 		
	Attachments	Hide	
4			עוטעמו שפמו כוורופוע
accordionTicketList /ticketEdit	Page AccordionTicketListCustomization NEW configuration script:		ticketEditPage accordionTicketList ticketEditPage ticketEditPage
Customization of accordion ticket list, context=	0	- 📠	ticketPanel
Attribute name	Description	/alue	customerSectionPanel

Fig. 5: ConSol*CM/Web Client - Defining Parameters on Scope Level

Class level:

ConSol <i></i> *		0	
CM6	Logged in: admin 💽	0	
Overview Create ticket Create customer	Manage templates Manage Word templates Enable page customization	All customer groups	٩
Owner Owner Owner Owner View: No view available The second se	Ticket Big in not possible Helposk tat Lavel Quality Usasigned Qpen since 12/10/13 3.35 PM Perdry high Perdry high Cauthy USA Cauthy USA Cauthy USA Main customers Main customers No relations History Display all entries < Sorting latest first	Accept Edit Cine Print Display * Add Hide	Workflow activities Ciose immediately Deny ticket Aak for approval Workspace Workspace is empty Al your unsaved tasks are automatically listed in this workspace. Favorites Eway Test wg ABB
	10.12.2013 15.35 #1 created by admin Action V Please help, thanks • Ticket created • Queue set to HelpDesk 1st Level Attachments	Hide	
٤			yuuuaisearumnu
accordionTicketList /ticketEdit type scope	Page/ticketList Accordion TicketListCustomization NEW className configuration s	cript.	accordionTicketList
Customization of accordion ticket list, context	0	- (i ii)	customerSectionPanel

Fig. 6: ConSol*CM/Web Client - Defining Parameters on Class Level

For every section, there is also a configuration script that can dynamically define values.

 navigationLinks
 scope
 NavigationLinksCustomization
 NEW

 type
 className
 NEW
 configuration script:

Fig. 7: ConSol*CM/Web Client - Configuration Script for Defining Values

E.g. there should be only one e-mail recipient (here: the main customer) for medium and low priority tickets, but a high priority ticket should be sent to all customers of the ticket. The following script can be used:

```
Ticket ticket = ticketService.getById(ticketId);
EnumValue value = ticket.get("helpdesk_standard.priority");
if (value != null && "high".equals(value.getName()))
return [mailToSelection: 'contacts'];
return [mailToSelection: 'contact'];
```

It has to be stored in the *Scripts* section of the Admin-Tool (see section Scripts for details) and its name has to be entered in the field *configuration script*.
25.3 Page Customization Using Parameters

In the following sections, all configuration parameters for page customization will be explained. A short description is also given for each parameter in the editor section.

25.3.1 Possible Pages (Scopes) for Page Customization

The following main scopes are available, i.e. when you have opened the respective page you can configure page customization parameters which are visible only on this page for the given parameter:

Со	nSol ∦ CM6		Logged in: admin 💌		0	0	0h
Overvie	w Create ticket	Create customer	Manage templates	Manage Word templates	Enable page customization	All customer groups	٩
H accord View:	lionTicketList 🚠 / welcom No view available	nePage / <u>ticketList</u>					Workspace
\diamond	Own tickets (0) List is empty No tickets available			Weld	ome to CM6		Workspace is empty All your unsaved tasks are automatically listed in this workspace.
	Workgroup tickets	(0)					Favorites
	Unassigned tickets	(0)					Favorites are empty Drag tickets, contacts, companies or searches into this space to save them as favorites.

Fig. 8: ConSol*CM/Web Client - Welcome Page

• ticketEditPage

•

	Logged in: <u>admin</u>	
Overview Create ticket Create customer	Manage templates Manage Word templates Enable page customization	All customer groups
View: No view available View: No view available View: 0)	Ticket	Accept Edit Clone Print Display v Workflow activities Close immediately Deny toket
No tickets available Workgroup tickets (0)	100620 Unassigned Open since 12/10/13 3:35 PM Phothy high Module Web Clent Reaction time 12/11/13 Ask for feedback no Country USA	Ask for approval Workspace
Unassigned tickets (0)	Customers Main customer Mr Luke Skywalker CustomerGroup Luke@consolde	Add Hde Al your used tasks are automatically listed in this workspace. Favorites
	Engineers No relations	Add Hide
	Image: History Display all entries Sorting latest first Add commert, e-mail or attachment 10.12.2013 15.35 #1 created by admin Action Image: Please heip, thanis • Ticket created • Queue set to HeipDesk 1st Level	Comment E-Mail Attachment Time booking Hide
	Attachments	Hide

Fig. 9: ConSol*CM/Web Client - Edit Ticket Page

• searchDetailPage

ConSol *	Logged in: admin.	
Overview Create ticket Create customer	Manage templates Manage Word templates Enable page customization All customer	r groups Q
View: No view available View	Search	Workspace
Own tickets (0) List is empty No tickets available Workgroup tickets (0)	Search criteria Choose One Search	Workspace is empty All your unsaved tasks are automatically listed in this workspace.
VYORAGIOUD LICKETS (U) Unassigned Lickets (O)	Tickets Contacts Companies View as: List Image: Contacts Search results (0) No search results	Tavones

Fig. 10: ConSol*CM/Web Client - Detail Search Page

• contactCreatePage

A navigationLinks A / contactCreatePage Logged in: admin	<u>n</u> •		
Overview Create ticket Create customer Manage template	tes Manage Word templates Enable page customi	nization	All customer groups
View: No view available v and New customer			Workspace
Own tickets (0) List is empty No tickets available	company Create ny Please enter keywords such as name, company or e-mail		Workspace is empty All your unsaved tasks are automatically listed in this workspace.
Workgroup tickets (0)	e contact	ame *	Favorites
Unassigned tickets (0) Function	on Acad.	i. tile	Test wg. ABB
E-mail	Ro	Robinson	
	Phone Choose One	e 1	
	Choose One	e 2	
	Choose One	ie 4	
Division	n		
	Domain Choose One		
	Manager Bu	Budget responsible Prenarer	
Comme	ent		
CM6 Po	Porter Login CM6 Porter Password		
Active	e Account		
Fixed (size		
Track u	user 💌		
OK			

Fig. 11: ConSol*CM/Web Client - Create Contact Page

contactEditPage

ConSol *	ogged in: <u>admin</u> 💽		C	0	
Overview Create ticket Create customer	Nanage templates Manage V	Vord templates Enable page cust	omization	MyCustomerGroup	Q
View: No view available View	ontact			Display 💌	Activities
Own tickets (0) List is empty No tickets available	katja@consol.de 58951 no IBM 789 ▼				Create new Help Desk ticket
Workgroup tickets (0)	Tickets (1)			Hide	Workspace
Unassigned tickets (0)	All tickets 👻 Add/Remove column "Eng	gineer', 'Main Customer', 💌 🔍	к	Number per page 10 💌	All your unsaved tasks are automatically listed in this workspace.
	Engineer	Main Customer	Name	Subject	
	ServiceDesk, Susan	Smith, Jack	00261	Please send material	Favorites
					SD SD
	Additional details			Hide	
	Comments	Attachments			
	New				
	Click here to add a comm	ent			
	List of comments				
	This contact does not have	ve any comments.			

Fig. 12: Edit Contact Page

• ticketCreatePage

	Logged in: admin 💌	
Overview Create ticket Create customer	Manage templates Manage Word templates Enable page customization	All customer groups
View: No view available View: No view available Coven tickets (0) List is empty No tickets available Workgroup tickets (0) Unassigned tickets (0)	New Ticket Subject Ourse Frequenty_Aske Assigned to: Imanugend w Printy Choose One w Module Choose One w Reaction time Note * OA Test ILA. None * OA Test ILA. None * OA Test ILA. None * OA Test ILA. None * OA Test ILA. None * OA Test ILA. None * OA Test ILA. None * OA Test ILA. None * OB Department OA Test May For_Struct Addraw Country Crosee One w Country Crosee One w Boolean/Value_en FixedPointNumber_en Number/Value_en Princitype_an ReadonlyGroupable Choose One w StringListElement_en StringValue_en Main customer / Create Add row Add row Add row Content Add comment Content Main customer / Create * B I </th <th>Workspace Workspace & earcy Ayringpace & earcy Ayringpace & earcy Ayringpace & earcy Favorities Image: Test wg_ABB</th>	Workspace Workspace & earcy Ayringpace & earcy Ayringpace & earcy Ayringpace & earcy Favorities Image: Test wg_ABB

Fig. 13: ConSol*CM/Web Client - Create Ticket Page

• userProfilePage

Engineer profile
Password change
Old password
New password
Repeat password
OK Cancel
Representation
Engineers representing me
A autocomplete A VaseProfilePage / representationSection
Engineers represented by me
Engineer
General settings
View criteria
<u>UN</u>
Default Customer Group
Change One
Time booking Add
Day 1/29/14
Time period Day Week Month
Jan 29, 2014
lotal bookings on this day: 00:00

Fig. 14: ConSol*CM/Web Client - User Profile Page

templateViewPage

	Logged in: admin						0	0		SA
Overview Create ticket Create custome	Manage templates	Manage Word templates Enable p	age customiza	ition				All custo	mer groups	Q
/iew: No view available 👻 🔡 🔘	Templates								New	Workspace
Own tickets (0) Workgroup tickets (0) List is empty No tickets available	Template libr Filter Active	nary								Workspace is empty All your unsaved tasks are automatically listed in this workspace.
Unassigned tickets (0)	Context 1. None 2. None	▼ ▼					•			mvn test : not w
	Group	Template	Language	Type	None	None	Usage	Used within workflow		
	Vertrag	Ablehnung, Vertrag abgelaufen 0.0.1 👻	en	Letter			0	no		
	general	CallBackRequest 0.0.1 -	en	Letter			0	no		
	general	Salutation_gender-specific 0.0.1 -	en	Script			0	no		
	Vertrag	Angebot Vertragsverlängerung 0.0.1 💌	de	Text Block			0	no		
	Vertrag	Annahme, Vertrag abgelaufen 0.0.1 👻	de	Letter			0	no		
	allgemein	Begrüßung 0.0.1 🔻	de	Include			0	no		
	Rückfrage	Erinnerung 0.0.1 👻	de	Letter			0	no		
	Rückfrage	Initiale Rückfrage 0.0.1 💌	de	Letter			0	no		
	Rückfrage	Katalog Allgemein 0.0.1 👻	de	Text Block			0	no		
	Rückfrage	Katalog Drucker 0.0.1 💌	de	Text Block			0	no		
	Rückfrage	Katalog PC 0.0.1 👻	de	Text Block			0	no		
	Werbung	Neue Produkte 0.0.1 👻	de	Text Block			0	no		
	allgemein	Signatur Firma 0.0.1 👻	de	Include			0	no		
	allgemein	Signatur standard (Standard) 0.0.1 👻	de	Letter				no		

Fig. 15: ConSol*CM/Web Client - Template View Page

• officeTemplatePage (only when CM/Office has been activated)

	Logged in: <u>admin</u> 💌			0	0	
Overview Create ticket Create customer	Manage templates Mana	ige Word templates	Enable page customization		All customer groups	٩
View: No view available view 0	Word templates					Workspace
Own tickets (0)	New Word template					Workspace is empty All your unsaved tasks are
Workgroup tickets (0)	Name					automatically listed in this
List is empty	Group					workspace.
No tickets available	Language Englis	sh [Favorites
Unassigned tickets (0)	Queues Selec	ct queues	•			mvn test : not w
	Word template	rchsuchen Keine [latei ausgewählt.			
×	ОК	Cancel				
	Word MailMerge fie	ahle				
	Show MailMerge fie	Ids available for a ti	:ket			
	Ticket name or subject					
	Reset					
	Template library					
	List of templates					
	Name InvoiceTemplate 1	Group Langu	Ige Queues HelnDesk 1st Level HelnDesk 2nd Level	Word template	Delete	
	test	testGroup en	Sales	Test .docx	×	
	testWe	testWeG en	HelpDesk 1st Level	wordvorlage_test.doc	×	

Fig. 16: ConSol*CM/Web Client - Office Template Page

For example for the type *globalSearchField* (see subsequent section) the following page-specific scopes can be configured. That means the behavior of the *globalSearchField* (type) can be configured for each of the following pages (scopes) where it is available:

- globalSearchField/welcomePage
- globalSearchField/ticketEditPage
- globalSearchField/searchDetailPage
- globalSearchField/contactCreatePage
- globalSearchField/contactEditPage
- globalSearchField/ticketCreatePage

25.3.2 Page Customization Parameters (in Alphabetical Order)

acimSection

An ACIM (activity item) is an entry in the History section of a ticket. This can be ...

- a comment
- an e-mail which has been sent from the ticket
- an e-mail which has been received by the ticket
- an attachment
- a time booking entry

An ACIM group is a group of entries which has a distinct date/time stamp. An ACIM item is a single entry within the ACIM group. It has only a time stamp.

Histo	עזע
Disp	av all entries 💌 Sorting latest first 💌
Disp	
Add	comment, e-mail or attachment
26 11 13 14 52	#4 changed by Workflow Timer
2011110 14.02	14:52 Reaction overdue has been triggered
26.11.13 08.52	#3 changed by Workflow Timer
	08:52 75% due reaction has been triggered
26.11.13 02.52	#2 changed by Workflow Timer
	02:52 50% due reaction has been triggered
	ACIM group
25.11.13 14.51	#1 created by admin Action 💌
ę	14:51 default class
	help
	14:51 Mark without SLA has been triggered
	14:51 SLA exists? has been triggered, new Scope is Qualify
	14:51 Reaction time set to 11/26/13
	14:51 Calculate time for reaction has been triggered
	14:51 Start has been triggered, new Scope is Helpdesk 1st Level workflow
	14:51 Main customer set to Lea Skywalker
	14:51 Hicket created
	14:51 Subject set to Login error
	14:51 Country set to USA
	14:51 Priority set to high
	14:51 Ask for feedback set to no

Fig. 17: ConSol*CM/Web Client - ACIM Group and Item

Warning:

Please make sure that the date format you have entered for one of the following date parameters is correct! If the date format is not correct, the entire page cannot be displayed! The Web Client will not work! Please see the correct date formats in the following table. By using an empty text (' ') as value it is possible to hide the date/time stamp completely.

Letter	Date or Time Component	Examples
G	Era designator	AD
у	Year	1996; 96
M	Month in year	July; Jul; 07
w	Week in year	27
W	Week in month	2
D	Day in year	189
d	Day in month	10
F	Day of week in month	2
E	Day in week	Tuesday; Tue
a	Am/pm marker	PM
н	Hour in day (0-23)	0
k	Hour in day (1-24)	24
К	Hour in am/pm (0-11)	0
h	Hour in am/pm (1-12)	12
m	Minute in hour	30
s	Second in minute	55
S	Millisecond	978
z	Time zone	Pacific Standard Time; PST; GMT-08:00
Z	Time zone RFC 822	-0800

Fig. 18: ConSol*CM/Web Client - Valid Date Formats for ACIM Date Configuration

Parameters:

acimGroupActionEntryDateFormat

Date format for group of ACIM without text or e-mail entry (i.e. for automatic actions). If nothing has been entered as pattern, the default one will be used.

Syntax: dateFormatFirstLevelOfDetails|secondLevel|thirdLevel

(java.lang.String, default = dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm)



Fig. 19: ConSol*CM/Web Client - Display for Format: dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm| dd.MM.yyyy HH.mm



Fig. 20: ConSol*CM/Web Client - Display for Format: dd.MM.yy HH.mm|dd.MM.yy HH.mm|dd.MM.yy HH.mm

acimGroupTextEntryDateFormat

Date format for group of ACIM with text, e-mail, or attachment entry. If nothing has been entered as pattern, the default one will be used.

Syntax: dateFormatFirstLevelOfDetails|secondLevel|thirdLevel

(java.lang.String, default = dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm)

	History	
_	Display all entries 💌 Sorting latest first 💌	
	Add comment, e-mail or attachment	
18.12.2013 ,	3 07.59 2 created by admin Action This is my new comment	
40.40.0041	a de ar i da constand has adminent d'addina i m	

Fig. 21: ConSol*CM/Web Client - Display for Format: dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm| dd.MM.yyyy HH.mm

	Histo	ry
_	Displ	ay all entries 💌 Sorting latest first 💌
	Add	comment, e-mail or attachment
18.12.13 0	8.07	#2 created by admin Action 💌
		This is my new comment

Fig. 22: ConSol*CM/Web Client - Display for Format: dd.MM.yy HH.mm|dd.MM.yy HH.mm|dd.MM.yy HH.mm

acimItemActionEntryDateFormat

Date format for item of ACIM entry. If nothing has been entered as pattern, the default one will be used.

Syntax: dateFormatFirstLevelOfDetails|secondLevel|thirdLevel

(java.lang.String, default = dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm)

• acimItemTextEntryDateFormat

Date format for text or e-mail entry. If nothing has been entered as pattern, the default one will be used.

Syntax: dateFormatFirstLevelOfDetails|secondLevel|thirdLevel

(java.lang.String, default = dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm|dd.MM.yyyy HH.mm)

• showCloneOption

Enables clone option for text ACIM entry (comment or e-mail entry). (boolean)



Fig. 23: ConSol*CM/Web Client - Clone Option for Text ACIM Entry

appendOrReplaceOnClone

Works only if clone option is set to *true*. If the editor is opened and already contains some text, you can append or replace its content when clone for another item is selected simultaneously. Possible values are *append*, *replace*. Default is *append*. (java.lang.String)

• headHistoryElementsCount

Lazy loading - Number of groups in ACIM section that will be loaded from the top of the history.

Default number is O(= lazy loading switched off). Customization works only when configured by type, not location. If head and tail elements count is O, then all history is loaded at once. (int)

tailHistoryElementsCount

Lazy loading - Number of groups in ACIM section that will be loaded from the bottom of the history. Default number is O(= lazy loading switched off). Customization works only when configured by type, not location. If head and tail elements count is O, then all history is loaded at once. (int)

Ticket		Accept	Edit Clone	Print Disp	lay 💌
SUP-45 Run Nas	ntimeExcpetion during login to cmhelp Desk 1st Level Qualify ssigned Open since 5/13/08 11:13 AM Priority high Module AdminTool ction time 7/1/11 Ask for feedback no				
Cust	tomers			Add	Hide
Main	n customer				
i Mr D mach	Dieter Macher CustomerGroup her@devnull.consol.de Private 0951-77635-422 Fax 0951-77635-200 Mobile 0171-5896446				
Engi	ineers			Add	Hide
Nor	relations			Add	Hide
Histo	огу	Comment E-Mail A	ttachment 1	Time booking	Hide
Disp Add	olay all entries V Sorting latest first V Comment, e-mail or attachment				
18.12.13 09.47	#9 created by admin Action 💌 Next comment				
18.12.13 09.47 同	#8 created by admin Action Switching off appliances doesn't stop the flow of electricity — while plugged in, they can sta How much power? The Belkin Conserve Insight gives you solid data about how many watts footprint, and how much it's hitting your wallet. Check out this Gadget Lab video to find out ho electricity hog in your household.	y on indefinitely in pov a device is burning, ho w you can figure wh	ver-sapping เพit's affecti at (or who) ห	standby mode ing your carb s the biggest	e. on
18.12.13 09.46	#7 created by admin Action One of the rallying cries for Google Glass is to make <i>technology that's there when you need i</i> on with their lives, without focusing on the technology. Wearable computers, in general, play opposed to the computer use being the primary focus itself. Vannevar Bush, one of the earliest computing pioneers, understood this idea and described weapazine version of his famous essay "As We May Think " Unfortunately, only early mainfrance.	t, gone when you don' supporting roles in wi wearable computers a mes existed then and	t It is intendent the user is nd cameras i main frames u	d to help peop s doing — as in the 1945 <i>LI</i> require that w	ple get IFE ve
	bring ourselves to the computer. Slowly, though, the technology came to us: from computers Bringing technology and computing closer to the body can actually allow technology to get fu	on our desktops to lap rther out of the way.	tops to mobil	e phones.	
	While these technologies lowered the barrier to communicating and accessing information, th in meetings with a <i>literal barrier</i> of screens that get in the way of face-to-face communication	ey created other barri n.	ers. We are r	now often gre	eeted
	Can we instead make devices that encourage in-person, face-to-face communication — whil need it? Ive been making and using wearable computers in my daily life since 1993 and have since its first year in 2010. It may seem like a paradox, but I argue that bringing technology an communication and attention — allowing technology to get <i>further</i> out of the way.	le still delivering the da been a technical lead d computing <i>closer</i> to	ta people nee and manage the body car	ed, only when r on Google G n actually imp	n they Glass rove

Example 1: Lazy loading switched off





Example 2: headHistoryElementsCount and tailHistoryElementsCount set to 1

Fig. 25: ConSol*CM/Web Client - headHistoryElementsCount and tailHistoryElementsCount Set to 1

mailToSelection

Initial e-mail address inserted into *To* field when composing e-mail. Possible options: {contact, contacts, engineer, fixed, none}, for *fixed* option see *mailToFixedMail* parameter. Default: *contact* (java.lang.String)

mailToFixedMail

Fixed e-mail address used when parameter *mailToSelection* is set to *fixed*. (java.lang.String) **Example:** E-mail to a fixed e-mail address, *mailToFixedMail* set to *foo@bar.de*, *mailToSelection* set

to	fixed.

History		Comment	E-Mail	Attachment	Time booking
Display c	ommunication 💌 Sorting latest first 💌				
Comment	E-Mail Attachment Time booking				
New E-m	sii show Cc show Bcc				
To:	foo@bar.de				
Subject:	Ticket (SUP-45) RuntimeExcpetion during login to cmhelp				
Template	Signatur standard 🔻				
Quote	Select entries Entries visible to the customer				
B I					

Fig. 26: ConSol*CM/Web Client - E-Mail to a Fixed E-Mail Address

recordLastUsedAcimTab

Records last used ACIM tab, i.e. when you open the editor again, the tab (comment/e-mail/ attachment/time booking) will be opened that was open when you closed the editor last time. (boolean

)

reloadPagelfIE8onAcimSubmit

Reloads page after a new ACIM submit, only for *IE8*. This is a workaround for the problem that adding comments/e-mails may take a long time when using IE8. (boolean)

removeContentOnTabSwitch

Clears text area content each time the tab panel in the editor is being switched. (boolean, default = *false*, i.e. when you switch for example from the Ticket E-Mail Editor to the Comment Editor, the text you have typed will remain in the editor panel and will not be removed)

timeBookingFeature

Activates or deactivates the time booking support in acimSection (i.e. display the link to time booking and the tab in the editor). (boolean, default = true)

	Histo	Ŋ	Comment	E-Mail	Attachment	Time booking lide
	Displa	y communication 🔻 Sorting latest first 🔻				
	Add c	omment, e-mail or attachment				
7/1/11 10:18	3	#4 created by admin Action default class Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Aenean commodo ligula penatibus et magnis dis parturient montes, nascetur ridiculus mus. Donec quam Nulla consequat massa quis enim. Donec pede justo, fringilla vel, aliquet nec, vu venenatis vitae, justo. Nullam dictum felis eu pede mollis pretium. Integer tincidun Aenean vulputate eleifend tellus. Aenean leo ligula, portitor eu, consequat vitae viverra quis, feunist a tellus. Dissellus viverra nulla ut metre varius laoraet. Qui	a eget dolor. felis, ultricie: lputate eget, t. Cras dapit , eleifend ac	Aenean s nec, pe arcu. In ous. Viva , enim. A	massa. Cum se ellentesque eu, enim justo, rho amus elementu Jiquam lorem a p imperdiet. Eti	ociis natoque , pretium quis, sem. nocus ut, imperdiet a, m semper nisi. inte, dapibus in, am uttriciae niei vel

Fig. 27: ConSol*CM/Web Client - Activate Time Booking Support (timeBookingFeature = true)



Fig. 28: ConSol*CM/Web Client - De-activate Time Booking Support (timeBookingFeature = false)

Information:

Please note that the value *false* in the *timeBookingFeature* hides the hyperlink from the time booking editor, see figure above. The user cannot blend it in using the *Display* option in the ticket's menu!

Please keep in mind that the visibility of the time booking section on the *userProfilePage* is configured via the *timeBookingSection* parameter *visible*!

accordionTicketList

Here you can define parameters for the ticket list.

Parameters:

• loadingTicketListMode

The mode used to render the ticket list. There are four options to select from:

1. LAZY_SYNCH (default)

The waiting indicator is shown in the place of the ticket list while the rest of a page is rendered. Then the ticket list is loaded. The main benefit of this approach is the possibility to show/read the main content faster.

2. LAZY_ASYNCH

(deprecated since 6.8.2, will be treated as LAZY_SYNCH mode)

The modification of the LAZY_SYNCH strategy. It does not wait when the page is being rendered but sends the second request and then loads the ticket list. This strategy will load the ticket list faster but may reduce the benefit of having the main page immediately.

3. INCLUDED

The ticket list is loaded along with the rest of a page.

4. LAZY_ASAP

The waiting indicator is shown in the place of the ticket list while the rest of a page is rendered. The request for the ticket list is sent immediately after two necessary libraries are loaded. In this approach a request for the ticket list is sent and processed concurrently with the first request. The ticket list will appear much faster on the page. (java.lang.String)

• mainCustomerDescriptionVisible

The page customization parameter *accordionTicketList.mainCustomerDescriptionVisible* ={true, false} replaces the annotation *show-contact-in-ticket-list* (which is valid until CM version 6.8). When this value is set to true, the customer data of the main customer is displayed in the ticket list representation of the ticket. Default is *true*.

• quickAssignLinkShowsTicketPageFlag

Whether the *quick assign* link (represented by the arrow rendered for each unassigned ticket) opens the assigned ticket immediately (boolean, default is *false*).

attachmentSection

Parameters:

defaultVisibilityFlag

The visibility of the attachment section for new users (for others the last visibility state is used, default = *false*, i.e. attachment section is not displayed). This feature defines only the initial behavior of the system. The user can blend in the attachment section using the *Display* option in the ticket's menu.

Ticket	Accept	Edit Clone	Print Display 💌	Workflov
100620	Login not possible HelpDesk 1st Level Qualify Unassigned Open since 12/10/13 3:35 PM Priority high Module Reaction time 12/11/13 Ask for feedback Country USA	Web Client no	 Customers Engineers Relations History Attachment 	nm ske e t ts
	A (Workspa

Fig. 29: ConSol*CM/Web Client - Visibility of Attachment Section for New Users (defaultVisibilityFlag = true)



Fig. 30: ConSol*CM/Web Client - Visibility of Attachment Section for New Users (defaultVisibilityFlag = false)

autocomplete

(available e.g. on userProfilePage)

Parameters:

• suffixCharactersToRemove

Occurrence of any of these characters will be removed from the tail of each search pattern word. (java.lang.String)

cmRichTextEditor

Parameters:

editorFeatures

Additional editor features. As default value, all values are set, i.e. the respective menu entries are available. (java.lang.String)

Possible values:

• SUB_SUP $X_2 X^2$

Allows subscript and superscript.

• INDENTS

Provides the possibility to add indents to the text.

• LISTS 📃 📃

Allows to insert/format lists.

• TABLES 🗹 🖬 💷 🖤 🚽 🐂 🐫 🚛 📬 🏢 📖

Allows to insert tables.

• INSERT

Allows to insert text elements; for finer control:

INSERT EMOTION

Allows to insert emoticons.

• INSERT_CHAR

Allows to insert special characters.

• INSERT IMAGE

Allows to insert images.

• editorFonts

The list of fonts for the editor in form =. Fonts are separated by ';'. You can specify a comma-separated list of possible system names for each font. (java.lang.String) (default = empty string)

Example: Arial=arial, helvetica, sans-serif; Courier New=courier new, courier; Verdana=verdana, geneva

imagePasteEnabled

Flag, whether direct pasting of images from clipboard into editor is enabled. Note that enabling this requires a Java Applet to run (boolean, default = false). Web browsers (i.e. Internet Explorer, Firefox) might show different behavior concerning display of the images.

contactSection

Parameters:

maxSuggestions

This refers to the customer/contact section which is displayed when you create a new ticket. Here, suggestions for contacts are displayed if matching hits are found in the database. The number of suggestions which are displayed can be configured using this parameter.

Customers		
Main		
Sompany Find Create		
Please find or create company first.	•	
MyCustomer		
Choose One First name	Ha	* Suggestions
Function	Acad. title	Los Dietrich Habermann Select
E-mail	Robinson	🔤 Andreas Hansen Select
Phone Choose One	Phone 1	
Choose One	Phone 2	
Choose One	Phone 3	
Choose One	Phone 4	
Division		
Domain Choose One		
Manager	Budget responsible	
Functional decider	Preparer	
Comment		
VIP 🔲 VIP		
CM/Track access CM/Track login	cmtrack_password	
Track user		
Create and select		

Fig. 31: ConSol*CM/Web Client - Suggestions for the Ticket Contact

customerSectionPanel

Here you can define if the menu item *edit* should be displayed in the context menu for companies. Please note that the user must also have the according access rights (see section Role Administration) to edit company data.

Parameters:

 referencedUnitEditLinkVisible (Versions 6.9.3.3 and less. Similar, new parameter is companyEditLinkVisible)

The visibility of the link for editing referenced units (boolean, default is *true*).

	Customers
	Main customer
e	Mr Luke Skywalker 💌 CustomerGroup luke@consol.de
	ConSol* (mbH Company ConS Address France
	8154: Change No cc Jump to company
	History

Fig. 32: ConSol*CM/Web Client - Visibility of Edit Link (referencedUnitEditLinkVisible = true)



Fig. 33: ConSol*CM/Web Client - Visibility of Edit Link (referencedUnitEditLinkVisible = false)

companyEditLinkVisible (Versions 6.9.3.4 and up. Older parameter is *referencedUnitEditLinkVisible*)

(available in *customerSectionPanel* in ticket and on *companyEditPage* and *contactEditPage*) The visibility of the link for editing a company, default is *true*.

	Customers		Add Hide
	Main		
-	Mrs Mia Skydiver v Starship Operator Dr. Special Forces	MyCustomerGroup	
	MySpaceCompany Company MySpace	Edit	
	7777 http://ww	Change Jump to company	

Fig. 34: ConSol*CM/Web Client - Visibility of Company Edit Link (companyEditLinkVisible = true)

	Customers		Add Hide
	Main		
_	Mrs Mia Skydiver v Starship Operator Dr. Special Forces	MyCustomerGroup	
	MySpaceCompany Company MySpace Address Milkyway 7777 http://ww	Change Jump to company	

Fig. 35: ConSol*CM/Web Client - Visibility of Company Edit Link (companyEditLinkVisible = false)

• additionalCustomersSortStrategy

The sort order of additional customers for a ticket can be defined using this parameter. If no parameter is set, the additional customers are sorted in the order they have been added to the ticket.

Ticket		Edit Clone Print Display 🕶
SUP-124	X-Cm: Exception during status change which moves a HelpDesk 1st Level Qualify Assigned to Huber, Harald Open since 5/5/08 11:39 AM Priority high Module inventory Reaction time 8/8/09 Ask for feedback no	a ticket into a new queue
	Customers	Additional contacts
	Main	Additional contacts
-	Mr Andreas Hansen V MyCustomerGroup Dr. R & D	in order as added to the ticket
	Additional	
	Mrs Mia Skydiver VyCustomerGroup Starship Operator Dr. Special Forces	
-	Mr Peter Diermau VyCustomerGroup Dr. CIO	
_	Mr Luigi Arcon VyCustomerGroup Dr. Office	
	Engineers	Add Hide

Fig. 36: ConSol*CM/Web Client - Page Customization for Sort Order of Additional Coustomers (1) The following values are possible:

- COMPANY_OF_MAIN_CUSTOMER
 - Contacts are sorted by the company description with the company of the main customer first.
- COMPANY

Contacts are sorted by the company description.

• CONTACT

Contacts are sorted by the contact description.

ROLE

Contacts are sorted by customer roles.

Multiple values can be provided as a comma-separated list. The default sort order (no value) works as before: customers are sorted as previously in the order of their addition.

The data object descriptions used for the display of contacts and companies are taken from the template *<Contact>. Ticket page*, see section Templates for Customer Data.

In the following example, the additional customers should be ordered by the name of the customer using the value *CONTACT*.

ConSol∛				0		6
CM6	Logged	in: admin 💌			-	
verview Create ticket Crea	ite customer Manag	e templates	Manage Word templates	Enable page customization	MyCustomerG	iroup Q
ew: No view available	Ticket			E	Edit Clone Print Display	 Workflow activities
Own tickets (0) List is empty No tickets available Workgroup tickets (0) Unassigned tickets (0)		X-Cm: Exc queue A relpDest stat. Assigned to Hu Priority Reaction time Customers Min Mir Shie Skycy Starship Opera Special Forces Mr Peter Dier Dr. Cio Mr Peter Dier Dr. Cio Mr Luigi Arcco Office	eption during status evel Qualify ber, Harald Open since 5/5/0 high Module in 8/09 Ask for feedback m All / ticketEdtPace tansen V MyCustomerGroup tor Dr. mau V MyCustomerGroup m V MyCustomerGroup	change which moves a ti 3 11:39 AM rentory	icket into a new	Close immediately Deny ticket Ask for approval Workspace Workspace Workspace Workspace Favorites Favorites Favorites Favorites Favorites are empty Drag tickets, companie or save them as favorites.
		Engineers			Add H	ide
		No relations			Add H	ide
		History		Comment E-Mail Att	tachment Time booking Hi	ide
		Display comm	nunication 🔻 Sorting late	st first ▼		
		Add comment,	e-mail or attachment			
Attribute name		Desc	ription	v	alue	http://cm6doku_ cm1.int.consol.de:8080
dditionalCustomersSortStrategy	Additional customers so COMPANY_OF_MAIN_C COMPANY_OF_MAIN_C top),COMPANY(sort by	orting strategies. USTOMER,COMP USTOMER(comp company descrip	Possible comma separat ANY,CONTACT,ROLE. any of main customer are otion), CONTACT(sort by	at (java.lang.St	tring) (+) (-)	/ <u>cm-client/</u> <u> introductionLinks</u> <u> introductors</u> <u> introductors </u> <u> introductors </u> <u> int</u>

Fig. 37: ConSol*CM/Web Client - Page Customization for Sort Order of Additional Customers (2)

Ticket		Edit Clone Print Display 💌
SUP-124	X-Cm: Exception during status change which moves a tick HelpDesk 1st Level Qualify Assigned to Huber, Harald Open since 5/5/08 11:39 AM Priority high Module inventory Reaction time 8/8/09 Ask for feedback no	ket into a new queue
	Customers	Additional contacts
	Main	ardarad by
.	Mr Andreas Hansen v MyCustomerGroup Dr. R & D	CONTACT
	Additional	
.	Mr Luigi Arcon VyCustomerGroup Dr. Office	
	Mrs Mia Skydiver VMyCustomerGroup Starship Operator Dr. Special Forces	
_	Mr Peter Diermau VyCustomerGroup Dr. CIO	
	Engineers	Add Hide

Fig. 38: ConSol*CM/Web Client - Page Customization for Sort Order of Additional Customers (3)

detailSearch

criteriaForAllTypeOfContacts

Boolean field, when set to *true*, the search will include the main customers and the additional customers of tickets. When set to *false* (default), the search will apply the search criteria only to the main customers of tickets.

• duplicatedCustomFieldLabelFormat

It allows to customize the label format used when several custom fields have the same localized name. There are four parameters which can be used to create a unique label:

- fieldName
- groupName
- fieldTechnicalName
- groupTechnicalName

The parameters *fieldName* and *groupName* are localized.

Default format: \${fieldName} (\${groupName}) (java.lang.String)

• maxGridTicketsNumber

Maximum number of tickets shown in grid view, i.e. in the entire grid, not in one column. The default value is *120*.

duplicatedCustomFieldLabelFormat	parameters which can be used to create unique label: fieldName, groupName, fieldTechnicalName, groupTechnicalName. Parameters fieldName and groupName are localized. Default format: \$(fieldName) (\$(groupName))	\${fieldName} (\${group] (java.lang.String) (+) (-)		- An avigationLinks - An searchDetailPage - An globalSearchField - An searchDetailPage
maxGridTicketsNumber	Maximum number of tickets shown in the grid view. The default value is 120.	7 (int)	=	- AccordionTicketList
Erzeugen Zurücksetzen			-	- Additional and the second

Fig. 39: ConSol*CM/Web Client - Using Page Customization to Adapt Maximum Number of Tickets Shown in Grid

	Some tickets will not be visible, only 7 can be displayed on the grid					
	Search					
	Search criter	Search criteria				
	Queue	'ServiceDesk'	-			
	Choose One					
1			Search			
	Ticke	ts MyCustomer	Group (MyCustomer) MyCus	stomerGroup (Company)		
	Viev	w as: 📃 List 🔡 Grid				
	Grou	up by: Priority				
			Drag tickets to other o	columns to update their selected pro	operty.	
	low		normal	high	Not set	
	100243	Call back Customer from New York	Printer does not work 100245	Urgent! Custo has question usage of softw 100244	omer r about tware!	
			Customer question regarding product documentation	Deadline run out - provide NOW!	nning : offer	
			Contato person has changed - please enter new contact data			
			User cannot activate product key 100254			

Fig. 40: ConSol*CM/Web Client - Maximum Number in Ticket Grid with Maximum Seven The maximum number of tickets displayed in the ticket grid view can also be role-specific. For example, an engineer with the role *Teamlead* would see 100 tickets, whereas an engineer with the role *Helpdesk* would see 50 tickets. In the following simple example, all engineers with the role *ServiceDesk* see ten tickets, all others see 5. The configuration uses a script which is defined for the page customization type. The script is stored in the *Script and Template Administration* of the Admin-Tool.

	detailSearch scope type	DetailSearchCustomization className	configuration script: maxTicketGridSize	=	/ <u>cm-client/</u> - (<u>mavigationLinks</u> - (<u>mavigationLinks</u>) - (<u>mavigationLinks</u>)
	Customizations for detail search p	Istomizations for detail search page, context={}			
Attribute name Description		Value		searchDetailPage	
Whether criteria should be applied to all contacts(main + add		ditional). Valid options:		detail Search	

Fig. 41: ConSol*CM/Web Client - Defining a Script for Maximum Number of Tickets in Grid View Using Page Customization

♦ Script and Template Administration				
Scripts Template				
	2			
Scripts	Source			
All script types	<pre>import com.consol.cmas.common.model.Engineer;</pre>			
Air script types	import con.consol.cnas.common.model.EngineerRole;			
NameType	<pre>Engineer engineer = engineerService.getCurrent();</pre>			
maxTicketGridSize	<pre>Set<engineerrole> roles = engineerRoleRelationService.getRolesForEngineer(engineer);</engineerrole></pre>			
Char Take Income Vorkflow	<pre>if(roles.find { it.name == "ServiceDesk" }) {</pre>			
DisplayCustomerD Workflow	[maxGridTicketsNumber: "10"]			
AppendToTicket.g E-mail	} else {			
IncomingMailRouti E-mail	[maxGridTicketsNumber: "5"]			
CreateTicket.groovy E-mail	3			
Change Outering E and				

Fig. 42: ConSol*CM Admin-Tool - Script for Maximum Number of Tickets in Grid

ServiceDesk engineer	
Some tickets will not be visible, only 10 can be displayed on the grid	×
Search	
Casroh oritaria	
HelpDesk 1st Level engineer	
Some tickets will not be visible, only 5 can be displayed on the grid	\times
Search	

Fig. 43: ConSol*CM/Web Client - Number of Tickets in Ticket Grid for Different Engineer Roles

enumAutocomplete

(available on *ticketEditPage* for enums with annotation *enum type = autocomplete*)

Parameters:

• maxHints

Defines the maximum number of suggestions which is displayed. When set to *O*, all suggestions are displayed, no limit.

• suffixCharactersToRemove

Occurrence of any of these characters will be removed from the tail of each search pattern word. (string, default: empty)



Fig. 44: ConSol*CM/Web Client - Using enumAutocomplete Parameter to Reduce Number of Hints

engineerAutocomplete

(available on ticketCreatePage, ticketEditPage, userProfilePage, contactEditPage)

Parameters:

• maxHints

Defines the maximum number of suggestions which is displayed. When set to *O*, all suggestions are displayed, no limit.

• suffixCharactersToRemove Occurrence of any of these characters will be removed from the tail of each search pattern word. (string, default: empty)

globalSearchField

Here you can define the layout and the behavior of the Global Search field, this is the quick search input field



Fig. 45: ConSol*CM/Web Client - Quick Search Input Field

Parameters:

maxHints

Defines the maximum number of suggestions which is displayed. When set to *O*, all suggestions are displayed, no limit.

searchResultItemsOrder
 Comma-separated values defining order and visibility of search result items. (java.lang.String)
 Possible values: CONTACT, COMPANY, TICKET

• **suffixCharactersToRemove** Occurrence of any of these characters will be removed from the tail of each search pattern word. (java.lang.String).

mailTemplate

Parameters:

- addingManyTemplateEnabled Makes it possible to compose an e-mail by using more than one template. (boolean)
- engineerPersonalMailsIncluded
 Enable appending personal e-mail feature. (boolean)
- includeTextBlocksInEmailTemplate Whether text blocks from e-mail template will be included by default. (boolean)
- mailBodyLockedAfterTemplateSelection Indicates whether e-mail body will be locked after template selection. (boolean)
- mailEncryptionAvailable Makes e-mail encryption option available. (boolean)
- mailSelectionComponentWidth The width of the e-mail selection component (in pixels). (java.lang.Integer)
- mailTemplateSortStrategy

E-mail template list sorting strategies. (java.lang.String) **Default value:** USAGE, NAME. Possible comma separated options are: USAGE, NAME

maxElementLength

The maximum length of a single element. If variable's value is set to *O*, elements will not be trimmed. (java.lang.Integer)

- **quotingFeature** Activate the quoting function in e-mail content. (boolean)
- showUniqueEmails

Results in autocomplete e-mail fields will be compared by e-mail, only first e-mail will be used in results. If set to *true* then results will be compared by whole e-mail description. (boolean)

navigationLinks

Here, you can define the display for several hyperlinks that are displayed in the main menu of the Web Client GUI.

Parameters:

createContactLinkVisible

Whether the *createContact* link can be shown (boolean, i.e. possible values are *true* or *false*, default value is *true*).

Information:

Apart from this parameter, users must have appropriate permissions to see *createContact* link.

createTicketLinkVisible

Whether the *createTicket* link can be shown (boolean, i.e. possible values are *true* or *false*, default value is *true*).

Information:

Apart from this parameter, users must have appropriate permissions to see *createTicket* link

• externalLinks

External links which will be appended to navigation bar. This parameter may configure more than one external link (the order matters).

Format (compatible with wiki): [http://link description]

This parameter might be used to integrate hyperlinks to the company's web site, to a reporting application, to a help page or to any other valid URL on the Internet and/or intranet.

Example: [http://www.consol.com ConSol*][http://www.somewhere.com Somewhere]

• manageTemplateLinkVisible

Whether the *Manage Templates* link (for the start of the *ConSol*CM Template Designer*) can be shown (boolean, i.e. possible values are *true* or *false*, default value is *true*). See also section The ConSol*CM Template Designer.

Information:

Apart from this parameter, users must have appropriate permissions (*Global Permissions - Write template*) to see the *Manage Template*s link.

officeTemplateLinkVisible

Whether the *officeTemplate* link (for the start of the *Word Template Manager*) can be shown (boolean , i.e. possible values are *true* or *false*, default value is *true*).

Information:

Apart from this parameter, users must have appropriate permissions (*Global Permissions* - *Write template*) to see the *officeTemplate* link. CM/Office has to be enabled in the system (see section CM/Office).

• overviewLinkVisible

Whether the Overview link can be shown.

ticketsAutocomplete

(available on the relations addition form)

Parameters:

• maxHints

Defines the maximum number of suggestions which is displayed. When set to *O*, all suggestions are displayed, no limit.

ticketsBookingAutocomplete

(available on the time booking addition form of the userProfilePage)

Parameters:

• maxHints

Defines the maximum number of suggestions which is displayed. When set to *O*, all suggestions are displayed, no limit.

ticketPanel

Parameters:

scrollSpeed

Scroll speed in milliseconds. A string determining how long the animation will run. Typical values: 200 , 600, 1000 ... (higher value means slower) (java.lang.String, default = 200)

topBottomPageButtonVisible

Whether go to top and bottom page button is visible (boolean, default is false).

• topBottomPageButtonVisible = false:

New Ticke	et
10	Subject *
	Queue: Frequently_Asker Assigned to: Unassigned
	Priority Choose One 💌 Module Choose One 💌
	Reaction time Ask for feedback
	Category None 🔻
	QA Test MLA None 🔻
	QA List Date Enum Price Number Text Department QA_Test_Mla_For_Struct
	Add row
	Country Choose one Choose one Priorities
	AssetType_en Choose One 🗨 BooleanValue_en EnumList_en Colors_en
	Add row
	FixedPointNumber_en NumberValue_en PhoneType_en Choose One 💌
	ReadonlyGroupable Choose One 🖵 StringList_en StringListElement_en StringValue_en
	Add row
	Customers
	Main customer
0	Find customer Create
	customer Please enter keywords such as name, company or e-mail
	Content
	Add comment
	B / U S = = = = DIV (default) ▼ Foot Family ▼ Foot Size ▼ 4 ▼ ▼

Fig. 46: ConSol*CM/Web Client - Button "go to top and bottom page" Not Visible

• topBottomPageButtonVisible = true:

New Ticke	et
in the second se	Subject
<u> </u>	Queue: Frequently_Asker Assigned to: Unassigned 💌
	Priority Choose One 💌 Module Choose One 💌
	Reaction time Ask for feedback
	Category None 🔻
	QA Test MLA None 🔻
	QA List Date Enum Price Number Text Department QA_Test_Mla_For_Struct
	Country Choose one
	AssetType_en Choose One
	Add row
	FixedPointNumber_en NumberValue_en PhoneType_en Choose One
	ReadonlyGroupable Choose One StringList_en StringListElement_en StringValue_en
	Add tow
	Customers
	Main customer
	Find customer Create
	customer Please enter keywords such as name, company or e-mail
	Content
	Add comment
	B I U S ≡ ≡ ≡ DIV (default) ▼ Font Family ▼ Font Size ▼ A ▼ ▼ *
	x² x, := := := := := :: :: :: :: :: :: :: ::
	• • • • • • • • • • • • • • • • • • •

Fig. 47: ConSol*CM/Web Client - Button "go to top and bottom page" Visible

timeBookingSection

(available e.g. on userProfilePage)

Parameters:

• visible

The visibility of the time booking section on the *userProfilePage*. (boolean, default value = *true*) Please keep in mind that the visibility of the time booking section on the ticket page is configured via the *acimSection* parameter *timeBookingFeature*!

unitAutocomplete

(available on the customer addition and creation forms)

Parameters:

• maxHints

Defines the maximum number of suggestions which is displayed. When set to *O*, all suggestions are displayed, no limit.

unitFormPanel

(available on contactCreatePage, ticketEditPage, contactEditPage)

Parameters:

• maxSuggestions

The limit of unit suggestions. Must be greater than zero.

unitSearch

(available on the *ticketCreatePage* in the company section)

Parameters:

aidLevel

Beginner-friendly help level:

- NONE
- BASIC (wider search field with more descriptive text)
- EXTENDED (as in BASIC plus additional help icon with tool tip)

(java.lang.String, default value = BAS/C)

Fix F Cu @ Fir	xedPointNumber_en ReadonlyGroupable Choose One EXTENDE ustomers ain customer nd Company Create	D aidLevel	You can enter one or more keywords. Keywords are automatically appended with the wildcard *. If you are using a keyword which is not at the beginning of the word you are searching for, you can expand the search by adding a preceding * to the keyword.
Co	ompany Please enter keywords such as name, company	or e-mail	* 2
a	Choose One	Lastname	*
Fu	unction	Acad. title	e
E	mail	Robin	nson
	Phone Choose One	Phone 1	

Fig. 48: ConSol*CM/Web Client - EXTENDED aidLevel in the Unit Search

unitSearchHeader

(available on *ticketCreatePage* in the company section)

Parameters:

• companyCreateLinkVisible

The visibility of the link for referenced company creation. (boolean)

viewDiscriminatorsSection

(available e.g. on userProfilePage)

Parameters:

• visibilityFlag

The visibility of the *View criteria* section (section for parameter settings for dynamic views on *userProfilePage*). (boolean, default value = *true*)

Engineer profile
Password change
Old password *
New password *
Repeat password *
OK Cancel
Representation
Engineers representing me
Engineer 💽
Engineers represented by me
General settings
View criteria
and a find head in the second s
Priority low, normal
OK
Default Customer Group
Choose One

Fig. 49: ConSol*CM/Web Client - Visibility of View Criteria Section (visibilityFlag=true)

Engineer profile	
Password change	
Old password *	
New password *	
Repeat password *	
OK Cancel	
Representation	
Engineers representing me	
Engineer	
Engineers represented by me	
Engineer	
General settings	
Default Customer Group	
Choose One	
Time booking	Add
Day 1/29/14	
Time period Day Week Month	
Jan 29, 2014	Today
	Total bookings on this day: 00:00

Fig. 50: ConSol*CM/Web Client - Visibility of View Criteria Section (visibilityFlag=false)

25.4 Order and Priorities of Page Customization

In case there are more than one values which are set for a parameter, the following hierarchy is applied:

- 1. Highest priority: script
- 2. Medium priority: scope definition
- 3. Lowest priority: type definition

Example for the value of *maxHints* in the *Global Search* field on the *ticketEditPage* :

- Variant A:
 - script: no value
 - scope definition (GlobalSearchField/ticketEditPage): maxHints = 10
 - type definition (GlobalSearchField): maxHints = 5
 - => maxHints will be 10
- Variant B:
 - script: maxHints = 7
 - scope definition (GlobalSearchField/ticketEditPage): no value
 - type definitoin (GlobalSearchField): maxHints = 5
 - => maxHints will be 7
- Variant C:
 - script: no value
 - scope definition (GlobalSearchField/ticketEditPage): no value
 - type definitoin (GlobalSearchField): maxHints = 5
 - => maxHints will be 5

26 CM6 Administrator Manual 6.9 - Authentication Methods for Engineers in the Web Client

26.1 Authentication Methods for Engineers in the Web Client

For the authentication of engineers in the Web Client, you can configure one of the following three methods:

1. Standard

All user (engineer) data is kept in the ConSol*CM database. User name and password are set on the Engineer Administration page, see section Engineer Administration.

2. LDAP

The credentials are kept in an *LDAP* server. ConSol*CM sends a request to this server for the engineer authentication, see section LDAP Authentication.

3. Kerberos SSO

The credentials are taken from a valid session using *Kerberos*, see section Single Sign-On with ConSol*CM Using Kerberos.

26.2 Introduction to ConSol*CM LDAP Authentication

- Introduction to ConSol*CM LDAP Authentication
 - Configuring the System to Enable LDAP Authentication
 - Configuring the System During Initial Set-Up
 - Switching the Authentication Mode to LDAP in a Running System
 - Managing Engineer Accounts for LDAP Authentication

ConSol*CM offers *LDAP* authentication for the Web Client as a standard feature, i.e. instead of managing the passwords for the ConSol*CM engineers in the CM database, they can be retrieved from an LDAP server (like e.g. a *Microsoft Active Directory* server).

When engineers want to log in to the ConSol*CM/Web Client, they enter their user name and password and press *Enter*. Behind the scenes, the CM server sends a request with the engineer's user name and password and checks with the LDAP servers if those credentials are correct.

When the credentials are correct, the approval is sent back to the CM server and the engineer is logged into the Web Client.

Important information:

Please keep in mind that the LDAP connection is only used to authenticate the user (confirm the identity). The authorization (i.e. the assignment of access permissions in the system) is done via the *Engineer* and *Role Administration* in the Admin-Tool. Every user who should work with the system as an engineer has to be created as an engineer account in the engineer administration!



Please see also the following picture for an explanation of the process:

Fig. 1: ConSol*CM LDAP Authentication Process

26.2.1 Configuring the System to Enable LDAP Authentication

There are two ways you can enable the ConSol*CM system to use LDAP authentication:

- 1. Select *LDAP authentication* during system set-up and enter the requested parameters (system properties) after the set-up.
- 2. Set up the system with the regular authentication mechanism and switch to LDAP later on.

Configuring the System During Initial Set-Up

During system set-up you can select LDAP as authentication mode. This will set the system property *cmas-core-security, authentication.method* (see below) to LDAP. No further parameters are entered. You have to set the LDAP parameters manually. Please see the subsequent section for an explanation.
				0110.0 (
				CM6 Setu
General Database Administrator Scene Incoming E-mail	Outgoing E-mail	Index	Data Warehouse	
Administrator				
Please specify the login for a user with full administrative permissions.				
Login: admin				
Enter a password for the administrator.				
Password: •••••				
Confirm password for administrator.				
Confirm password: •••••				
Please enter an administrator e-mail address to which error notifications will be sent.				
E-mail: luke@localhost				
Authentication can be done using the CM6 database (internal) or through LDAP.				
Select authentication mode: IDAP 🔹				
Enable Kerberos v5 single sign on authentication (previously chosen authentication mo	de will be used as f	allback m	echanism)	
Kaukanaa vE authantiantian 🔲		andack in	icentinoniy.	
Kerberos vo authentication: 📼				
Denvious Mark				
Previous Inext				

Fig. 2: ConSol*CM System Set-Up - Authentication Mode LDAP

Switching the Authentication Mode to LDAP in a Running System

h	anda core aci ver	actacimentamaxiaize	100
	cmas-core-security	authentication.method	LDAP
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
I	cmas-core-security	Idap.authentication	simple
I	cmas-core-security	ldap.basedn	OU=accounts,DC=consol,DC=de
l	cmas-core-security	ldap.initialcontextfactory	com.sun.jndi.ldap.LdapCtxFactory
I	cmas-core-security	ldap.password	
l	cmas-core-security	ldap.providerurl	ldap://ldap.consol.de:389
I	cmas-core-security	ldap.searchattr	uid
1	cmas-core-security	ldap.userdn	

Fig. 3: ConSol*CM Admin-Tool - Properties for LDAP Authentication

Required values for LDAP authentication (they are set via *system properties*, please see Appendix C for an explanation):

• authentication.method

LDAP

- Idap.authentication simple
- Idap.basedn

The DN (distinguished name) of the LDAP (sub-)tree where the required attributes are located.

Idap.initialcontextfactory

The Java class name for the initial context factory of the LDAP implementation when using LDAP authentication. Usually should be *com.sun.jndi.ldap.LdapCtxFactory*.

Idap.password

Password for connecting to the LDAP server to look up users. Only needed if look-up cannot be done anonymously.

• Idap.userdn

LDAP user for connecting to LDAP server to look up users. Only needed if look-up cannot be done anonymously.

Attention:

A server user name/password pair might be required to access the LDAP server. If you are not sure, you might want to use an LDAP browser for a first check.

Idap.providerurl

The complete URL for the LDAP server:

ldap://<HOSTNAME>:<LDAP PORT>

• Idap.searchattr

Search attribute for looking up LDAP entry connected to CM login, i.e. the attribute which is used as user name for the authentication.

26.2.2 Managing Engineer Accounts for LDAP Authentication

Use the Engineer Administration in the Admin-Tool to configure the engineer accounts.

When LDAP is used as authentication method, it is not possible to set the ConSol*CM password within the engineer administration. The pop-up window for engineer management provides the following fields which are relevant for LDAP authentication. Please refer to section Engineer Administration for details concerning the other (non LDAP-related) data fields.

Edit engineer	X
Edit engineer j Please edit the engineer	r's data.
Login:	Chef
First name:	Charly
Last name:	Chef
E-mail:	chef@consol.de
Position:	Chef
Company:	ConSol* Software
Division:	Delivery
Description:	Super-Chef
Phone:	1234
Mobile:	
Fax:	
LDAP ID:	
Kerberos Principal Name	e:
Track user:	
	Save Cancel

Fig. 4: ConSol*CM Admin-Tool - Engineer Administration

• Login

If no *LDAP ID* has been provided, this is used as the user name during the LDAP authentication process which is looked up in the LDAP directory in the *Idap.searchattr* node.

• LDAP ID

If you would like to employ special user names in ConSol*CM which are not identical to the values used in the LDAP directory you can fill in this field. During the LDAP authentication process, this LDAP ID is used as the user name which is looked up in the LDAP directory in the *Idap.searchattr* node.

26.3 Single Sign-On with ConSol*CM Using Kerberos

- Single Sign-On with ConSol*CM Using Kerberos
 - Configuration of Kerberos Single Sign-On
 - Introduction
 - Requirements
 - Setting Up the System
 - Domain Controller
 - Registering the ConSol*CM Server Machine
 - Registering the ConSol*CM Server User
 - Generating the keytab File
 - ConSol*CM Server
 - Enabling Kerberos in ConSol*CM
 - Configuring Kerberos
 - File keytab
 - Client Machine
 - Internet Explorer
 - Firefox
 - Using the System
 - Single Sign-On from the User's Point of View
 - Multi Domains Single Sign-On
 - Mapping Kerberos User Name to Engineer Name
 - Starting and Stopping Kerberos Authentication

26.3.1 Configuration of Kerberos Single Sign-On

Introduction

The *single sign-on* feature relating to ConSol*CM allows users to authenticate against ConSol*CM automatically with their *Windows* credentials.

This authentication mechanism ...

- works completely transparent, no user interaction (i.e. filling in login screen) is required,
- does not interfere with existing authentication mechanisms. If Kerberos authentication fails, we use whatever authentication mechanism was configured (e.g. LDAP or database authentication).

The single sign-on feature is based on the *Kerberos V5* protocol, which is integrated in the *Windows Active Directory*. All information is encrypted using *RC4* and *HMAC*.

The web server works as a *non-Windows Kerberos service* and can be installed on any operating system/ application server.

Client and web server use GSSAPI and SPNEGO to exchange authentication information.

This guide shows you how to set up single sign-on in a Windows (Active Directory) environment as this is the most common scenario for our customers.

Requirements

For Kerberos-based single sign-on you need:

- Domain controller for the Windows domain
- ConSol*CM server
- Windows clients

26.3.2 Setting Up the System

Domain Controller

The first step is to configure the domain controller so that it knows the ConSol*CM server. In our example the domain controller is called *win2003srv*, the domain is *CM6SSO.CONSOL.DE*.

Registering the ConSol*CM Server Machine

First, the ConSol*CM server machine needs to be registered in the Active Directory of the domain controller. In our example it is the computer *xp1cm6*.

Attention:

The radio button *Trust this computer for delegation to any service (Kerberos only)* must be activated!

? ×	? ×			
Delegation Location Managed By Dial-in General Operating System Member Of	General Operating System Member Of Delegation Location Managed By Dial-in			
APP-TEST2-VIS	Delegation is a security-sensitive operation, which allows services to act on behalf of another user.			
Computer name (pre-Windows 2000): XP1CM6 C Trust this computer for delegation				
DNS name: xp1cm6.cm6sso.consol.de Image: Use Kerberos only Bole: Workstation or server Image: Use any authentication protocol				
Description:	Service Type User or Computer Port Service Name Dc			
	Expanded Add			
OK Cancel Apply	OK Cancel Apply			

Fig. 1: Registration of ConSol*CM Server Machine

Registering the ConSol*CM Server User

Second, the user, under which the ConSol*CM server process will run, is created and registered in the Active Directory, in our example the user *tomcat*.

The following account options must be enabled:

- account is trusted for delegation
- no Kerberos pre-authentication needed

? >
Member Of Dial-in Environment Sessions Remote control Terminal Services Profile COM+ General Address Account Profile Telephones Organization
User logon name:
HTTP/xp1cm6 @cm6sso.consol.de
User logon name (pre- <u>W</u> indows 2000):
CM6SSD\ tomcat
Log On Io
Account is locked out
Account options:
✓ User must change password at next logon ✓ User cannot change password ✓ Password never expires ✓ Store password using reversible encryption
Account expires
OK Cancel <u>Apply</u>

Fig. 2: Registration of ConSol*CM Server User

Generating the keytab File

On the domain controller the ConSol*CM server is created as a new Kerberos service, additionally a Kerberos *keytab* file is generated. This file will be needed later on the ConSol*CM server machine. This *keytab* file contains the shared secret key of the service.

C:\Programme\Support Tools>ktpass /out tomcat.keytab /ptype KRB5_NT_PRINCIPAL /princ HTTP/xplcm6 .cm6sso.consol.de@CM6SSO.CONSOL.DE /pass consol.123 /mapuser tomcat /crypto rc4-hmac-nt

Attention:

If ktpass is not available, the Windows Server 2003 Support Tools must be installed, available here

ConSol*CM Server

Install ConSol*CM as usual, then enable and configure Kerberos as described in the next steps.

Enabling Kerberos in ConSol*CM

If you do an initial set-up, you can choose whether Kerberos should be enabled. Please note that this is only a hint and additional configuration is needed (see next steps).

If your ConSol*CM is already configured without Kerberos enabled, you can enable it in the Admin-Tool by setting the property *cmas-core-security, kerberos.v5.enabled* to *true*. A server restart is required to activate the new setting.

Configuring Kerberos

A ConSol*CM server reads configuration parameters from the file *cm6-kerberos.properties* from the class path:

- Under JBoss this can be:
 - ../jboss/server/{domain}/conf/cm6-kerberos.properties
- Under WebLogic this can be:
 - ../{domain}/cm6-kerberos.properties

In case you have a cluster of more than one ConSol*CM servers in operation, each server has to have a separate properties file.

Properties in this file should contain:

- Reference to a Kerberos config file (e.g. krb5.ini or krb5.conf)
- One or more service principal(s), i.e. reference to keytab file

Example for cm6-kerberos.properties:

path to kerberos configuration
kerberos.config.location=C:\\conf\\krb5.ini
one or more service principals (principal = path to keytab file)
HTTP/xplcm6.cm6sso.consol.de@CM6SSO.CONSOL.DE=C:\\conf\\tomcat.keytab

Example for krb5.ini:

```
[libdefaults]
  default_realm = CM6SSO.CONSOL.DE
  default_tkt_enctypes = rc4-hmac des-cbc-md5 des-cbc-crc des3-cbc-shal
  default_tgs_enctypes = rc4-hmac des-cbc-md5 des-cbc-crc des3-cbc-shal
[realms]
  CM6SSO.CONSOL.DE = {
    kdc = w2003srvcm6
    admin_server = w2003srvcm6:88
  }
[domain_realm]
  .w2003srvcm6 = CM6SSO.CONSOL.DE
  w2003srvcm6 = CM6SSO.CONSOL.DE
```

File keytab

Copy the *keytab* file you generated on the domain controller to the location you specified in the *cm6-kerberos.properties* config file.

Attention:

You have to restart the ConSol*CM server process!

Client Machine

Internet Explorer

The *Internet Explorer* needs to be configured so that automatic login is enabled. By default, this is allowed in the *medium-low* security setting, which by default is set for the *local intranet zone*.

In detail, the following settings for login behavior are available.



Fig. 3: Internet Explorer Login Configuration

Settings and resulting behavior:

- Anonymous logon No single sign-on is possible, user will get ConSol*CM login dialog.
- Automatic logon only in Intranet zone Single sign-on is performed automatically but only if the site is part of the local intranet zone.
- Automatic logon with current user name and password Single sign-on is performed automatically with current user credentials.
- Prompt for user name and password
 OS displays a login dialog, user can enter OS login information which is then used in Kerberos authentication.

Firefox

In the default settings, *Firefox* does not support Kerberos single sign-on. To enable single sign-on, you have to add the URI of the ConSol*CM/Web Client in the Firefox configuration.

To do this:

- Open about:config.
- Add the web server to the property *network.automatic-ntlm-auth.trusted-uris* (for example *http://xp1cm6* if that is the URI).

You can set this property also on the file system. Open the file

C:\Dokumente und Einstellungen\[USER]\Anwendungsdaten\Mozilla\Firefox\Profiles\XYZ.default\prefs.js

and add/replace the following line:

```
user_pref("network.automatic-ntlm-auth.trusted-uris", "http://xplcm6");
```

Attention:

You have to restart Firefox after this change.

26.3.3 Using the System

Single Sign-On from the User's Point of View

An engineer using single sign-on to log into ConSol*CM will notice that ...

- no ConSol*CM login screen is displayed,
- instead there may be (for a short time) an intermediate text screen (which is used to gather some client data via JavaScript) which immediately forwards the user to the ConSol*CM Web Client main screen. Here, a message is displayed:

You have been automatically logged in and a new session has been created for you.

It is still possible to login as another ConSol*CM user by clicking on the logout button which will lead you to the login page or by explicitly using the *...../cm-client/login* URL.

Multi Domains Single Sign-On

For each domain you will enable single sign-on, create a new domain/user and Kerberos principal and put all of them into the *cm6-kerberos.properties* file:

```
# path to kerberos configuration (think krb5.conf or krb5.ini)
kerberos.config.location=/etc/krb5.conf
# one or more service principals (principal = path to keytab file)
HTTP/cm6.consol.de@CONSOL.DE=/etc/krb5_consolde.keytab
HTTP/cm6.consol.de@CONSOL.PL=/etc/krb5_consolpl.keytab
```

Mapping Kerberos User Name to Engineer Name

Using Kerberos-based single sign-on, the Kerberos principal (i.e. the user's OS login) has to be mapped to a ConSol*CM engineer name.

By default, this mapping is done using one of the two following ways:

• Explicit mapping

Take the principal name and try to find a ConSol*CM engineer who has this principal stored as *Kerberos Principal Name*. If such an engineer is found, this engineer is used.

• Mapping via regular expression

The regular expression defined in the *cmas-core-security*, *kerberos.v5.username.regexp* property is taken and applied to the principal. The result of this will be taken and a ConSol*CM engineer with this login will be searched:

First matching regular expression group (in brackets) will be used as engineer login name,
 e.g. the default property value (.*)@. *will convert Huber@cm6sso.consol.deto Huber.

If further customization is needed please refer to UsernameAdapter interface javadoc.

Starting and Stopping Kerberos Authentication

Kerberos authentication can be started/stopped in the Admin-Tool -> page *Configuration* -> file card *CM Services* -> *Kerberos v5 authentication provider*, see section File Card CM Services.

X

27 CTI with ConSol*CM: CM/Phone

- CTI with ConSol*CM: CM/Phone
 - Introduction to CM/Phone
 - Incoming Calls
 - Outgoing Calls
 - CM/Phone Set-Up
 - System Requirements
 - Components Required for CM/Phone Set-Up
 - Installing CM/Phone on the Application Server
 - Basic CM/Phone Server Installation
 - Configuring CM/Phone on the Application Server
 - Configuring the Client Pop-Up Window
 - CallNotification.html
 - ContactData.html
 - ContactList.html
 - Links/Buttons within the Templates
 - Replacing the CM/Phone Pop-Up Window by a Custom Web Application
 - Installing CM/Phone on Each Windows Client
 - Engineer Authentication Modes
 - Configuration of CM/Phone in the Admin-Tool
 - Set the Annotations for the Data Object Group Fields Which Contain Phone Numbers
 - Configure the Admin-Tool Templates for Customer Data for Each Customer Group
 - Configure the Phone Number Format for Each Customer Group
 - Set the System Properties
 - Change the Prefix for Outgoing Calls
 - Troubleshooting
 - Logging
 - Registration as phone: protocol handler

27.1 Introduction to CM/Phone

CM/Phone is a distinct ConSol*CM module which has to be licensed in addition to the core CM system.

CM/Phone is a Windows client application for integration of telephony systems using the *TAPI 3* protocol. TAPI is part of any Windows operating system and provides generic telephony functions. The CM/Phone client has to be installed on each Windows client which should use the CTI (Computer Telephony Integration) functionality with ConSol*CM.



Fig. 1: CM/Phone - Basic Principle

27.1.1 Incoming Calls

The CM/Phone client monitors the telephone handset (i.e. the selected TAPI device, *address* or *line*) for incoming calls. When an incoming call has been registered, a pop-up window is created, displaying the phone number of the caller. The CM customer database is searched for matches for this contact. If one or

more matches has/have been found, a contact list is offered for selection. Engineers can then decide if they want to create a ticket for the contact or if they want to have the contact page displayed. In case no corresponding contact data match the phone number, just the calling number is displayed and the option *Create contact* is offered.

Attention:

Please note that a user can only see the customer data in the CM/Phone pop-up window which are allowed by the user's permissions. Others will be filtered out and will thus not be visible.

The pop-up window is based on *HTML* template files which are located in the CM/Phone folder on the CM server. These templates are loaded by the CM/Phone client application during startup. The information displayed in the pop-up window (data object group fields from the customer data model) can be customized by editing the template files (see section Configuring the Client Pop-Up Window).

The following options can be selected in the pop-up window, if exactly one contact matches in the CM database:

• Open contact

Opens the contact page (contact/company) in the Web Client (alternatively *Create contact* will be offered, if the caller is unknown in CM).

- Create ticket Opens the *Create ticket* page for this found (or new) contact in the Web Client.
- Call back

Will be available in case of a missed call.

Close

Closes the CM/Phone pop-up window.

In case, the contact is not yet present in the CM system, the caller's phone number will be used to fill-in the phone number field in the contact data (data object group fields) annotated as *dialable*. This will be done for new contacts and newly created tickets. Should multiple fields be annotated as *dialable* the first one will be pre-filled. In case the user has access to multiple customer groups the respective *dialable* phone number fields of each customer group will be pre-filled.

27.1.2 Outgoing Calls

The engineer can start an outgoing call directly by clicking on a phone number (e.g. in the customer data) in a data object group field which has been annotated as *dialable*. The CM/Phone application is started automatically by the browser and the phone number is passed to the telephone system as a command line parameter. The CM/Phone application creates an outgoing call via TAPI and quits immediately.

27.2 CM/Phone Set-Up

27.2.1 System Requirements

Please refer to the *System Requirements* of the ConSol*CM version which is installed in your environment for detailed information concerning server and client requirements for CM/Phone set-up.

27.2.2 Components Required for CM/Phone Set-Up

For CM/Phone set-up you, as an administrator, need:

- The license for CM/Phone, please ask your ConSol*CM consultant.
- The CM/Phone . war file for deployment in the application server.
- A TAPI 3 driver in the telephone system.

27.2.3 Installing CM/Phone on the Application Server

Basic CM/Phone Server Installation

The CM/Phone module is delivered as a *.war* package. The *.war* package is provided as folder (not as packed file), because in this way you can easily access the configuration files located in this path.

For the server installation, perform the following steps:

- 1. Copy the *cm-phone.war* folder to *<CM6 path>/server/cmas/deploy*.
- 2. Adapt the configuration as needed (see sections below).
- 3. Restart the application server.

To check if the application was deployed correctly, visit the web URI:

http://<CM server>:<CM port>/cm-phone/

You should see the welcome page of the application with the link to the CM/Phone installer download.

Configuring CM/Phone on the Application Server

All application parameters are set in the file **cmphone-config.xml** which is located under *<CM6 path>/ server/cmas/deploy/cm-phone.war*.

This file is loaded by the CM/Phone client application during startup and each time the settings dialog is closed with *OK*.

However, this file should not be edited in order to configure the system. Please make sure that all configuration parameters are set using the Admin-Tool.

Configuring the Client Pop-Up Window

The contents of the pop-up window are based on the HTML templates in the following path: <*CM6 path*>/ *server/cmas/deploy/cm-phone.war/templates*. The main directory contains the templates for the default language (of the client system!):

- CallNotification.html
- ContactData.html
- ContactList.html

For each additional language which should be supported, a folder with the name of the locale has to be created (e.g. *de* for *German*) which contains localized copies of the template files.

The templates are used to render the contact details in the pop-up window. Since every customer may want to see different information in the pop-up, the content can be adapted by editing the HTML files. The templates contain tags which are replaced with actual values by the client application during a call. Those templates are Admin-Tool templates which have to be defined for each customer group, please see section Configure the Admin-Tool Templates for Customer Data for Each Customer Group for details.

If required, you can change the names of the templates. You can use any file name you want for the three HTML files, just make sure you have entered the correct values in the config file.

CallNotification.html

This is the first template which is displayed as soon as an incoming call is detected by the CM/Phone client. This window only displays the calling number since at this time there is no customer data available.

Available tags:

[phonenumber]

Phone number of the caller. Example: <h1>Phonenumber: [phonenumber]</h1>

- [calltime] Time of the call.
- [content]

This will show additional information within the pop-up window:

A *Loading* icon during the contact look-up or an error message if something went wrong during the look-up, e.g. wrong user name or password, etc.

Attention:

These tags are case sensitive and must be lower case.

ContactData.html

This will display the actual contact details if the look-up successfully found a matching contact for the phone number. In this template all data object group fields of the customer data model can be used as tags. This way, the displayed contact details can be adapted to any customer's need.

All tags from the CallNotification template are available (see above), plus the following tags:

• [contact.id] CM internal ID of the contact. This ID may be used to create additional links into the CM/Web Client.

[contactContent]

Here, the contact data is filled in according to the template which is defined for each customer group in the Admin-Tool under <CustomerGroupObject> -> Templates -> *CMPhone Customer Details*.

ContactList.html

In case the look-up finds more than one contact for a phone number, the *ContactList* template is displayed in the pop-up window. For each found contact, a row is added in the contact table within the template.

Here, the contact data is filled in according to the template which is defined for each customer group in the Admin-Tool under <CustomerGroupObject> -> Templates -> *CMPhone Customer List*.

Links/Buttons within the Templates

Four buttons are configured in the standard templates:

- Close
 - Closes the pop-up window.
- Call Starts an outgoing phone call to the calling number.
- Open Contact Opens the contact in the CM/Web Client.
- Create Ticket Opens the Web Client in the *Create ticket* page.

These buttons can also be customized within the templates. Buttons may be removed or additional buttons or links may be added as required. Each button refers to an HTML link.

For CM/Phone there are two types of links available:

1. External links

These links will open a browser window to display the page.

For example, the link *http://heldesk/cm-client/contact/[contact.id]* will open the CM/Web Client and display the selected contact.

For these links, all data object group fields of the contact data may be used to create the URL. This way, additional functions may be added by creating a link to a customer-specific web application and by passing user data from CM as parameters, e.g.: *https://intranet.mycompany.de/index.php?id=234&id_person=[customer.personid]*.

2. CM/Phone internal links

These links are only valid within the pop-up window.

Format: http://cmphone/<command>/?<parameter>

The following commands are available:

a. contactdata

Displays the ContactData template for the selected contact.

Parameter: Contact Id

This command is used in the ContactList template to allow the user to select and display a

specific contact: http://cmphone/contactdata/?[contact.id] b. contactlist Displays the ContactList template. This command is used to allow the user to go back to the list of contacts from the Contact Data page: http://cmphone/contactlist c. call Starts an outgoing phone call to the phone number of the contact: http://cmphone/call d. runcmd Starts a local application on the client PC. Parameter: Command line of the application This may be used for instance to start a database application and pass a user ID as a command line parameter, e.g. : http://cmphone/runcmd/?dbapp.exe +userid=[customer.userid] e. close Closes the pop-up window: http://cmphone/close

Replacing the CM/Phone Pop-Up Window by a Custom Web Application

In case a customer does not want to use the pop-up window from CM/Phone but instead requires a custom web application to be opened for a phone call, this can be done by setting the *OnCallCmd* parameter in the *cmphone-config.xm*/file. If it is set to an external URL, a browser window will be opened with this URL for each phone call. The pop-up window will not be displayed.

27.2.4 Installing CM/Phone on Each Windows Client

The CM/Phone client application has to be installed locally on all client PCs that need CTI functionality. The set-up package has to be downloaded from the CM/Phone start page on the CM server.

Attention:

Administrator rights are needed on the client PC to install the CM/Phone application. The reason for this is the registration as *phone: protocol handler* which requires a registry key to be written.

For the client installation, perform the following steps:

1. Open the CM/Phone start page http://<CM6-URL>/cm-phone:



Fig. 2: CM/Phone Client Set-Up (1)

2. Download and run the installation package CMPhoneSetup.msi.

ConSol* CM/Phone
Welcome to the ConSol* CM/Phone Setup Wizard
The installer will guide you through the steps required to install ConSol ^s CM/Phone on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel < Back Next >

Fig. 3: CM/Phone Client Set-Up (2)

3. Start the CM/Phone application. Start *All programs -> ConSol CM6 -> CM Phone.* After the first start it will display the configuration dialog:

CM/Phone Configuration
ConSol * CM/Phone
Select the telephony device to use for incoming and outgoing phone calls
Line
Enter the CM6 address e.g. http://helpdesk.consol.com
CM6 URL
Enter your logon information
CM6 Username
CM6 Password
OK Cancel

Fig. 4: CM/Phone Client Set-Up (3)

Fill in the following fields:

• Line

Select the TAPI line which should be used.

• CM6 URL

Enter the URL of the CM system. The basic URL is required, e.g. http://myserver:8080.

CM6 Username

Your CM user name (the user has to have enough rights to search for data objects through CM REST API !).

CM6 Password

Your CM password.

Information:

The configuration dialog can be opened anytime by opening the context menu of the CM/Phone notification icon in the task bar and selecting *Settings*

Engineer Authentication Modes

The ConSol*CM CTI Client will not work together with SSO authentication mode (see section Single Sign-On with ConSol*CM Using Kerberos).

27.3 Configuration of CM/Phone in the Admin-Tool

In the Admin-Tool you have to perform the following steps to configure CM/Phone:

- Set the annotations for the data object group fields which contain phone numbers.
- Configure the Admin-Tool templates for customer data for each customer group.
- Configure the phone number format for each customer group.
- Set the system properties.
- Optional: Change prefix for outgoing calls.

27.3.1 Set the Annotations for the Data Object Group Fields Which Contain Phone Numbers



Fig. 5: ConSol*CM Admin-Tool - Annotations for Data Object Group Fields with Phone Numbers

Contact		Display 🔻
@	Mr Max Mustermann Gruppenleiter max.mustermann@consol.de Office 08945841100 Office 01627673232 Office 01627673232	
	ConSol* GmbH ▼ Company ConSol* GmbH Address Franziskanerstr. 38 81543 München	

Fig. 6: ConSol*CM/Web Client - Dialable Number When Using CM/Phone

Two annotations are required for the data object group fields which contain phone numbers:

• dialable = *true*

This configures the phone numbers as dialable links in the Web Client.

• field-indexed = *local*

This makes the field searchable which is important for the customer look-up.

27.3.2 Configure the Admin-Tool Templates for Customer Data for Each Customer Group

The customer data model configuration now also allows for two more contexts/types of data object templates :

- CMPhone customer details
- CMPhone customer list

They are used for defining how CM/Phone should render incoming call information. The first one is used for exactly one data object matching the phone number and the second one is used for multiple matches, so that the engineer has to select the correct customer.

You have to perform two steps:

- 1. Write the templates and store them in the Script and Template Administration of the Admin-Tool.
- 2. Assign the templates to customer data models (User attributes file card Customer data model).

CM6 Admin-Tool @ cm6doku-cm1.int.co	onsol.de		x
File Views Help			
			~
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			_
Script and Template Administration			
Scripto Template			
Scipis relipide			
Template		Source	
Name 🔺	Group	Language Englisch 👻	
BasicCustomerEmailTemplate		<pre>_ </pre>	
CMPhoneCustomerDetailsTemplate	CM Phone	<pre></pre>	
CMPhoneCustomerListTemplate	CM Phone	<pre>tr>td>Citytd>{(company.getFieldValue("company", "city")!</pre>	
DirCustCompany-standard-template		<pre>Name\$ {company.getFieldValue("company", "namel")!}</pre>	
DirCustCustomer-standard-template			
ResellerCompany-standard-template			
ResellerCustomer-standard-template			
ResellerCustomerEmailTemplate			
Resellercompany-searchresult-template			
attachment-type-error-mail-template			
cmas-dev-close-mail	=	=	
company-standard-template			
company-ticketlist-template			
customer-standard-template			
empty letter			
engineer description template name			
engineer profile description template name			
engineer-assigned-default-mail			
engineer-removed-default-mail			
index-error-mail-template			
password-reset-template			
representation_info_email_html			
representation_info_email_plain_text			
search-company-template			
● 👔 🔕 🗂			
[CM_Administration,Workflow_Admin]			

Fig. 7: ConSol*CM Admin-Tool - Example Template for Rendering Customer Data for Display in CM/Phone

CM6 Admin-Tool @ cm6doku-cm1.int.consol.de	Edit data object	
File Views Help	i dit data object i Please edit the data object's data.	
1 User attributes Customer groups Customer data model Data object actions Customer Customer data models State actions Customer Custoustomer ResellerCompany_ServiceContractData ResellerCompanyInternalResp ResellerCustomer ResellerCustomer	Name: company Description:	Name company-standard-template company-standard-template company-standard-template company-standard-template CMPhoneCustomerDistalsTemplate CMPhoneCustomerListTemplate CMPhoneCustomerListTemplate
CM_Administration, Workflow_Admin]		

Fig. 8: ConSol*CM Admin-Tool - Assignment of CM/Phone Templates for Customer Data to Customer Groups

27.3.3 Configure the Phone Number Format for Each Customer Group

The format defined here is used to transform incoming numbers (from the respective customer group) to a common canonical form exchange format. The engineer can enter a phone number in any format with or without prefixes, e.g. as company internal number. To avoid problems with interpreting such numbers there is a dedicated configuration per customer group which is used when a user submits a phone number for a particular data object. The patterns/elements of the different formats which can be interpreted as a phone number in the fields marked as *dialable* can be defined in detail in the Admin-Tool.

The topic *User attributes* has to be selected after logging in to the Admin-Tool for this configuration. On the file card *Customer groups* the desired customer group has to be selected for editing. After clicking the *Edit* button below the list of customer groups the edit dialog opens which now contains a new tab titled *CMPhone*.

On the *CMPhone* file card of the *Edit customer group* dialog there are fields in which you can enter phone number prefixes for different scopes and number patterns for several phone number types.

The fields for configuration values are:

• Country prefix

The international country prefix for extending national phone numbers, without prefixes like "0" or "+". Such a prefix is not allowed here!

The country prefix is required in order to check if an outgoing call is going to be performed within the same country or not. Several phone providers do not handle canonical (so theoretically correct) numbers for domestic calls. Therefore the country prefix has to be cut-off from the number in such cases.

• Area prefix

The local city/area prefix for extending local phone numbers. Please note that this also does not include general prefixes like "0" or "1", so the entry for Munich in Germany would be *89*, not *089*.

• Company prefix

The phone number of the company as used in (local) calls without extensions. Adding an extension number to this prefix would allow a local call from outside the company to this extension.

• Subscriber pattern

This regular expression (RegEx) describes a number pattern used to identify if the number provided is a full subscriber number (eventually including an extension) which would allow for a local call.

• Internal pattern

The regular expression (RegEx) in this field defines the pattern to classify extensions, if only a phone extension is entered.

• Mobile pattern

This regular expression (RegEx) is used to identify a number entered as a mobile/cell phone number in the country, which would be valid to make a national call to a mobile phone.

For example, for all numbers (12, 33990312, 21133990312) from above points the result should be always the full canonical number: 4921133990312. For mobile numbers also a country prefix will be added, so the result will be: 49600289906. If the engineer enters a full number starting with "+" or "0" then the configuration is skipped - CM assumes no number conversion is required.

CM6 Admin-Tool @ cm6doku-cm1.int.consol.de	
File Views Help Edit customer group Image: Second state of the customer group data. Image: Second state of the customer group data.	X
E: User attributes Customer groups Customer groups Filter: All customer data Name Customer data DirectCustomers DirectCustomers DirectCustomer Group BasicModel Contact actions Contact actions Company action Contract actions Company action Contract actions Contract actions Company prefix: 49 Area prefix: 211 Company prefix: 339903 Subscriber pattern: Vd(3) Mobile pattern: Vd(9)	Cancel
Country prefix: Area prefix: Company prefix: Subscriber pattern: Internal pattern: Mobile pattern: Mobile pattern:	

Fig. 9: ConSol*CM Admin-Tool - Configuration of Phone Number Formats for a Customer Group

These prefix values are defaults for extending phone numbers which are not fully qualified. They can always be overridden by entering a fully qualified phone number.

The patterns are used to guess the type of a phone number which is not fully qualified. The guessed type determines its use and necessary additions for connecting a call. For this purpose, after removing unnecessary characters, a number is checked, if it is already fully qualified. Otherwise it is matched against these patterns. For exactly one match, a valid number is constructed and used. If two matches are area code and mobile number these are combined with the country prefix for a valid number to be dialed. In all other cases the supplied original number cannot be used for making a connection.

27.3.4 Set the System Properties

There are three new properties with relevance for CM/Phone in CM to be set in the Admin-Tool. The correct configuration for these is essential for proper usage of phone numbers for connection calls. The properties are elements of the module *cmas-core-server*.

local.country.prefix

This is the local country code. The value is an international country code like *49* for Germany, for example. Default value is *49*.

• internal.line.access.prefix

This is a prefix that the company's telephony system asks for outside lines, if required. So, if a O or a O needs to be dialed in order to make a call to any number outside the company, this value needs to be configured here. Default value is O.

• external.line.access.prefix

This is the general prefix to dial before an area code to get a long-distance connection in the country. For example, in Germany it is a ∂ that needs to be prepended to the area code. Default value is ∂ .

These properties are all optional, so they have to be added manually, if needed.

27.3.5 Change the Prefix for Outgoing Calls

Inis step is optional!

Usually the prefix *phone:* is set before the number for outgoing calls for interaction with the TAPI. If another prefix (e.g. *tel*.) is required, this can be configured in the *Windows Registry*. Please ask your CM consultant for advice.

27.4 Troubleshooting

27.4.1 Logging

For debugging purposes, a log file may be activated on the client. In order to do this, the log configuration file *log4net.xm*/in the installation path of the client, usually *<Program Files*>*IConSo/ICMPhone*, has to be configured.

Since most users do not have write access to the *Program Files* directory, the log file path has to be set to a folder that is writable for the user, e.g.:

Notes:

- Special characters and/or whitespaces do not have to be masked.
- Use the following to write the log file into the user's home directory:

```
<file value="${USERPROFILE}\phone.log" />
```

27.4.2 Registration as phone: protocol handler

If the client application cannot be installed by the users themselves because of insufficient access rights, the application may be distributed by an administrator employing a software distribution system. In that case, the application needs to be registered on the client as *phone: protocol handler* by creating the appropriate registry keys:

- [HKEY_CLASSES_ROOT\phone]
 Please make sure to set the space in URL Protocol, otherwise it will not work.
- [HKEY_CLASSES_ROOT\phone\DefaultIcon]
 @="C:\\Program Files (x86)\\ConSol\\CMPhone\\cmphone.ico"

ConSol*CM Administrator Manual (Version 6.9, up to 6.9.3)

- [HKEY_CLASSES_ROOT\phone\shell]
- [HKEY_CLASSES_ROOT\phone\shell\open]
- [HKEY_CLASSES_ROOT\phone\shell\open\command] @="C:\\Program Files (x86)\\ConSol\\CMPhone\\cmphone.exe" (example)

28 Data Warehouse (DWH) Management

- Data Warehouse (DWH) Management
 - Introduction
 - Data Warehouse
 - ConSol*CM Data Warehouse and ConSol*CM Reporting Framework
 - DWH Management Using the Admin-Tool
 - DWH Administration Overview
 - Basic DWH Configuration
 - Initialization of the DWH
 - First DWH Synchronization
 - DWH Synchronization During System Operation
 - DWH Tasks
 - DWH Troubleshooting and Repair

Attention:

To set up a DWH, a ConSol*CM Reporting Framework (CMRF) that is up and running is required. If your system does not include a CMRF yet, please talk to your ConSol*CM manager or contact ConSol* Software.

28.1 Introduction

28.1.1 Data Warehouse

A data warehouse is a collection of data from one or more systems and/or databases that provides the basis for reporting and for data analysis. Often, the data has been combined or rearranged (integrated) in a way that a perfect basis for reporting and for data analysis is provided.

28.1.2 ConSol*CM Data Warehouse and ConSol*CM Reporting Framework

A ConSol*CM default installation comprises all modules that are required to build a data warehouse. The core component is the **ConSol*CM Reporting Framework (CMRF)**.

This is a Java EE application which synchronizes the data between the ConSol*CM database and the DWH database. Please see the following picture for system architecture examples with DWH and CMRF. We recommend that you use two servers, one for ConSol*CM and one for CMRF. Please refer to the current *System Requirements* for information about the supported application servers and RDBMSs.



Fig. 1: ConSol*CM System Architecture with DWH

There are two different modes to synchronize the DWH with the CM database:

• LIVE mode

In this mode, every change that has been submitted to the CM database is immediately synchronized with the DWH.

ADMIN mode

In this mode, the administrator has to trigger the synchronization manually.

Attention:

Only data from custom fields and data object group fields with the annotation *reportable = true* will be synchronized with the DWH!

28.2 DWH Management Using the Admin-Tool

28.2.1 DWH Administration Overview

To manage the DWH, use the DWH Administration tab under Deployment.

CM6 Admin-Tool @ cm6-demo.int.consol.de		J.
File Views Help		
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Deployment		
Deployment DWH tasks DWH Administration		
17.09.2013 12:51:45 Starting transfer(1970-01-01 01:00:00 - 2013-09-17 12:46:38)	▲	Selection for
17.09.2013 12:51:45 Deleting dynamic tables	Transfer	file information
17.09.2013 12:51:46 Dynamic tables deleted		
17.09.2013 12:51:46 Deleting data	O Update	
17.09.2013 12:51:46 Data deleted		
17.09.2013 12:51:54 Processing awn configurations		
17.09.2013 12:51:54 I awn configuration processed		
17.09.2013 12:51:54 Processing supported locales		
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17 09 2013 12:51:54 1 bistory type processed		
17.09.2013 12:51:54 Processing enum types		
17.09.2013 12:51:55 25 enum types processed		
17.09.2013 12:51:55 Processing enum groups		
17.09.2013 12:52:03 65 enum groups processed		
17.09.2013 12:52:03 Processing engineers		
17.09.2013 12:52:04 31 engineers processed		
17.09.2013 12:52:04 Processing calendars		
17.09.2013 12:52:04 1 calendar processed	-	Operations for
	-	DWH
Initialize overwrite Transfer Update Configuration		5
CM Administration		
		J

Fig. 2: ConSol*CM Admin-Tool - DWH Configuration

In the center area, the log file information of DWH operations is displayed. Use the radio buttons on the right-hand side to select which log file should be displayed. The DWH operations are available as buttons in the row below the center area.

• Initialize

Create tables during DWH set-up, see Initialization of the DWH.

• overwrite

Used for re-initialization, see Initialization of the DWH.

• Transfer

Start initial data transfer after set-up, see First DWH Synchronization.

Update

Transfer new/additional data to the DWH, see DWH Synchronization During System Operation.

• Configuration

Open DWH configuration panel, see Basic DWH Configuration.

The radio buttons and the buttons for DWH operations are not coupled with one another, i.e. when you select an operation, the log file display is not changed. See the following paragraphs for detailed explanations about all operations.

28.2.2 Basic DWH Configuration

Before you can set up a ConSol*CM DWH you have to prepare a database (or database schema) which will contain the DWH data. The database server has to be available for the CMRF server.

In order to prepare the system for the DWH synchronization, you have to configure the database and the DWH mode. Open the *Deployment* section of the Admin-Tool and open the file card *DWH Administration*. Click on *Configuration*, open the file card *Configuration*, and insert all values of the CMRF server.

CM6 Admin-Tool @ cm6-demo.int.consol.de	DWH Configuration
File Views Help	DWH Configuration j Please edit configuration of DWH
Deployment Deployment DWH tasks DWH Administration 17.09.2013 12:45:59 Starting reinitialization 17.09.2013 12:46:00 Error during processing dynamic tables 17.09.2013 12:46:00 Deleting tables 17.09.2013 12:46:00 Tables deleted 17.09.2013 12:46:00 Creating database structure 17.09.2013 12:46:04 Database structure created 17.09.2013 12:46:04 Filling tables 17.09.2013 12:46:25 Tables filled 17.09.2013 12:46:25 Reinitialization finished successfully	Configuration Notification Mode DWH Mode Selection DWH Mode Selection LIVE Connection Initial context factory: Initial context factory: org.jnp.interfaces.NamingContextFactory URL factory packages: org.jboss.naming:org.jnp.interfaces CMRF URL: 123.123.12.122:1099 Save Cancel
Initialize overwrite Transfer Update Conf	iguration
CM_Administration]	

Fig. 3: ConSol*CM Admin-Tool - DWH Configuration: File Card Configuration

At DWH Mode Selection, choose one of the available options:

• LIVE

In this mode, every change that has been submitted to the CM database is immediately synchronized with the DWH.

ADMIN

In this mode, the administrator has to trigger the synchronization manually.

• OFF

No transfer of data to the DWH.

You can also see the DWH mode that is in operation by taking a look at the corresponding DWH system property *cmas-dwh-server*, *dwh.mode* (see Appendix C).

11	unas-core-index-common	นเรลมเติสนาที่ทางสรรรสนายางกับที่ที่ที่ทาง	IOSC	=
ш	cmas-dwh-server	dwh.mode	LIVE	1
dl			A / d-t- / l-	

Fig. 4: ConSol*CM Admin-Tool - System Property for DWH Mode

For the connection, the following parameters are required:

- For JBoss:
 - Initial context factory

The Java class that is used for the connection. No changes are required here since ConSol* CM selects the correct value during system set-up.

• URL factory packages

The Java package that comprises the required connection classes. No changes are required here since ConSol*CM selects the correct value during system set-up.

CMRF URL

The URL of the CMRF, i.e. the URL to which the CM system should connect in order to provide the information about new synchronization tasks. The general notation

<CMRF_HOST_IP>:<JNDI_PORT>

(i.e. *192.168.0.1:1099*) can be used. Please note that the default JNDI port is *1099*. In case you are using different JBoss port mappings, then the JNDI port will also differ. I.e. when using *ports-01* then the JNDI port is *1199*, for *ports-02* it is *1299*, ...

• For Weblogic:

Initial context factory

The Java class that is used for the connection. Use:

weblogic.jndi.WLInitialContextFactory

• URL factory packages

The Java package that comprises the required connection classes. Use:

weblogic.jndi.factories:weblogic.corba.j2ee.naming.url:weblogic.corba.client.naming

CMRF URL

The URL of the CMRF, i.e. the URL to which the CM system should connect in order to provide the information about new synchronization tasks. The *t3* protocol has to be used, i.e.

t3:// <cmrf_host_ip>:<jndi_port></jndi_port></cmrf_host_ip>	>	

(i.e. t3://localhost:7010).

In the file card *Notification* you can configure the format of the messages (e-mails) which are sent by the system concerning DWH operations. This might be errors, success messages, or an information about an unsuccessful operation.

The values are saved in the DWH notification properties (see Appendix C for details).

DWH Configuration	23		
DWH Configuration j Please edit configuration of DWH			
Configuration Notification			
Protocol: smtp	•		
Host: mailme.consol5.de			
Port: 25			
User:			
Password:			
Error Successful Unsuccessful			
From: dwh@cm6-demo.int.consol.de			
To: dwh-admin@consol.de			
Subject: Error occurred (cm6-demo.int.consol.de)			
Description: Error occurred:			
Save	cel		

Fig. 5: ConSol*CM Admin-Tool - DWH Configuration: File Card Notification
The following fields are available:

- Protocol
 - Required The protocol that is used to send the message, usually this is SMTP.
- Host

Required - The mail server. You can enter a name (DNS-resolvable) or an IP address.

• Port

Required - The port on the mail server where the mail daemon is listening.

• User

Optional - User name if a user authentication is required at the mail server.

Password

Optional - Password of the mail user if a user authentication is required at the mail server.

• File cards Error/Successful/Unsuccessful

Here the e-mail parameters for e-mails that are sent by the system concerning the DWH can be configured. There are three types of messages: in case of an error, in case of a successful operation, and in case of an unsuccessful operation.

• From

The FROM e-mail address for messages (maybe this is another FROM address than the one used for e-mails to customers and to engineers).

• То

The e-mail address of the recipient of the DWH messages. Initially this will be the ConSol*CM administrator e-mail address which has been entered during system set-up.

Subject

The (e-mail) subject of the error/success/unsuccessful message.

• **Description** The body (text) of the message.

28.2.3 Initialization of the DWH

When the basic configuration has been performed, the DWH initialization can be started. Press *Initialize* and follow the entries in the protocol panel. Be sure to have marked *Initialization* (radio button) in the top right corner to display initialization events.

CM6 Admin-Tool @ cm6-demo.int.consol.de							
File Views Help							
🕋 🗶 🐦 🍸 📖 🚉 🗊 🔧 🚍 🗞 🧔 🔿 💋	•						
(6) Deployment							
Deployment DWH tasks DWH Administration							
<pre>17.09.2013 12:45:59 Starting reinitialization 17.09.2013 12:46:00 Error during processing dynamic tables: could not execute query 17.09.2013 12:46:00 Deleting tables 17.09.2013 12:46:00 Creating database structure 17.09.2013 12:46:04 Database structure created 17.09.2013 12:46:04 Filling tables 17.09.2013 12:46:25 Tables filled 17.09.2013 12:46:25 Reinitialization finished successfully</pre>	 Initialization Transfer Update 						
Initialize overwrite Transfer Update Configuration							
2 [CM_Administration]							

Fig. 6: ConSol*CM Admin-Tool - DWH Initialization

During this step, the database structure in the DWH is created with all tables and relations. No data will be transferred yet. Depending on the amount of data, this might take some hours.

If the DWH has been in operation and has to be set-up a second time, a reinitialization has to be performed. Check the *overwrite* option in order to delete the old database structure and create a new one. Then press *Initialize*.

28.2.4 First DWH Synchronization

To fill the data warehouse with the CM data for the first time, press *Transfer*. The initial transfer is started. You can follow the log entries by opening *Transfer* in the protocol panel.

28.2.5 DWH Synchronization During System Operation

If the DWH is running in *ADMIN* mode, the DWH administrator has to start the transfer manually by clicking on *Update*. Then all data that is supposed to be transferred, i.e. all data from fields with the *reportable = true* annotation that has been added or changed since the last transfer, is transferred. When the *Update* button

has been clicked, all required operations will be created as tasks and all open tasks will be listed in the *DWH* tasks panel.

If a custom field or data object group field did not have the *reportable* annotation at the time of the last transfer and has it now, the corresponding content of the field from all tickets and/or customers is transferred

You can follow the log entries for the DWH operation by opening the Update part of the protocol panel.

Warning:

Do not remove the annotation *reportable = true* for any field without being absolutely sure that the data is not required in reports any longer! If you remove a field that is used in reports and/or data cubes, the reporting will fail at run-time!

28.2.6 DWH Tasks

In this list you will find entries (one entry for one task) if ...

- the DWH is running in *ADMIN* mode and the administrator has started an update: all tasks that have to be performed are listed.
- the DWH is running in *LIVE* mode but the check box *Automatic commit of administrative changes* has not been checked.
- custom field or data object group field annotations have been set *reportable = true* and the check box Automatic commit of administrative changes has not been checked.

You can mark a task in the list and execute it manually.

If the check box *Automatic commit of administrative changes* has been checked, the tasks will be run automatically by the system.

28.2.7 DWH Troubleshooting and Repair

If any errors have occurred during initialization, transfer, or update, the log entries are displayed in the respective protocol panel.

You can also check the original log file under the following path:

JBoss:

```
<JBOSS_HOME>\server\<CMRF_SERVER_NAME>\log\cmrf.log
```

• Weblogic:

<ORACLE_HOME>\Middleware\user_projects\domains\consolcm6_domain\cmrf-logs\cmrf.log

Please note that these are the standard paths. In ConSol*CM, Log4J is used. If you have configured a different path for your log files in the *log4j.xm*/file, you will know where to find them.

Usually the log file and/or protocol panel entries give good hints at the initial reason for the transfer failure. If you cannot fix the problem and you have a maintenance contract with ConSol*, please contact our support team.

29 CM6 Administrator Manual 6.9 - The Customer Portal: CM/Track

29.1 The Customer Portal: CM/Track

The portal CM/Track allows customers to log in to the ConSol*CM system. Like the CM Web Client, CM/ Track is a web based application, i.e. the customer only needs a standard web browser for access to the portal.

Technically, the data for CM/Track is retrieved using a REST (Representational State Transfer, see Appendix B (Glossary)) API.



Fig. 1: ConSol*CM System Architecture with CM/Track

In a standard environment, a customer can perform the following operations via CM/Track:

- See a list of his tickets.
- See a list of all tickets of his company (if this has been configured).
- Add comments and/or attachments to a ticket.
- Search the FAQs for solutions.

See the following sections for topics which concern CM/Track:

- General system access to CM/Track for customers: See section CM/Track: System Access for CM/Track Users (Customers).
- Customer authentication modes: See section CM/Track: Authentication Modes for the Portal.
- Using the portal for FAQs: See section CM/Track: FAQs in CM/Track.

29.2 System Access for CM/Track Users (Customers)

- System Access for CM/Track Users (Customers)
 - Precondition
 - CM/Track Technical Background
 - General Principle of System Access via CM/Track
 - Defining the User Profiles/Access Permissions for CM/Track
 - Defining the Custom Fields for CM/Track Login and Password
 - Granting Access to CM/Track for Customers Using the Web Client
 - Customer Login to the System
 - Extended Customer Permissions to See Company Tickets

In the following chapter, you will find detailed information about how to configure your ConSol*CM system to grant access to the CM/Track (portal) to your customers.

Information:

Please note that for every CM/Track user (i.e. user profile) a ConSol*CM license is required.

29.2.1 Precondition

CM/Track is part of every default shipment of ConSol*CM, so there are no new files that have to be deployed. However, the default function set is rather rudimentary and the pages have a rather plain layout. In order to use CM/Track as a powerful portal for customer access to the system, the layout should be adapted to a company's CD (corporate design) which is called *Skinning*. The forms and lists which are displayed for the customer might be modified and/or extended. Please contact our consulting team or your account manager if you would like to adopt CM/Track in an optimal way for your company.

29.2.2 CM/Track Technical Background

The portal CM/Track is based on the *RESTAP* of ConSol*CM. Please refer to the separate document *ConSol*CM REST API Documentation* for details.

29.2.3 General Principle of System Access via CM/Track

A customer who wants to or should have access to your ConSol*CM system using the portal CM/Track has to have a login and a password. Both can be initially provided by the engineer who edits the customer data using the Web Client or the values can be imported automatically into the database.

The fields for the login and password of customers are data object group fields which are defined like any other data field and which have special annotations.

The access permissions of the customer are defined by assigning a user profile to the customer's account. The user profiles are managed by the ConSol*CM administrator using the Admin-Tool.

29.2.4 Defining the User Profiles/Access Permissions for CM/ Track

As one of the first steps you have to define user profiles, i.e. profiles of access permissions to CM/Track. A CM/Track user profile is defined like a regular engineer (please see section Engineer Administration for details), but is marked as *Track*.

CM6 Admin-Tool @ cm6-demo.int.consol.de										
File Views Help										
		(() 2 2 (% Ø	0	\diamond	0		•
Engineer			31 er	ngineers	Roles View cr	iteria				
Filter:			All engineers	•	Assigned		Available			
All roles			- All types	•	Name		Name			
First name Axel	Last name	Login Divisi bauer	ion Track		Porter		CM_Administration Change_Queue_HD1_HD2 Change_Queue_Sales_Role	_Role		
Gottlieb Oscar	Daimler Fischer Jordan	daimler fischer heinrich iordan					HD1_create_contact_reade HD1_create_contact_ro_w HD1_ro_wo_do_Role HD 1st Level Role	own_create_R o_do_Role	ole	
Leon Michael	Kennedy Knight	kennedy knight porter					HD_1st_Level_Role_w/o_d HD_2nd_Level_Role HD_2nd_Level_Role_reado	hange_engine	er	
Bob Bernd	Sponge Stromberg	porter2 skywalker sponge stromberg track_company_tic track_faq track_no_append track_no_areate		Е			HD_Sales_Role HD_Sales_Role_with_Custo HD_Supervisor Read_write_own_tickets_H Template_Role Wfl_Deploy_Role Wfl_Read_Role Wfl_Write_Role	omerGroup ID1_Role		E
Karl Lukas Achim Anton Workflow	Becker Schneider Müller Koch Administrator	wfl_user1 wfl_user2 wfl_user3 wfl_user_nr wfladmin		•			Workflow_Admin Write_own_create_tickets_ nts_rights track_company_tickets track_faq	_HD2_Role		-
•	8			•						
[CM_Adminis	stration]									

Fig. 1: ConSol*CM Admin-Tool - CM/Track: User Profile Name

The user profile is assigned one or more roles to define the access permissions to queues and customer groups. For example you can set up a user profile (engineer) *Porter* that has the role *Porter*. This role has read/write/append permissions to the queue *Helpdesk 1st Level*. For a detailed introduction to role administration, please refer to section Role Administration.

e Views Help								
* 🛛 😼 🕇 🔍	21] 📢 🚍 <	> 💿	0	\diamond	S		
Role Administration								
oles	26 roles	Customer Group Pern	nissions	Views		Engine	eer Functions	
		Queue Permission	ns		Glob	al Perm	issions	
All queues	•	Oueues	Oueue Perr	niecione				
Name		Queues	Quede Pen	113310113				_
CM Administration		Filter:	J	Mine	Ref.	None	Other	
Change_Queue_HD1_HD2_Role		Name	Read	v		V	v	
Change_Queue_Sales_Role		Frequently Asked Questi	Write	V		V	V	
ID1_create_contact_readown_create_Role		HelpDesk_1st_Level	Append	V		V	V	
ID1_create_contact_ro_wo_do_Role		HelpDesk_2nd_Level	Act					
ID 1st Level Role		Sales						
HD_1st_Level_Role_w/o_change_engineer			Assign					
ID_2nd_Level_Role			Refer					
ID_2nd_Level_Role_readonly			Change que	eue 🔲				
ID_Sales_Role			- <u>-</u>					
D_Sales_Role_with_CustomerGroup	=		Create	1				
Porter			Get assigne	ed 🔲				
Read_write_own_tickets_HD1_Role								
Template_Role						-		
Wfl_Deploy_Role								
Wfl_Read_Role								
Wfl_Write_Role								
Worknow_Admin Write own create tickets HD2 Bala								
white_own_create_uckets_HD2_K0le								
track company tickets								
	r							
								_

Fig. 2: ConSol*CM Admin-Tool - CM/Track: User Profile - Role

That way, a customer with the CM/Track user profile *Porter* can only see and add comments to tickets from this queue. Another user profile might have access to *Sales* tickets and/or to an *FAQ* queue.

29.2.5 Defining the Custom Fields for CM/Track Login and Password

The fields for login and password for a customer are regular data object group fields on contact level. Please see section Setting up the Customer Data Model for an introduction to data object group field management and GUI configuration for customer data.

Edit the fields which contain the customer data (if there are two levels: **not** the company level, but the contact level!):

• One field for the login has to be created, annotation *username = true*.

Customer groups Customer data model Data object actions	Customer roles Data obje	ct relations Engineer fur	nctions Projects		
Customer data models	Data object group fie	lds			
Customer data models	Data object group fie Filter: Name customer_name forename email phone vip_person cmtrack_reseller_log cmtrack_reseller_pas	Filter: Name Type customer_name short string forename short string email string phone string vip_person boolean cmtrack_reseller_login string cmtrack_reseller_password string			
Assigned annotations	Assigned annotations	1			
Name 🔺 Value Annotation group	Name 🔺	Value	Annotation group		
	position	3;0	layout		
	username	true	contact authentication		

Fig. 3: ConSol*CM Admin-Tool - CM/Track: Annotation for Login

• One field for the password has to be created, annotation *password = true*. The annotation *text-type = password* guarantees that only stars/dots are displayed in the Web Client, not the plain text password

Data object group fi	elds					
Filter:						
Name	Туре					
customer_name	short string					
forename	short string					
email	string					
phone	string					
vip_person	boolean	boolean				
cmtrack_reseller_log	gin string	string				
cmtrack_reseller_pa	string					
• 🕑						
	ns					
Assigned annotatior						
Assigned annotatior Name 🔺	Value	Annotation group				
Assigned annotatior Name 🔺 Nassword	Value	Annotation group contact authentication				
Assigned annotation Name A Dassword Dosition	Value true 3; 1	Annotation group contact authentication layout				

Fig. 4: ConSol*CM Admin-Tool - CM/Track: Annotation for Password

29.2.6 Granting Access to CM/Track for Customers Using the Web Client

The engineer who works with the Web Client can then assign a user name, initial password, and a CM/Track user profile to every customer who should have access to the portal CM/Track.

	Customers		
	Main		
0	ResellerCustomer		
	Skywalker	Luke	
	katja@consol.de	123	
	vip_person		
	luke	•••••	
	Track user		
	track_mycustomer	group	
	track_reseller		
	track_reseller_exte	nded	
	Track, CM		

Fig. 5: ConSol*CM/Web Client - CM/Track Users

29.2.7 Customer Login to the System

Then customers can log in to the system and see their tickets. Please refer to the *ConSol*CM User Manual*, section *CM/Track* for a detailed explanation how to work with ConSol*CM as a customer.

login	luke
password	•••••
login	

Fig. 6: ConSol*CM/Track - Customer Login

My tickets New ticket FAQ Logout								
Scope	Ticket name	Creation date	Queue	Subject				
Qualify	100520	19.11.2013 13:26	HelpDesk 1st Level	Printer error				

Fig. 7: ConSol*CM/Track - Ticket List

29.2.8 Extended Customer Permissions to See Company Tickets

In some cases it might be required that customers log in to the ConSol*CM portal CM/Track and have to have access not only to their personal tickets but to all tickets of their company. In this case, the role for the CM/Track user should be assigned the right *Access tickets of the own company* under *Track User Permissions*. Please refer to the section Role Administration for a detailed explanation.

29.3 CM/Track: Authentication Modes for the Portal

- CM/Track: Authentication Modes for the Portal
 - Introduction to Authentication Modes in CM/Track
 - Definition of the CM/Track Login Mode
 - DATABASE Authentication Mode
 - System Property for DATABASE Authentication Mode
 - Data Object Group Fields for Contact Login
 - LDAP Authentication Mode
 - System Property for LDAP Authentication Mode
 - System Properties Defining the LDAP Server(s)
 - Data Object Group Field for Contact Login
 - Mixed Authentication Mode
 - System Property for Mixed Authentication Mode
 - System Properties Defining the LDAP Server(s)
 - Data Object Group Field for Contact Login
 - Logging of LDAP Login Attempts in CM/Track

29.3.1 Introduction to Authentication Modes in CM/Track

Contacts who log in to the ConSol*CM portal (CM/Track) use their login and password. Both are data object group fields in the contact data.

There are three possible authentication modes:

- Against the ConSol*CM database.
- Against an LDAP server.
- Against an LDAP server and the ConSol*CM database. The order can be configured. This is called *Mixed Mode*.

29.3.2 Definition of the CM/Track Login Mode

The login mode is determined by the system property *cmas-core-security*, *contact.authentication.method*. A change of this property does not require a server restart and is propagated to all cluster nodes.

The possible values (see also section Appendix C (System Properties)) and their respective system behaviors are:

• DATABASE

Attempting a database login, if the unit has a database password.

• LDAP

Trying authentication using the available LDAP server(s), if an LDAP ID is provided.

• LDAP, DATABASE

First attempt is authentication using the available LDAP server(s), if an LDAP ID is provided. On failure trying a database login, if the unit has a database password.

• DATABASE,LDAP

First attempt is a database login, if the unit has a database password. On failure trying authentication using the available LDAP server(s), if an LDAP ID is provided.

The values are case insensitive, commas and whitespace are ignored.

29.3.3 DATABASE Authentication Mode

System Property for DATABASE Authentication Mode

Set the system property *cmas-core-security*, *contact.authentication.method* to *DATABASE* (this is the default value).

Data Object Group Fields for Contact Login

Two data object group fields for the contact data are required:

- Login
- Password

Please see section CM/Track: System Access for CM/Track Users (Customers) for a detailed explanation.

29.3.4 LDAP Authentication Mode

System Property for LDAP Authentication Mode

Set the system property *cmas-core-security*, *contact.authentication.method* to *LDAP*.

System Properties Defining the LDAP Server(s)

The LDAP servers can be defined using configuration properties from the module *cmas-core-security*.

• Idap.initialcontextfactory

This is an already existing global property. If it is not set, *com.sun.jndi.ldap.LdapCtxFactory* is being used as a value.

- Idap.contact.{name}.providerurl The property value is the address of the LDAP server in the form *Idap[s]://host:port*.
- Idap.contact.{name}.userdn
 The value is the user DN used to look up the contact DN by the LDAP ID. An anonymous account is used, in case the value is not set.

Ξ

÷

٠

Annotation group

common

contact authentication

Idap.contact.{name}.password

The property contains the password to look up the contact DN by the LDAP ID. An anonymous account is used, in case the value is not set.

- Idap.contact.{name}.basedn
 This represents the base path to search for the contact DN by the LDAP ID, e.g. *ou=accounts,dc=consol,dc=de*.
- Idap.contact.{name}.searchattr

The property value stands for the attribute to search for the contact DN by the LDAP ID, e.g. uid.

A change of any of the above configuration properties does not require a server restart and is propagated to all cluster nodes. The use of the placeholder {name} allows to define several different LDAP servers.

Authentication attempts against LDAP servers are made until first success, where the server order is determined by their {name} values (ascending alphabetical order of the values).

Data Object Group Field for Contact Login

Besides the annotation *username* = *true*, the data object group field which is used for the CM/Track user name (login) has to have an additional annotation:



[CM_Administration,Workflow_Admin]

Fig. 1: ConSol*CM Admin-Tool - Data Object Group Field for LDAP Authentication of CM/Track Users



Fig. 2: ConSol*CM/Web Client - Field (Red) for LDAP ID in Contact Data

29.3.5 Mixed Authentication Mode

System Property for Mixed Authentication Mode

Set the system property *cmas-core-security*, *contact.authentication.method* depending on the desired order of authentication instances:

- LDAP, DATABASE
- DATABASE,LDAP

The CM system will first contact the instance which is mentioned first, than the second one. For example, when the contact authentication method is set to *LDAP,DATABASE* and the customer (contact) uses the password which is only valid in the database, the login will succeed.

In server.log the following message will be displayed:

```
LDAP login failed: [LDAP: error code 49 - Invalid Credentials]; nested exception is javax.naming.AuthenticationException: [LDAP: error code 49 - Invalid Credentials]
```

System Properties Defining the LDAP Server(s)

See respective paragraph in section LDAP Authentication Mode.

Data Object Group Field for Contact Login

See respective paragraph in section LDAP Authentication Mode.

29.3.6 Logging of LDAP Login Attempts in CM/Track

All LDAP errors encountered are logged without a stack trace using loggers with the following prefix:

com.consol.cmas.core.security.contact

The stack trace of LDAP errors is not logged because failed login attempts on the first LDAP server would clutter logs if a following login on the second LDAP server succeeded.

29.4 FAQs in CM/Track

- FAQs in CM/Track
 - Introduction to FAQs in CM/Track
 - Configuring the ConSol*CM System to Allow FAQ Search in CM/Track
 - FAQ Search in CM/Track from a Customer's Point of View
 - More Complex Solutions for Managing FAQs
 - Using Two FAQ Queues: FAQ Management and Active FAQs
 - Setting Up Two (or More) Parallel FAQ Environments Using Track Users

29.4.1 Introduction to FAQs in CM/Track

If you use CM/Track as a portal where your customers can access their tickets or the tickets of their company, you might consider offering an FAQ (Frequently Asked Questions) search to this clientele. This has proven to be very helpful in help or service desk environments where customers can check if the problem they face has occurred before and if there is a solution already. Only if they do not find any help they will contact the service desk and/or open a new ticket. This saves time for both customer and service team. It might also be employed in other environments where you would like to offer this service.

According to ConSol*CM standard, every FAQ is treated as a ticket. The queue(s) which should be available as FAQ queue(s) via CM/Track have to be defined as special FAQ queues, because usually customers are allowed to see only their own tickets or tickets from their company, but FAQ tickets do not belong to any specific customer. They can be accessed by every customer who logs in with a user profile that has access to the FAQ queue(s). Here, only read access has to be granted.

29.4.2 Configuring the ConSol*CM System to Allow FAQ Search in CM/Track

As a first step you have to create an FAQ workflow (please see the *ConSol*CM Process Designer Manual* for details) and create an FAQ queue that is marked as a queue for frequently asked questions (check box *FAQ*).

🖉 Edit queue		×
Edit queue i Please edit the queu	ue's data.	
Details		
Queue: Prefix: FAQ: Ticket assignment tem	Frequently_Asked_Questions	Workflow: FAQ_WFL Calendar: FAQ_WFL
Assign: Scripts E-Mail script: Default values script: Other Description:		Unassign:
Custom fields Cus	tomer groups Classes of text Projects	
Assigned A faq feedback helpdesk_standard qualification queue_fields (*) workaround		Available A dependent_enum numbers sales_standard
		Save Cancel

Fig. 1: ConSol*CM Admin-Tool - Queue Administration

Then a role has to be defined which can access the FAQ queue in read-only mode. Please keep in mind that this role also needs read access to the customer group under which you have located the FAQ queue tickets

.



Fig. 2: ConSol*CM Admin-Tool - Role Administration

Then this new role has to be assigned to the user (profile) which is used as CM/Track access user (see section System Access for CM/Track Users (Customers)).

	CM6 Admin-Tool @ cm6-demo.int.consol.de										
F	File Views H	lelp									
	^ 2	s 😼 🗋		2:			∞	٢	0	\diamond	🗢 💽 🌖
	🚊 Engineer A	dministration									
	Engineer				35 eng	ineers	Roles Vi	iew criteri	а		
	Filter:				All engineers	•	Assigned				Available
	All role	es		•	All types	•	Name				Name
	First name	Last name	Login	Division	Track		Porter	0			CM_Administration
	Michael	Knight	knight porter porter2			^		ч			Change_Queue_Sales_Role HD1_create_contact_read HD1_create_contact_re
	Bob Bernd	Sponge Stromberg	sponge stromberg track_comp								HD1_ro_wo_do_Role HD_1st_Level_Role HD_1st_Level_Role_w/o_c HD_2nd_Level_Role
	Karl Lukas Achim Anton	Becker Schneider Müller Koch	track_faq track_no_ap track_no_cr wfl_user1 wfl_user2 wfl_user3 wfl_user_nr			III					HD_2nd_Level_Role_read HD_Sales_Role HD_Sales_Role_with_Cust HD_Supervisor Read_write_own_tickets Template_Role Wfl_Deploy_Role
	Workflow	Administrator	wfladmin			•			[Wfl_Read_Role
Ī	[CM_Admin	nistration]									

Fig. 3: ConSol*CM Admin-Tool - Engineer Administration

29.4.3 FAQ Search in CM/Track from a Customer's Point of View

A customer can search the FAQ queue using a search pattern. A list with the search results is displayed. By opening one ticket from the list, the fields of the tickets are displayed. This might be a solution as in the following example or other service information.

My ticket	My tickets Tickets of my company New ticket FAQ Logout								
FAQ									
Queue	CM6 FAQ 💌								
Pattern	printer								
Searc	:h								
Scope		Ticket name	Creation date	Queue	Subject				
\checkmark	CM6 development FAQ	623540	14.10.2013 13:16	CM6 FAQ	[MyCompany] Indexer hangs. serverlog says: rver.jdbc.internals.TDS.Reader] ,,, TDS header contained invalid packet lengt				
\checkmark	CM6 development FAQ	619089	22.08.2012 12:50	CM6 FAQ	[QR] CustomerProject. IT Company - Request for way of implementation				
					1				

Fig. 4: ConSol*CM CM/Track - Example for FAQ Search (1)

My tickets Tickets of my company New ticket FAQ Logout										
Ticket details										
Ticket	623540	3540								
Subject	Indexer hangs, serverlog says; rver.jdbc.internals.TDS.Reader] ,,, TDS he	eader contained invalid packet length: (CM #159704)								
Creation date	14.10.2013 13:16									
Scope	CM6 development FAQ									
External	true									
Priority	Urgent									
Found by regression	false									
Occurred in	6.8.5.3									
Ticket type	Quick response									
Solution	Use Admin Tool and restore index for all <u>queues</u>									

Fig. 5: ConSol*CM CM/Track - Example for FAQ Search (2)

29.4.4 More Complex Solutions for Managing FAQs

Using Two FAQ Queues: FAQ Management and Active FAQs

Instead of using only one FAQ queue, two queues might be used. One can be an FAQ management queue where tickets can be placed manually or be transferred from help or service desk queues. An FAQ manager checks the FAQ and edits the ticket if required. Then the ticket is placed in the queue for active FAQs. Here

it can be accessed by customers. After a certain period of time or when the FAQ manager decides the FAQ should no longer be available, it is transferred back to the FAQ management queue. It can be re-activated or closed.

Setting Up Two (or More) Parallel FAQ Environments Using Track Users

By creating more than one FAQ queue (or a pair of FAQ queues) and creating the respective CM/Track user profiles, it is possible to provide FAQs for different customer groups. For example, for one customer group technical help desk questions and answers are offered whereas for the other customer group support and update information is provided. Of course, there can also be a CM/Track user profile which has access to both FAQ environments.

30 System Overview

System Overview

- System Architecture
 - Introduction to ConSol*CM System Architecture
 - Basic System Architecture
 - Components for E-Mail Interactions
 - System Architecture with Reporting Infrastructure
- Short Overview of the File Structure
 - ConSol*CM Data Directory
 - JBoss 5 Application Server File Structure
 - JBoss 7 Application Server File Structure
 - Oracle WebLogic Application Server File Structure
 - Log Files
 - Log File Types
 - Log File Structure

30.1 System Architecture

30.1.1 Introduction to ConSol*CM System Architecture

ConSol*CM is a *Java EE* (Java Enterprise Edition) application that can be run in a standard application server on Unix/Linux or Windows systems. JBoss and Oracle WebLogic are supported.

In this chapter, a short overview of the ConSol*CM system architecture will be provided. For a detailed description of the system, please refer to the *ConSol*CM Operations Manual*.

A detailed list of supported application servers, database systems, and other systems is given in the current *System Requirements*.

30.1.2 Basic System Architecture

ConSol*CM is a classical three-tier-architecture application. It is installed as a Java EE application in an application server. Most of the data is stored in a relational database. The clients can access the application using the web interface (Web Client), i.e. a web browser.



Fig. 1: ConSol*CM - Basic System Architecture

30.1.3 Components for E-Mail Interactions

ConSol*CM can retrieve e-mails from one or more e-mail servers. It acts toward such a server like a regular e-mail client, i.e. in order to establish the mail-retrieving only a network access from ConSol*CM to the e-mail server is required. POP3(s) and IMAP(s) are supported.



Fig. 2: ConSol*CM - E-Mail Server Interactions

30.1.4 System Architecture with Reporting Infrastructure

The ConSol*CM standard function set comprises two components which enable reporting:

- **CMRF** (ConSol*CM Reporting Framework) Java EE application which synchronizes the ConSol*CM database with the ConSol*CM data warehouse. It can be installed in the same application server as ConSol*CM or in a separate application server.
- **DWH** (data warehouse)

Database (or database schema, depending on the RDBMS) that stores the integrated/pre-processed data from the ConSol*CM database.



Separate application servers for ConSol*CM and CMRF:

Fig. 3: ConSol*CM - Infrastructure with CMRF and DWH (2 Servers)



One application server for ConSol*CM and CMRF:

Fig. 4: ConSol*CM - Infrastructure with CMRF and DWH (1 Server)

When the DWH has been established (see section Data Warehouse (DWH) Management for details), *BI* (Business Intelligence) applications can be used to create reports, data cubes, and other reporting output formats. Please see the following example with PentahoTM BI Suite.



Separate application servers for ConSol*CM and CMRF (example: both JBoss):

Fig. 5: ConSol*CM - Reporting Infrastructure (2 Servers, both JBoss)



One application server for ConSol*CM and CMRF (example: WebLogic):

Fig. 6: ConSol*CM - Reporting Infrastructure (1 Server, WebLogic)

30.2 Short Overview of the File Structure

Most of the data concerning the configuration and operation of ConSol*CM is stored in the ConSol*CM database. However, some data is saved in the file system in the data directory that has been entered during system set-up.

30.2.1 ConSol*CM Data Directory

The following figure and list show an example from a Windows system:



Fig. 7: ConSol*CM - Data Directory

Example directories:

• index

This is the directory where all the indexes are stored (see also section Search Configuration and Indexer Management (File Card Index)). Be sure to include it into your daily file system back-up.

• index.0

In this directory, there is a subdirectory for each required index.

• mail

In this directory, files that are relevant for incoming e-mails are stored.

• reimported

In this directory, e-mails are stored that had been stored in the *unparsable* directory and could then be re-imported by a manual action of the administrator.

• unparsable

In this directory, incoming e-mails that cannot be processed by the system are stored. They are listed under *E-Mail Backups* in the Admin-Tool, see section File Card E-Mail Backups.

• mule

This is a directory which might be used for *Mule* (internal *ESB*) data.

30.2.2 JBoss 5 Application Server File Structure

The following directories are available in a JBoss installation of ConSol*CM:



Fig. 8: ConSol*CM - File Structure in a JBoss Application Server

Example directories:

• conf

Configuration data, e.g.:

• jboss-log4j

Log file configuration

• data

Data for operation, e.g. tx-operation keys

deploy

Deployed data and configuration data:

• cm6.ear

Core application, .ear file

• cm-track.war

Application file for the portal ConSol*CM/Track

• cmDb-ds

Database connection configuration

deployers

Additional deployed application data

• lib

Application-specific libraries, e.g.:

• mysql connector

In case you use MySQL as a database system.

log

Log files, see section Log Files.

• tmp

Temporary data

• work

Work directory with a working copy of the application server files. Can be emptied, e.g. for error analysis and/or fixing.

30.2.3 JBoss 7 Application Server File Structure

The following directories are available in a JBoss installation of ConSol*CM:



Fig. 9: ConSol*CM - File Structure in a JBoss 7 System

Example directories:

modules\system\layers\base

Subfolders contain the JDBC drivers:

- com\microsoft\sqlserver\jdbc\main\sqljdbc4.jar (MS SQL)
- oracle\jdbc\main\ojdbc6-11.2.0.3.jar (Oracle)
- com\mysql\jdbc\main\ (MySQL JDBC driver destination, must be installed manually)
- standalone

Configuration in non clustered environments:

configuration

Configuration of the DB connection and logging inside the file cm6.xm/

- data Data for operation, e.g. *tx-operation* keys
- deployments Deployed applications, for example *cm6.ear* and *cm-track.war*
- log

Log files, see section Log Files.

• tmp

Temporary data and also working copy of the application server files. Can be emptied, e.g. for error analysis and/or fixing.

30.2.4 Oracle WebLogic Application Server File Structure

In an Oracle WebLogic environment, ConSol*CM is installed as a separate domain. ConSol*CM as well as CMRF are *managed servers*. Please see the *ConSol*CM Operations Manual* for details.

Here, only some directories are explained. If you want to administer ConSol*CM as a WebLogic application, please refer to the *ConSol*CM Operations Manual* and to general WebLogic tutorials.



Fig. 10: ConSol*CM - File Structure in an Oracle WebLogic Application Server

Example directories:

• bin

Start/stop scripts

- cm-logs All log files except for *cmrf.log*
- cmrf-logs
 - cmrf.log file
 - Log messages for the CMRF (ConSol*CM Reporting Framework)
- config Configuration files
- deployments
 Deployed applications, i.e. here: ConSol*CM and CMRF as directories

30.2.5 Log Files

ConSol*CM uses the *Log4*/logging framework. The logging behavior can be configured by editing the file *log4j.xml*.
Log File Types

The following log files are used:

• boot.log

Messages concerning system start-up (e.g. the Java version is indicated).

• cmrf.log

Messages concerning CMRF (ConSol*CM Reporting Framework), i.e. messages that concern the data transfer operations from the ConSol*CM database to the CMRF database (DWH). This is done using *JMS* (Java Messaging Service).

• cmweb.log

Messages concerning the ConSol*CM Web Client.

ctx.log

Contains messages of the Spring Framework.

• errors.log

Contains only messages that have at least the log level ERROR.

• esb.log

Contains messages of the *Mule Framework* (Mule is the internal ESB that is used for the processing of incoming e-mails).

• index.log

Messages concerning the Indexer.

• mail.log

Contains messages of the e-mail subsystem.

• operationtimes.log

Only used when it has been enabled. Contains times of requests in order to identify possible performance bottlenecks.

• server.log

The general log file that contains all messages, as default setting at least with log level *INFO*. It is recommended to use the *DailyRollingFileAppender* in order to prevent the file system from filling up.

session.log

Contains messages about logins (session starts) and session timeouts of ConSol*CM users.

• sql.log

Contains log entries about SQL statements coming from hibernate if it is set to *DEBUG* level (by default it is set to *INFO*).

• support_libs_errors.log

Contains errors which are thrown by support libs but are properly handled by the CM application (this method keeps the *server.log* clean).

• timer-manager.log

Contains additional log messages written in log level *DEBUG* when workflow timers are activated or deactivated. Information about the escalation date is logged, too.

• tx.log

Contains Spring Framework transactions related log messages.

• workflow.log

Information about activated/reinitialized/deactivated timers is logged with level *INFO* and all debug output related to the workflow engine is written to this dedicated file.

Log File Structure

In the default configuration, log file entries have the following syntax:

```
Date Timestamp Loglevel [Logger] Message
```

Example for a log file entry (successful start of ConSol*CM in JBoss):

```
2012-11-06 14:22:12,685 INFO [e.coyote.httpl1.Httpl1Protocol] Starting Coyote HTTP/1.1 on http-
0.0.0.0-8080
```

The components of the message:

- Date: November 6th, 2012
- Timestamp: 14:22:12
- Loglevel: INFO
- Logger:

e.coyote.http11.Http11Protocol Name of a Java class, not complete (only last 30 characters), the real name would be *org.apache.coyote.http11.HttpProtocol.*

• Message: Starting Coyote HTTP/1.1 on http-0.0.0.0-8080

Simple messages and messages which concern a successful operation often comprise only one line.

When errors occur (log level *ERROR*), you might find stack traces. Please approach one of our ConSol*CM consultants or our ConSol*CM support team for help.

31 Appendix A - List of Annotations (up to Version 6.9.3)

- Appendix A List of Annotations (up to Version 6.9.3)
 - Alphabetical List of Field Annotations
 - Alphabetical List of Group Annotations

31.1 Alphabetical List of Field Annotations

	Name	Annotation Type	Description	Values	Comment
A	accuracy	validation	For date fields, to define the level of detail displayed.	date (default)	Show date without time.
				date-time	Show date with time.
				only-time	Show only time , no date.
В	boolean-type	component-typ e	Definition of the layout of a boolean field.	check box (default)	Field that can be checked (set to <i>false</i> by default).
				radio	2 radio buttons (yes/no) for selection (only one can be active).
				select	Drop-down-fiel d with 2 values (yes/no).
С	colspan	layout	Defines how many columns are reserved for the field in the layout.	<number></number>	Number of columns.
	contact search result column	search-result	Identifies whether the field should be presented in the search result by default.	true	Remove the annotation if the field should not be visible by default.
	contains contacts	ticket contact relation type	Used only for list field	true / false	Necessary to distinguish if

	Name	Annotation Type	Description	Values	Comment
			definition, indicates that the defined fields can hold contact information.		the list is shown with the contact (true) or with the ticket (false).
D	dialable	phone commander	Defines a field with a phone number.	true	Used with CM/ Phone only. Marks a phone number as automatically dialable for outgoing calls for the CTI system.
E	email	validation	Used for e-mail addresses to check if the format is correct, i.e. if < name>@< domain> has been entered.	true	May be used with <i>string</i> custom fields. Remove the annotation if the format should not be checked.
	enum field with ticket color	ticket display	Defines the background color of the ticket icon for ticket list and ticket.	true / false	The field has to exist within enum administration where lists, values, and colors are defined.
	enum-in-search -type	component-typ e	Defines whether an <i>enu</i> <i>m</i> field used in a search accepts search over multiple values.	single (default) / multiple	Accepts search over multiple values if value <i>multiple</i> is set.
	enum-type	component-typ e		select (default)	Drop-down list for selection.

	Name	Annotation Type	Description	Values	Comment
			Layout definition of list display.		
				radio	List of radio buttons to select (only one option can be active)
				autocomplete	Drop-down list for selection where the field is an input field used to filter the list.
F	field-group	layout	Allows grouping of fields in <i>view</i> mode. Annotation is ignored in <i>edit</i> mode.	<string></string>	To group fields the same <i>string</i> value has to be set in the annotation of each field. Two or more custom fields are bound when they share the same value of this annotation. The group of coupled custom fields is shown only if all of them have values set.
	field indexed	indexing	Used to indicate that a database index will be created for this field.	transitive (default)	All data is displayed (ticket and customer).
				unit	Used for customer data. Only the unit

Name	Annotation Type	Description	Values	Comment
				and the parent unit (i.e. company) is given as a search result, no tickets are provided.
			local	Used for customer data. Only the unit is given as a search result, no company and no tickets are displayed.
			not indexed	Field is not indexed.
fieldsize	layout	Displayed field size within ticket layout.	<rows>;<cols></cols></rows>	For <i>string</i> custom fields with annotation <i>text-type</i> and value <i>textarea</i> . <rows> defines the number of displayed rows and <cols> defines the number of characters displayed per row. Used only for layout purposes.</cols></rows>
			<number></number>	For <i>enum</i> custom fields. Defines how many values are directly visible in the list box. Used only

	Name	Annotation Type	Description	Values	Comment
					for layout purposes.
	format	validation	Used to check the correct format of date fields.	<date format=""></date>	The pattern for the date is based on <i>Simpl</i> <i>eDateFormat</i> , e.g. dd.mm.yyyy. Remember to set the proper colspan when you want to add hours/ minutes. See ht tp:// docs.oracle.co m/javase/6/ docs/api/java/ text/ SimpleDateFor mat.html for date format reference.
G	groupable	cmweb-commo n	Enables grouping in the ticket list.	true	Used only with enum custom fields. Remove the annotation if you want to disable grouping.
L	label-group	layout	Indicates a group of fields along with its descriptive label in <i>view</i> mode. Annotation is ignored in <i>edit</i> mode.	<string></string>	Indicates a group of custom fields along with its descriptive label. The annotation is used in <i>present</i> <i>ation</i> mode, ignored in <i>edit</i>

Name	Annotation Type	Description	Values	Comment
				mode. The group can have exactly one label (a custom field of type <i>stri</i> <i>ng</i> with assigned additional annotation <i>text</i> - <i>type</i> with value <i>label</i> is shown when at least one custom field from its group has a value set. All fields with the same label value are grouped and displayed under this label The annotation <i>label-group</i> has to be assigned to the label, too
label-in-view	layout	Shows custom field value as a label in <i>view</i> mode. Annotation is ignored in <i>edit</i> mode.	true	Remove the annotation if the label should not be visible in <i>view mode</i> .
Idapid	contact authentication	Used in a data object group of type <i>customer</i> , for the data object group field which		Indicates that this field will be used as an LDAP ID in the authentication process. Data

	Name	Annotation Type	Description	Values	Comment
			contains the LDAP ID for CM/Track authentication.		type <i>string</i> is required. Since the definition is made on customer group level, the LDAP authentication can be run in mixed mode. I.e. use LDAP for some customer groups and regular authentication for other customer groups.
	leave-trailing-z eros	common	Used for the display of fixed point numbers.	true / false	Remaining zeros of the fractional part are not cut off when value is <i>tr</i> <i>ue</i> .
	list-type	component-typ e	Disables the <i>ad d</i> and/or <i>delete</i> options for custom fields of type <i>list</i> or <i>stru ct</i> .	fixed-size	It is not possible to add or delete fields/ rows.
				non-shrinkable	It is not possible to delete fields/ rows.
				non-growable	It is not possible to add fields/rows.
М	matches	validation		<string></string>	

	Name	Annotation Type	Description	Values	Comment
			Checks if input of <i>string</i> custom fields matches the given RegEx.		May be used with <i>string</i> custom fields.
	maxLength	validation	Defines the maximum length of input for <i>string</i> custom fields.	<number></number>	May be used with <i>string</i> custom fields.
	maxValue	validation	Defines the maximum value for <i>number</i> custom fields.	<number></number>	May be used with <i>number</i> custom fields, i.e. <i>number</i> and <i>fixed-point</i> <i>number</i> .
	minLength	validation	Defines the minimum length of input for <i>string</i> custom fields.	<number></number>	May be used with <i>string</i> custom fields.
	minValue	validation	Defines the minimum value for <i>number</i> custom fields.	<number></number>	May be used with <i>number</i> custom fields, i.e. <i>number</i> and <i>fixed-point</i> <i>number</i> .
N	no-history-field	performance	Indicates that a single custom field should not be historized. Overwrites the group annotation <i>no-h</i> <i>istory</i> .	true / false	Annotation is active if value is set to <i>true</i> . For fields that should be stored but not be visible in history use annotation <i>visib</i> <i>ility</i> <i>configuration</i> .
0	order-in-result	layout		<number></number>	

	Name	Annotation Type	Description	Values	Comment
			Shows field as a column in the search result list at given position.		The columns are sorted in ascending order.
Ρ	password	contact authentication	Indicates that this field will be used as a password in the authentication process.	<string></string>	Used for CM/ Track.
	position	layout	Defines the position of a field within a grid layout.	<number>;< number></number>	Values define <i>r</i> <i>ow</i> and <i>column</i> (row;column), numbering starts at 0;0. If no values are set, the custom field will take the next free grid cell.
			Defines the position of a field within a list (struct).	0; <number></number>	Only the <i>colum</i> <i>n</i> value is used, the <i>row</i> value is ignored.
R	readonly	common	Used to indicate that the custom field cannot be modified.	true / false	Field is read only if value is set to <i>true</i> . Lack of value or any value except <i>false</i> is also treated as <i>true</i> .
	reportable	dwh	Indicates that the field is reportable and that it should be transferred to the DWH.	true / false	Field is reportable if value is set to <i>t</i> <i>rue</i> .

	Name	Annotation Type	Description	Values	Comment
	required	validation	Indicates that this is a required field.	true / false	Field is required if value is set to <i>t</i> <i>rue</i> . The user cannot save the ticket without having entered a value in a required field. In the Web Client, required fields are marked by a red asterisk.
	rowspan	layout	Indicates how many rows within the layout are occupied by this field.	<number></number>	Number of rows.
S	sortable	cmweb-commo n	Used to enable sorting of the ticket list.	true	Used for custom fields of type <i>DATE</i> or of type <i>enum</i> . Remove the annotation if you want to disable sorting. For <i>enum</i> fields : Works only if order index is set for all values of the <i>e</i> <i>num</i> field.
т	text-type	component-typ e	Defines the possible types of a <i>string</i> field.	text (default)	Single-line input field.
				textarea	Multi-line input field.
				password	

Name	Annotation Type	Description	Values	Comment
				Input field for passwords. Password will be displayed as ******* in <i>view</i> mode.
			label	Input will be displayed as a label, i.e. the field is displayed only, no input is possible.
			url	Input will be displayed as a hyperlink in <i>vie</i> <i>w</i> mode. String has to match a specific URL pattern:
				"^((?:mailto\: (?: (?:ht f)tps?)\://) 1\S+)(?: (?:\)? (.*))?\$"
				Example: "http: //consol.de ConSol*"
ticket-list-colsp an	layout	Defines how many columns are occupied by the field in the ticket list box.	<number></number>	Number of columns.
ticket-list-positi on	layout	Defines the position of the field in the ticket list box.	<number>;< number></number>	Values define <i>r</i> <i>ow</i> and <i>column</i> (row;column), numbering starts at 0;0.

	Name	Annotation Type	Description	Values	Comment
	ticket-list-rowsp an	layout	Defines how many rows are occupied by the field in the ticket list box.	<number></number>	Number of rows.
U	username	contact authentification	Indicates that this field will be used as a login name in the authentication process.	true / false	Used for CM/ Track.
V	visibility	common	Defines when the field is visible.	edit	Field will be displayed in <i>edi</i> <i>t</i> mode.
				view	Field will be displayed in <i>vie</i> <i>w</i> mode.
				none	Field is not visible.
					If any other or no value is set the field will always be visible.
	visibility configuration	visibility	Indicates the visibility of this field in history.	on every level	Field is shown on every level of history.
				2nd level and 3rd level	Field is shown only on the 2nd and the 3rd level of history.
				only 3rd level	Field is shown only on the 3rd level of history.

31.2 Alphabetical List of Group Annotations

	Name	Annotation Type	Description	Values	Comment
Α	auto-open-grou p	layout	The group will be opened initially. More than one values can be entered as comma- or semicolon-sep arated list (can be used for the customer annotation).	ticket:create	Group is opened initially when a new ticket is created
				customer: create	Group is opened initially when a new customer is created.
				customer:view	Group is opened when the customer (contact or company) page is opened.
G	group-visibility	common	Defines the default visibility of a custom field group.	true / false	The annotation can be overwritten on field level.
Ν	no-history	performance	Indicates that all custom fields belonging to this group will not be historized.	true / false	Used to indicate that all custom fields that belong to this group should not be historized. Possible values are <i>true</i> if this annotation

	Name	Annotation Type	Description	Values	Comment
					should be active or <i>false</i> which is the same like removing the annotation. Use this annotation if you want to prevent history for all/many fields in a group. If you only want to prevent historization for a single/some field(s), use the annotation <i>no-h</i> <i>istory-field</i> on field level.
R	reportable group	dwh	Indicates that all custom fields belonging to this group are reportable and should be transferred to CMRF.	true / false	A value has to be set. Annotation is active if value is set to <i>true</i> .
S	show-contact-i n-ticket-list		Obsolete! Use page customization! accordionTicke tList.mainCusto merDescription Visible={true, false}	obsolete	
	show-in-group- section	layout	Defines that a custom field group is displayed in the	true / false	Without this annotation the group is shown in the

	Name	Annotation Type	Description	Values	Comment
			<i>Groups</i> section (as tab).		non-tabbed ticket data or contact section.
U	unit is a contact <i>deprecated</i>	ticket contact relation		true/false	Removed in version 6.9.0.

32 Appendix B - Glossary

	Term	Explanation
Α	Access Rights	Permissions of an engineer to view or make changes to tickets in the Web Client. Access rights are always assigned to a group, never to single engineers/users.
	ACIM	Activity item - entry in the history section of a ticket (e.g. comment, e-mail, attachment, time booking entry).
	AD	Microsoft Active Directory - an LDAP-based directory service for Microsoft Windows domain networks.
	Additional customer	Customer (contact or company) besides the main customer, e.g. an employee of the company. For additional customers, customer roles can be assigned.
	Admin-Tool	Graphical application to configure and manage a ConSol*CM system. Uses Java Web Start.
В	BI	Business Intelligence - methods, technologies, and architectures to transform data into useful information for business purposes.
C	CFEL	Custom Field Expression Language - Java classes and methods of the ConSol*CM API to access data in custom fields and data object group fields.
	CMDB	ConSol*CM Database - the working database of the CM system.
	CMRF	

	Term	Explanation
		ConSol*CM Reporting Framework - a JEE application which synchronizes data between the ConSol*CM database and the DWH.
	CM/Office	A standard module of ConSol* CM which enables the engineer via ConSol*CM/Web Client to work with MS Word documents pre-filled with ConSol*CM ticket or customer parameters.
	CM/Track	Consol*CM web portal. Provides customer access to the ConSol* CM system.
	Company	A data object of type <i>company</i> . Often this is a real company or an institution, but it can also be something else, like a machine or a ship.
	Contact	A data object of type <i>contact</i> . Often this is the person who has a question or service request, but it can also be something else, like a machine or a product.
	СТІ	Computer Telephony Integration - a description for any technology that allows interactions on a telephone and a computer to be integrated or coordinated.
	Customer	General term for customer objects in ConSol*CM. A customer can be a contact or a company. Technically, a customer is a data object. The respective Java class is <i>Unit</i> .
D	Data object	A customer, contact, or a company. Former <i>Unit</i> .
	Data object group	A group of fields where data for customers (contact or company)

	Term	Explanation
		can be stored. Similar to custom field group for ticket data.
	Data object group field	A field where data for customers (contact or company) can be stored. Similar to custom field for ticket data.
	DWH	Data Warehouse - ConSol*CM database used for reporting and data analysis.
E	Engineer	User who has a login to the Web Client and who has to manage the tasks defined in the tickets.
	ESB	Enterprise Service Bus - a software architecture used for communication between mutually interacting software applications in a service-oriented architecture (SOA).
	ERP system	Enterprise Resource Planning - often used for this type of enterprise management software.
	ETL	Extract Transform Load - extracts data from one source (this can be a database or another source), transforms it, and loads it into a database, e.g. a data warehouse.
F	FlexCDM	Flexible Customer Data Model - the customer data model which has been introduced in ConSol* CM in version 6.9. For each customer group, a specific customer data model can be defined.
G	GUI	Graphical User Interface
I	ΙΜΑΡ	Internet Message Access Protocol - Internet standard protocol to access e-mail on a remote e-mail server. Can be

	Term	Explanation
		used as plain IMAP or as secure IMAP (IMAPs). In the latter case the proper certificates are required.
J	Java EE	Java Enterprise Edition
	JMS	Java Message Service - Java EE component used to send messages between JMS clients.
к	KPI	Key Performance Indicator - parameter used for performance measurement for companies, projects etc.
L	LDAP	Lightweight Directory Access Protocol - application protocol to access and maintain directory information over an IP network.
Μ	Mailbox	Destination to which e-mail messages are delivered. Mailboxes are managed on an e-mail server. ConSol*CM can access one or more separate mailboxes to retrieve e-mails.
	Main customer	The customer who is the main customer of a ticket. Starting with ConSol*CM version 6.9, this can be either a contact (= person) or a company.
	Mule	An open source Java-based Enterprise Service Bus (ESB).
Ρ	PCDS	Page Customization Definition Section
	Pentaho	Pentaho TM is a business intelligence (BI) suite which is available as open source version and as enterprise edition.
	POP	Post Office Protocol - Internet standard protocol to retrieve e-mails from a remote server via

	Term	Explanation
		TCP/IP. Can be used as plain POP or as secure POP (POPs). In the latter case the proper certificates are required.
	Portal	CM/Track - provides customer access to ConSol*CM.
	Process Designer	ConSol*CM component used to design, develop, and deploy workflows.
Q	Queue	Comprises tickets from the same domain and makes sure that all tickets of this domain are treated in the same way. A queue always has one workflow. Access rights and other parameters are defined based on queues.
R	RDBMS	Relational Database Management System - e.g. Oracle [®] , MS SQL Server [®] , MySQL.
	REST	Representational State Transfer - a method to transfer data via a network, based on HTTP.
	Role	Defines the access permissions and views of an engineer.
S	Script	Program written for a special run-time environment that can interpret and automate the execution of tasks. In ConSol*CM , scripts are stored in the Admin-Tool and are stored as scripts for activities in workflows.
	SMTP	Simple Message Transfer Protocol - standard protocol to send e-mails.
Т	ΤΑΡΙ	Telephony Application Programming Interface - a Microsoft Windows API, which

	Term	Explanation
		provides computer telephony integration and enables PCs running Microsoft Windows to use telephone services.
	Template	Pre-formatted example concerning layout, text, and/or data, e.g. for e-mails or CM/ Office.
	Ticket	Incident, service case, or other request of an internal or external customer. A ticket is the object which runs through the process (defined by the workflow).
V	View	A selection of tickets based on scopes from one or from different workflows, assigned to a role and visible in the ticket list of the ConSol*CM/Web Client.
w	Workflow	Models a process that should be managed using ConSol*CM step by step.

33 Appendix C - System Properties

The lists provide explanation for all available ConSol*CM system properties. You can define properties in the Admin-Tool, in the Configuration section.

- Appendix C System Properties
 - System Properties Ordered by Module
 - System Properties Ordered by Property Name

33.1 System Properties Ordered by Module

Module	Property	Explanation
cmas-app-admin-tool	admin.tool.session.check.interval	Description: Admin-Tool inactive (ended) sessions check time interval (in seconds) <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 30 <i>Since:</i> 6.7.5
cmas-app-admin-tool	autocomplete.enabled	Description: If the flag is missing or its value is <i>false</i> , then the <i>Auto</i> <i>complete address</i> tab is hidden in Admin-Tool. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> true <i>Since:</i> 6.9.2.0
cmas-core-cache	cache-cluster-name	Description: JBoss cache cluster name Type: String Restart required: Yes System: Yes Optional: No Example value: 635a6de1-629a- 4129-8299-2d98633310f0 Since: 6.4.0
cmas-core-cache	eviction.event.queue.size	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 200000 <i>Since:</i> 6.4.0
cmas-core-cache	eviction.max.nodes	<i>Description: Type:</i> Integer <i>Restart required:</i> Yes

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 100000 <i>Since:</i> 6.4.0
cmas-core-cache	eviction.wakeup.interval	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 3000 <i>Since:</i> 6.4.0
cmas-core-index-common	big.task.minimum.size	Description: How many parts task at least should have to be handled by Indexer with low priority. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 15 (default) <i>Since:</i> 6.8.3
cmas-core-index-common	disable.admin.task.auto.commit	<i>Description:</i> All tasks created for index update will be automatically executed right after creation. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.1
cmas-core-index-common	index.attachment	<i>Description:</i> Describes if content of attachments is indexed. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.4.3
cmas-core-index-common	index.history	<i>Description:</i> Describes if unit and ticket history are indexed. <i>Type:</i> Boolean

Module	Property	Explanation
		<i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.1.0
cmas-core-index-common	index.status	Description: Status of the Indexer , possible values RED, YELLOW, GREEN, will be displayed in the Admin-Tool. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> GREEN <i>Since:</i> 6.6.1
cmas-core-index-common	index.task.worker.threads	Description: How many threads will be used to execute batch index tasks (synchronization, administrative, and repair tasks). <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1 (default) (we recommend to use a value not larger than 2) <i>Since:</i> 6.6.14, 6.7.3
cmas-core-index-common	index.version.current	<i>Description:</i> Holds information about current (possibly old) index version. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1 (default) <i>Since:</i> 6.7.0
cmas-core-index-common	index.version.newest	<i>Description:</i> Holds information about which index version is considered newest. <i>Type:</i> Integer <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1 (default) <i>Since:</i> 6.7.0
cmas-core-index-common	indexed.assets.per.thread.in.me mory	Description: How many assets should be loaded into memory at once during indexing per one thread. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 200 (default) <i>Since:</i> 6.8.0
cmas-core-index-common	indexed.engineers.per.thread.in. memory	Description: How many engineers should be loaded into memory at once during indexing per one thread. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 300 (default) <i>Since:</i> 6.6.14, 6.7.3
cmas-core-index-common	indexed.tickets.per.thread.in.me mory	Description: How many tickets should be loaded into memory at once during indexing per one thread. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 100 (default) <i>Since:</i> 6.6.14, 6.7.3
cmas-core-index-common	indexed.units.per.thread.in.memo ry	<i>Description:</i> How many units should be loaded into memory at once during indexing per one thread. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> No <i>Example value:</i> 200 (default) <i>Since:</i> 6.6.14, 6.7.3
cmas-core-index-common	synchronize.master.address	Description: Value of - Dcmas.http.host.port informing how to connect to indexing master server. Default null. Since 6.6.17 this value is configurable in set-up to designate initial indexing master server. Please note that changing this value is only allowed when all cluster nodes index changes receivers are stopped. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 127.0.0.1:80 <i>Since:</i> 6.6.0
cmas-core-index-common	synchronize.master.security.toke	<i>Description:</i> The password for accessing the index snapshot via URL, e.g. for index synchronization or for back-ups. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> token <i>Since:</i> 6.6.0
cmas-core-index-common	synchronize.master.security.user	<i>Description:</i> The user name for accessing the index snapshot via URL, e.g. for index synchronization or for back-ups. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> user <i>Since:</i> 6.6.0
cmas-core-index-common		

Module	Property	Explanation
	synchronize.master.timeout.minu tes	Description: How much time master server may constantly fail until new master gets elected with index fix procedure. Default 5. Since 6.6.17 this value is configurable in set-up where zero means that master server will never change (failover mechanism is off). <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 5 <i>Since:</i> 6.6.0
cmas-core-index-common	synchronize.megabits.per.second	Description: How much bandwidth can master server consume to transfer index changes to all slave servers. Default 85. Please do not use all available bandwidth to transfer index changes between hosts. This will most probably partition cluster as some subsystems will not be able to communicate. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 85 <i>Since:</i> 6.6.0
cmas-core-index-common	synchronize.sleep.millis	<i>Description:</i> How often each slave server polls master server for index changes. Default 1000. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1000 <i>Since:</i> 6.6.0
cmas-core-security	admin.email	<i>Description:</i> The e-mail address of the ConSol*CM administrator.

Module	Property	Explanation
		The value which you have entered during system set-up is used initially. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Since:</i> 6.0
cmas-core-security	admin.login	Description: The name of the ConSol*CM administrator. The value which you have entered during system set-up is used initially. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> admin <i>Since:</i> 6.0
cmas-core-security	authentication.method	Description: User authentication method (internal CM database or LDAP authentication). Allowed values are LDAP or DATABASE. Type: String Restart required: No System: Yes Optional: No Example value: DATABASE Since: 6.0
cmas-core-security	contact.authentication.method	Description: Indicates contact authentication method, where possible values are DATABASE or LDAP or LDAP, DATABASE or DATABASE, LDAP. Type: String Restart required: No System: Yes Optional: No Since: 6.9.3.0
cmas-core-security		

Module	Property	Explanation
	contact.inherit.permissions.only.t o.own.customer.group	Description: Indicates whether authenticated contact inherits all customer group permissions from representing engineer (false) or only permission to own customer group (true). <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Since:</i> 6.9.2.3
cmas-core-security	kerberos.v5.enabled	Description: Flag which indicates whether SSO via Kerberos is enabled. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false (default if Kerberos has not been enabled during system set-up) <i>Since:</i> 6.2.0
cmas-core-security	kerberos.v5.username.regex	<i>Description:</i> Regular expression used for mapping Kerberos principal to CM user login. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> (.*)@.* <i>Since:</i> 6.2.0
cmas-core-security	Idap.authentication	Description: Authentication method used when using LDAP authentication. <i>Type:</i> String <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> simple <i>Since:</i> 6.0
cmas-core-security	ldap.basedn	

Module	Property	Explanation
		Description: Base DN used for looking up LDAP user accounts when using LDAP authentication. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> ou=accounts,dc= consol,dc=de <i>Since:</i> 6.0
cmas-core-security	ldap.contact.name.basedn	Description: Base path to search for contact DN by LDAP ID (e.g. ou=accounts,dc=consol,dc=de). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0
cmas-core-security	Idap.contact.name.password	Description: Password to look up contact DN by LDAP ID. If not set , anonymous account is used. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0
cmas-core-security	Idap.contact.name.providerurl	<i>Description:</i> Address of the LDAP server (Idap[s]://host:port). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0
cmas-core-security	Idap.contact.name.searchattr	<i>Description:</i> Attribute to search for contact DN by LDAP ID (e.g. uid). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0

Module	Property	Explanation
cmas-core-security	Idap.contact.name.userdn	Description: User DN to look up contact DN by LDAP ID. If not set , anonymous account is used. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0
cmas-core-security	Idap.initialcontextfactory	Description: Class name for initial context factory of LDAP implementation when using LDAP authentication. If it is not set, com.sun.jndi.ldap.LdapCtxFactor y is being used as a value. <i>Type:</i> String <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> com.sun.jndi.ldap.LdapCtxFactor y <i>Since:</i> 6.0
cmas-core-security	ldap.password	<i>Description:</i> Password for connecting to LDAP to look up users (when using LDAP authentication). Only needed if look-up cannot be done anonymously. <i>Type:</i> Password <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.1.2
cmas-core-security	ldap.providerurl	Description: LDAP provider (when using LDAP authentication) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Idap://

Module	Property	Explanation
		Idap.consol.de:389 <i>Since:</i> 6.0
cmas-core-security	ldap.searchattr	<i>Description:</i> Search attribute for looking up LDAP entry connected to CM6 login. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> uid <i>Since:</i> 6.0
cmas-core-security	Idap.userdn	<i>Description:</i> LDAP user for connecting to LDAP to look up users (when using LDAP authentication). Only needed if look-up cannot be done anonymously. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.1.2
cmas-core-server	attachment.allowed.types	<i>Description:</i> Comma-separated list of allowed filename extensions (if no value defined, all file extensions are allowed). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> txt,zip,doc <i>Since:</i> 6.5.0
cmas-core-server	attachment.max.size	<i>Description:</i> Maximum attachment size in MB <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 100 <i>Since:</i> 6.4.0
cmas-core-server	config.data.version	
Module	Property	Explanation
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		<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 11 <i>Since:</i> 6.0
cmas-core-server	defaultCommentClassName	<i>Description:</i> Default text class name for comments <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Example value:</i> <i>Since:</i> 6.3.0
cmas-core-server	defaultIncommingMailClassName	Description: Default text class name for incoming e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Example value:</i> <i>Since:</i> 6.3.0
cmas-core-server	defaultOutgoingMailClassName	Description: Default text class name for outgoing e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Example value:</i> <i>Since:</i> 6.3.0
cmas-core-server	fetchSize.strategy	<i>Description:</i> Strategy selected to set fetch size on jdbc result sets. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> FetchSizePageBasedStrategy,

Module	Property	Explanation
		FetchSizeThresholdStrategy, FetchSizeFixedStrategy <i>Since:</i> 6.8.4.1
cmas-core-server	fetchSize.strategy.FetchSizeFixe dStrategy.value	<i>Description:</i> Sets fetch size value if selected strategy to set fetch size is <i>FetchSizeFixedStrategy.</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 150 <i>Since:</i> 6.8.4.1
cmas-core-server	fetchSize.strategy.FetchSizePag eBasedStrategy.limit	<i>Description:</i> Sets maximum fetch size value if selected strategy to set fetch size is <i>FetchSizePageB</i> <i>asedStrategy.</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 10000 <i>Since:</i> 6.8.4.1
cmas-core-server	fetchSize.strategy.FetchSizeThre sholdStrategy.value	<i>Description:</i> Sets fetch size threshold border values if selected strategy to set fetch size is <i>FetchSizeThresholdStrategy.</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 150,300,600,1000 <i>Since:</i> 6.8.4.1
cmas-core-server	last.config.change	Description: Random UUID created during last change in config <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 2573c7b7-2bf5-

Module	Property	Explanation
		47ff-b5a2-bad31951a266 <i>Since:</i> 6.1.0, 6.2.1
cmas-core-server	Idap.certificate.basedn	Description: Base DN for certificates location in LDAP tree. If not provided, <i>cmas-core-securit</i> <i>y</i> , <i>Idap.basedn</i> is taken. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> ou=accounts,dc= consol,dc=de <i>Since:</i> 6.8.4
cmas-core-server	Idap.certificate.content.attribute	Description: LDAP attribute name used where certificate data is stored in LDAP tree. Default value is: usercertificate. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> usercertificate <i>Since:</i> 6.8.4
cmas-core-server	Idap.certificate.password	Description: LDAP Certificates manager password. If not set, cm as-core-security, Idap.password is taken. Type: String Restart required: No System: Yes Optional: Yes Since: 6.8.4
cmas-core-server	Idap.certificate.providerurl	Description: LDAP Certificates provider URL. If not set, <i>cmas-co</i> <i>re-security, Idap.providerurl</i> is taken. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> Idap://

Module	Property	Explanation
		Idap.consol.de:389 <i>Since:</i> 6.8.4
cmas-core-server	Idap.certificate.searchattr	<i>Description:</i> LDAP attribute name used to search for certificate in LDAP tree. Default value is: mail. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> mail <i>Since:</i> 6.8.4
cmas-core-server	ldap.certificate.userdn	Description: LDAP Certificates manager DN. If not set, <i>cmas-cor</i> <i>e-security, Idap.userdn</i> is taken. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.8.4
cmas-core-server	mail.notification.engineerChange	<i>Description:</i> Flag if notification e-mail should be sent when engineer of ticket is changed. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.1.0
cmas-core-server	mail.notification.sender	Description: From address for notification e-mails when engineer of ticket is changed. If not set, <i>cmas-core-security, admi</i> <i>n.email</i> is used instead. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> cm6notification@ cm6installation <i>Since:</i> 6.6.3
cmas-core-server	mail.smtp.email	

Module	Property	Explanation
		Description: SMTP e-mail URL for outgoing e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> smtp:// mail.consol.de:25 <i>Since:</i> 6.0
cmas-core-server	mail.smtp.envelopesender	Description: E-mail address used as sender in SMTP envelope. If not set, the <i>From:</i> address of the e-mail is used. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> mysender@ mydomain.com <i>Since:</i> 6.5.7
cmas-core-server	max.licences.perUser	Description: Sets maximum licenses single user can use (e.g logging in from different browsers). By default this value is not restricted. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 10 <i>Since:</i> 6.8.4.5
cmas-core-server	monitoring.engineer.login	<i>Description:</i> Login of monitoring engineer <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> bartek <i>Since:</i> 6.9.3.0
cmas-core-server	monitoring.unit.login	<i>Description:</i> Login of monitoring unit

Module	Property	Explanation
		<i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> bartek <i>Since:</i> 6.9.3.0
cmas-core-server	server.session.archive.reaper.int erval	Description: Server archived sessions' reaper interval (in seconds) <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 60 <i>Since:</i> 6.7.1
cmas-core-server	server.session.archive.timeout	Description: Server sessions archive validity timeout (in days). After this time session info is removed from db. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 31 <i>Since:</i> 6.7.1
cmas-core-server	server.session.reaper.interval	Description: Server inactive (ended) sessions' reaper interval (in seconds) <i>Type:</i> Integer <i>Restart required:</i> Only Session Service <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 60 <i>Since:</i> 6.6.1, 6.7.1
cmas-core-server	server.session.timeout	<i>Description:</i> Server session timeout (in seconds) for connected clients. Each client can overwrite this timeout with custom value using its ID (ADMIN_TOOL, WEB_CLIENT,

Module	Property	Explanation
		WORKFLOW_EDITOR, TRACK (before 6.8 please use PORTER), ETL, REST) appended to property name, e.g. server.session.timeout.ADMIN_T OOL <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1800 <i>Since:</i> 6.6.1, 6.7.1
cmas-core-server	tickets.delete.size	Description: Property that defines a number of tickets deleted per transaction. By default it is set to 10. <i>Type:</i> Integer <i>Restart required:</i> Only Session Service <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 10 <i>Since:</i> 6.8.1
cmas-core-server	ticket.delete.timeout	<i>Description:</i> Transaction timeout (in seconds) for deleting tickets <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 60 <i>Since:</i> 6.1.3
cmas-core-server	unit.replace.batchSize	<i>Description:</i> Describes number of objects to be processed in unit replace action. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 5 <i>Since:</i> 6.8.2
cmas-core-server	unit.replace.timeout	

Module	Property	Explanation
		Description: Transaction timeout (seconds) of unit replacement action step. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 120 <i>Since:</i> 6.8.2
cmas-core-server	unused.content.remover.cluster.n ode.id	Description: Value of a <i>cmas.clus</i> ternode.id designating node which will remove unused ticket attachments and unit content entries. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 1 (assuming cluster node started with - Dcmas.clusternode.id=1 parameter) <i>Since:</i> 6.9.0.0
cmas-core-server	unused.content.remover.enabled	Description: Flag whether unused ticket attachments and unit content entries removal should take place. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.9.0.0
cmas-core-server	unused.content.remover.polling. minutes	Description: How often unused ticket attachments and unit content entries should be checked for removal. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> No <i>Example value:</i> 15 <i>Since:</i> 6.9.0.0
cmas-core-server	unused.content.remover.ttl.minut es	Description: Minimum interval after which unused ticket attachments and unit content entries can be removed. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1440 <i>Since:</i> 6.9.0.0
cmas-core-shared	cluster.mode	<i>Description:</i> Flag if CMAS is running in cluster. <i>Type:</i> Boolean <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.1.0
cmas-core-shared	data.directory	Description: Directory for CMAS data (e.g. index) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> C:\Users\user\ cmas <i>Since:</i> 6.0
cmas-dwh-server	autocommit.cf.changes	<i>Description:</i> <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.7.0
cmas-dwh-server	batch-commit-interval	<i>Description:</i> Number of objects in a JMS message. Higher value means better transfer performance and bigger memory

Module	Property	Explanation
		usage. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 100 <i>Since:</i> 6.0.0
cmas-dwh-server	dwh.mode	<i>Description:</i> Current mode of DWH data transfer. Possible values are <i>OFF</i> , <i>ADMIN</i> , <i>LIVE</i> <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> OFF <i>Since:</i> 6.0.1
cmas-dwh-server	ignore-queues	Description: By adding a comma separated list of queue names it is configured that tickets of these queues are not transferred to the DWH. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> QueueName1, QueueName2,QueueName3 <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-dwh-server	is.cmrf.alive	<i>Description:</i> As a starting point time of sending last message to CMRF should be used. If response from CMRF is not received after value (in seconds) it should create a DWH operation status with error message that CMRF is down. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> No <i>Example value:</i> 1200 <i>Since:</i> 6.7.0
cmas-dwh-server	java.naming.factory.initial	Description: Factory class for DWH context factory. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> org.jnp.interfaces.NamingContext Factory <i>Since:</i> 6.0.1
cmas-dwh-server	java.naming.factory.url.pkgs	Description: Type: String Restart required: No System: Yes Optional: No Example value: org.jboss.naming :org.jnp.interfaces Since: 6.0.1
cmas-dwh-server	java.naming.provider.url	<i>Description:</i> URL of naming provider <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> localhost <i>Since:</i> 6.0.1
cmas-dwh-server	notification.error.description	<i>Description:</i> Text for error e-mails from DWH <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Error occurred <i>Since:</i> 6.0.1
cmas-dwh-server	notification.error.from	<i>Description: From</i> address for error e-mails from DWH <i>Type:</i> String <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0.1
cmas-dwh-server	notification.error.subject	<i>Description:</i> Subject for error e-mails from DWH <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Error occurred <i>Since:</i> 6.0.1
cmas-dwh-server	notification.error.to	<i>Description: To</i> address for error e-mails from DWH <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_successfully. description	Description: Text for e-mails from DWH when transfer finished successfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Transfer finished successfully <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_successfully. from	Description: From address for e-mails from DWH when transfer finished successfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_successfully. subject	<i>Description:</i> Subject for e-mails from DWH when transfer finished successfully. <i>Type:</i> String

Module	Property	Explanation
		Restart required: No System: Yes Optional: No Example value: Transfer finished successfully Since: 6.0.1
cmas-dwh-server	notification.finished_successfully. to	<i>Description: To</i> address for e-mails from DWH when transfer finished successfully. <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_unsuccessful ly.description	Description: Text for e-mails from DWH when transfer finished unsuccessfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Transfer finished unsuccessfully <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_unsuccessful ly.from	Description: From address for e-mails from DWH when transfer finished unsuccessfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_unsuccessful ly.subject	<i>Description:</i> Subject for e-mails from DWH when transfer finished unsuccessfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No

Module	Property	Explanation
		<i>Example value:</i> Transfer finished unsuccessfully <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_unsuccessful ly.to	<i>Description: To</i> address for e-mails from DWH when transfer finished unsuccessfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Since:</i> 6.0.1
cmas-dwh-server	notification.host	Description: Mail (SMTP) server hostname for sending DWH e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> mail.consol.de <i>Since:</i> 6.1.0
cmas-dwh-server	notification.password	<i>Description:</i> Password for sending DWH e-mails (optional) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.1.0
cmas-dwh-server	notification.port	<i>Description:</i> SMTP port for sending DWH e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 25 <i>Since:</i> 6.1.0
cmas-dwh-server	notification.protocol	<i>Description:</i> The protocol used for sending e-mails from DWH. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> Yes <i>Example value:</i> pop3\
cmas-dwh-server	notification.username	Description: (SMTP) User name for sending DWH e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> maz <i>Since:</i> 6.1.0
cmas-dwh-server	skip-ticket	Description: Tickets are not transferred during transfer/update <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-dwh-server	skip-ticket-history	Description: History of ticket is not transferred during transfer/ update. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-dwh-server	skip-unit	Description: Units are not transferred during transfer/update <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-dwh-server	skip-unit-history	

Module	Property	Explanation
		Description: History of unit is not transferred during transfer/update <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-dwh-server	split.history	Description: Changes the SQL that fetches the history for the tickets during DWH transfer not to all tickets at once but only for one ticket per SQL. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> false <i>Since:</i> 6.8.0
cmas-dwh-server	unit.transfer.order	Description: Define in which order data object groups should be transferred to the DWH. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value: company;</i> <i>customer</i> <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-esb-core	esb.directory	Description: Directory used by ESB (Mule) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> C:\Users\user\ cmas\mule <i>Since:</i> 6.0

Module	Property	Explanation
cmas-esb-mail	mail.attachments.validation.info.s ender	Description: Sets From header of attachments type error notification e-mail. As a default the e-mail address of the administrator which you have entered during system set-up is used. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> admin@ consolcm.com <i>Since:</i> 6.7.5
cmas-esb-mail	mail.attachments.validation.info.s ubject	Description: Sets subject of attachments type error notification e-mail. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> E-mail was not processed because its attachments were rejected!!! <i>Since:</i> 6.7.5
cmas-esb-mail	mail.callname.pattern	Description: Regular expression for subject of incoming e-mails. Available as TICKET_NAME_PATTERN_FO RMAT in incoming e-mail scripts. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> .*?Ticket\s+\((\S+)\).* <i>Since:</i> 6.0
cmas-esb-mail	mail.cluster.node.id	<i>Description:</i> Only the node whose mail.cluster.node.id equals cmas.clusternode.id will start the Mule ESB mail services. <i>Type:</i> String

Module	Property	Explanation
		<i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> unspecified <i>Since:</i> 6.6.5
cmas-esb-mail	mail.db.archive	<i>Description:</i> If property is set to <i>tr</i> <i>ue</i> , incoming e-mails are archived in the database. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> false (default) <i>Since:</i> 6.8.5.5
cmas-esb-mail	mail.delete.read	<i>Description:</i> Determines whether CM deletes messages fetched via IMAP(S). Setting value to <i>true</i> will cause deletion of messages after fetching. Default is to not delete messages fetched via IMAP(S). Note: Messages fetched via POP3(S) will always be deleted. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.7.3
cmas-esb-mail	mail.encryption	Description: If property is set to tr ue, the encrypt check box in the Ticket E-Mail Editor is checked by default. Type: Boolean Restart required: No System: Yes Optional: No Example value: true (default = false) Since: 6.8.4.0
cmas-esb-mail	mail.incoming.uri	

Module	Property	Explanation
		Description: URL for incoming e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> pop3:// cm-incoming-user:password@ localhost:10110 <i>Since:</i> 6.0
		This value should not be edited here using the system properties pop-up window, but the mailboxes should be configured using the file card E-mail. Using this standard feature all entries are controlled - i.e. for each mailbox which is added, CM establishes a test connection during mailbox set-up. That way it is not possible to enter wrong values.
cmas-esb-mail	mail.max.restarts	Description: Maximum number of mail service restarts before giving up <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 3 <i>Since:</i> 6.0
cmas-esb-mail	mail.mime.strict	<i>Description:</i> If set to <i>false</i> , e-mail addresses are not parsed for strict MIME compliance. Default is <i>true</i> , which means check for

Module	Property	Explanation
		strict MIME compliance. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.17, 6.7.3
cmas-esb-mail	mail.mule.service	Description: From address for e-mails sent by Mule service Type: EMail Restart required: No System: Yes Optional: No Example value: maz@consol.de Since: 6.0
cmas-esb-mail	mail.polling.interval	Description: Mail polling interval in ms Type: Integer Restart required: No System: Yes Optional: No Example value: 60000 Since: 6.0
cmas-esb-mail	mail.process.error	Description: To address for error e-mails from Mule. As a default the e-mail address of the administrator which you have entered during system set-up is used. Type: EMail Restart required: No System: Yes Optional: No Example value: maz@consol.de Since: 6.0
cmas-esb-mail	mail.process.retry.attempts	<i>Description:</i> Number of retries when processing e-mail <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No

Module	Property	Explanation
		<i>Example value:</i> 3 <i>Since:</i> 6.0.2
cmas-esb-mail	mail.process.timeout	Description: Mail processing timeout in seconds <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 60 <i>Since:</i> 6.1.3
cmas-esb-mail	mail.redelivery.retry.count	Description: Indicates the number of retries of re-delivering an e-mail from the CM system. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 3 <i>Since:</i> 6.1.0
cmas-setup-hibernate	hibernate.dialect	Description: The dialect used by hibernate. Usually set during initial set-up (depending on the database system). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> org.hibernate.dialect.MySQL5Inn oDBDialect <i>Since:</i> 6.0
cmas-setup-manager	initialized	<i>Description:</i> Flag if CMAS is initialized. If this value is missing or not <i>true</i> , set-up will be performed. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.0

Module	Property	Explanation
		Be careful with using this property!!! When you set the value to <i>fals</i> <i>e</i> , the ConSol*CM server will perform the system set-up at the next start, i.e. all data of the existing system is lost, including system properties!!!
cmas-setup-scene	scene	Description: Scene file which was imported during set-up (can be empty). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> vfszip:/P:/dist/ target/jboss/server/cmas/deploy/ cm-dist-6.5.1-SNAPSHOT.ear/ APP-INF/lib/dist-scene-6.5.1- SNAPSHOT.jar/META-INF/cmas/ scenes/helpdesk-sales_scene.jar / <i>Since:</i> 6.0
cmas-workflow-engine	jobExecutor.adminMail	Description: E-mail address which will get notified about job execution problems (when retry counter is exceeded). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> admin@ consol.de <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.idleInterval.seconds	<i>Description:</i> Determines how often job executor thread will look for new jobs to execute. <i>Type:</i> Integer

Module	Property	Explanation
		<i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 5 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.jobMaxRetries	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 5 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.jobMaxRetriesReach edSubject	Description: Type: String Restart required: No System: Yes Optional: Yes Example value: Job maximum retries reached. Job was removed!!! (default) Since: 6.8.0
cmas-workflow-engine	jobExecutor.lockTimeout.second s	<i>Description:</i> How long the job can be locked (marked for execution) by job executor. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 360 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.lockingLimit	<i>Description:</i> Number of jobs locked at once (marked for execution) by job executor thread <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 10 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.mailFrom	<i>Description:</i> E-mail which will be set as <i>From</i> header during admin

Module	Property	Explanation
		notifications. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> jobexecutor@ consol.de <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.maxInactivityInterval .minutes	Description: Number of minutes of allowed job executor inactivity (e.g. when it is blocked by long timer execution). After this time executors threads are restarted. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes. Default value is set to 30 minutes <i>Example value:</i> 15 (default) <i>Since:</i> 6.9.2.0
cmas-workflow-engine	jobExecutor.threads	<i>Description:</i> Number of job execution threads <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 1 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.timerRetryInterval.se conds	<i>Description:</i> Determines how long job executor thread will wait after job execution error. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 10 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.txTimeout.seconds	<i>Description:</i> Transaction timeout used for job execution <i>Type:</i> Integer <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 60 (default) <i>Since:</i> 6.8.0
cmweb-server-adapter	checkUserOnlineIntervalInSecon ds	<i>Description:</i> The interval in seconds to check which users are online (default 180sec = 3min). <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 180 <i>Since:</i> 6.0
cmweb-server-adapter	cmoffice.enabled	<i>Description:</i> Flag if CM/Office is enabled. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.4.0
cmweb-server-adapter	commentRequiredForTicketCreat ion	Description: Flag if comment is a required field for ticket creation. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true (default) <i>Since:</i> 6.2.0
cmweb-server-adapter	customizationVersion	<i>Description:</i> <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> cd58453e-f3cc- 4538-8030-d15e8796a4a7 <i>Since:</i> 6.5.0
cmweb-server-adapter	data.optimization	<i>Description:</i> Defines optimization to be applied on response data. So far, the following values are

Module	Property	Explanation
		supported (for setting more than one value, separate values by ' '): <i>MINIFICATION</i> and <i>COMPRESS</i> <i>/ON</i> . MINIFICATION minifies HTML data by e.g. stripping whitespaces and comments. COMPRESSION applies gzip compression to HTTP response. (Note: If you are running in cluster mode and want to test different configurations in parallel , you can set different values for each cluster node by specifying property data.optimization. <i>nodeld</i> to override default property.) <i>Type:</i> String <i>Restart required:</i> COMPRESSION can be switched on/off without restart, MINIFICATION requires restart. <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> MINIFICATION COMPRESSION
cmweb-server-adapter	defaultContentEntryClassName	<i>Description:</i> Default text class for new acims <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> default_class <i>Since:</i> 6.3.0
cmweb-server-adapter	defaultNumberOfCustomFieldsC olumns	<i>Description:</i> Default number of columns for custom fields <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 3 <i>Since:</i> 6.2.0
cmweb-server-adapter	favoritesSizeLimit	<i>Description:</i> Maximum number of items in favorites list

Module	Property	Explanation
		<i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 10 <i>Since:</i> 6.0
cmweb-server-adapter	globalSearchResultSizeLimit	<i>Description:</i> Maximum number of items in global (Q&E) search result <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 10 <i>Since:</i> 6.0
cmweb-server-adapter	helpFilePath	Description: URL for online help. If not empty, <i>Help</i> button is displayed in Web Client. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> http:// www.consol.de <i>Since:</i> 6.2.1
cmweb-server-adapter	hideTicketSubject	<i>Description:</i> If set to <i>true</i> , ticket subject is hidden. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.2.1
cmweb-server-adapter	mail.from	<i>Description:</i> Use this address if set instead of engineer e-mail address during e-mail conversation. <i>Type:</i> String <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.1.2
cmweb-server-adapter	mail.reply.to	Description: When set, Web Client will display reply-to field on e-mail send, prefilled with this value. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0.1 Please see also section Queue Administration. When you set the REPLY TO address in the outgoing e-mail script, the <i>mail.reply.to</i> system property must not be set (because it would overwrite the configured value)! That means when you use one outgoing e-mail script for a queue you have to define outgoing e-mail scripts for all queues because the <i>ma</i> <i>il.reply.to</i> property can no longer be used.
cmweb-server-adapter	mailTemplateAboveQuotedText	<i>Description:</i> Indicates behavior of e-mail template in the Ticket E-Mail Editor when another e-mail is quoted, i.e. forwarded or replied to. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No

Module	Property	Explanation
		<i>Example value:</i> false <i>Since:</i> 6.2.4
cmweb-server-adapter	maxSizePerPagemapInMegaByt es	Description: Maximum size (in MB) for each Wicket pagemap <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 15 <i>Since:</i> 6.3.5
cmweb-server-adapter	pagemapLockDurationInSeconds	Description: Number of seconds to pass before pagemap is considered to be locked for too long. <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 60 <i>Since:</i> 6.7.3
cmweb-server-adapter	postActivityExecutionScriptName	<i>Description:</i> Defines the name for the script which should be executed after every workflow activity, see section Default Workflow Activity Script. If no script should be executed, leave the value empty. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> postActivityExecutionHandler <i>Since:</i> 6.2.0
cmweb-server-adapter	queuesExcludedFromGS	<i>Description:</i> Comma-separated list of queue names which are excluded from global search. <i>Type:</i> String <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0
cmweb-server-adapter	rememberMeLifetimeInMinutes	<i>Description:</i> Lifetime for <i>rememb</i> <i>er me</i> in minutes <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1440 <i>Since:</i> 6.0
cmweb-server-adapter	request.scope.transaction	Description: It allows to disable request scope transaction. By default one transaction is used per request. Setting this property to false there will cause one transaction per service method invocation. Type: Boolean Restart required: Yes System: Yes Optional: Yes Example value: true Since: 6.8.1
cmweb-server-adapter	searchPageSize	<i>Description:</i> Default page size for search results <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 20 <i>Since:</i> 6.0
cmweb-server-adapter	searchPageSizeOptions	Description: Options for page size for search results <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 10 20 30 40 50 75 100 <i>Since:</i> 6.0

Module	Property	Explanation
cmweb-server-adapter	serverPoolingInterval	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 5 <i>Since:</i> 6.1.0
cmweb-server-adapter	supportEmail	<i>Description:</i> <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0
cmweb-server-adapter	themeOverlay	<i>Description:</i> Name of used theme overlay <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> kyoEUR <i>Since:</i> 6.0
cmweb-server-adapter	ticketListRefreshIntervalInSecon ds	<i>Description:</i> Refresh interval for ticket list (in seconds) <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 180 <i>Since:</i> 6.0
cmweb-server-adapter	ticketListSizeLimit	<i>Description:</i> Maximum number of tickets in ticket list <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 100 <i>Since:</i> 6.0
cmweb-server-adapter	unitIndexSearchResultSizeLimit	<i>Description:</i> Maximum number of units in unit search result (e.g. when searching for contact) <i>Type:</i> Integer

Module	Property	Explanation
		<i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 5 <i>Since:</i> 6.0
cmweb-server-adapter	urlLogoutPath	Description: URL which is used when user logs out. (If no value is set, logout leads to login-mask.) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> http:// intranet.consol.de <i>Since:</i> 6.3.1
cmweb-server-adapter	webSessionTimeoutInMinutes	Description: Session timeout in minutes Type: Integer Restart required: Yes System: Yes Optional: No Example value: 180 Removed in: 6.7.1 Replaced by: cmas-core-server, server.session.timeout
cmweb-server-adapter	wicketAjaxRequestHeaderFilterE nabled	<i>Description:</i> This enables filter for Wicket AJAX requests, coming from stale pages with Wicket 1.4 scripting (CM6 pre-6.8.0), after update to CM6 post-6.8.0. <i>Type:</i> Boolean <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> false <i>Since:</i> 6.8.1
cmas-workflow-jbpm	fetchLock.interval	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No

Module	Property	Explanation
		<i>Example value:</i> 5000 <i>Removed in:</i> 6.8.0
cmas-workflow-jbpm	fetchLock.timeout	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 15000 <i>Removed in:</i> 6.8.0
cmas-workflow-jbpm	jobExecutor.idleInterval	Description: Type: Integer Restart required: No System: Yes Optional: No Example value: 45000 Removed in: 6.8.0 Replaced by: jobExecutor.idleInt erval.seconds
cmas-workflow-jbpm	jobExecutor.jobExecuteRetryNu mber	Description: Type: Integer Restart required: No System: Yes Optional: No Example value: 5 Removed in: 6.8.0 Replaced by: jobExecutor.jobMaxRetries
cmas-workflow-jbpm	jobExecutor.timerRetryInterval	Description: Type: Integer Restart required: No System: Yes Optional: No Example value: 10000 Removed in: 6.8.0 Replaced by: jobExecutor.timerRetryInterval.se conds
cmas-workflow-jbpm	mail.sender.address	<i>Description: From</i> address for e-mails from the workflow engine <i>Type:</i> String <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Removed in:</i> 6.8.0 <i>Replaced by:</i> jobExecutor.mailFrom
cmas-workflow-jbpm	outdated.lock.age	Description: Type: Integer Restart required: No System: Yes Optional: No Example value: 60000 Removed in: 6.8.0 Replaced by: cmas-workflow-eng ine, jobExecutor.lockTimeout.second s
cmas-workflow-jbpm	refreshTimeInCaseOfConcurrent RememberMeRequests	Description: It sets the refresh time (in seconds) after which page will be reloaded in case of concurrent remember me requests. This feature prevents one user from occupying many licenses. Please increase that time if sessions are still occupying. <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 5 <i>Since:</i> 6.8.2

33.2 System Properties Ordered by Property Name

Module	Property	Explanation
cmas-core-security	admin.email	<i>Description:</i> The e-mail address of the ConSol*CM administrator. The value which you have entered during system set-up is used initially. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Since:</i> 6.0
cmas-core-security	admin.login	Description: The name of the ConSol*CM administrator. The value which you have entered during system set-up is used initially. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> admin <i>Since:</i> 6.0
cmas-app-admin-tool	admin.tool.session.check.interval	<i>Description:</i> Admin Tool inactive (ended) sessions check time interval (in seconds) <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 30 <i>Since:</i> 6.7.5
cmas-core-server	attachment.allowed.types	<i>Description:</i> Comma-separated list of allowed filename extensions (if no value defined, all file extensions are allowed). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> Yes <i>Example value:</i> txt,zip,doc <i>Since:</i> 6.5.0
cmas-core-server	attachment.max.size	<i>Description:</i> Maximum attachment size in MB <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 100 <i>Since:</i> 6.4.0
cmas-core-security	authentication.method	Description: User authentication method (internal CM database or LDAP authentication). Allowed values are LDAP or DATABASE. Type: String Restart required: No System: Yes Optional: No Example value: DATABASE Since: 6.0
cmas-dwh-server	autocommit.cf.changes	<i>Description:</i> <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.7.0
cmas-app-admin-tool	autocomplete.enabled	<i>Description:</i> If the flag is missing or its value is <i>false</i> , then the <i>Auto</i> <i>complete address</i> tab is hidden in Admin-Tool. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> true <i>Since:</i> 6.9.2.0
cmas-dwh-server	batch-commit-interval	<i>Description:</i> Number of objects in a JMS message. Higher value means better transfer
Module	Property	Explanation
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		performance and bigger memory usage. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 100 <i>Since:</i> 6.0.0
cmas-core-index-common	big.task.minimum.size	Description: How many parts task at least should have to be handled by Indexer with low priority. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 15 (default) <i>Since:</i> 6.8.3
cmas-core-cache	cache-cluster-name	Description: JBoss cache cluster name <i>Type:</i> String <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 635a6de1-629a- 4129-8299-2d98633310f0 <i>Since:</i> 6.4.0
cmweb-server-adapter	checkUserOnlineIntervalInSecon ds	<i>Description:</i> The interval in seconds to check which users are online (default 180sec = 3min). <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 180 <i>Since:</i> 6.0
cmas-core-shared	cluster.mode	<i>Description:</i> Flag if CMAS is running in cluster. <i>Type:</i> Boolean <i>Restart required:</i> Yes

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.1.0
cmweb-server-adapter	cmoffice.enabled	<i>Description:</i> Flag if CM/Office is enabled. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.4.0
cmweb-server-adapter	commentRequiredForTicketCreat ion	<i>Description:</i> Flag if comment is a required field for ticket creation. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true (default) <i>Since:</i> 6.2.0
cmas-core-server	config.data.version	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 11 <i>Since:</i> 6.0
cmas-core-security	contact.authentication.method	Description: Indicates contact authentication method, where possible values are DATABASE or LDAP or LDAP, DATABASE or DATABASE, LDAP. Type: String Restart required: No System: Yes Optional: No Since: 6.9.3.0
cmas-core-security	contact.inherit.permissions.only.t o.own.customer.group	<i>Description:</i> Indicates whether authenticated contact inherits all customer group permissions from representing engineer (false) or

Module	Property	Explanation
		only permission to own customer group (true). <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Since:</i> 6.9.2.3
cmweb-server-adapter	customizationVersion	Description: Type: String Restart required: No System: Yes Optional: No Example value: cd58453e-f3cc- 4538-8030-d15e8796a4a7 Since: 6.5.0
cmas-core-shared	data.directory	Description: Directory for CMAS data (e.g. index) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> C:\Users\user\ cmas <i>Since:</i> 6.0
cmweb-server-adapter	data.optimization	<i>Description:</i> Defines optimization to be applied on response data. So far, the following values are supported (for setting more than one value, separate values by ' '): <i>MINIFICATION</i> and <i>COMPRESS</i> <i>ION.</i> MINIFICATION minifies HTML data by e.g. stripping whitespaces and comments. COMPRESSION applies gzip compression to HTTP response. (Note: If you are running in cluster mode and want to test different configurations in parallel , you can set different values for each cluster node by specifying property data.optimization. <i>nodeld</i> to override default property.)

Module	Property	Explanation
		<i>Type:</i> String <i>Restart required:</i> COMPRESSION can be switched on/off without restart, MINIFICATION requires restart <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> MINIFICATION COMPRESSION
cmas-core-server	defaultCommentClassName	<i>Description:</i> Default text class name for comments <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Example value:</i> <i>Since:</i> 6.3.0
cmweb-server-adapter	defaultContentEntryClassName	Description: Default text class for new acims <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> default_class <i>Since:</i> 6.3.0
cmas-core-server	defaultIncommingMailClassName	Description: Default text class name for incoming e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Example value:</i> <i>Since:</i> 6.3.0
cmweb-server-adapter	defaultNumberOfCustomFieldsC olumns	Description: Default number of columns for custom fields <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 3 <i>Since:</i> 6.2.0

Module	Property	Explanation
cmas-core-server	defaultOutgoingMailClassName	<i>Description:</i> Default text class name for outgoing e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Example value:</i> <i>Since:</i> 6.3.0
cmas-core-index-common	disable.admin.task.auto.commit	<i>Description:</i> All tasks created for index update will be automatically executed right after creation. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.1
cmas-dwh-server	dwh.mode	Description: Current mode of DWH data transfer. Possible values are OFF, ADMIN, LIVE Type: String Restart required: No System: Yes Optional: No Example value: OFF Since: 6.0.1
cmas-esb-core	esb.directory	Description: Directory used by ESB (Mule) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> C:\Users\user\ cmas\mule <i>Since:</i> 6.0
cmas-core-cache	eviction.event.queue.size	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> No <i>Example value:</i> 200000 <i>Since:</i> 6.4.0
cmas-core-cache	eviction.max.nodes	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 100000 <i>Since:</i> 6.4.0
cmas-core-cache	eviction.wakeup.interval	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 3000 <i>Since:</i> 6.4.0
cmweb-server-adapter	favoritesSizeLimit	<i>Description:</i> Maximum number of items in favorites list <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 10 <i>Since:</i> 6.0
cmas-workflow-jbpm	fetchLock.interval	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 5000 <i>Removed in:</i> 6.8.0
cmas-workflow-jbpm	fetchLock.timeout	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 15000 <i>Removed in:</i> 6.8.0
cmas-core-server	fetchSize.strategy	

Module	Property	Explanation
		Description: Strategy selected to set fetch size on jdbc result sets. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> FetchSizePageBasedStrategy, FetchSizeThresholdStrategy, FetchSizeFixedStrategy <i>Since:</i> 6.8.4.1
cmas-core-server	fetchSize.strategy.FetchSizeFixe dStrategy.value	<i>Description:</i> Sets fetch size value if selected strategy to set fetch size is <i>FetchSizeFixedStrategy.</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 150 <i>Since:</i> 6.8.4.1
cmas-core-server	fetchSize.strategy.FetchSizePag eBasedStrategy.limit	Description: Sets maximum fetch size value if selected strategy to set fetch size is <i>FetchSizePageB</i> asedStrategy. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 10000 <i>Since:</i> 6.8.4.1
cmas-core-server	fetchSize.strategy.FetchSizeThre sholdStrategy.value	<i>Description:</i> Sets fetch size threshold border values if selected strategy to set fetch size is <i>FetchSizeThresholdStrategy.</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 150,300,600,1000 <i>Since:</i> 6.8.4.1

Module	Property	Explanation
cmweb-server-adapter	globalSearchResultSizeLimit	Description: Maximum number of items in global (Q&E) search result <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 10 <i>Since:</i> 6.0
cmweb-server-adapter	helpFilePath	Description: URL for online help. If not empty, <i>Help</i> button is displayed in Web Client. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> http:// www.consol.de <i>Since:</i> 6.2.1
cmas-setup-hibernate	hibernate.dialect	Description: The dialect used by hibernate. Usually set during initial setup (depending on the database system). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> org.hibernate.dialect.MySQL5Inn oDBDialect <i>Since:</i> 6.0
cmweb-server-adapter	hideTicketSubject	<i>Description:</i> If set to <i>true</i> , ticket subject is hidden. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.2.1
cmas-dwh-server	ignore-queues	<i>Description:</i> By adding a comma separated list of queue names it

Module	Property	Explanation
		is configured that tickets of these queues are not transferred to the DWH. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> QueueName1, QueueName2,QueueName3 <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-core-index-common	index.attachment	<i>Description:</i> Describes if content of attachments is indexed. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.4.3
cmas-core-index-common	index.history	<i>Description:</i> Describes if unit and ticket history are indexed. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.1.0
cmas-core-index-common	index.status	Description: Status of the Indexer , possible values RED, YELLOW, GREEN, will be displayed in the Admin-Tool. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> GREEN <i>Since:</i> 6.6.1
cmas-core-index-common	index.task.worker.threads	<i>Description:</i> How many threads will be used to execute batch index tasks (synchronization, administrative, and repair tasks).

Module	Property	Explanation
		<i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1 (default) (we recommend to use a value not larger than 2) <i>Since:</i> 6.6.14, 6.7.3
cmas-core-index-common	index.version.current	Description: Holds information about current (possibly old) index version. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1 (default) <i>Since:</i> 6.7.0
cmas-core-index-common	index.version.newest	Description: Holds information about which index version is considered newest. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1 (default) <i>Since:</i> 6.7.0
cmas-core-index-common	indexed.assets.per.thread.in.me mory	Description: How many assets should be loaded into memory at once during indexing per one thread. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 200 (default) <i>Since:</i> 6.8.0
cmas-core-index-common	indexed.engineers.per.thread.in. memory	<i>Description:</i> How many engineers should be loaded into memory at once during indexing per one thread. <i>Type:</i> Integer

Module	Property	Explanation
		<i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 300 (default) <i>Since:</i> 6.6.14, 6.7.3
cmas-core-index-common	indexed.tickets.per.thread.in.me mory	Description: How many tickets should be loaded into memory at once during indexing per one thread. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 100 (default) <i>Since:</i> 6.6.14, 6.7.3
cmas-core-index-common	indexed.units.per.thread.in.memo ry	Description: How many units should be loaded into memory at once during indexing per one thread. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 200 (default) <i>Since:</i> 6.6.14, 6.7.3
cmas-setup-manager	initialized	<i>Description:</i> Flag if CMAS is initialized. If this value is missing or not <i>true</i> , set-up will be performed. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.0
		Be careful with using this property!!! When you set the value to fals <i>e</i> , the ConSol*CM server will perform the

Module	Property	Explanation
		system set-up at the next start, i.e. all data of the existing system is lost, including system properties!!!
cmas-dwh-server	is.cmrf.alive	Description: As a starting point time of sending last message to CMRF should be used. If response from CMRF is not received after value (in seconds) it should create a DWH operation status with error message that CMRF is down. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1200 <i>Since:</i> 6.7.0
cmas-dwh-server	java.naming.factory.initial	Description: Factory class for DWH context factory. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> org.jnp.interfaces.NamingContext Factory <i>Since:</i> 6.0.1
cmas-dwh-server	java.naming.factory.url.pkgs	Description: Type: String Restart required: No System: Yes Optional: No Example value: org.jboss.naming :org.jnp.interfaces Since: 6.0.1
cmas-dwh-server	java.naming.provider.url	<i>Description:</i> URL of naming provider <i>Type:</i> String

Module	Property	Explanation
		<i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> localhost <i>Since:</i> 6.0.1
cmas-workflow-engine	jobExecutor.adminMail	Description: E-mail address which will get notified about job execution problems (when retry counter is exceeded). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> admin@ consol.de <i>Since:</i> 6.8.0
cmas-workflow-jbpm	jobExecutor.idleInterval	Description: Type: Integer Restart required: No System: Yes Optional: No Example value: 45000 Removed in: 6.8.0 Replaced by: jobExecutor.idleInt erval.seconds
cmas-workflow-engine	jobExecutor.idleInterval.seconds	Description: Determines how often job executor thread will look for new jobs to execute. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 5 (default) <i>Since:</i> 6.8.0
cmas-workflow-jbpm	jobExecutor.jobExecuteRetryNu mber	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 5 <i>Removed in:</i> 6.8.0

Module	Property	Explanation
		<i>Replaced by:</i> jobExecutor.jobMaxRetries
cmas-workflow-engine	jobExecutor.jobMaxRetries	<i>Description:</i> <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 5 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.jobMaxRetriesReach edSubject	Description: Type: String Restart required: No System: Yes Optional: Yes Example value: Job maximum retries reached. Job was removed!!! (default) Since: 6.8.0
cmas-workflow-engine	jobExecutor.lockingLimit	<i>Description:</i> Number of jobs locked at once (marked for execution) by job executor thread <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 10 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.lockTimeout.second s	<i>Description:</i> How long the job can be locked (marked for execution) by job executor. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 360 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.mailFrom	<i>Description:</i> E-mail which will be set as <i>From</i> header during admin notifications. <i>Type:</i> String <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> jobexecutor@ consol.de <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.maxInactivityInterval .minutes	Description: Number of minutes of allowed job executor inactivity (e.g. when it is blocked by long timer execution). After this time executors threads are restarted. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes. Default value is set to 30 minutes <i>Example value:</i> 15 (default) <i>Since:</i> 6.9.2.0
cmas-workflow-engine	jobExecutor.threads	<i>Description:</i> Number of job execution threads <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 1 (default) <i>Since:</i> 6.8.0
cmas-workflow-jbpm	jobExecutor.timerRetryInterval	Description: Type: Integer Restart required: No System: Yes Optional: No Example value: 10000 Removed in: 6.8.0 Replaced by: jobExecutor.timerRetryInterval.se conds
cmas-workflow-engine	jobExecutor.timerRetryInterval.se conds	<i>Description:</i> Determines how long job executor thread will wait after job execution error. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> Yes <i>Example value:</i> 10 (default) <i>Since:</i> 6.8.0
cmas-workflow-engine	jobExecutor.txTimeout.seconds	<i>Description:</i> Transaction timeout used for job execution <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 60 (default) <i>Since:</i> 6.8.0
cmas-core-security	kerberos.v5.enabled	Description: Flag which indicates whether SSO via Kerberos is enabled. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false (default if Kerberos has not been enabled during system set-up) <i>Since:</i> 6.2.0
cmas-core-security	kerberos.v5.username.regex	<i>Description:</i> Regular expression used for mapping Kerberos principal to CM user login. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> (.*)@.* <i>Since:</i> 6.2.0
cmas-core-server	last.config.change	<i>Description:</i> Random UUID created during last change in config <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 2573c7b7-2bf5- 47ff-b5a2-bad31951a266 <i>Since:</i> 6.1.0, 6.2.1

Module	Property	Explanation
cmas-core-security	Idap.authentication	Description: Authentication method used when using LDAP authentication. <i>Type:</i> String <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> simple <i>Since:</i> 6.0
cmas-core-security	ldap.basedn	Description: Base DN used for looking up LDAP user accounts when using LDAP authentication. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> ou=accounts,dc= consol,dc=de <i>Since:</i> 6.0
cmas-core-server	ldap.certificate.basedn	<i>Description:</i> Base DN for certificates location in LDAP tree. If not provided, <i>cmas-core-securit</i> <i>y</i> , <i>Idap.basedn</i> is taken. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> ou=accounts,dc= consol,dc=de <i>Since:</i> 6.8.4
cmas-core-server	Idap.certificate.content.attribute	<i>Description:</i> LDAP attribute name used where certificate data is stored in LDAP tree. Default value is: usercertificate. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> usercertificate <i>Since:</i> 6.8.4
cmas-core-server	Idap.certificate.password	

Module	Property	Explanation
		<i>Description:</i> LDAP Certificates manager password. If not set, <i>cm</i> <i>as-core-security, Idap.password</i> is taken. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.8.4
cmas-core-server	Idap.certificate.providerurI	Description: LDAP Certificates provider URL. If not set, <i>cmas-co</i> <i>re-security, Idap.providerurl</i> is taken. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> Idap:// Idap.consol.de:389 <i>Since:</i> 6.8.4
cmas-core-server	Idap.certificate.searchattr	<i>Description:</i> LDAP attribute name used to search for certificate in LDAP tree. Default value is: mail. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> mail <i>Since:</i> 6.8.4
cmas-core-server	Idap.certificate.userdn	Description: LDAP Certificates manager DN. If not set, <i>cmas-cor</i> <i>e-security, Idap.userdn</i> is taken. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.8.4
cmas-core-security	Idap.contact.name.basedn	<i>Description:</i> Base path to search for contact DN by LDAP ID (e.g. ou=accounts,dc=consol,dc=de) <i>Type:</i> String

Module	Property	Explanation
		<i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0
cmas-core-security	ldap.contact.name.password	Description: Password to look up contact DN by LDAP ID, (if not set, anonymous account is used) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0
cmas-core-security	ldap.contact.name.providerurl	<i>Description:</i> Address of the LDAP server (Idap[s]://host:port) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0
cmas-core-security	ldap.contact.name.searchattr	Description: Attribute to search for contact DN by LDAP ID (e.g. uid) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0
cmas-core-security	Idap.contact.name.userdn	Description: User DN to look up contact DN by LDAP ID, (if not set, anonymous account is used) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> No <i>Optional:</i> Yes <i>Since:</i> 6.9.3.0
cmas-core-security	Idap.initialcontextfactory	<i>Description:</i> Class name for initial context factory of LDAP implementation when using LDAP authentication. If it is not set, com.sun.jndi.ldap.LdapCtxFactor

Module	Property	Explanation
		y is being used as value. <i>Type:</i> String <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> com.sun.jndi.ldap.LdapCtxFactor y <i>Since:</i> 6.0
cmas-core-security	Idap.password	<i>Description:</i> Password for connecting to LDAP to look up users (when using LDAP authentication). Only needed if look-up cannot be done anonymously. <i>Type:</i> Password <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.1.2
cmas-core-security	ldap.providerurl	Description: LDAP provider (when using LDAP authentication) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Idap:// Idap.consol.de:389 <i>Since:</i> 6.0
cmas-core-security	Idap.searchattr	Description: Search attribute for looking up LDAP entry connected to CM6 login. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> uid <i>Since:</i> 6.0
cmas-core-security	ldap.userdn	<i>Description:</i> LDAP user for connecting to LDAP to look up

Module	Property	Explanation
		users (when using LDAP authentication). Only needed if look-up cannot be done anonymously. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.1.2
cmas-esb-mail	mail.attachments.validation.info.s ender	Description: Sets From header of attachments type error notification e-mail. As a default the e-mail address of the administrator which you have entered during system set-up is used. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> admin@ consolcm.com <i>Since:</i> 6.7.5
cmas-esb-mail	mail.attachments.validation.info.s ubject	Description: Sets subject of attachments type error notification e-mail. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> E-mail was not processed because its attachments were rejected!!! <i>Since:</i> 6.7.5
cmas-esb-mail	mail.callname.pattern	<i>Description:</i> Regular expression for subject of incoming e-mails. Available as TICKET_NAME_PATTERN_FO RMAT in incoming e-mail scripts. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> No <i>Example value:</i> .*?Ticket\s+\((\S+)\).* <i>Since:</i> 6.0
cmas-esb-mail	mail.cluster.node.id	<i>Description:</i> Only the node whose mail.cluster.node.id equals cmas.clusternode.id will start the Mule ESB mail services. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> unspecified <i>Since:</i> 6.6.5
cmas-esb-mail	mail.db.archive	<i>Description:</i> If property is set to <i>tr</i> <i>ue</i> , incoming e-mails are archived in the database. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> false (default) <i>Since:</i> 6.8.5.5
cmas-esb-mail	mail.delete.read	Description: Determines whether CM deletes messages fetched via IMAP(S). Setting value to <i>true</i> will cause deletion of messages after fetching. Default is to not delete messages fetched via IMAP(S). Note: Messages fetched via POP3(S) will always be deleted. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.7.3
cmas-esb-mail	mail.encryption	<i>Description:</i> If property is set to <i>tr</i> <i>ue</i> , the encrypt check box in the Ticket E-Mail Editor is checked

Module	Property	Explanation
		by default. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true (default = false) <i>Since:</i> 6.8.4.0
cmweb-server-adapter	mail.from	Description: Use this address if set instead of engineer e-mail address during e-mail conversation. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.1.2
cmas-esb-mail	mail.incoming.uri	Description: URL for incoming e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> pop3:// cm-incoming-user:password@ localhost:10110 <i>Since:</i> 6.0
		This value should not be edited here using the system properties pop-up window, but the mailboxes should be configured using the file card E-mail. Using this standard feature all entries are controlled - i.e. for each mailbox which is added, CM establishes a test connection during mailbox set-up. That

Module	Property	Explanation
		way it is not possible to enter wrong values.
cmas-esb-mail	mail.max.restarts	<i>Description:</i> Maximum number of mail service restarts before giving up <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 3 <i>Since:</i> 6.0
cmas-esb-mail	mail.mime.strict	<i>Description:</i> If set to <i>false</i> , e-mail addresses are not parsed for strict MIME compliance. Default is <i>true</i> , which means check for strict MIME compliance. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.17, 6.7.3
cmas-esb-mail	mail.mule.service	<i>Description: From</i> address for e-mails sent by Mule service <i>Type:</i> EMail <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Since:</i> 6.0
cmas-core-server	mail.notification.engineerChange	Description: Flag if notification e-mail should be sent when engineer of ticket is changed. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.1.0

Module	Property	Explanation
cmas-core-server	mail.notification.sender	Description: From address for notification e-mails when engineer of ticket is changed. If not set, cmas-core-security, admi n.email is used instead. Type: String Restart required: No System: Yes Optional: Yes Example value: cm6notification@ cm6installation Since: 6.6.3
cmas-esb-mail	mail.polling.interval	Description: Mail polling interval in ms <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 60000 <i>Since:</i> 6.0
cmas-esb-mail	mail.process.error	Description: To address for error e-mails from Mule. As a default the e-mail address of the administrator which you have entered during system set-up is used. Type: EMail Restart required: No System: Yes Optional: No Example value: maz@consol.de Since: 6.0
cmas-esb-mail	mail.process.retry.attempts	<i>Description:</i> Number of retries when processing e-mail <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 3 <i>Since:</i> 6.0.2
cmas-esb-mail	mail.process.timeout	

Module	Property	Explanation
		Description: Mail processing timeout in seconds <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 60 <i>Since:</i> 6.1.3
cmas-esb-mail	mail.redelivery.retry.count	Description: Indicates the number of retries of re-delivering an e-mail from the CM system. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 3 <i>Since:</i> 6.1.0
cmweb-server-adapter	mail.reply.to	Description: When set, Web Client will display reply-to field on e-mail send, prefilled with this value. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0.1
		When you set the REPLY TO address in the outgoing e-mail script, the <i>mail.reply.to</i> system property must not be set (because it would overwrite the configured value)! That means when you use one outgoing e-mail script for a queue you have to define outgoing e-mail scripts for all

Module	Property	Explanation
		queues because the <i>ma</i> <i>il.reply.to</i> property can no longer be used.
cmas-workflow-jbpm	mail.sender.address	Description: From address for e-mails from the workflow engine <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Removed in:</i> 6.8.0 <i>Replaced by:</i> jobExecutor.mailFrom
cmas-core-server	mail.smtp.email	Description: SMTP e-mail URL for outgoing e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> smtp:// mail.consol.de:25 <i>Since:</i> 6.0
cmas-core-server	mail.smtp.envelopesender	Description: E-mail address used as sender in SMTP envelope. If not set, the <i>From:</i> address of the e-mail is used. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> mysender@ mydomain.com <i>Since:</i> 6.5.7
cmweb-server-adapter	mailTemplateAboveQuotedText	<i>Description:</i> Indicates behavior of e-mail template in the Ticket E-Mail Editor when another e-mail is quoted, i.e. forwarded or replied to. <i>Type:</i> Boolean <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.2.4
cmas-core-server	max.licences.perUser	Description: Sets maximum licenses single user can use (e.g logging in from different browsers). By default this value is not restricted. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 10 <i>Since:</i> 6.8.4.5
cmweb-server-adapter	maxSizePerPagemapInMegaByt es	<i>Description:</i> Maximum size (in MB) for each Wicket pagemap <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 15 <i>Since:</i> 6.3.5
cmas-core-server	monitoring.engineer.login	<i>Description:</i> Login of monitoring engineer <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> bartek <i>Since:</i> 6.9.3.0
cmas-core-server	monitoring.unit.login	<i>Description:</i> Login of monitoring unit <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> bartek <i>Since:</i> 6.9.3.0
cmas-dwh-server	notification.error.description	<i>Description:</i> Text for error e-mails from DWH

Module	Property	Explanation
		<i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Error occurred <i>Since:</i> 6.0.1
cmas-dwh-server	notification.error.from	Description: From address for error e-mails from DWH <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0.1
cmas-dwh-server	notification.error.subject	Description: Subject for error e-mails from DWH <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Error occurred <i>Since:</i> 6.0.1
cmas-dwh-server	notification.error.to	Description: To address for error e-mails from DWH Type: String Restart required: No System: Yes Optional: No Example value: maz@consol.de Since: 6.0.1
cmas-dwh-server	notification.finished_successfully. description	Description: Text for e-mails from DWH when transfer finished successfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Transfer finished successfully <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_successfully. from	<i>Description: From</i> address for e-mails from DWH when transfer

Module	Property	Explanation
		finished successfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_successfully. subject	Description: Subject for e-mails from DWH when transfer finished successfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Transfer finished successfully <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_successfully. to	<i>Description: To</i> address for e-mails from DWH when transfer finished successfully. <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_unsuccessful ly.description	Description: Text for e-mails from DWH when transfer finished unsuccessfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Transfer finished unsuccessfully <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_unsuccessful ly.from	<i>Description: From</i> address for e-mails from DWH when transfer finished unsuccessfully. <i>Type:</i> String <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_unsuccessful ly.subject	Description: Subject for e-mails from DWH when transfer finished unsuccessfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> Transfer finished unsuccessfully <i>Since:</i> 6.0.1
cmas-dwh-server	notification.finished_unsuccessful ly.to	<i>Description: To</i> address for e-mails from DWH when transfer finished unsuccessfully. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> maz@consol.de <i>Since:</i> 6.0.1
cmas-dwh-server	notification.host	Description: Mail (SMTP) server hostname for sending DWH e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> mail.consol.de <i>Since:</i> 6.1.0
cmas-dwh-server	notification.password	<i>Description:</i> Password for sending DWH e-mails (optional) <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.1.0
cmas-dwh-server	notification.port	<i>Description:</i> SMTP port for sending DWH e-mails <i>Type:</i> String

Module	Property	Explanation
		<i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 25 <i>Since:</i> 6.1.0
cmas-dwh-server	notification.protocol	Description: The protocol used for sending e-mails from DWH. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> pop3\
cmas-dwh-server	notification.username	<i>Description:</i> (SMTP) User name for sending DWH e-mails <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> maz <i>Since:</i> 6.1.0
cmas-workflow-jbpm	outdated.lock.age	Description: Type: Integer Restart required: No System: Yes Optional: No Example value: 60000 Removed in: 6.8.0 Replaced by: cmas-workflow-engine, jobExecut or.lockTimeout.seconds
cmweb-server-adapter	pagemapLockDurationInSeconds	<i>Description:</i> Number of seconds to pass before pagemap is considered to be locked for too long. <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 60 <i>Since:</i> 6.7.3
cmweb-server-adapter	postActivityExecutionScriptName	

Module	Property	Explanation
		Description: Defines the name for the script which should be executed after every workflow activity, see section Default Workflow Activity Script. If no script should be executed, leave the value empty. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> postActivityExecutionHandler <i>Since:</i> 6.2.0
cmweb-server-adapter	queuesExcludedFromGS	Description: Comma-separated list of queue names which are excluded from global search. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0
cmas-workflow-jbpm	refreshTimeInCaseOfConcurrent RememberMeRequests	Description: It sets the refresh time (in seconds) after which page will be reloaded in case of concurrent remember me requests. This feature prevents one user from occupying many licenses. Please increase that time if sessions are still occupying. <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 5 <i>Since:</i> 6.8.2
cmweb-server-adapter	rememberMeLifetimeInMinutes	<i>Description:</i> Lifetime for <i>rememb</i> <i>er me</i> in minutes <i>Type:</i> Integer <i>Restart required:</i> Yes <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> No <i>Example value:</i> 1440 <i>Since:</i> 6.0
cmweb-server-adapter	request.scope.transaction	Description: It allows to disable request scope transaction. By default one transaction is used per request. Setting this property to false there will cause one transaction per service method invocation. Type: Boolean Restart required: Yes System: Yes Optional: Yes Example value: true Since: 6.8.1
cmas-setup-scene	scene	Description: Scene file which was imported during set-up (can be empty). <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> vfszip:/P:/dist/ target/jboss/server/cmas/deploy/ cm-dist-6.5.1-SNAPSHOT.ear/ APP-INF/lib/dist-scene-6.5.1- SNAPSHOT.jar/META-INF/cmas/ scenes/helpdesk-sales_scene.jar / <i>Since:</i> 6.0
cmweb-server-adapter	searchPageSize	<i>Description:</i> Default page size for search results <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 20 <i>Since:</i> 6.0
cmweb-server-adapter	searchPageSizeOptions	<i>Description:</i> Options for page size for search results

Module	Property	Explanation
		<i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 10 20 30 40 50 75 100 <i>Since:</i> 6.0
cmweb-server-adapter	serverPoolingInterval	Description: Type: Integer Restart required: No System: Yes Optional: No Example value: 5 Since: 6.1.0
cmas-core-server	server.session.archive.reaper.int erval	Description: Server archived sessions' reaper interval (in seconds) <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 60 <i>Since:</i> 6.7.1
cmas-core-server	server.session.archive.timeout	Description: Server sessions archive validity timeout (in days). After this time session info is removed from db. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 31 <i>Since:</i> 6.7.1
cmas-core-server	server.session.reaper.interval	Description: Server inactive (ended) sessions' reaper interval (in seconds) <i>Type:</i> Integer <i>Restart required:</i> Only Session Service <i>System:</i> Yes <i>Optional:</i> No

Module	Property	Explanation
		<i>Example value:</i> 60 <i>Since:</i> 6.6.1, 6.7.1
cmas-core-server	server.session.timeout	Description: Server session timeout (in seconds) for connected clients. Each client can overwrite this timeout with custom value using its ID (ADMIN_TOOL, WEB_CLIENT, WORKFLOW_EDITOR, TRACK (before 6.8 please use PORTER), ETL, REST) appended to property name, e.g. server.session.timeout.ADMIN_T OOL <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1800 <i>Since:</i> 6.6.1, 6.7.1
cmas-dwh-server	skip-ticket	Description: Tickets are not transferred during transfer/update <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-dwh-server	skip-ticket-history	Description: History of ticket is not transferred during transfer/ update. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-dwh-server	skip-unit	
Module	Property	Explanation
------------------------	----------------------------	---
		Description: Units are not transferred during transfer/update <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-dwh-server	skip-unit-history	Description: History of unit is not transferred during transfer/update <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> false <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-dwh-server	split.history	<i>Description:</i> Changes the SQL that fetches the history for the tickets during DWH transfer not to all tickets at once but only for one ticket per SQL. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> false <i>Since:</i> 6.8.0
cmweb-server-adapter	supportEmail	<i>Description:</i> <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Since:</i> 6.0
cmas-core-index-common	synchronize.master.address	<i>Description:</i> Value of <i>-</i> <i>Dcmas.http.host.port</i> informing how to connect to indexing master server. Default null. Since

Module	Property	Explanation
		6.6.17 this value is configurable in set-up to designate initial indexing master server. Please note that changing this value is only allowed when all cluster nodes index changes receivers are stopped. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> 127.0.0.1:80 <i>Since:</i> 6.6.0
cmas-core-index-common	synchronize.master.security.toke n	<i>Description:</i> The password for accessing the index snapshot via URL, e.g. for index synchronizaton or for back-ups. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> token <i>Since:</i> 6.6.0
cmas-core-index-common	synchronize.master.security.user	<i>Description:</i> The user name for accessing the index snapshot via URL, e.g. for index synchronizaton or for back-ups. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> user <i>Since:</i> 6.6.0
cmas-core-index-common	synchronize.master.timeout.minu tes	<i>Description:</i> How much time master server may constantly fail until new master gets elected with index fix procedure. Default 5. Since 6.6.17 this value is configurable in set-up where zero means that master server will never change (failover mechanism is off).

Module	Property	Explanation
		<i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 5 <i>Since:</i> 6.6.0
cmas-core-index-common	synchronize.megabits.per.second	Description: How much bandwidth can master server consume to transfer index changes to all slave servers. Default 85. Please do not use all available bandwidth to transfer index changes between hosts. This will most probably partition cluster as some subsystems will not be able to communicate. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 85 <i>Since:</i> 6.6.0
cmas-core-index-common	synchronize.sleep.millis	<i>Description:</i> How often each slave server polls master server for index changes. Default 1000. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1000 <i>Since:</i> 6.6.0
cmweb-server-adapter	themeOverlay	<i>Description:</i> Name of used theme overlay <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> kyoEUR <i>Since:</i> 6.0
cmas-core-server	ticket.delete.timeout	<i>Description:</i> Transaction timeout (in seconds) for deleting tickets

Module	Property	Explanation
		<i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 60 <i>Since:</i> 6.1.3
cmweb-server-adapter	ticketListRefreshIntervalInSecon ds	<i>Description:</i> Refresh interval for ticket list (in seconds) <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 180 <i>Since:</i> 6.0
cmweb-server-adapter	ticketListSizeLimit	<i>Description:</i> Maximum number of tickets in ticket list <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 100 <i>Since:</i> 6.0
cmas-core-server	tickets.delete.size	Description: Property that defines a number of tickets deleted per transaction. By default it is set to 10. <i>Type:</i> Integer <i>Restart required:</i> Only Session Service <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 10 <i>Since:</i> 6.8.1
cmweb-server-adapter	unitIndexSearchResultSizeLimit	<i>Description:</i> Maximum number of units in unit search result (e.g. when searching for contact) <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> No <i>Example value:</i> 5 <i>Since:</i> 6.0
cmas-core-server	unit.replace.batchSize	Description: Describes number of objects to be processed in unit replace action. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 5 <i>Since:</i> 6.8.2
cmas-core-server	unit.replace.timeout	<i>Description:</i> Transaction timeout (seconds) of unit replacement action step. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 120 <i>Since:</i> 6.8.2
cmas-dwh-server	unit.transfer.order	<i>Description:</i> Define in which order unit custom field groups should be transferred to the DWH <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value: company;</i> <i>customer</i> <i>Since:</i> 6.6.19 <i>Removed in:</i> 6.8.1
cmas-core-server	unused.content.remover.cluster.n ode.id	<i>Description:</i> Value of a <i>cmas.clus</i> <i>ternode.id</i> designating node which will remove unused ticket attachments and unit content entries. <i>Type:</i> String <i>Restart required:</i> No <i>System:</i> Yes

Module	Property	Explanation
		<i>Optional:</i> Yes <i>Example value:</i> 1 (assuming cluster node started with - Dcmas.clusternode.id=1 parameter) <i>Since:</i> 6.9.0.0
cmas-core-server	unused.content.remover.enabled	<i>Description:</i> Flag whether unused ticket attachments and unit content entries removal should take place. <i>Type:</i> Boolean <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> true <i>Since:</i> 6.9.0.0
cmas-core-server	unused.content.remover.polling. minutes	<i>Description:</i> How often unused ticket attachments and unit content entries should be checked for removal. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 15 <i>Since:</i> 6.9.0.0
cmas-core-server	unused.content.remover.ttl.minut es	Description: Minimum interval after which unused ticket attachments and unit content entries can be removed. <i>Type:</i> Integer <i>Restart required:</i> No <i>System:</i> Yes <i>Optional:</i> No <i>Example value:</i> 1440 <i>Since:</i> 6.9.0.0
cmweb-server-adapter	urlLogoutPath	<i>Description:</i> URL which is used when user logs out. (If no value is set, logout leads to login-mask.) <i>Type:</i> String <i>Restart required:</i> No

Module	Property	Explanation
		<i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> http:// intranet.consol.de <i>Since:</i> 6.3.1
cmweb-server-adapter	webSessionTimeoutInMinutes	Description: Session timeout in minutes Type: Integer Restart required: Yes System: Yes Optional: No Example value: 180 Removed in: 6.7.1 Replaced by: cmas-core-server, server.session.timeout
cmweb-server-adapter	wicketAjaxRequestHeaderFilterE nabled	Description: This enables filter for Wicket AJAX requests, coming from stale pages with Wicket 1.4 scripting (CM6 pre-6.8.0), after update to CM6 post-6.8.0. <i>Type:</i> Boolean <i>Restart required:</i> Yes <i>System:</i> Yes <i>Optional:</i> Yes <i>Example value:</i> false <i>Since:</i> 6.8.1

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Index

A

Access rights, to customer groups 103, 129 acimSection 365 Action Framework 139 Activity form 180 Administrator e-mail 220 Adminmanual Consolcm 6 9 9, 9, 19, 29, 30, 40, 53, 63, 71, 72, 74, 81, 94, 104, 114, 124 , 132, 139, 159, 170, 171, 188, 200, 209, 215, 216, 220, 222, 224, 234, 236, 238, 241, 248, 254, 256, 262, 271, 273, 294, 300, 302, 331, 344, 353, 393, 395, 400, 408, 426, 437, 440, 446, 451, 457, 471, 487, 493, 584 Admin-Tool, for customer data model 95 Annotation 182 Annotations 471 Annotations, field annotations 472 Annotations, group annotations 484 Authentication, LDAP 395 autocomplete (for page customization) 374

В

Business calendar 241

С

Calendar 241 Certificates, client 231 Certificates, server 230 Classes of text 248 CM/Office 331 CM/Phone 409 CM/Track, authentication modes 446 CM/Track, extended customer permissions 445 CM/Track, extended customer permissions 445 CM/Track, FAQs 451 CM/Track users 440 CMRF (ConSol*CM Reporting Framework) 427 CMRF log message listener 222 Company, as main customer 87 Company page 84 Configuration, advanced 218 Configuration, basic 217 Configuration, classes of text 248 Configuration, CM services 222 Configuration, e-mail 224 Configuration, general 220 Configuration, index 256 Configuration, ticket history 254 contactCreatePage 362 contactEditPage 363 Contact page 86 CTI 409 Customer 17 Customer actions 88 Customer data model 78, 94 Customer group 77 Customer group, access rights to customer groups 103, 129 Customer group, in quick search 93 Customer group, new, in Admin-Tool 101 Customer group, selector 82 Customer group, Web Client 82 Customer relations 78, 89 Customer roles 161 Custom field 78, 172 Custom field annotation 182 Custom field group 173

D

Data directory 464 Data field 78 Data field group 78 Data object 77, 97 Data object actions 140 Data object actions, in Admin-Tool 142 Data object action scripts 151 Data object condition scripts 157 Data object definition 78 Data object group fields 105 Data object groups 106 Data warehouse (DWH) management 427 Deactivation, of company or contact 89 Default value scripts 281 Dependent enum scripts 286 Deployment 265 DWH configuration 430

DWH live service 222 DWH transfer service 223

Ε

E-mail (architecture in CM) 459 E-mail backups 234 E-mail configuration 227 E-mail encryption 229 E-mail scripts 289 E-mail templates 304 Engineer 17, 31 Engineer functions 49, 164 Enum administration 189 esb_mail_preprocessorService 239 esb_mail_scriptService 239 esb_mail_SuccessService 239 ESB service 223 ESB services 238

F

FAQs (in CM/Track) 451 File structure 464 FlexCDM 74 Freemarker 115

G

Global permissions 45 Glossary 487

I

Index changes notifier 223 Index changes receiver 223 Indexer 256

J

Job Executor 223

Κ

Kerberos 400 Kerberos v5 authentication provider 223

L

LDAP authentication 395 LDAP ID 399 Licence 236 Locales 220 Log files 468 Login 20

Μ

mailTemplate 384 Main menu 26 Main role 36 MLA administration 201 Multi Level Attribute (MLA) 201

0

officeTemplatePage 365

Ρ

Page customization 354 Projects 167 Projects (for time booking) 346

Q

Queue 17, 64 Queue permissions 43

R

Relations, between customers 89 Relations, customers 133 Relations, customers, in Admin-Tool 134 Relations, customers, in Web Client 137 Remote client pooling 223 Representation permissions 45 Rest API service 223 Role 41

S

Scenario 263 Scripts (for default values) 281 Scripts (for dependent enums) 286 Scripts (for use in workflows) 291 Scripts (in the Admin-Tool) 273 Scripts (of type e-mail) 289 Search, detail search 82 Search, quick search 82 Search configuration 256 searchDetailPage 361 Server session service 223 SSO (single sign-on) 400 System architecture 458 System properties 493

Т

Template Designer 303 Template permissions 45 Templates, for display of customer data 114 Templates (contact format templates) 296 Templates (for e-mails, in Template Designer) 304 Templates (in Admin-Tool) 294 Templates (MS Word templates for CM/Office) 334 Templates (system templates) 296 Templates (ticket assignment templates) 297 Template types, for definition of customer data display 117 templateViewPage 364 Text classes 248 Ticket 14 Ticket administration 210 ticketCreatePage 363 ticketEditPage 361 Ticket filter, on company page 91 Ticket filter, on contact page 92 Ticket history 254 Time booking 345

Time booking (on projects) 346 timeBookingSection 388 Track user permissions 46

U

unitSearch 389 unitSearchHeader 389 Unused content remover 223 User attributes 95 User attributes administration 160 userProfilePage 364

V

View criterion, dynamic 58 View criterion, static 57 viewDiscriminatorsSection 390 Views 48, 54

W

welcomePage 361 Workflow 15 Workflow permissions 45