

ConSol Software GmbH

# Release Notes ConSol CM 6.11.0

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# 1. General update and installation instructions

For an update of **ConSol CM** from one version to another two possible ways exist:

- **Distribution installation:**

The distribution is installed into the application server. For an update every local configuration, like the data source configuration, has to be saved before and reconfigured afterwards.

This type of update ensures that really every change between the versions is installed. This type of update is recommended for updates of the major or minor version, e.g., for an update from 6.10.5 to 6.11.1.

- **EAR / WAR Update:**

For this type of update of ConSol CM, the EAR (`cm6.ear`, `cmrf.ear`) and WAR (`cm-track.war`) files of the new version have to be installed into the application server. Additionally every installation related change described in the chapters *Update and installation instructions* have to be applied manually. The changes have to be applied for every version between your original CM version and the new CM version, e.g., for an update from 6.10.2 to 6.10.5 the instructions of the versions 6.10.3, 6.10.4, and 6.10.5 have to be checked.

This type of update is only recommended for updates within a minor version.

Additionally for every type of update, the *Update and installation instructions* chapter has to be checked for further important notes.

If available, the solution specific Release Notes have to be checked, too.

## 2. Version 6.11.0.0 (19.08.2016)

Version 6.11.0.0 includes all **ConSol CM** changes and additions of

- 6.10 versions up to 6.10.5.2
- 6.9 versions up to 6.9.4.6
- 6.8 versions up to 6.8.5.8

Newer versions and the respective changes are not included in this **ConSol CM** version.




## 2.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.11.0.0 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

### 2.1.1 System upgrade from 6.10 and earlier versions


This **ConSol CM** release needs specific planning for an update from earlier releases.

 The extensive change from the internal remodeling of the ticket history structure (#627963) causes long database updates! Additionally you need sufficient database disk space available for the update! Please plan accordingly and use the pre-migration procedure, if necessary!

Comprehensive documentation on the procedure with the pre-migration scripts is available. This procedure allows shortening the actual downtime needed for the update massively. However, it also requires the same required free disk space for the database until the update is completed. See [General Update and Installation Instructions](#) also.

#### Preparation for the update

**Step 1 – Database disk space requirements:** Make sure there is sufficient free disk space available for the database migration. During the update (and the optional pre-migration) old and new tables exist at the same time. This means the data are there twice in the database. Free space on the database storage/in the tablespace equal to or larger than the current size of the CM6 data is a safe value.

 Caution! The update will fail, if there is not enough free disk space in the database. Please consult the database administrator before any update action!

**Step 2 – Database timeout setting:** Add or increase the database connection read timeout set in the configuration file `cm6.xml` both for the XA and Non-XA data source connections when using JBoss EAP (or the corresponding setting on Weblogic servers).

For Oracle databases the addition is marked in red italics in the following example:

```

<profile>
  <subsystem xmlns="urn:jboss:domain:datasources:1.1">
    <datasources>
      <datasource jta="false" jndi-name="java:/jdbc/CmDS-no-tx" pool-
name="jdbc/CmDS-no-tx" ...
        <connection-url>jdbc:oracle:thin:@ ...
        ...
        <connection-property name="oracle.jdbc.ReadTimeout">
          86400000
        </connection-property>
        ...
      </datasource>
      <xa-datasource jndi-name="java:/jdbc/CmDS" pool-name="jdbc/CmDS"
enabled="true" use-java-context="true" use-ccm="true">
        <recovery no-recovery="true" />
        <xa-datasource-property name="URL">
          jdbc:oracle:thin:@ ...
        </xa-datasource-property>
        <xa-datasource-property name="ConnectionProperties">
          defaultRowPrefetch=100
          oracle.jdbc.implicitStatementCacheSize=32
          oracle.jdbc.ReadTimeout=86400000
        </xa-datasource-property>
        ...
    </subsystem>
  </profile>

```

For MySQL servers the connection property in both places is called `socketTimeout` instead of `oracle.jdbc.ReadTimeout`. New lines like `<xa-datasource-property name="socketTimeout">86400000</xa-datasource-property>` and `<connection-property name="socketTimeout">86400000</connection-property>` should be added for XA and non-XA datasources, respectively, just like comparable lines with . There is no corresponding setting for MS-SQL servers.

**Step 3 – Set the application server deployment timeout:** When running *ConSol CM* on a *JBoss EAP* application server version 6.4, make sure the server property `jboss.as.management.blocking.timeout` is set to a sufficiently high value. The server will automatically shut down, if the deployment has not completed, i.e. the update is finished, in the configured time span. The property should be introduced in an eventually new section `system-properties` in the server configuration file `cm6.xml` and set to 10 hours, for example:

```

<system-properties>
  <property name="jboss.as.management.blocking.timeout" value="36000"/>
</system-properties>

```

**Step 4 – Set the system time zone:** Previously groups depended on the customer time zone which has been changed. The update mechanism including the pre-migration scripts needs information about time zone. The time zone should be set in a system property, for example:

```
Module    : cmas-setup-hibernate
Property  : update.6.11.0.0.timezone
Value     : Europe/Berlin
```

This property should be set to the time zone most commonly used by the customers. In case this property is not set, the default server time zone is used. However, it is recommended to set it explicitly. The property will be removed automatically after the update.

**Step 5 – Verify database consistency:** Make sure that there are no inconsistencies in the database data. The following SQL statements will help to identify inconsistencies:

```
-- This query should return zero
SELECT COUNT(*) FROM cmas_cnt_entry
WHERE attachment_id IS NULL AND ticket_id IS NULL;

-- This query should return zero
SELECT COUNT(*) FROM cmas_cf_enum WHERE name IS NULL;

-- This query should return zero
SELECT COUNT(*)
FROM      cmas_custom_field_log
LEFT JOIN cmas_field_unit_log_rel
  ON cmas_custom_field_log.id = cmas_field_unit_log_rel.field_log_id
LEFT JOIN cmas_field_resource_log_rel
  ON cmas_custom_field_log.id = cmas_field_resource_log_rel.field_log_id
LEFT JOIN cmas_container_field_log
  ON cmas_custom_field_log.id = cmas_container_field_log.child_log_id
WHERE cmas_custom_field_log.ticket_log_entry_id IS NULL
AND cmas_field_unit_log_rel.field_log_id IS NULL
AND cmas_field_resource_log_rel.field_log_id IS NULL
AND cmas_container_field_log.child_log_id IS NULL;
```

All above queries should ideally return a zero value. Further action may have to be taken, if this is not the case. For database versions before CM 6.10.0 comment the two lines containing `cmas_field_resource_log_rel.field_log_id` with `--` at the very beginning of the line.



**Caution!** The update may fail, if there is any inconsistency in CM6 database!

**Step 6 – Removal of obsolete duplicate customization values:** When updating to any 6.11.0 version below 6.11.0.5, please execute the following SQL statement to remove obsolete duplicate page customization values:

```
DELETE FROM cmas_web_customization_values WHERE id IN (SELECT id FROM cmas_web_customization WHERE type_='attachmentSection');
```



This preparation step is not required when updating to **ConSol CM** version 6.11.0.5 or higher. It only must be performed when updating to a **ConSol CM** version between 6.11.0.0 and 6.11.0.4!

**Step 7 – Optional removal of content entry history:** If the history data for content entries is unneeded, it can be safely deleted with following SQL statement:

```
DELETE FROM cmas_content_entry_change_log;
```

This content entry history information is currently used only in the CM6 data warehouse.

### Optional pre-migration of history data

A specific mechanism has been prepared to perform the extensive database changes of the data migration before the actual update so that the downtime for the update can be drastically reduced. It is implemented with Task Execution Framework scripts to run in advance. The scripts must be run in the proper sequence. They can be stopped and restarted any time.

Extensive documentation is available for this optional pre-migration procedure. Please contact CM Consulting, if this procedure should be applied to your installation.

This procedure requires **ConSol CM** 6.10.5 to operate successfully. Please make sure the installation is running the latest **ConSol CM** 6.10.5 version available before initiating this optional pre-migration procedure!

### ConSol CM update

The **ConSol CM** update is in general a regular update of the EAR file once the preparation is complete. It is necessary to update the data warehouse schema during the downtime of the update procedure as described in detail below in [Data Warehouse Update](#).



Please update the data warehouse database schema using the script for your database engine!

The update of the ticket history including the data migration is performed after the server restart and runs automatically. This is the case independently of the execution of the pre-migration procedure.



Please be aware that the update without the pre-migration procedure can take several hours even in smaller installations!

In the first step the migration creates new tables and constraints which do not exist yet. It then analyzes data in the old and new tables and migrates the missing data to the new tables. These changes can be prepared by the pre-migration procedure. During the data migration the log will be updated with status messages about the progress:

```
2016-08-17 19:02:26,664 INFO [      history_1] [-] Ticket history: 65%
2016-08-17 19:03:18,521 INFO [      history_1] [-] Ticket history: 66%
2016-08-17 19:04:10,000 INFO [      history_1] [-] Ticket history: 67%
2016-08-17 19:05:08,153 INFO [      history_1] [-] Ticket history: 68%
```

When the data migration is finished, the log will contain a line like this:

```
2016-07-13 10:42:38,106 INFO [      history_1] [--] Migration of history has been
finished
```

The second step removes properties specifically used for the migration, compares the number of rows in the old tables with the number of rows in the new tables, and drops the old tables or removes the foreign keys from the old tables.

If there is no difference in the number of rows in the old and new tables, a line like the following one will be in the log:

```
2016-07-13 10:42:38,222 INFO [      history_2] [--] Old history tables have been
dropped
```

If the number of rows differs between the old and the new tables, the old tables are not dropped (but the foreign keys are removed). The log file will contain lines like these:

```
2016-07-13 12:30:25,523 WARN [      history_2] [--] 39 (cmas_content_entry_change_
log) != 0 (cmas_content_entry_history)
2016-07-13 12:30:25,524 WARN [      history_2] [--] 1008 (cmas_resource_log) != 0
(cmas_resource_history)
2016-07-13 12:30:25,526 WARN [      history_2] [--] 12719 (cmas_ticket_log) != 0
(cmas_ticket_history)
2016-07-13 12:30:25,527 WARN [      history_2] [--] 272 (cmas_unit_log) != 0
(cmas_unit_history)
2016-07-13 12:30:25,528 WARN [      history_2] [--] 3459 (cmas_custom_field_log)
!= 0 (cmas_resource_cf_history)
```

## Post-update steps

In case not all data could be migrated to the new tables, it may be necessary to drop the old tables manually after verifying that the non-migrated data are irrelevant. This can be done with the following SQL statements:

```
DROP TABLE cmas_custom_log;  
DROP TABLE cmas_content_entry_change_log;  
DROP TABLE cmas_field_resource_log_rel;  
DROP TABLE cmas_resource_log;  
DROP TABLE cmas_field_unit_log_rel;  
DROP TABLE cmas_unit_log;  
DROP TABLE cmas_container_field_log;  
DROP TABLE cmas_custom_field_log;  
DROP TABLE cmas_ticket_log;  
DROP TABLE cmas_log;  
DROP TABLE cmas_mail_attachment_log_rel;  
DROP TABLE cmas_content_entry_log;  
DROP TABLE cmas_activity_overlay_log;  
DROP TABLE cmas_overlay_log;  
DROP TABLE cmas_byte_wrapper;  
DROP TABLE cmas_activity_log;  
DROP TABLE cmas_ticket_user_log;  
DROP TABLE cmas_ticket_relation_log;
```

When using an Oracle database it may be necessary to remove the dropped tables from the recycle bin, if this functionality is enabled:

```
PURGE RECYCLEBIN;
```

For **ConSol CM** installations using **CM/Track** it is recommended to run the task based on the script `CredentialsUpdate` (see [Customer login remodeling for users \(#621284\)](#) also) in order to encrypt the customer login passwords. The script gets automatically added to the installation during the update and it can be found in the script administration of the **Admin Tool**. This task may be stopped and can be restarted at any point since it tracks its execution progress.



Please check your database indexes for fragmentation. If necessary, reorganize or rebuild them to ensure that the performance of **ConSol CM** is not impaired by a fragmented index after the update. This is especially recommended on Microsoft SQL Server.

You can find more information in the [Microsoft SQL Server documentation](#).


## 2.1.2 Data Warehouse Update

The Hibernate framework update described in [Framework updates: Hibernate, Spring, Infinispan \(#626980\)](#) caused the need for a minor database schema update of the **ConSol CM** data warehouse. The update scripts for each database are available from your **ConSol** representative. Please execute the update script for your database engine during the downtime of the **ConSol CM** update to from an earlier version. It should be executed from an adequate database client with the credentials of a user allowed to do schema changes, if possible the **CMRF** database user. Skipping this update step may result in errors and malfunctions related to the data warehouse operation.

 Please update the data warehouse database schema with the script for your database product during the downtime of the **ConSol CM** update!


### 2.1.3 New CM skin: Improved visual appearance of **Web Client** (#629587)

This release features a new standard skin of the **ConSol CM Web Client**. Its structure is different from the earlier version skinning, so custom projects changing the **ConSol CM** appearance need to be adapted!

 Please refer to the upcoming skin customizing documentation, if you plan to change skinning or need to update an existing skin of an older **ConSol CM** version! Please also see [New ConSol CM skin: Improved visual appearance of the Web Client \(#629587\)](#) in the new features chapter.


### 2.1.4 MULE component completely removed from **ConSol CM** (#628554)

The component MULE has been completely removed from the **ConSol CM** product. This implies that all incoming mail processing can now only be done with the New Incoming Mail Handler (NIMH) introduced in **ConSol CM** version 6.9.4. It also means that there is no Enterprise Service Bus (ESB) service available anymore in a standard installation.

 Please adjust your system setup accordingly. See [MULE component completely removed from \(#628554\)](#) in the changes chapter also.

### 2.1.5 Support for **JBoss** Version 5 application server discontinued (#627880)

This **ConSol CM** version does not support the **JBoss** version 5 application server anymore. In case your installation relies on this platform it is recommended to switch to the **JBoss EAP 6** product building on a newer version of the server. When running **ConSol CM** on a **JBoss 5** it is not possible to update to version **ConSol CM** 6.11. Please refer to the documentation about **JBoss EAP 6** installation for information to migrate your installation.

 Please migrate to another application server platform product before updating, if you are using **JBoss 5** currently! Please also see [Support for JBoss Version 5 application server discontinued \(#627880\)](#) in the changes chapter.

### 2.1.6 Support for **WildFly 8.2.0** application server dropped (#628555)

Starting with this **ConSol CM** version it cannot be used on the **WildFly 8.2.0** application server anymore. In case your installation relies on this platform it is recommended to switch to the **JBoss EAP 6** product closely related to **WildFly**. Otherwise it is not possible to update **ConSol CM** to version 6.11. Please refer to the documentation about **JBoss EAP 6** installation for information to migrate your installation.



Please migrate to another application server platform product before updating, if you are using **Wildfly** currently! See [Support for WildFly 8.2.0 application server dropped \(#628555\)](#) in the changes chapter also.

### 2.1.7 Support for **MS-SQL 2005** and non-Unicode variants of **MS-SQL** dropped (#627881)

The usage of **MS-SQL 2005** or any non-Unicode variant of **MS-SQL** as database engine for **ConSol CM** is not possible with this release anymore. You need to upgrade your **MS-SQL** installation to a newer version and/or to a Unicode variant, if your **ConSol CM** installation still relies on such a database installation. Otherwise it is not possible to run **ConSol CM** version 6.11. Please refer to [Support for MS-SQL 2005 and non-Unicode variants of MS-SQL dropped \(#627881\)](#) and the **MS-SQL** documentation for updating or modifying your database installation.



Please make sure you use a compatible database version and variant when running **ConSol CM** using **MS-SQL**! See [Support for MS-SQL 2005 and non-Unicode variants of MS-SQL dropped \(#627881\)](#) in the changes chapter also.

### 2.1.8 Data warehouse related capabilities for JMS communication fully removed (#628401)

The **ConSol CM** capabilities related to JMS for data warehouse (DWH) communication have been removed from the product completely. The functionality was not supported since version 6.9.4, so there should be no more dependency in any newer installation.



Please be aware that you need switch to **DIRECT** mode for data warehouse communication first when upgrading from a **ConSol CM** version older than 6.9.4! See [Data warehouse related capabilities for JMS communication fully removed \(#628401\)](#) in the changes chapter also.

### 2.1.9 Exception logged as warning by setup script under **JBoss** with Java 6 (#628543)

When using the **JBoss** application server with Java 6 the setup script logs an `UnsupportedClassVersionError` exception as warning during execution. This exception is logged due to general logging behavior of the **JBoss** application server and has no implication for



**ConSol CM** installation or operation. The error with a stack trace beginning with this line can safely be ignored:

```
WARN [ org.jboss.modules] [-] Failed to define class
org.codehaus.groovy.runtime.NioGroovyMethods in Module "deployment.cm6.ear:main"
from Service Module Loader: java.lang.UnsupportedClassVersionError:
org.codehaus.groovy.runtime.NioGroovyMethods : Unsupported major.minor version
51.0
```

### 2.1.10 Configuration schemes for multicast/unicast JGroups cluster mode (#628379)

The framework updates described in [Framework updates: Hibernate, Spring, Infinispan \(#626980\)](#), namely the introduction of the **Infinispan** cache, require the configuration of the JGroups cluster mode when running **ConSol CM** in a clustered environment. The basic decision is about usage of multicast vs. unicast for discovering other cluster nodes. The configuration default is multicast which uses UDP packets for cluster node detection, which may not be allowed or desired in some cluster installations. Please refer to the specific documentation about configuring **ConSol CM** in a clustered environment for further details.

### 2.1.11 Script modification requirements

This release features some interface changes in API methods. **Please be aware that scripts using the respective methods may need adjustments!** The affected methods are listed in the following sections of this document:

- [Internal remodeling of the ticket history structure](#)
- [MULE component completely removed from ConSol CM](#)



Please be aware that a few classes were removed completely and from multiple other classes methods were removed. Please ensure before an update that the scripts in your installation are not affected by these removals!

### 2.1.12 Configuration modification requirements

The changes in this release require several configuration items to be reviewed and possibly adjusted. Please see the following sections for details:

- [Internal remodeling of the ticket history structure \(#627963\)](#)
- [Customer login remodeling for CM/Track users \(#621284\)](#)
- [MULE component completely removed from ConSol CM](#)
- [Support for Internet Explorer version 8 dropped](#)
- [Data warehouse related capabilities for JMS communication fully removed \(#628401\)](#)
- [Page customization type attachmentSection removed \(#628073\)](#)
- [Annotation contact search result column removed \(#628183\)](#)

No further instructions available.

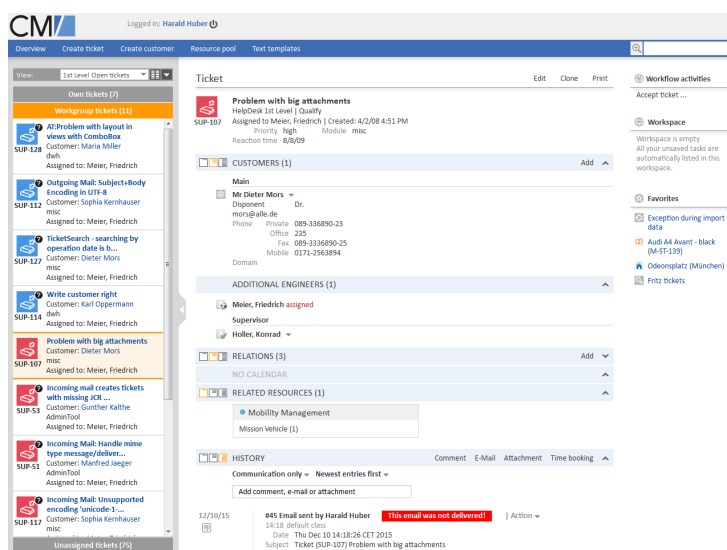


## 2.2 New Features

The features newly introduced in this **ConSol CM** version 6.11.0.0 are described in detail in this section.

### 2.2.1 New **ConSol CM** skin: Improved visual appearance of the Web Client (#629587)

This release features a new standard skin of the **ConSol CM Web Client**. The changed appearance gives the user a more modern overall impression, compare the screenshot below. The general layout and controls are unchanged, so there is no change in its usage.



Additionally it is now simpler to adjust the Web Client appearance to specific customer desires in a project.



Please contact **ConSol CM** consulting for assistance, if you plan to change **ConSol CM** skinning or need to update an existing skin of an older CM version!

### 2.2.2 Oracle 12 support (#628981)

**ConSol CM** now supports the **Oracle 12c** database version. There are no specific steps required for usage of this database product version with **ConSol CM**.



Please refer to **Oracle 12c** database documentation for information about installation and upgrade of this database engine version.

### 2.2.3 Groovy scripting engine updated to version 2.4.4 (#627630)

The Groovy scripting feature in **ConSol CM** has been updated to Groovy version 2.4.4 introducing additional capabilities of the programming language. Please refer to the Groovy documentation (<http://www.groovy-lang.org/documentation.html>) and see [Groovy library HTTPBuilder made available for scripting](#) about the newly added HTTPBuilder component as well (#626831).

### 2.2.4 Groovy library HTTPBuilder made available for scripting (#626831)

The capabilities of Groovy scripting in **ConSol CM** have been extended by making the library HTTPBuilder available. This library simplifies usage of HTTP requests in scripts which may be useful for integrating with other systems. For usage details please refer to the documentation of the library (<https://github.com/jgritman/httpbuilder/wiki>).

### 2.2.5 Internal remodeling of the ticket history structure (#627963)

The internal structure of the ticket history has been completely remodeled to address a number of problems with the old implementation, mostly performance bottlenecks when displaying a ticket with many, large, complex, or very old history entries.



This extensive change causes long database updates! Please plan accordingly and use the pre-migration procedure, if necessary! See also [System upgrade from 6.10.5 and earlier versions](#).

Comprehensive documentation on the procedure with the pre-migration scripts is available. This procedure allows shortening the actual downtime needed for the update massively. However, the update generally requires significant free disk space for the database until the update is completed.

This redesign includes significant changes to the model structure. Therefore multiple classes and methods are not available anymore. The affected classes usually were not used for workflow and other scripting in **ConSol CM**, however, to allow verification a comprehensive list of class changes is supplied below.



Please be aware that a few classes were removed completely and from multiple other classes methods were removed. Please ensure before an update that the scripts in your installation are not affected by these removals!

Class	Change	Detail/Method information
CustomLogEntry	Class removed	
ByteWrapper	Class removed	
OverlayLogEntry	Class removed	

Class	Change	Detail/Method information
<b>ContentEntry</b>	Constraint added	ticket cannot be "null"
<b>ActivityLogEntry</b>	Methods removed	get-/setTransferKey() get-/setId() get-/setTicketId() get-/setOriginalId() get-/setScopeId() is-/setExecutedInInterrupt()
<b>TicketRelationLog</b> <b>TicketUserLog</b> <b>ContentEntryLog</b>	Methods removed	get-/setTransferKey() get-/setId() get-/setTicketId() get-/setCategory() (moved to <b>MailEntryLog</b> ) get-/setOriginalId()
<b>FieldLogEntry</b>	Methods removed	get-/setTicketId() get-/setLongValue() get-/setPreviousLongValue()
<b>EngineerLog</b>	Methods removed	get-/setDescription() get-/setEmail() get-/setOriginalId()
<b>ContactLog</b>	Methods removed	get-/setOriginalId()
<b>QueueLog</b>	Methods removed	get-/setOriginalId()
<b>UnitContentEntryLog</b>	Methods removed	get-/setContentId() is-/setActive()
<b>ResourceContentEntryLog</b>	Methods removed	get-/setContentId()
<b>TextEntryLog</b>	Methods removed	get-/setStartDate() get-/setEndDate() get-/setElapsedTime()

Class	Change	Detail/Method information
<b>TicketLogEntry</b>	Methods removed	get-/setStartDate() get-/setEndDate() get-/setElapsedTime() get-/setComment() get-/setAttributeType() get-/setExtensionType()
<b>LogEntry</b>	Methods removed	get-/setText()
<b>AttachmentEntry</b>	Methods removed	get-/setReference()
<b>ContentEntry</b>	Methods removed	get-/setCategory() (moved to <b>MailEntry</b> )
<b>ContentEntryChangeLog</b>	Methods removed	get-/setCurrentContentEntryClass() get-/setPreviousContentEntryClass()
<b>MailEntryLog</b>	Methods removed	get-/setAttachments()

Furthermore the system configuration property `index.history` has been removed from the module `cmas-core-index-common`, since it does not serve any purpose now. In normal operation the system should be unaffected by the change. The update will remove this property automatically.



Please review your configuration, if you need to take any action to achieve some desired system behavior without the property `index.history`!

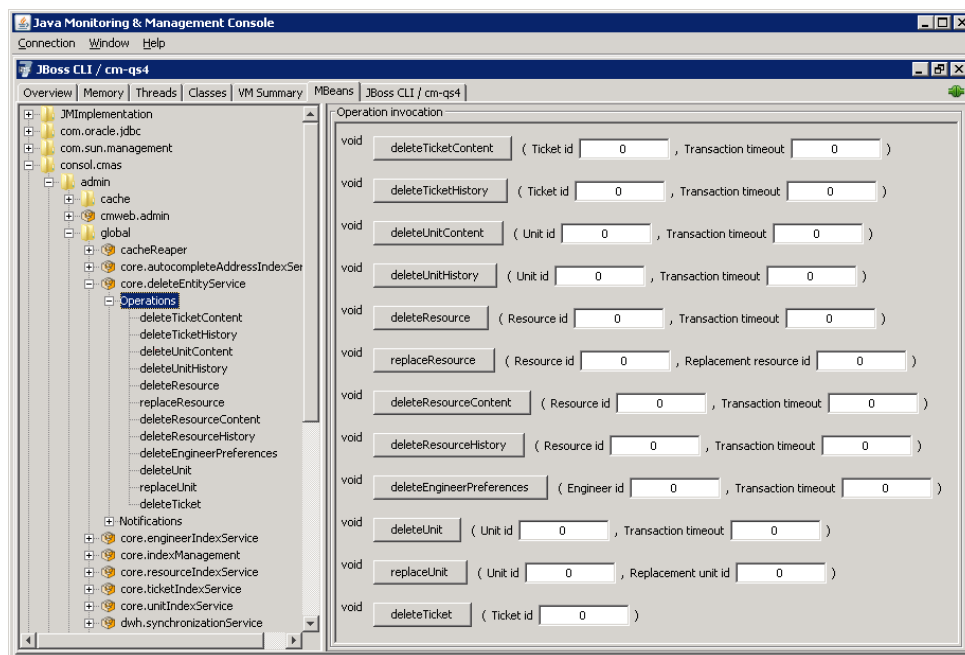
## 2.2.6 MBean operations to delete objects data (#625836)

This **ConSol CM** version features a new MBean to completely delete problematic objects or data of these objects from the system. This new functionality is needed for administrators under specific circumstances, if an object or related data cause problems for **Web Client** display or server operation.



Please be very cautious in using the operations described below, since the manipulated data cannot be recovered and will be lost!

The MBean and its operations can be used from `jconsole` or by issuing a REST request. The former is illustrated by the following screenshot.



The bean resides under the type `consol.cmas.admin`, topic `global` with the name `core.deleteEntityService`. The numerous operations it provides are offering the general delete and replace operations for the basic objects:

- `deleteTicket(ticket ID)`: delete a single ticket.
- `deleteTicketContent(ticket ID, transaction timeout)`: delete all additional ticket content (attachments etc.).
- `deleteTicketHistory(ticket ID, transaction timeout)`: delete the complete ticket history.
- `deleteUnit(unit ID, transaction timeout)`: delete an individual customer.
- `deleteUnitContent(unit ID, transaction timeout)`: delete all additional customer content (attachments and comments).
- `deleteUnitHistory(unit ID, transaction timeout)`: delete the complete customer history.
- `replaceUnit(unit ID, replacement unit ID)`: replace one unit with another one.
- `deleteResource(resource ID, transaction timeout)`: delete a specific resource.
- `deleteResourceContent(resource ID, transaction timeout)`: delete all additional resource content (attachments and comments).
- `deleteResourceHistory(resource ID, transaction timeout)`: delete the complete resource history.
- `replaceResource(resource ID, replacement resource ID)`: replace one resource ID with another one.

The respective ID integer values have to be retrieved to use the operations, transaction timeouts are to be supplied as an integer identifying the timeout interval in seconds. Please be aware that the replacement operations will skip transferring information, if this is prohibited by the model, for example, in case the replacement resource already has a one-to-one relation set, which also should be transferred.

The list below shows some example REST requests to perform the operations the MBean offers.

```
curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.deleteEntityService/deleteTicketContent/629714/30

curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.deleteEntityService/deleteTicketHistory/629714/30

curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.deleteEntityService/deleteUnitContent/7170997/30

curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.deleteEntityService/deleteUnitHistory/7170997/30

curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.deleteEntityService/deleteUnit/7170997/30

curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.deleteEntityService/deleteResourceHistory/7170306/30

curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.deleteEntityService/deleteResourceContent/7170306/30

curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.deleteEntityService/deleteResource/7170306/30
```

The next example request illustrates the deletion of a whole ticket together with the corresponding server response. This response has been reformatted to be better legible. The original response data do not contain any line breaks and extra whitespace!

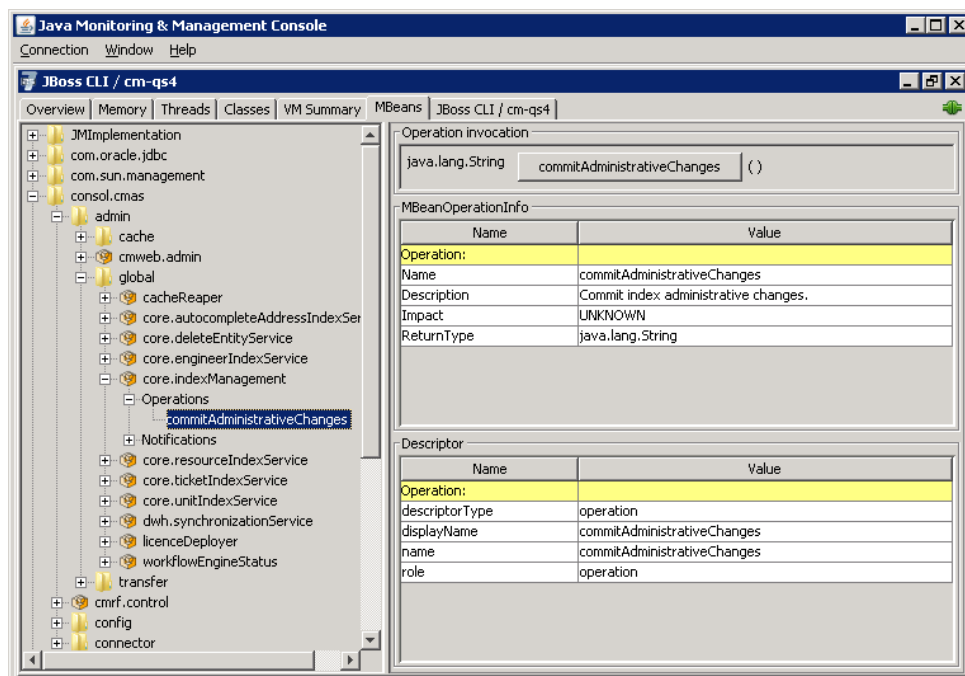


```
curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.deleteEntityService/deleteTicketHistory/629714/30

{
  "timestamp" : 1471337713,
  "status" : 200,
  "request" : { "operation" : "deleteTicketHistory",
               "mbean" :
"consol.cmas:name=core.deleteEntityService,topic=global,type=admin",
               "arguments" : ["629714", "30"],
               "type" : "exec" },
  "value" : null
}
```

## 2.2.7 MBean for committing administrative index changes (#628695)

Another new JMX bean serves to commit administrative index changes to the system like it can be done manually in the Admin Tool. Thus, this commit operation can now be automated, if needed, by using the new operation `commitAdministrativeChanges()`. The MBean can be accessed from `jconsole` or via REST call. It is located in the type `consol.cmas.admin`, topic `global` with the name `core.indexManagement`. The screenshot shows how to access it in `jconsole`.



An example request of executing the operation by a REST request is shown below. Please be aware that such a request needs to use authentication with an application server user on JBoss EAP application servers. The request below is followed by the corresponding response after successfully executing the operation. This response has been reformatted to be better legible. The original response data do not contain any line breaks and extra whitespace!

```
curl --user jolokia:password
http://localhost:8080/jolokia?p=/exec/consol.cmas:type=admin,topic=global,name=core.indexManagement/commitAdministrativeChanges/

{
  "timestamp" : 1471007960,
  "status" : 200,
  "request" : { "operation" : "commitAdministrativeChanges",
               "mbean" :
               "consol.cmas:name=core.indexManagement,topic=global,type=admin",
               "type" : "exec" },
  "value" : "Commit done!"
}
```

## 2.2.8 Workflow scope activities (#629193)

**ConSol CM** now features a new type of activities extending the ways to model user interaction with tickets. The scope activities are defined in a workflow within **Process Designer**, although they are not strictly a workflow step. Rather this kind of activity is only tied to a scope and not further integrated in the sequence of workflow steps. A scope activity will always show as a valid workflow activity in the **Web Client** as long as the ticket is within the scope in which this scope activity has been defined (or in a sub-scope of it). Thus, actions can be offered which are out of sequence, if the ticket is in a specific scope. When adding scope activities to a general scope the scope activities are in principle available for the whole lifetime of the ticket.

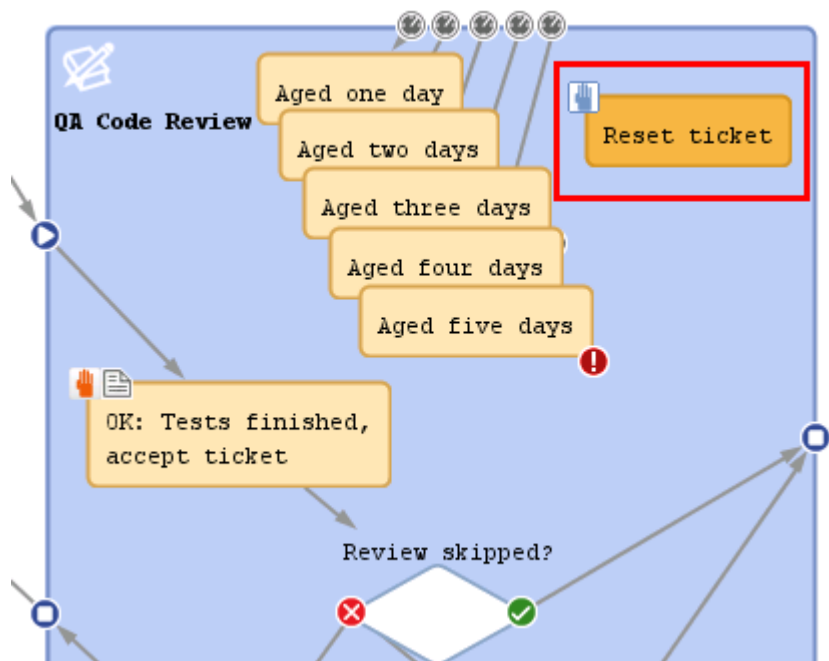
The **Web Client** example highlights a scope activity associated with the scope “QA Code Review” which will be offered as long as the ticket is in this scope, independently of the exact workflow step in which the ticket is currently located.

The screenshot shows the 'Ticket' view for ticket 629713, titled 'Serious design flaw in new skin - Revisited'. The ticket is assigned to 'CM6 Bugfix Development' and is currently in the 'QA Code Review' scope. The 'Workflow activities' panel on the right shows a 'Reset ticket' button, which is highlighted with a red box.

The activity is defined in the **Process Designer** like any other activity. On the canvas it must be put inside a scope and in the property editor the property `activity type` has to be changed to “Scope”.

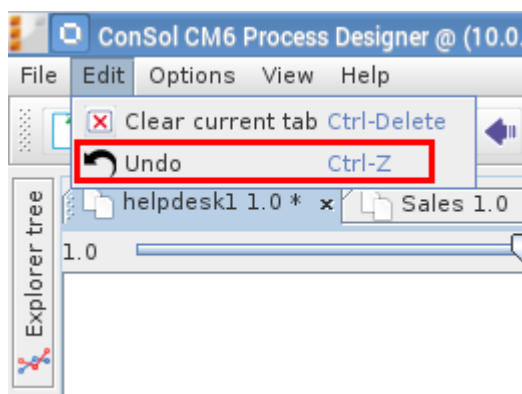
The screenshot shows the 'Properties' window in the Process Designer. The 'activity type' property is highlighted with a red box and set to 'Scope'. Other properties include 'name' (Reset), 'label' (Reset ticket), 'description', 'sort index' (114), 'overlay', 'precondition', 'script', 'history visibility' (default), and 'disable auto update' (unchecked).

The activity on the canvas will then show a blue hand icon to indicate its type, suggesting that this is a manual activity, but not in sequence like a regular manual activity with an orange hand icon. There need to be no connections to any other activity. The scope activity follows the rules of activities in general. So if a condition script is supplied, the activity will be visible in the **Web Client** only, if the condition is met and the condition script returns "true". The script of the activity will be executed when the activity is clicked in the **Web Client**.

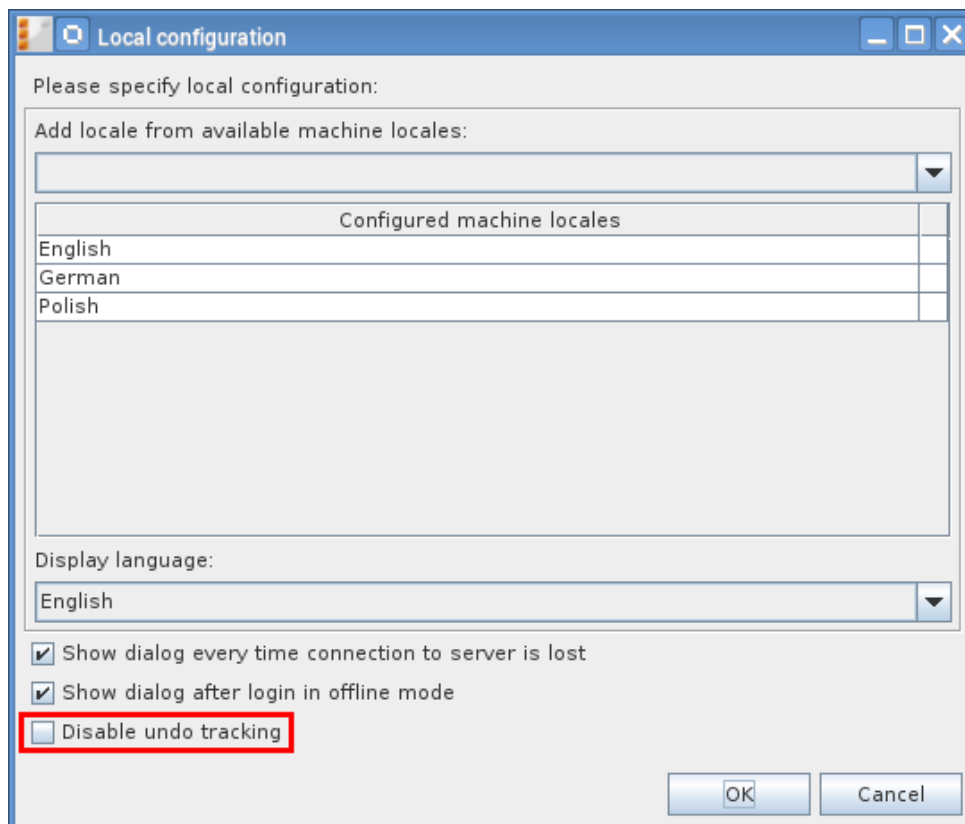


### 2.2.9 *Process Designer* extended with *Undo* function (#629172)

The **Process Designer** has been enhanced by adding an *Undo* function. The *Undo* function can be invoked by the keyboard shortcut CTRL-Z or by the menu entry *Undo* from the *Edit* menu.



Every workflow change adding or deleting a palette element can be undone right after it has been made, which is especially useful when accidentally deleting nodes with elaborate scripts, for example. It can be used for the last change introduced only and does not apply to the manipulation of existing elements which also includes adding a script to a previously existing node.

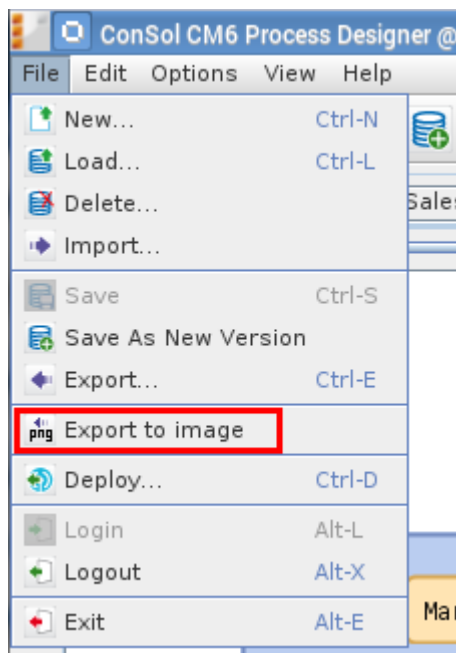


The **Process Designer** options dialog has been extended by a checkbox which allows to turn off the *Undo* function. The checkbox is labeled with *Disable undo tracking*.

### 2.2.10 **Process Designer** workflow export as image (#629174)

It is now possible to export the workflow canvas as an image.

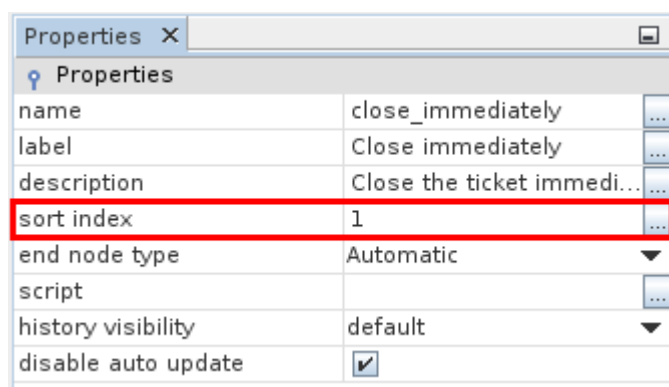
Clicking on the entry *Export to image* from the menu *File* opens a file dialog to enter a file name and select a directory to export the canvas image to. This will create a PNG image named as entered in the specified location.



The image file type will always be PNG and it will generally show the whole canvas with the workflow as it was displayed at the time of the export. So scopes which were collapsed when exporting will show up collapsed in the export.

### 2.2.11 Sort index for workflow end nodes in Process Designer (#626462)

In earlier versions of **ConSol CM** the workflow end nodes had no sort index. Therefore, **Process Designer** did not offer to define this sort index for end nodes in workflow, effectively excluding them from the ordering of workflow activities. This led to the result that in the **Web Client** manual end nodes always appeared as first entry in the activity list which may not be the desired position. The functionality to define a sort index for end nodes in **Process Designer** has been added and the index position is reflected in the **Web Client**. Therefore, it behaves now as any other activity with a sort index. The defined sort index position for end nodes is also persisted in scene import and export as it could be expected.



## 2.2.12 Administration audit logging (#629090)

This **ConSol CM** release features a new type of logging. Administrative changes made in **Admin Tool** are now logged to the new log file `audit.log` in the standard log directory. This includes login and all configuration changes saved or additions/deletions from the models as well as deleting and reopening tickets. The example log lines show **Admin Tool** login, role (de-) assignment, script change, and two text class changes.

```
2016-08-09 15:04:14,249 INFO [d.MethodExecutionJournalAspect] [admin--c553f1c1-5e31-11e6-98ef-293f3a825b6f] 0ms Executed:
com.consol.cmas.app.admin.common.service.UserAdminService.onAuthenticationSuccess
[UserDetails{userName='admin', password='[NOTSET]', locale=de_DE, id=0,
source=ADMIN_TOOL}]
2016-08-09 15:04:36,168 INFO [d.MethodExecutionJournalAspect] [admin--c553f1c1-5e31-11e6-98ef-293f3a825b6f] 46ms Executed:
com.consol.cmas.app.admin.common.service.UserAdminService.unassignRoles
[[[UserDetails@1954d3a3 login = 'tschall']]][[Documentation]]
2016-08-09 15:04:41,359 INFO [d.MethodExecutionJournalAspect] [admin--c553f1c1-5e31-11e6-98ef-293f3a825b6f] 24ms Executed:
com.consol.cmas.app.admin.common.service.UserAdminService.assignRoles
[[[UserDetails@36d24270 login = 'tschall']]][[Documentation]]
2016-08-09 15:07:34,321 INFO [d.MethodExecutionJournalAspect] [admin--c553f1c1-5e31-11e6-98ef-293f3a825b6f] 9ms Executed:
com.consol.cmas.app.admin.common.service.SourceAdminService.update[ANewTask]
2016-08-09 15:08:49,656 INFO [d.MethodExecutionJournalAspect] [admin--c553f1c1-5e31-11e6-98ef-293f3a825b6f] 24ms Executed:
com.consol.cmas.app.admin.common.service.ContentEntryClassAdminService.updateContentEntryClass[ContentEntryClassDetails{id=3330034, name='solution_pub'}]
2016-08-09 15:08:49,769 INFO [d.MethodExecutionJournalAspect] [admin--c553f1c1-5e31-11e6-98ef-293f3a825b6f] 22ms Executed:
com.consol.cmas.app.admin.common.service.ObjectVisibilityAdminService.setVisibility[ContentEntryClassDetails{id=3330034, name='solution_pub'}][[all levels full]]
2016-08-09 15:08:50,039 INFO [d.MethodExecutionJournalAspect] [admin--c553f1c1-5e31-11e6-98ef-293f3a825b6f] 233ms Executed:
com.consol.cmas.app.admin.common.service.LocalizationAdminService.createOrUpdateLocalizedProperties
[[com.consol.cmas.app.admin.common.vo.localization.LocalizedPropertyDetails@47e8ffe8,
com.consol.cmas.app.admin.common.vo.localization.LocalizedPropertyDetails@3a72713]]
```

When using **Process Designer** login and workflow deployment are logged in this log file also. This can be seen in the log lines below:

```

2016-08-09 15:10:39,894 INFO [d.MethodExecutionJournalAspect] [admin--ab61fca6-5e32-11e6-98ef-293f3a825b6f] 1ms Executed:
com.consol.cmas.app.workflow.common.service.WorkflowEditorEngineerService.onAuthenticationSuccess[UserDetails{userName='admin', password='[PROTECTED]', locale=de_DE, id=0, source=WORKFLOW_EDITOR}]
2016-08-09 15:12:10,600 INFO [d.MethodExecutionJournalAspect] [admin--ab61fca6-5e32-11e6-98ef-293f3a825b6f] 7261ms Executed:
com.consol.cmas.common.service.WorkflowConfigurationService.deploy
[WorkflowDefinition{workflow=[Workflow@5c804919 name = 'CM6 Bugfix Development'}}]
[{en=java.util.PropertyResourceBundle@3af80bdc,
pl=java.util.PropertyResourceBundle@72d2b6c2,
de=java.util.PropertyResourceBundle@67dcb572}]

```

This new type of logging must be enabled by adding the log file handler (section `size-rotating-file-handler` below) and the logger (section `logger` below) to the configuration in the **ConSol CM** configuration XML file, usually called `cm6.xml` or `cm6-cmr6.xml`. An example configuration is shown here:

```

<size-rotating-file-handler name="AUDIT" autoflush="true">
  <file relative-to="jboss.server.log.dir" path="audit.log"/>
  <append value="true"/>
  <rotate-size value="300m"/>
  <max-backup-index value="6"/>
  <formatter>
    <pattern-formatter
      pattern="%d %-5.5p [%30.-30c] [%X{username}]-%X{context}-%X{sessionId}]%m%n"/>
    </pattern-formatter>
  </formatter>
</size-rotating-file-handler>

<logger

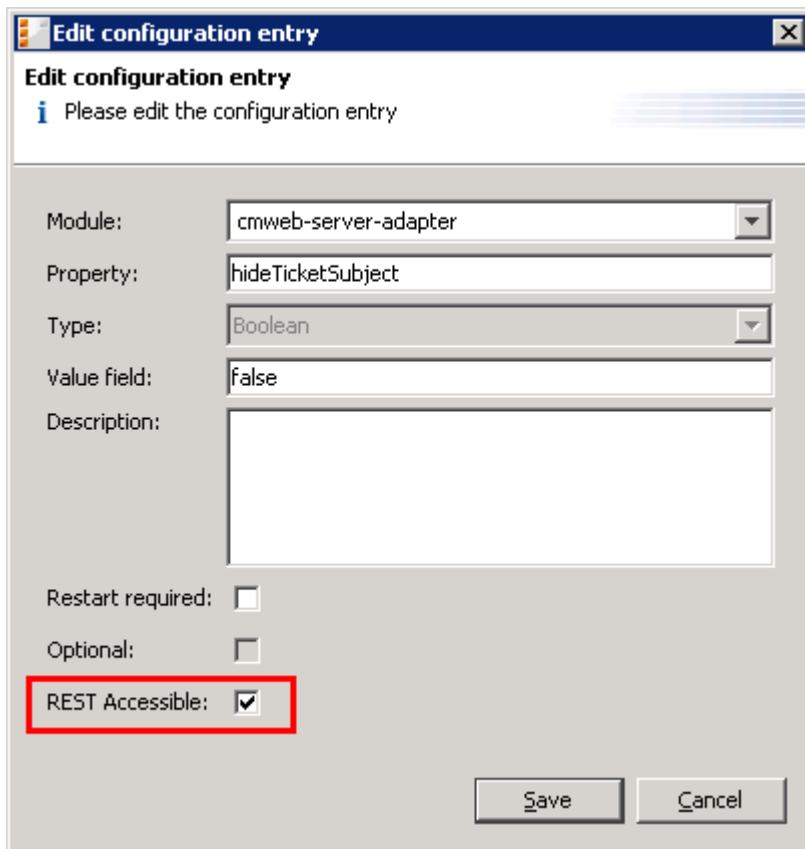
category="com.consol.cmas.core.server.history.method.MethodExecutionJournalAspect"
  use-parent-handlers="false">
  <level name="TRACE"/>
  <handlers>
    <handler name="AUDIT"/>
  </handlers>
</logger>

```

A server restart is necessary for this configuration to take effect.

### 2.2.13 REST API read access to individual configuration properties (#626746)

The REST API of **ConSol CM** now offers the possibility for clients accessing the system via REST to read individual system properties from the configuration. Each property to be exposed via REST must be specifically marked to be accessible in the Admin Tool. To this end a new checkbox labeled *REST Accessible* has been added to the dialog for setting a property.



This setting allows reading the property value and configuration by sending a REST request using a standard user login.



Please be cautious marking a property as readable via REST since an unprivileged user account will be sufficient to read this potentially sensitive information!

The general form of the request is shown by the following description:

```
GET /configurationitems/{moduleName}/{propertyName}
```

The example below shows a request and its corresponding response. This response has been reformatted to be better legible. The original response data do not contain any line breaks and extra whitespace!



```
curl --user username:password
http://localhost:8080/restapi/configurationitems/cmweb-server-
adapter/hideTicketSubject

{
  "@propertyName"      : "hideTicketSubject",
  "@moduleName"        : "cmweb-server-adapter",
  "itemType"           : "BOOLEAN",
  "isOptional"         : "false",
  "isRestartRequired"  : "false",
  "isSystemProperty"   : "true",
  "value"              : "false"
}
```

### 2.2.14 REST API provides author information for a history entry (#624653)

The REST API in **ConSol CM** did not deliver the creator of a history entry together with the other entry data so far. This additional information is now provided in the response data for such a REST request. The creator name is by default shown by rendering the corresponding template for engineers and customers.

The response to a request for the history entries now features the additional information for each history entry as shown in the following example below:

```
curl --user username:password
http://localhost:8080/restapi/tickets/245687/histories

...
"@authorDescription":"Peter Pan (ppan)",
"author":{"@uri":"http://localhost:8080/restapi/engineers/5628365"},
...
```

The system behavior in this regard can be configured by four system properties.

- **Module** `cmas-core-server`
  - `engineer.description.cache.enabled` (Boolean): Defines whether history entry engineer descriptions are cached, defaults to “true”.
  - `engineer.description.mode` (String): Defines whether the history entry engineer descriptions are taken from the history data (“PROTOCOL”) or if they are dynamically rendered using the corresponding template (“DYNAMIC”), defaults to “DYNAMIC”.
  - `unit.description.mode` (String): Defines whether the history entry unit (customer) descriptions are taken from the history data (“PROTOCOL”) or if they are dynamically rendered using the corresponding template (“DYNAMIC”), defaults to “DYNAMIC”.

- **Module** `cmas-restapi-core`
  - `comment.authors.disabled` (Boolean): Disables display of the author of a history entry in the REST API, can be used in case of performance problems, defaults to: "false".

Please note that usage of this feature can take advantage of the new engineer display template configuration described in [Engineer display template configuration \(#629149\)](#).

## 2.2.15 Customer login remodeling for *CM/Track* users (#621284)

The **ConSol CM** internal handling of the logins for customers when using *CM/Track* has been remodeled and enhanced in several aspects to overcome potential issues which could arise from the previous implementation. The customer login names now must be unique in any case which was not enforced as strictly earlier. The passwords for these logins are now only stored in encrypted form. These changes have potential implications for system configuration when customer logins are used.

This means that in the **ConSol CM Web Client** the password cannot be seen in plain text anymore. The field value will always be displayed as three asterisks (or corresponding characters), no matter, if there is a value or nor not. Only when entering a new password there will be an asterisk for each character entered.

When submitting a REST request to the server querying data, the customer password will not be sent at all, the response will always only contain an empty value for it.

Using the **Admin Tool** for configuring the customer login has been slightly modified as well.

The configuration now features a new system property in the module `cmas-core-security` named `policy.track.username.case.sensitive`. It is automatically introduced during the update and defaults to the value "true". This property controls, if the username value for the customer login is considered case sensitive or not. In most usage scenarios it may be desired to set it to "true", however, if the database collation used does not support case sensitivity for this, it must be changed to "false". The default collation when creating a new database on MySQL ("utf8") is not case sensitive, so the property value must be adapted! A reasonable case sensitive collation for MYSQL is "utf8\_bin". For Oracle databases the default collation is case sensitive.



Please review your database collation and adjust the property value, if necessary!

Assigning the annotation `username` to a customer field is only possible, if there is no previous assignment of this annotation. Otherwise it will be prohibited. When assigning it, a warning dialog must be confirmed before it is executed, since it can be a longer running operation. Un-assigning the annotation must be confirmed as well, because it cannot be undone: Un-assignment deletes the username values unrecoverably from internal storage.

The annotation `password` also requires confirmation when assigned. It reads the plain text passwords from the original field values, encrypts them and saves the encrypted values to the internal storage. Then the original field values are deleted and thus the plain text value cannot be recovered anymore. When trying to un-assign the `password` annotation the operation must be confirmed as well, since the encrypted passwords are deleted from the internal storage. After the annotation un-assignment the password information is completely lost and cannot be recovered at all.



Please be cautious when un-assigning the `username` and `password` annotations since this may non-recoverably delete customer credential information!

When importing a scene from an older **ConSol CM** version the username and password information from the scene and the annotations will be used from the import and converted as required. This takes place, even if the import is done without deleting old data. In such a case the old data are still present, but the annotation settings will be taken from the imported scene. This way the imported user login will work as desired and previous information is not lost. If several identical usernames are found, the later ones will be appended by a number like "Huber\_1" for the second original username "Huber" and so on. The dialog after the import will inform about these username changes.

The update to this **ConSol CM** version will automatically copy the values to the new storage and rename identical usernames in the same way as for an import. In this case the log file will have a line for each changed username. In order to have the previous values encrypted, the **Admin Tool** script `CredentialsUpdate` has to be run as a task. This task can be interrupted and restarted later since it records its progress. **CM/Track** will operate both with encrypted and unencrypted passwords.



Please run the **Admin Tool** script `CredentialsUpdate` in order to encrypt the customer login passwords after the update!

## 2.2.16 Workflow API extended to get time bookings by ticket (#623804)

The Workflow API commonly used in workflow scripting has been extended by a new method to get the time bookings for a specified ticket. This enables scripts to verify that there are time bookings for a specific ticket before performing an operation on the ticket, like closing it for example. The method returns a set of time bookings:

```
Set<TimeBooking> getBookings(Ticket pTicket)
Gets bookings for of given ticket
Parameters:    pTicket -
Returns:       set of time bookings
```

## 2.3 Changes

This section illustrates all relevant software product changes for version 6.11.0.0 of **ConSol CM**.

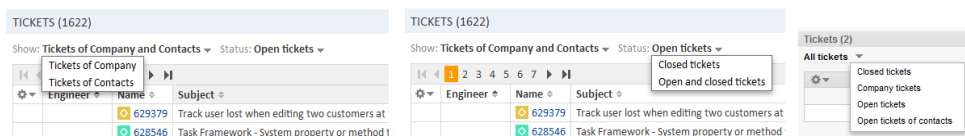
### 2.3.1 Layout improvements

#### Ticket uses full height of the browser window (#624478)

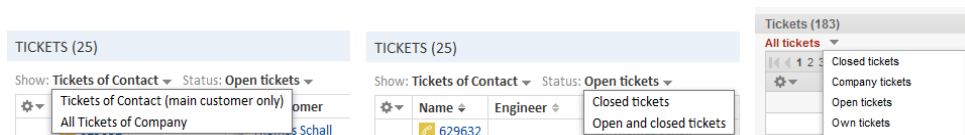
The ticket list in earlier **ConSol CM** releases had a fixed maximum height. With bigger browser windows and a higher ticket count to display, thus, not the full available vertical space was used for optimally displaying the ticket list. This has been changed so that the ticket list now occupies the full vertical space of the browser window, given there are enough ticket entries to fill it.

#### Contact and company page ticket list filter usability improvements (#627427)

Several improvements have been realized for the ticket list filters on the contact and company pages. These changes increase the usability of the controls and ensure a better understanding of the results to expect when choosing a value. The main customer association and the ticket status have been separated into two different filter selections and both have been labeled better. Earlier those were combined in one filter list which partly impeded understanding the selection to be made. Additionally the default selection on the company page has been changed to all open tickets of the company and of contacts from this company. Earlier only open company tickets were shown initially, compare the screenshots below contrasting new and previous filtering selections.

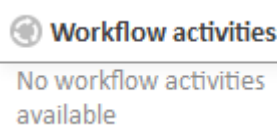


In parallel the separation of filters has been made for the tickets on the contact page:



#### Workflow activities box without entries (#627470)

In case the workflow activities box on the ticket page did not offer any activities to the engineer for the current ticket the box only consisted of the box header in former releases. This case is very rare, because it will not occur in regular workflows, rather the box will not be shown at all. It can be only seen, if the current activity has no path to closing the ticket. The empty box display has been changed so that now in such a case inside the box there is the message *No workflow activities available* informing the engineer that there are no activities available for the current context.



### Comment input fields for customers and resources changed to `textarea` fields (#627462)

The input fields for comments on the customer and resource pages formerly have been single line input fields. On some browsers this input field type caused newlines to be stripped from the text when pasting. Since this may be unwanted the input fields have been changed to `textarea` type input fields which preserve newlines in all supported browsers. The text entry length has been limited to 4000 characters which is the maximum this type of comment can store.

### Readability improvement for the technical user adding an attachment (#627468)

The technical user listed as the engineer adding an attachment in the attachment list showed as "cmas:workflow:jobExecutor" earlier, if the attachment was added automatically by a workflow script or trigger. This entry has been relabeled as "Process engine job" or "Workflow timer", respectively, to better illustrate the origin of the attachment.

### Page with open source licenses introduced (#629521)

A new information page has been introduced which lists the open source licenses of components used in the **ConSol CM** software product. This page can be accessed without login from the welcome (root) page accessible for the application server.

#### Open Source licenses

- [Use of open source libraries in this product](#)

Copyright (c) 2016 ConSol Consulting & Solutions Software GmbH

### ConSol Software GmbH company name modification in browser tab (#629643)

The ConSol Software GmbH company name showing in the browser tab has been adjusted to the new notation of the name for the welcome (root) page. The asterisk "\*" formerly displayed will not be shown anymore.

### **Admin Tool** wording changes (#629382)

Multiple labels in **Admin Tool** have been changed to different wordings. The new names in English and German are meant to replace overly complicated or inconsistent technical terms by more comprehensive and generally consistent names. For example "custom fields" and "data object fields" have been replaced by "ticket fields" and "customer fields" in all contexts, "resource groups" were renamed to "resource categories", or search actions follow a consistent and clear naming scheme now. Numerous other labeling detail changes were implemented including spelling corrections and other unifications.

### **Admin Tool** role list bottom not visible (#622836)

If the **Admin Tool** window had a smaller size, the bottom of the role list on the role administration panel was not visible. The lower end of the scroll bar and the last entries appeared to not fit in the box reserved for display. This sizing issue has been resolved and now the full role list is visible even for small **Admin Tool** window sizes.

### Script type pre-selection (#627668)

In the **Admin Tool** script administration there was no pre-selection of a script type so far when creating a new script. Now a script type will be preselected in the dialog to enter the name of a new script to be created. This pre-selection will be the type that is selected in the filter drop-down of the script list. There will be no pre-selection, however, as long as the filter is set to *All script types* which is the filter value initially selected.

### Script types in script administration sorted alphabetically (#628100)

The list of script types when selecting one in the script administration of the **Admin Tool** is now alphabetically sorted. This order also shows now in the type selection of the script dialog when creating a new script or renaming an existing one. This way the desired script type should be easier to locate in the list.

## 2.3.2 Performance improvements

### Ticket creation performance improvement (#625169)

A performance bottleneck during ticket creation due to transaction concurrency has been removed. The solution originally introduced with ticket #624887 in release 6.8.4.7 has been ported to the current release.

### Usage of read-only transactions in the framework database connectivity (#625954)

The usage of the functionality for read-only transactions in the database connectivity of the frameworks used has been implemented where appropriate. This change optimizes data access in multiple cases. It is possible to return to the previous behavior assuring general database write access for customer projects in need for this. The former behavior can be restored by setting a system property. The property `tx.read.only.mode.enabled` in the module `cmweb-server-adapter` is now set to "true" as a default, but setting it to "false" will force the previous behavior.

### **Web Client** cache configuration changed (#627567)

The **Web Client** view cache configuration has been changed from request oriented to session oriented. This change allows delivering cached data over several requests.

## 2.3.3 MULE component completely removed from **ConSol CM** (#628554)

The component MULE has been completely removed from the **ConSol CM** product. This implies that all incoming email processing can now only be done with the New Incoming Mail Handler (NIMH) introduced in version 6.9.4. It also means that there is no Enterprise Service Bus (ESB) service available

anymore in a standard installation. All configuration items for controlling MULE behavior, both with regard to incoming email handling as well as to ESB services, have been removed.



Please adjust your system setup accordingly! Scripts for email processing can contain imports of MULE classes, even if NIMH is used! Please adjust your email scripts, if necessary!

### 2.3.4 Support for **JBoss** Version 5 application server discontinued (#627880)

This **ConSol CM** version does not support the **JBoss** version 5 application server anymore. In case your installation relies on this platform it is recommended to switch to the **JBoss EAP 6** product build on a newer version of the server. When running **ConSol CM** on a **JBoss** 5 it is not possible to update to version 6.11. Please refer to the documentation about **JBoss EAP 6** installation for information to migrate your installation.



Please migrate to another application server platform product before updating, if you are using **JBoss** 5 currently!

### 2.3.5 Support for **WildFly** 8.2.0 application server dropped (#628555)

Starting with this **ConSol CM** version it cannot be used on the **WildFly** 8.2.0 application server anymore. Support for this product was introduced in version 6.10. In case your installation relies on this platform it is recommended to switch to the **JBoss EAP 6** product closely related to **WildFly**. Otherwise it is not possible to update to version 6.11. Please refer to the documentation about **JBoss EAP 6** installation for information to migrate your installation.

Please migrate to another application server platform product before updating, if you are using **WildFly** currently!

### 2.3.6 Support for **MS-SQL 2005** and non-Unicode variants of **MS-SQL** dropped (#627881)

The usage of **MS-SQL 2005** or any non-Unicode variant of **MS-SQL** as database engine for **ConSol CM** is not possible with this release anymore. You need to upgrade your **MS-SQL** installation to a newer version and/or to a Unicode variant, if your installation still relies on such a database installation. Otherwise it is not possible to run **ConSol CM** version 6.11. Please refer to the **MS-SQL** documentation for updating or modifying your database installation.



Please make sure you use a compatible database version and variant when running **ConSol CM** using **MS-SQL**!

The steps for a migration from a non-Unicode to a Unicode database schema are these:

1. If necessary, perform a regular update to a **ConSol CM** version with Unicode dialect support (6.8.2.0 or higher) to make sure that all update scripts are executed before starting the migration to Unicode.
2. Create a new database in **MS-SQL** Server (i.e. cm6new).
3. Configure cmDb-ds.xml to use this new database and start the **ConSol CM** Setup.
4. In the database setup step make sure that the new Unicode dialect is preselected (tables will be created with the new Unicode data types). This selection will be made automatically when using this release, please compare [Database type/dialect auto-detection during system setup \(#628826\)](#).
5. Shutdown **ConSol CM** again after setup.
6. In **SQL Server Management Studio** access the new database with the **ConSol CM** database user and execute the following query:

```
--
-- DROP CONSTRAINTS
--
SELECT 'ALTER TABLE ' + '[' + OBJECT_NAME(f.parent_object_id) + ']'
      + ' DROP CONSTRAINT ' + '[' + f.name + ']'
FROM .sys.foreign_keys AS f
INNER JOIN .sys.foreign_key_columns AS fc
ON f.OBJECT_ID = fc.constraint_object_
```

Save everything via copy and paste into a text file (drop\_fk.sql).  
Then execute this query:

```
--
-- RECREATE CONSTRAINTS
--
SELECT 'ALTER TABLE [' + OBJECT_NAME(f.parent_object_id) + ']'
      + ' ADD CONSTRAINT ' + '[' + f.name + ']'
      + ' FOREIGN KEY' + '(' + COL_NAME(fc.parent_object_id,fc.parent_column_id) +
      + ' REFERENCES [' + OBJECT_NAME (f.referenced_object_id) + ']'
      + COL_NAME(fc.referenced_object_id, fc.referenced_column_id) + ')' as Scripts
FROM .sys.foreign_keys AS f
INNER JOIN .sys.foreign_key_columns AS fc
ON f.OBJECT_ID = fc.constraint_object_id
```

Save everything via copy and paste into a text file (recreate\_fk.sql)  
Now drop the foreign key constraints: execute drop\_fk.sql.

7. Execute the **MS-SQL** Server Import/Export-Tool (i.e. *Import and Export Data (64 bit)* / *Daten importieren und exportieren (64-Bit)*):



- Data source: The old **ConSol CM** database (click *Next*)
  - Target: The new Unicode **ConSol CM** database (click *Next*)
  - Specify *Table Copy or Query: Copy data from one or more tables or views / Daten aus mindestens einer Tabelle oder Sicht kopieren* (click *Next*)
  - Select all tables to copy **except the table CMAS\_UPDATE\_DB\_LOG** (this table contains checksums that must not be overwritten by the source database). Now click *Edit Mappings/Zuordnungen bearbeiten...* and choose: *Delete rows in destination table / Zeilen in Zieltabelle löschen* and *Enable identity insert / IDENTITY\_INSERT aktivieren* and (click *OK*)
  - (click *Next*)
  - (click *Next*)
  - (click *Finish*)
  - (click *Finish*)
8. Recreate the foreign key constraints (execute `recreate_fk.sql`).
9. In the table `CMAS_CONFIGURATION`: change `hibernate.dialect` to the new class name  
`com.consol.cmas.setup.hibernate.dialect.SQLServerUnicodeDialect`

Please note that if you are using the **ConSol CM** data warehouse then you have to convert the DWH database in the same way as the **ConSol CM** database.

### 2.3.7 Support for *Internet Explorer* version 8 dropped (#627879)

This **ConSol CM** version does not support **Internet Explorer** version 8 anymore. The page customization attribute `reloadPageIfIE8onAcimSubmit` for the type `acimSection` on the ticket page has been removed in this context. This customization specifically served supporting this individual browser version. Please be aware that continuing use of this browser may result in unwanted behavior in multiple cases.

### 2.3.8 Data warehouse related capabilities for JMS communication fully removed (#628401)

The **ConSol CM** capabilities related to JMS for data warehouse (DWH) communication have been removed from the product completely. The functionality was not supported since version 6.9.4, so there should be no more dependency in any newer installation. The system properties relating to the former JMS communication mode and the controls to define this communication in the **Admin Tool** have been removed as well. The **Admin Tool** box *Configuration* in the data warehouse configuration dialog to set the properties `java.naming.provider.url`, `java.naming.factory.initial`, and `java.naming.factory.url.pkgs` (from the module `cmas-dwh-server`) is not present anymore since the properties are not available anymore either.

Please be aware that you need switch to `DIRECT` mode for data warehouse communication first when upgrading from a **ConSol CM** version older than 6.9.4!

### 2.3.9 Framework updates: Hibernate, Spring, Infinispan (#626980)

The frameworks **Hibernate**, **Spring**, and **Infinispan** upon which **ConSol CM** builds have been updated to recent versions. This is an internal change and has no consequences for the configuration and operation of **ConSol CM**, except for the cluster-related decision and configuration mentioned in [Configuration schemes for multicast/unicast JGroups cluster mode](#).

### 2.3.10 Engineer display template configuration (#629149)

The name of the template for returning the engineer description has been a fixed template so far. The template used is now configurable by setting the system property `engineer.description.template.name` in the module `cmas-core-server`. It defaults to the “value engineer description template name” which is also the name of the template provided automatically in a new system setup or an update.

### 2.3.11 HTML allowed for script templates (#629091)

In **ConSol CM** it is now allowed to use HTML as markup in text templates of the type “script”. Previously only plain text was tolerated. The markup validation of the HTML code entered intentionally is very strict, so please make sure the markup entered is correct, using closing tags etc.

It is permissible to enter HTML in a script template only, if the checkbox *Allow HTML* is checked. The behavior of the script template besides the HTML use is unchanged.

#### Template

The screenshot shows a 'Template' configuration window with two main sections: 'Details' and 'Content'.

**Details:**

- Name: Script HTML demo
- Group: allgemein
- Subgroup: demo
- Release: 0.0.1
- Language: English
- Active: ☒
- Type: Script
- Allow HTML: ☒ (highlighted with a red box)

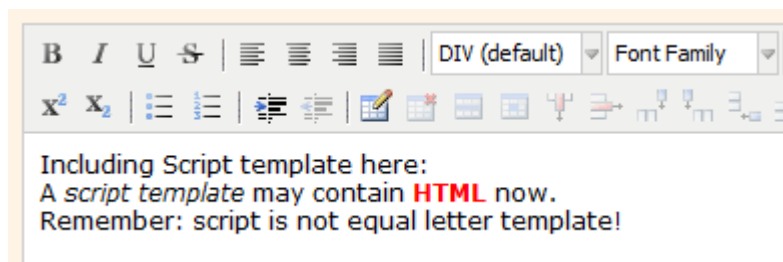
**Content:**

The text area contains the following HTML code:

```
<br/>A <i>script template</i> may contain <strong><span style="color:red">HTML</span></strong> now.<br/>Remember: script is not equal letter template!
```

At the bottom, there are 'Save template' and 'Cancel' buttons.

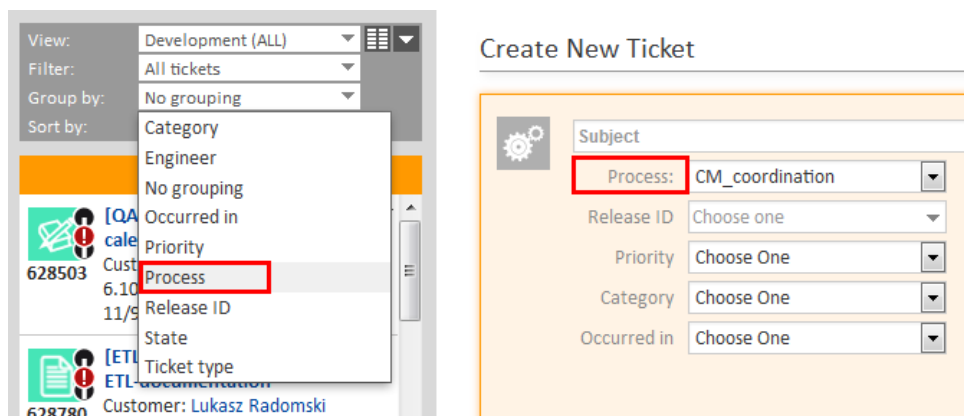
The script template can be included in other templates as usual and selecting such a template which includes the script template will result in formatted text as expected:



Please be aware that currently using HTML entities in HTML script templates is not permissible and will yield a validation error.

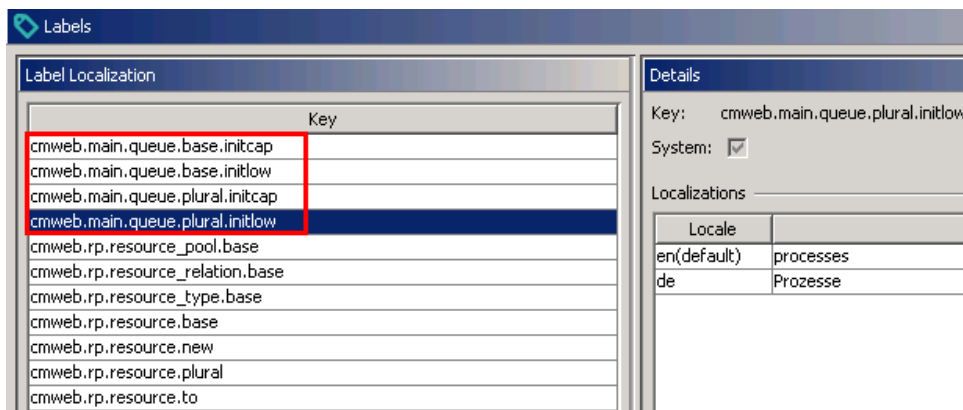
### 2.3.12 Client labeling extended to term for queues (#628423)

The client labeling mechanism introduced in **ConSol CM** 6.10 has been extended to the term for queues. Currently the name defaults to “Queue” in English and German, but this can now be reconfigured easily. The new name will show in web client wherever the term “Queue” was used previously.



There are four new standard keys to change which cannot be deleted. The keys are for singular and plural forms in the client, each beginning with a capital or a lower case letter:

- Singular, initial capital: `cmweb.main.queue.base.initcap`
- Singular, initial lower case: `cmweb.main.queue.base.initlow`
- Plural, initial capital: `cmweb.main.queue.plural.initcap`
- Plural, initial lower case: `cmweb.main.queue.plural.initlow`



The default modifications are introduced during setup and update and will be persisted in scene export and import. Empty values which can be the result of importing an older scene will cause a fall-back to the default mentioned above.

### 2.3.13 Page customization type *attachmentSection* removed (#628073)

The specific page customization type *attachmentSection* was unused and thus has been removed. It will not show any more when configuring page customizations and settings made earlier to it will be removed from the configuration during the update. Only after changing the customer group assignments the information was displayed correctly. This customization type should not get confused with the scope */ticketEditPage/attachmentSection* for the type *sectionList* which is unchanged.

### 2.3.14 Annotation *contact search result column* removed (#628183)

The customer (data object) field annotation *contact search result column* has been removed from the system. Its functionality has been achieved by the more generic annotation *order-in-result* since an earlier **ConSol CM** release, therefore, it did not serve any purpose anymore. The superordinate annotation type *group search-result* has been removed as well since *contact search result column* was its only member. This annotation and its type will not be available for assignment in the **Admin Tool** anymore.

### 2.3.15 Property *diffTrackingEnabled* removed from the system configuration (#628627)

The system property *diffTrackingEnabled* in the module *cmweb-server-adapter* has been removed from the system completely. It controlled the behavior regarding parallel editing of tickets with the value "false" representing the more restrictive earlier behavior. **ConSol CM** now generally behaves like the property was set to *true* which was the default since the introduction of the property allowing parallel ticket editing under a wider range of circumstances. No known real-life use-case justified the application of the stricter non-default setting. Therefore this configuration switch was not needed anymore and removed.

### 2.3.16 Filter list dropdown values in **Admin Tool** generally sorted alphabetically (#625519)

The values in the dropdown lists for filtering lists in the **Admin Tool** had been sorted only inconsistently. Some appeared unsorted, others were visibly sorted alphabetically. This sorting behavior has been made uniform now. The values lists in the filter dropdown controls are sorted alphabetically for the locale used.

### 2.3.17 Property `initialized` only shown in **Admin Tool** with activated expert mode (#616698)

The property `initialized` in the module `cmas-setup-manager` should not be changed at all for productive systems. Otherwise the system will delete configuration tables and start in setup mode on the next restart which can only be fixed by restoring a database backup. Therefore, the property will now be hidden unless the property `expert.mode` from the module `cmas-core-shared` is set to "true". Thus, the property `initialized` will still be available, if needed in special circumstances, but normally it is not directly possible to change its value.

### 2.3.18 Automatic user session service restart to apply configuration changes immediately (#620990)

Changes to some individual configuration properties regarding user session behavior were not applied immediately. This issue has been corrected and the relevant user session service is restarted now upon changes of its configuration properties. In effect this reloads the properties including the new values applying the changes directly.

### 2.3.19 Creation of unnecessary index tasks eliminated (#613622)

The creation of needless tasks to update the index when making changes in the **Admin Tool** has been eliminated. Previously many re-indexing tasks for objects like ENUM values or queues were created when adding or deleting these objects and values. Partially these tasks were unnecessary since the task did not imply a real change to reflect in the index. These unneeded index tasks will not be created anymore now.

### 2.3.20 Unnecessary ticket indexing after workflow redeployment avoided (#624377)

Previously redeploying a workflow caused all tickets associated with this workflow to be re-indexed. For some cases this was not necessary, for example when only some activity code had been changed. These cases triggering ticket re-indexing have been limited to the ones actually necessitating it.

### 2.3.21 Missing socket timeout settings for JDBC drivers added (#624489)

The JDBC driver settings for **Oracle** and **MySQL databases** were missing socket timeout settings to deal with network connection problems. **MS-SQL** does not offer a corresponding setting. The timeout settings for the database engines in question have been set to 180 seconds now.

### 2.3.22 Database type/dialect auto-detection during system setup (#628826)

The manual selection of the database type during the web-based **ConSol CM** system setup has been eliminated. It also served to identify the database dialect which is now auto-detected. The drop-down select list to identify the database engine and version used on the corresponding setup page has therefore been removed.

### 2.3.23 MS-SQL select method configuration default changed (#624104)

The default configuration on **MS-SQL** servers in **ConSol CM** distributions for the select method has been changed to `selectMethod=direct`. In common real-life settings this should improve performance. The change can be undone in the XML configuration file easily, if it proves counterproductive in a specific setting.

### 2.3.24 Avoiding potential Oracle errors about too long expression lists (#625728)

**ConSol CM** database access has been changed for multiple elements in order to avoid a common **Oracle** error wherever possible. The error "ORA-01795" would have informed about a failed query with a list of more than 1000 expressions which is not admissible. Many queries which in principle could cause this error have been changed to avoid this.

### 2.3.25 Deactivation of contacts for additional customers in open tickets (#626453)

It was previously not possible to deactivate a contact, if it was assigned to an open ticket. This is intended for the open ticket's main customer, but it may not be wanted for additional contacts. Therefore, the restriction has been loosened, so that it now is possible to deactivate a contact, if she is only an additional customer for open tickets. Deactivation is still possible, if the contact only is customer for closed tickets, and it will still be prohibited, if the contact is the main customer for open tickets.

### 2.3.26 **Process Designer** keeps server connection alive over firewalled route (#628801)

The **Process Designer** earlier lost its connection to the server, if it was routed through a firewall and there was no data sent for longer than the firewall's connection timeout. In such a case the firewall terminated the connection since no data was transferred for longer than this timeout threshold value. This will now be prohibited by a new keep-alive mechanism which makes sure the connection does not stay unused for too long. The mechanism will verify the availability of the server connection and refresh it once a minute.

### 2.3.27 **Admin Tool** script editor enhancements (#627928)

The source code editor integrated in the script and template administration has been switched to a new component with better capabilities. The editor now displays line numbers in the gutter on the left side, supports code folding, and provides improved syntax highlighting.

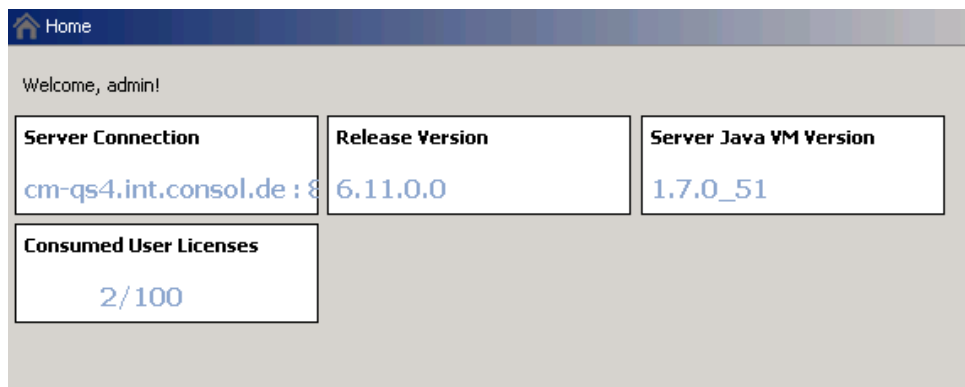
### 2.3.28 Selection of newly created objects in **Admin Tool** (#626620)

In former **ConSol CM** releases an object which just was created in **Admin Tool** did not always get selected in the list it was added to. Furthermore, it was not generally ensured that the list was scrolled to the position where the object was listed. This behavior has been implemented, so that the newly created object is selected for immediate further configuration now.

### 2.3.29 **Admin Tool** start panel shows active web client licenses (#629092)

The start panel in the **Admin Tool** now shows a new information item informing about the currently active licenses. By default the licenses used for web client sessions are shown.

The license pool shown in this panel can be changed by the system property `admin.tool.consumed.licenses.pool.name` in the module `cm-as-app-admin-tool`. Default value is "CONCURRENT\_USERS". Other values provide the current count for other sub-licenses. The value must be the term of a heading in the license section like "TRACK", however, some values do not provide useful information. A value change only takes effect after data refresh. Changing the property `admin.tool.consumed.licenses.check.interval` allows to set the refresh interval for the information on the panel. It is entered in seconds and defaults to 30.

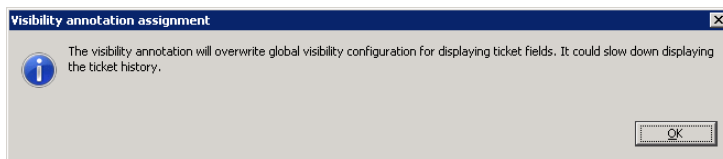


### 2.3.30 **Admin Tool** start panel displays server Java version (#629143)

The **Admin Tool** start panel displays the server Java version now in the respective information box. Previously the client Java version running the **Admin Tool** was shown which often was the less useful information. Therefore, it has been changed to the generally more useful information about the server Java runtime.

### 2.3.31 Warning message in *Admin Tool* upon visibility annotation assignment (#629542)

A warning dialog will now appear when assigning the annotation `visibility` from the group `visibility configuration` to a ticket custom field. The message informs that this kind of assignment may have performance implications for displaying the ticket history, resulting in perceptibly longer times for displaying the ticket history. Annotation assignment is not prohibited.



### 2.3.32 Task execution status update improvements (#628739)

A task in the **Task Execution Framework** started from the **Admin Tool** did not get the execution status visibly updated as desired when it was canceled or encountered an exception. This has been improved to show the expected information for the task execution status. Additionally a new system property has been introduced in case the interval for checking the task status by the **Admin Tool** on the server side needs to be changed: the module `cmas-app-admin-tool` now features the property `task.panel.refresh.interval.seconds`. The value is an integer defining the time interval between two status checks in seconds.

### 2.3.33 Logging extended with Object and its ID (#629089)

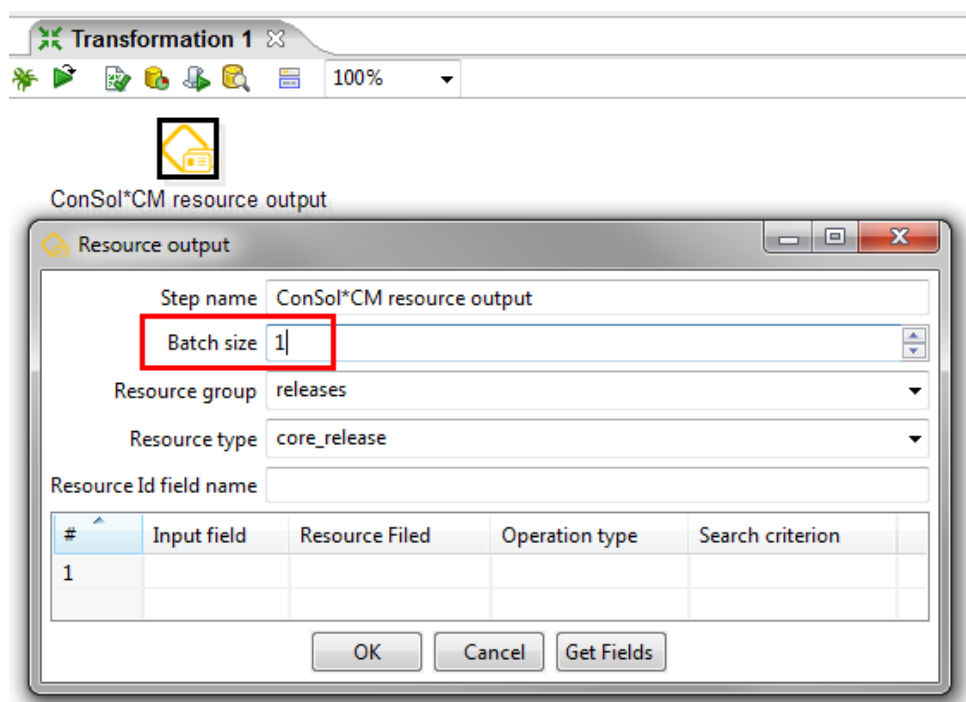
The standard log entry produced during **ConSol CM** server operation has been extended, so that each log line identifies the object manipulated, if applicable. **Web Client** actions not only record user name and session ID now, but also the page and the object ID where applicable. This should be helpful in identifying the specific context in which some behavior to be examined took place. The following INFO message example can illustrate this change:

```
2016-08-09 14:10:02,044 INFO [aultEngineElementEventListener] [tschall-6141e982-5e21-11e6-ab71-77a06060c573] Removing timer on leaving element: workflow instance id: 7075610, timer name: defaultScope/qa_code_review/Zeit-Trigger32
2016-08-09 14:10:02,106 INFO [w.DefaultWorkflowEventListener] [tschall-] Ticket's 629512 timer defaultScope/qa_code_review/Zeit-Trigger32 was deactivated
```

### 2.3.34 ETL step *ConSol CM resource output* extended with batch size (#629198)

The ETL step *ConSol CM resource output* has been extended by the parameter `batch size`. The parameter operates the same way as in other ETL plugins where it was already present, like *ConSol CM ticket output*. For details on usage of the plugin and the parameters please consult the **ConSol CM** ETL documentation.





## 2.4 Bugs fixed

The following defects have been corrected in this **ConSol CM** version.

Number	Description
615856	<b>Custom field group form submit logging cleaned</b> Submitting changes in the form edit field groups for tickets, units, and resources caused undesired validation messages to be logged. These unwanted log entries will not be added anymore.
617647	<b>Message about required index synchronization still shown after successful synchronization</b> When the message appeared in the <b>Admin Tool</b> that an index update with a full synchronization was required, this message did not disappear after a successful full index synchronization. The reason was a problem in correctly aligning the information about current and newest index versions. This error has been resolved and now this message will not be shown after a synchronization succeeded.
620846	<b>Timeout could occur when adding an ENUM value to a long list</b> In case a new value should be added to an ENUM and the value list already was long (several hundred values for example), a timeout could occur, if the value was not added at the end of the list. This problem has been resolved and there should be no timeout anymore when adding an ENUM value in the middle of the list even for many values.
621085	<b>Module name for new configuration entries in Admin Tool could only be selected from dropdown on Windows</b> On <b>Windows</b> systems it only was possible to select the module name from the dropdown list when creating new configuration items. It did not work to type the module name like on other operating systems. This limitation was present independent of the <b>ConSol CM</b> and Java versions used. It has been corrected so that on <b>Windows</b> systems selection by typing the module name is now possible as well.
621608	<b>Admin Tool visibility configuration view not refreshed upon scene import</b> After a scene import changing the annotation visibility configuration the <b>Admin Tool</b> still displayed the previous values. The new values could be seen only after restarting the <b>Admin Tool</b> . This error has been corrected and the changed values are properly displayed immediately after a scene import.
623076	<b>Static view criteria wrongly listed for engineer administration in Admin Tool</b> Static criteria defined for a view were listed in the engineer administration of <b>Admin Tool</b> as if they were dynamic view criteria. This was wrong since static view criteria are always applied so associating them with an engineer would not make any difference. Thus, the criteria are not listed anymore on the engineer view criteria administration tab.

Number	Description
623767	<p><b>Workflow activity inaccessible after changing the ticket customer to a newly created contact</b></p> <p>Workflow activities which should be available were inaccessible after the ticket customer was replaced by another contact which was created newly in this step. Clicking on the activity did not cause any action, but was working again after a manual page refresh. This unwanted behavior is not present anymore in the current release.</p>
624855	<p><b>Business Calendar To-time interpretation fault</b></p> <p>When updating the data in the data warehouse it could cause problems, if the to-date in a business calendar was set to "00:00". The intended meaning is that this is the beginning of the following day. Due to an implicit wrong interpretation of this value it caused an error when updating the data warehouse. This has been fixed and such value is correctly updated into the data warehouse as intended.</p>
625612	<p><b>Workflow export error message deficit</b></p> <p>The error message when exporting a deficient workflow in a scene export did not inform about the specific workflow. This has been corrected and identification of the defective object is included now.</p>
625623	<p><b>Exception when removing second one of two newly created queues</b></p> <p>On a cluster environment after creating two new queues, it was not possible anymore to remove the second one of these queues also, after removing the other one. This unwanted limitation has been removed, so it is possible again to remove both newly created queues.</p>
625660	<p><b>Outgoing e-mail subject pattern not editable in <i>Admin Tool</i></b></p> <p>With a locale conflict it was not possible anymore to change the subject pattern for outgoing e-mails in the <i>Admin Tool</i>. The entry field was rendered inactive then. The locale of the template used needed to be a locale not configured in the system anymore, for example an English template in a now German-only system (after removal of the English locale). This error has been corrected and the pattern can be edited regardless of the locales used.</p>
625821	<p><b>Setting the ticket subject in the create ticket method caused misleading unnecessary history entries</b></p> <p>When setting the ticket subject in executing the create ticket method two additional history entries about setting the subject were created. These entries were unnecessary and misleading, suggesting several different subject assignments were intentionally made. This has been fixed so that now only setting the ticket subject to the desired value shows in the history.</p>

Number	Description
<b>626333</b>	<b>Unnecessary redirect on company edit page</b> <p>The company edit page initially redirected to the actual content. This redirect was unnecessary causing the page to be rendered twice. The redirect was eliminated showing and rendering the actual content immediately.</p>
<b>626762</b>	<b>System property not deleted when removing mailbox</b> <p>The system property <code>mailbox.&lt;NAME&gt;.task.enabled</code> was not deleted upon removing the mailbox <code>&lt;NAME&gt;</code> when using the New Incoming Mail Handler (NIMH). This was corrected and all corresponding properties are deleted now when removing a mailbox.</p>
<b>627265</b>	<b>Undefined REST template for customer caused exception</b> <p>In case there was no specific template defined for rendering a customer in the response to a REST request, an exception was logged and no content response was sent. The desired behavior would have been that the default template is used for rendering instead of returning an error. This behavior has been implemented and now the customer is rendered by the default template in the response to a REST request, if no specific REST template has been defined.</p>
<b>627523</b>	<b>Disabled automatic actions for units and resources executed</b> <p>Automatic actions for customers and resources were always executed when their condition was met, even if the action had been disabled in the <b>Admin Tool</b>. Disabled actions, however, should not be executed at all. This unwanted behavior has been corrected and, as desired, disabled automatic actions are not executed anymore.</p>
<b>627555</b>	<b>Adding a localization value does not update the details localization list</b> <p>In the <b>Admin Tool</b> adding a new localization value did not update the list of localization values in the detail view of the object, for example of a resource action. The error did not appear when updating a localization value already existing. This problem has been resolved and the new value will now show in the detail view localization value list after addition.</p>
<b>627694</b>	<b>Ticket custom field group list width in Admin Tool dependent on length of queue filter entries</b> <p>The width of the custom field group list when administrating ticket custom fields did depend on the longest entry of the queue filter dropdown above the list. The list section of the panel could not be reduced to a width smaller than the longest filter item. This could limit the neighboring area for the field administration too much for efficient administration when using long queue names. The limitation described has been removed and the queue name length in the filter list does not control the width of the custom field group list anymore.</p>

Number	Description
627779	<p><b>Resource field groups offered in filters for Activity Control Form fields</b></p> <p>In the <b>Admin Tool</b> Activity Control Form administration the resource field groups were shown in the filter lists even though resource fields are not available for Activity Control Forms. These filter lists are shown on the <b>Admin Tool</b> panel for ticket custom fields with the Activity Control Form tab active and in the dialog for editing an Activity Control Form. These useless filter values have been removed from the lists so that only useful entries are offered now.</p>
628020	<p><b>Admin Tool customer group assignment for search actions not displayed</b></p> <p>The assigned customer groups for search actions in <b>Admin Tool</b> did not get shown initially and after a data refresh. This happened for customer search actions and other search actions. Only after changing the customer group assignments the information was displayed correctly. This has been corrected, so that the current assignments are listed under all circumstances.</p>
628093	<p><b>Admin Tool resource relation target labeling error</b></p> <p>The label for the relation target table column on the resource relation overview panel showed a wrong label for the German localization which was much too long. This wrong label has been changed so that the correct term is shown in the respective column header now.</p>
628215	<p><b>Changed queue assignment to a view only reflects properly in the Web Client after a server restart</b></p> <p>After removing a queue from a view in the <b>Admin Tool</b> the result was not properly shown in the <b>Web Client</b>. The sorting option dropdown in the view configuration of the <b>Web Client</b> showed entries representing the removed queue's options as well. A server restart was required to get a correct listing again. This has been fixed so that after the view change the <b>Web Client</b> immediately shows the new correct sorting options for the view in question.</p>
628476	<p><b>On-the-fly resources wrongly listed in detail search resource type selection</b></p> <p>The dropdown to select a resource type in the detail search for resources wrongly listed on-the-fly resources. This resource type class is not searchable since there is no information about the items in <b>ConSol CM</b>, and therefore, this type of resources should not be offered. The error has been corrected and these resource types are not presented for selection in the detail search anymore.</p>
628733	<p><b>Labeling mistake in description of ETL resource output plugin</b></p> <p>The description for the ETL resource output plugin contained a mistake saying "Imports contacts (...)" in the tooltip for example. This terminology mismatch has been corrected and the description is no longer misleading.</p>

Number	Description
629078	<p><b>Method to add an ENUM value succeeds without naming ENUM</b></p> <p>The method <code>createValue()</code> of the class <code>EnumService</code> could be invoked successfully without properly identifying the <code>EnumName</code> to create in the named <code>EnumGroup</code>. Using a null value succeeded, effectively rendering the <code>EnumGroup</code> unusable, meaning the <b>Web Client</b> and <b>Admin Tool</b> turned unusable when trying to access this <code>EnumGroup</code>. This unwanted usage is prohibited now and supplying a valid non-null <code>EnumName</code> parameter is now enforced in order to succeed when invoking the method.</p>
629165	<p><b>Wrong element in tree view highlighted for page customization selection</b></p> <p>In case the page customization type and scope were selected by the label of the respective frames on the page, the highlighted corresponding element in the tree view of the types and scopes could have been wrong. This mismatch could cause confusion and errors when setting customization values. It has been corrected and now the correct element in the tree is highlighted after selection by the frame.</p>
629215	<p><b>ClassCastException in business event trigger in Activity Control Form</b></p> <p>Very specific circumstances caused the wrong object type to be returned when trying to get the ticket update event in a business event trigger on an Activity Control Form. It required removing an additional engineer with an elaborate role by the activity with which the Activity Control Form was associated. This error has been resolved and these circumstances do not cause a wrong object to be returned anymore.</p>
629291	<p><b>Admin Tool removing and re-adding an Activity Control Form field caused error</b></p> <p>When removing a field from an existing Activity Control Form in the <b>Admin Tool</b> and adding it again right away an exception occurred. This error has been fixed and it is possible again to remove a field and add the same field again in one go.</p>
629370	<p><b>Unused link element in the customer section</b></p> <p>The customer section had an unused link element besides the context menu. This unneeded element is removed in the new skin described in <a href="#">New ConSol CM skin: Improved visual appearance of the Web Client</a>.</p>

### 3. Version 6.11.0.1 (11.01.2017)

Version 6.11.0.1 includes all **ConSol CM** changes and additions of

- 6.10 versions up to 6.10.5.4
- 6.9 versions up to 6.9.4.6
- 6.8 versions up to 6.8.5.8

Newer versions and the respective changes are not included in this **ConSol CM** version.

## 3.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.11.0.1 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

### 3.1.1 System upgrade from earlier versions



The application template for the **WebLogic** application server product is not in a functional state and cannot be used to update a **ConSol CM** installation on a **WebLogic** server to this release. It will be available again in an upcoming 6.11 release.

#### Data warehouse schema update when updating from versions before 6.11.0

Please be aware that when updating from **ConSol CM** versions before 6.11.0 the **CMRF** data warehouse database schema must be updated, too. This is explained in detail in the sections [System upgrade from 6.10.5 and earlier versions](#) and [Data Warehouse Update](#). This topic is mentioned here because the update scripts have not been available at the time of release of version 6.11.0.0. For this reason it may be necessary to apply the update even in an update from **ConSol CM** 6.11.0.0 to 6.11.0.1.



Please make sure the data warehouse schema update is applied at the earliest possible and technically feasible.

### 3.1.2 Script modification requirements

This release features some interface changes in API methods. **Please be aware that scripts using the respective methods may need adjustments!** The affected methods are listed in the following sections of this document:

- [Unused database columns removed \(#600336\)](#)



Please be aware that from several classes methods were removed. Please ensure before an update that the scripts in your installation are not affected by these removals!

### 3.1.3 Configuration modification requirements

The changes in this release require several configuration items to be reviewed and possibly adjusted. Please see the following sections for details:

- [Customer main label based on template \(#629859\)](#)
- [Configurable sender address for password reset emails \(#629467\)](#)
- [Scene export configuration detail and logging extension \(#629535, #629753\)](#)
- [Groovy code editor in Admin Tool and Process Designer extended \(#629731\)](#)



- [New Admin Tool script type “Widget” introduced \(#630289\)](#)
- [Management capabilities for the Task Execution Framework in a cluster \(#629591\)](#)
- [Property supportEmail Removed \(#630242\)](#)
- [Property checkUserOnlineIntervallInSeconds removed \(#622433\)](#)
- [Annotation field-group removed \(#613643\)](#)
- [Irrelevant XA recovery warnings removed from log files \(#629999\)](#)
- [JBoss configuration option added for using unpacked applications \(#629693\)](#)

No further instructions available.

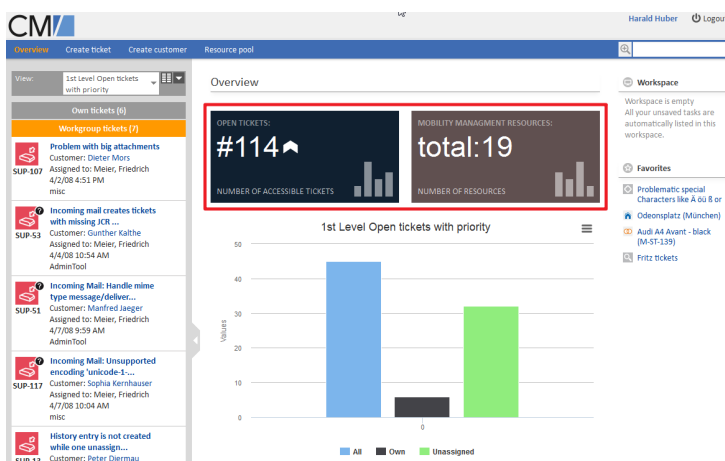
## 3.2 New Features

The features newly introduced in this **ConSol CM** version 6.11.0.1 are described in detail in this section.

### 3.2.1 Standard dashboard widget for key performance indicators (#630374)

There have been no readily available dashboard widgets in earlier releases except the default widget. This release of **ConSol CM** introduces a first predefined widget with more planned. The new standard widget is a simple box showing the numeric value of a key performance indicator (KPI) to be defined by the administrator.

The image below highlights two of these KPI dashboard widgets in the top row of the dashboard.

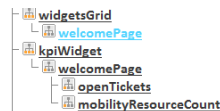


This new widget can be configured almost completely using page customization attributes. Like other widgets it must be referenced in the value of the *layout* attribute in the type *widgetsGrid* and scope */welcomePage* for the welcome page. It must be identified with an entry *widgetIdentifier:KPI* in the *layout* value as in the example:

```
[openTickets:KPI, mobilityResourceCount:KPI], [ticketsInView:Chart, ticketsInView]
```

Please compare the screenshot as well:

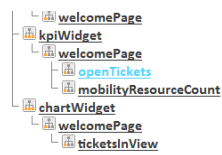
Attribute name	Description	Value
layout	Widgets layout configuration. Configure for each tab, preserve parameter order: tabName, i18n (optional), widgets. For example: {tabName: 'overview', i18n: {de: 'Äbersicht', en: 'Overview'}, widgets: [[process:Table, escalation:Chart], [process:Table, null]]	{openTickets:KPI, mobilityResourceCount:KPI} (java.lang.String) (+) (-)



The individual KPI widget can be configured by the attributes in its page customization named by its identifier *widgetIdentifier*, in the examples *openTickets*. Each KPI widget has the following attributes and values:

- **color**: background color for the rectangle widget area, for example #A0B0C0.
- **footer**: string to show at the bottom of the widget (shown in the left example as "Number of accessible tickets"), can be localized, see below for details.
- **height**: widget rectangle height in pixels (integer value).
- **localization**: localization definition for string values displayed, see below for details.
- **maxValueForSize**: the numeric widget value above which the font size will be reduced in order to fit the value in the line inside the rectangle, default is 100000.
- **symbol**: character symbol or string to show as prefix for the numeric value.
- **title**: string to show in the top line of the widget (shown in the left example as "Open tickets"), can be localized, see below for details.
- **trend**: identifier for the trending symbol to be shown after the numeric value (see the left example), valid identifiers are 'up', 'down', and 'flat'.
- **value**: the numeric value to be shown, normally it is not wanted that this is a fixed value, but it should be dynamically resolved. This, however, can only be achieved by a script, see below for details. Just entering a number here without using a script will always display this number only.
- **visible**: a boolean value determining, if the widget should be rendered or not, identical to other widget types.

title	Title for KPI widget	_( "titlestring" ) (java.lang.String) (+) (-)	
trend	Trend of value change. 'up'/'down'/'flat'. This value is used for the placement of an optional trend image in case of "", no image will be shown	(java.lang.String) (+) (-)	
value	Widget value	0 (java.lang.String) (+) (-)	



The localization of (display) string values can be achieved by entering a key instead of a literal value. The syntax to identify a key is `_( 'keyidentifier' )`. The language-specific values for the keys `titleKPItickets` and `footerKPItickets` (defined as value `_( 'titleKPItickets' )` for **title** and `_( 'footerPKItickets' )` for **footer**) from the left example above are defined as shown in the next code example:

```
de:{titleKPItickets:'Offene Tickets: ',footerKPItickets:'Anzahl bearbeitbare Tickets'}, en:{titleKPItickets:'Open tickets: ', footerKPItickets:'Number of accessible tickets'}
```

kpiWidget	/welcomePage/openTickets	KpiCustomization	
type	scope	className	
			configuration script: widgetKPIopenTickets.grun with admin privileges: <input type="checkbox"/>



The numeric value for the KPI to be displayed generally should be determined dynamically when the dashboard is opened. This can only be achieved by providing the value from an **Admin Tool** script. The script name must be referenced in the field **configuration script** in the header of the customization scope, just like for other widgets. The script needs to return a map of customization attributes with values like other widget scripts as well. For a dynamic value the attribute **value** must be part of the map with the actual value determined in the script. A simple example is shown here:

```

import com.consol.cmas.common.model.ticket.*
import java.util.*

TicketCriteria crt = new TicketCriteria()
crt.setStatus(TicketCriteria.Status.OPEN)
ticketcount = ticketService.getByCriteria(crt).size()

switch (ticketcount) {
    case 0..25:
        trendline = 'down'
        break
    case 26..50:
        trendline = 'flat'
        break
    default:
        trendline = 'up'
}
return[value: ticketcount as String, trend: trendline, visible: 'true']

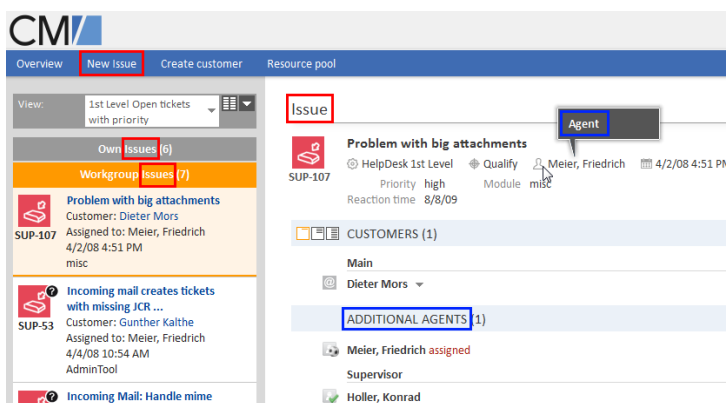
```

### 3.2.2 Configurable ticket and engineer client label terms (#630070, #630071)

The terms for “ticket” and “engineer” to be used in the **Web Client** can now be configured in the **Admin Tool**. The term to be configured for ticket is being used for labels and messages within the pages and it is different from the header term configured by queue which was introduced in **ConSol CM** version 6.10.5.3.

The queue header term will show a specific name for the ticket entity in the current process context whereas the label term from this feature is used across all queues all over the system. The queue specific term shows in the headline of the ticket display and ticket create pages only, compared to the label term configured from this feature which is used all across the installation, but in any other place of the client previously referencing the term “ticket”. In case there is no specific ticket term configured for a queue the name from the label defined here will be used. This can be observed in the first screenshot.

The illustration below shows the effect of renaming the standard term “ticket” to “issue” and the default term “engineer” to “agent”.



The result of this reconfiguration on the company page is illustrated by the next screenshot.

## Enterprise

**Lübke und Lübke** ▾

Company Lübke und Lübke  
 Address Paulanerstr. 22  
 80995 Helgoland

Fax  
 Version  
 Reaction time  
 Sales member  
 Comment  
 Content updated

**ISSUES (10)**

Show: **Issues** of Company and Contacts ▾ Status: **Open** **Issues** ▾

Agent	Main Customer	Name	Subject
	@ Dieter Mors	SUP-113	AT: View creator - category and priori
Huber, Harald	@ Dieter Mors	SUP-40	Change of Status/Queue results in logi
Schmidt, Hans	@ Dieter Mors	SUP-43	Ticket search doesn't work properly

The terminology change is reflected consequently throughout the whole **Web Client** which also shows in the next figure depicting the detail search page:

**Search**

Search criteria

**Agent** Please choose **Search**

Keyword (Pattern)

**ISSUE**

**Agent**

Creation date

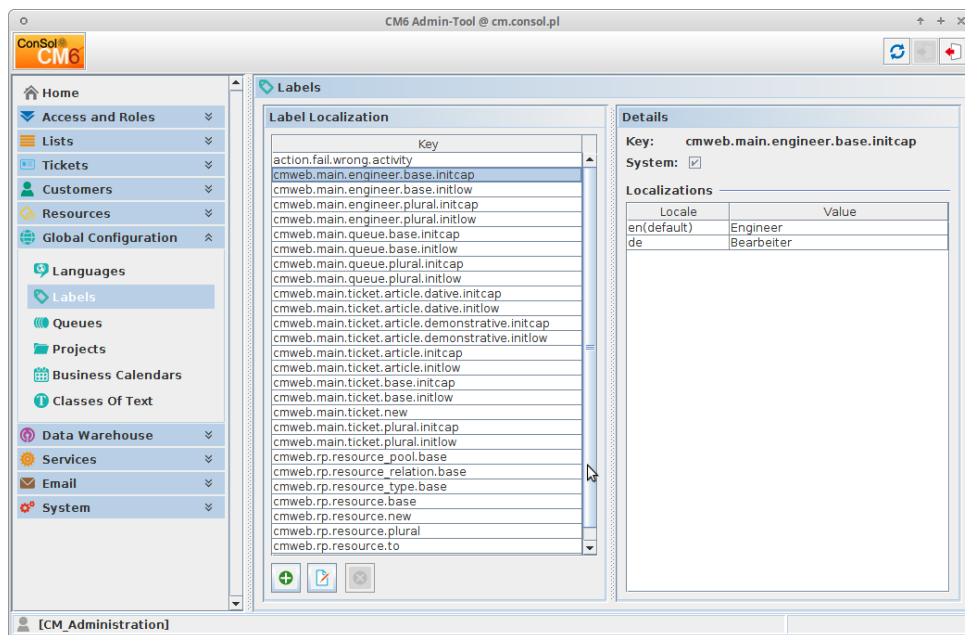
Process

**Referenced agents**

Status

Person)) All Customers (Enterprise)

The term values for the two entities are configured like other values of such a kind in the **Admin Tool** panel "Labels" located below the navigation group "Global Configuration".



The new localization keys for the ticket term are these:

- Singular, initial capital: `cmweb.main.ticket.base.initcap`
- Singular, initial lower case: `cmweb.main.ticket.base.initlow`
- Plural, initial capital: `cmweb.main.ticket.plural.initcap`
- Plural, initial lower case: `cmweb.main.ticket.plural.initlow`
- Term for creation: `cmweb.main.ticket.new`
- Article form, initial capital: `cmweb.main.ticket.article.initcap`
- Article form, initial lower case: `cmweb.main.ticket.article.initlow`
- Dative case article form, initial capital: `cmweb.main.ticket.article.dative.initcap` (irrelevant in English)
- Dative case article form, initial lower case: `cmweb.main.ticket.article.dative.initlow` (irrelevant in English)
- Demonstrative pronoun, initial capital: `cmweb.main.ticket.article.demonstrative.initcap`
- Demonstrative pronoun, lower case: `cmweb.main.ticket.article.demonstrative.initlow`

The keys introduced for naming the engineer concept are the following:

- Singular, initial capital: `cmweb.main.engineer.base.initcap`
- Singular, initial lower case: `cmweb.main.engineer.base.initlow`
- Plural, initial capital: `cmweb.main.engineer.plural.initcap`
- Plural, initial lower case: `cmweb.main.engineer.plural.initlow`

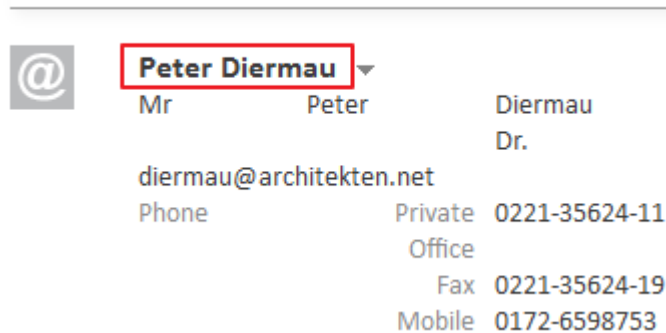
It is possible to enter language specific terms for each language configured in the system on the panel “Languages”, just like it can be expected.

### 3.2.3 Customer main label based on template (#629859)

The main label for a customer description was based on the first line of the layout definition from the position annotation. The mechanism sourcing the label information been changed to use a pre-defined template. This changed origin now parallels the resource display.

The template now being used for contacts and companies comes from the relevant customer data model. The ticket page template will be used, if some template is referenced for this type. If this is not the case, the standard template will be used.

#### Customer (Person)



This change implies that the label to identify a customer does not depend anymore on the field layout of the customer data display.



Please note that this change may require to adjust the company and contact data field layouts! See below for details.

Since originally the first line of the data field layout was used for the customer label, in many installations the first line of fields was set to a visibility value of “edit” so that these fields are not duplicated when displaying the customer information. Please verify that the configuration in your system still matches the requirements when using the template for the label. The template may use other fields than configured for the first layout row.

In the screenshot above the visibility has explicitly been changed to “true” which effectively doubles information in this case. This shows that besides the templates for the customer data models the customer field annotations `position` and `visibility` have to be reviewed.

**i** The changes introduced in **ConSol CM** version 6.10.3.0 with the bugfix for issue #627884 had to be reverted for this new feature. The bugfix corrected duplicate display of the first layout line of companies in a company-optional customer data model. This should not cause any issue in an installation, if the layout review and adjustment is done as recommended above.

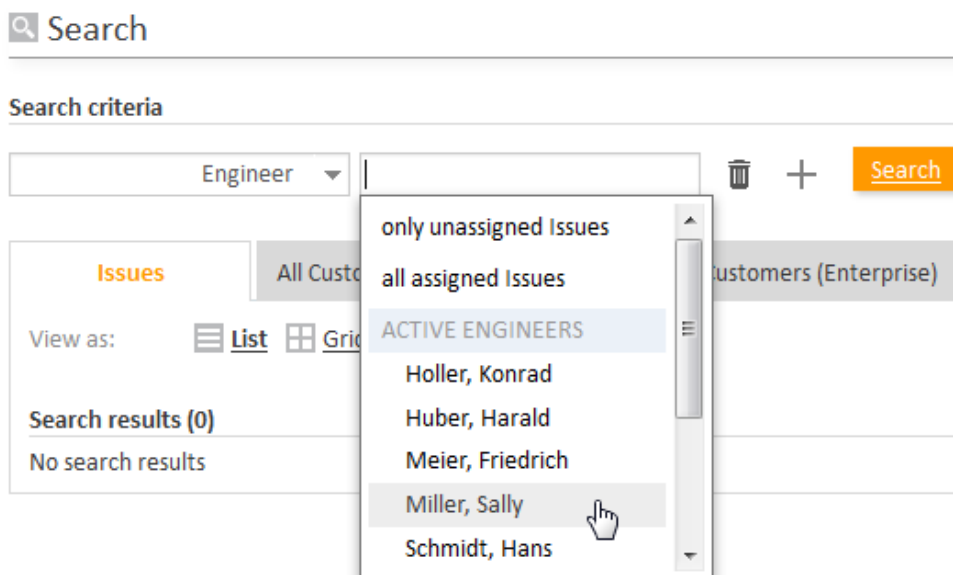
### 3.2.4 New engineer selection in detail search (#629783)

The engineer selection on the detail search page has been replaced by the same list element which is also used for selecting the search fields or email recipients in a ticket.

This new selection list shows two selection options on top which are engineer related groupings:

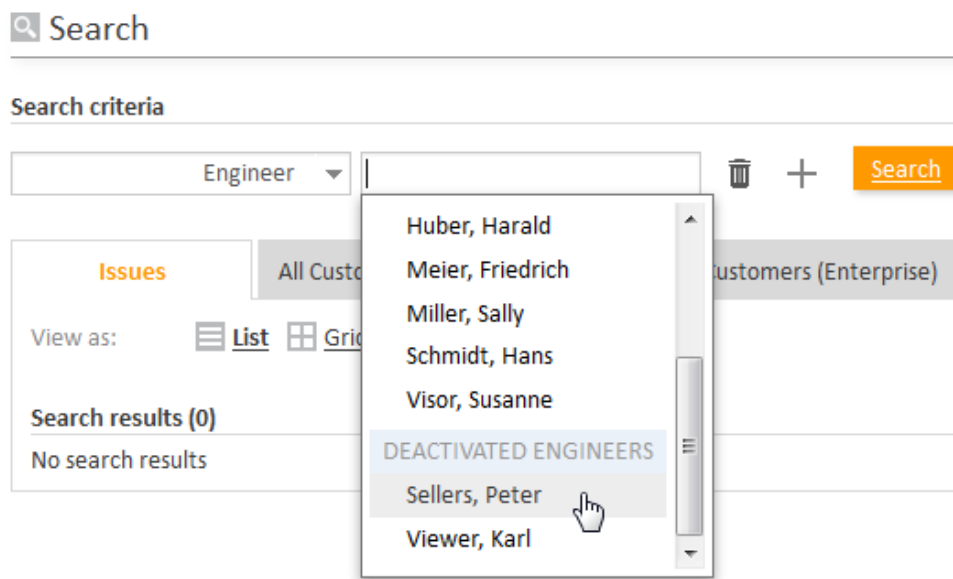
- “only unassigned tickets” for all tickets with no engineer assigned and
- “all assigned tickets” for all tickets assigned to any engineer without limitation to specific individuals.

The particular engineers are listed below these two general options. They are grouped into active engineers listed first and the deactivated engineers on the bottom of the list. Both groups feature a corresponding header label. The top of the list can be seen in the next screenshot:

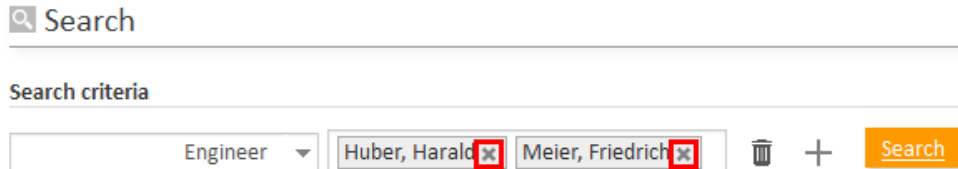


The deactivated engineers at the end of the list are shown below:





After selecting engineers for the detail search individually they show just like email recipients in a ticket. Each one can be removed individually from the selection by clicking the cross symbol to the right of the name. This exactly parallels the handling for email recipients. The remove symbol is highlighted with a red box below for both selected engineers.



The engineer listing offered for selection can be controlled by the value of the page customization attribute *excludedUserNames* from the scope */searchDetailPage* for the type *detailSearch* which lists the login names of users which should not show up in the list. Any engineer whose login is present in this comma-separated list will not be offered for selection.

`excludedUserNames` Login names provided here will be filtered out in engineers' criteria selector. `tracksales, admin, wfladr` `(java.lang.String) (+) (-)` [detailSearch](#) [searchDetailPage](#)

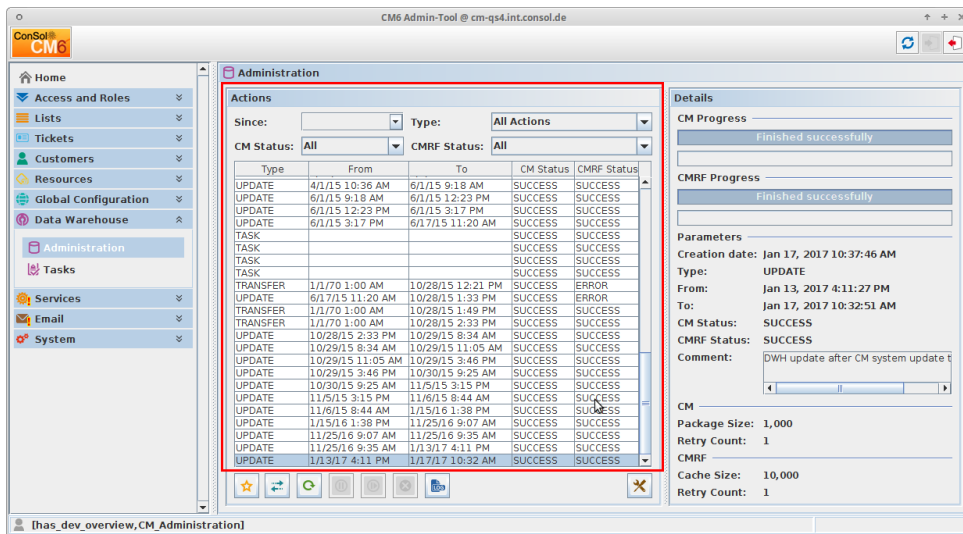
### 3.2.5 Configurable sender address for password reset emails (#629467)

The email address used for the sender of emails to reset the password of customer logins in **CM/Track** was the standard administrator email address so far. This sender address may not be the desired one for different real-life use-cases of this feature. Therefore, the address has been made configurable with the value taken from a newly introduced system property `password.reset.mail.from` in the module `cmas-core-security`. When performing the system update or setup the initial value will be set to the standard administrator email address, so that the previous behavior is being maintained. However, the address value can be changed later manually to accommodate differing requirements.

### 3.2.6 Data warehouse administration redesigned (#629713)

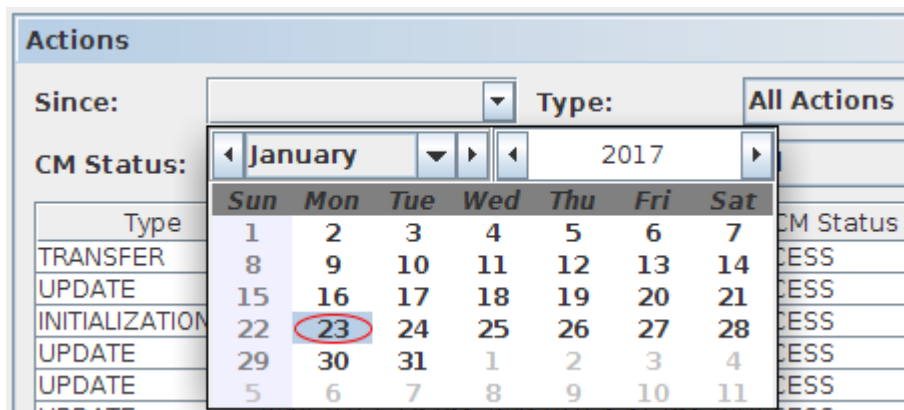
The **Admin Tool** panel for administration and status information of the data warehouse has been redesigned completely. Reflecting this change is the fact that it now is labeled *Administration* in the navigation group *Data Warehouse* compared to the previous *Configuration and Logs* it replaces.

The new **Admin Tool** panel provides a detailed listing of active and completed data operations and data warehouse tasks. This list shows the operation type together with time span the data operation covers and the activity/success status on the application server (CMAS) and data warehouse server (CMRF) sides. The image shows this for all operations in the list completed.

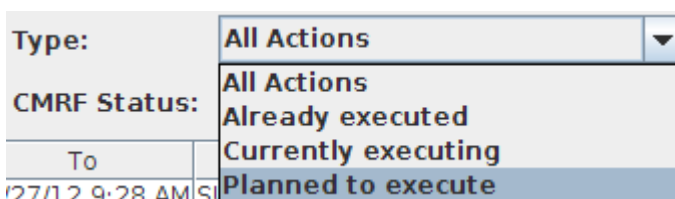


The list of data warehouse activities can be filtered by four parameters which can be freely combined:

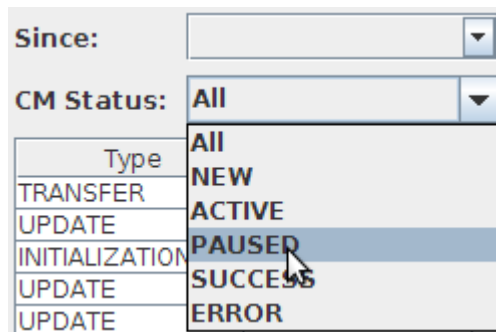
- **Since:** This filter allows to restrict the list to entries after a given time.



- **Type:** The parameter enables filtering for completed (*Already executed*), running (*Currently executing*), and upcoming (*Planned to execute*) operations.

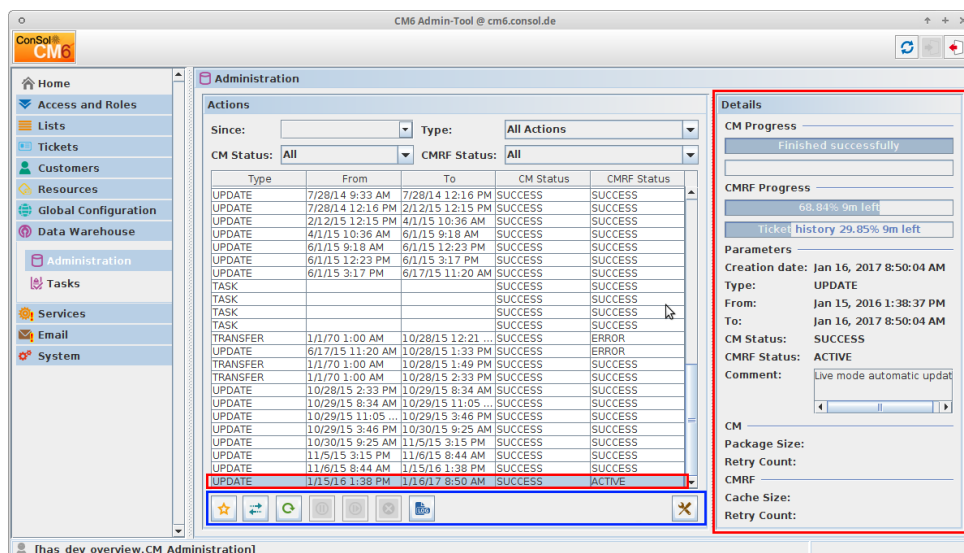


- *CM Status/CMRF Status*: These options filter for operation status on the sending (*CM Status*) and receiving sides (*CMRF Status*).



The status selection options are identical for both filters and can be seen in the screenshot above. The names are self-explaining.

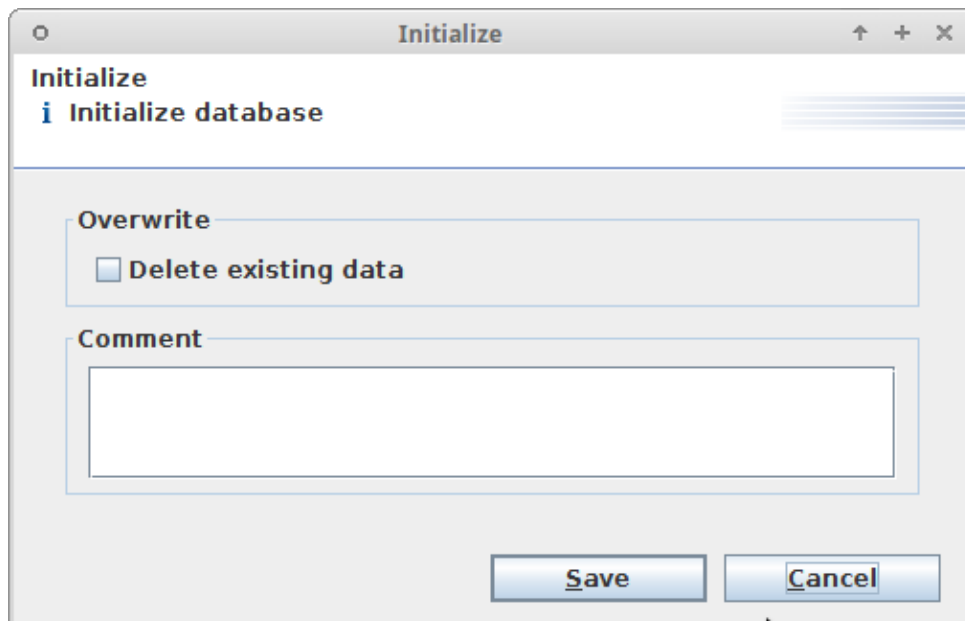
Detailed status information for the operation selected in the list can be seen on the right side of the panel, all being highlighted below with two red boxes. This includes detailed information about the action in general as well as configuration parameters for sending and receiving side of a data operation. Additionally the top of this section shows detailed progress information for an ongoing operation. There are two progress bars labeled *CM Progress* for the sending side. The upper one shows the overall progress for the operation on the sending side whereas the lower one shows the progress for the current sub-operation. The same holds true for the receiving data warehouse side labeled *CMRF Progress*. The example illustration shows progress for the last list entry selected, a job which has finished with success on the application server side and still is active for the data warehouse. The sending side is finished already while data warehouse still processes the update. It has completed 68.84% of the task with 9 minutes left until it expects to finish. The current sub-step is processing the ticket history with 29.85% completed and 9 minutes expected until finishing this step.



Below the list on this panel is a button row for initiating and controlling data operations and the data warehouse configuration (from left to far right), marked by a blue box in the screenshot above:

- *Initialize*: Data warehouse initialization, opens a newly introduced dialog, details see below.
- *Transfer*: Data warehouse transfer, opens a newly introduced dialog, details see below.
- *Update*: Data warehouse update, opens a newly introduced dialog, details see below.
- *Pause*: Pauses a running data warehouse operation.
- *Resume*: Resumes a previously paused data warehouse operation.
- *Delete*: Deletes an unfinished data warehouse operation from the list, works for scheduled unstarted and previously paused operations. The most common case for this happens when queuing an initialize, transfer and update operation in a row without waiting. This approach was problematic earlier because of the lack of control over the initiated actions, but it is valid now with the job listing.
- *Log*: Log viewer for the data warehouse operations, opens a newly introduced dialog, details see below.
- *Configuration*: Data warehouse configuration, opens a dialog, details see below.

Initiating data warehouse initialization, transfer, or update will open a new dialog for configuration of the corresponding operation. The dialog for a data warehouse initialization only offers the option to delete all previously existing data and a field to enter a comment about the job. The possibility to add a comment/description has not been available before.



The dialogs for transfer and update are new as well. They offer configuration options for the operation which have not been available in the **Admin Tool** before. Both dialogs are identical regarding their capabilities, the next image showing the transfer dialog.

The top row of buttons offers to select predefined configurations for the individual job to start:

- *Default*: run the job with the default settings, just like without any modification in the dialog.
- *Last*: run the job with the same configuration like the previous run.
- *Safe*: run the job with cautious settings, which may cause it to run longer, however, the settings ensure that no `OutOfMemory` exception will occur.
- *Fast*: run the job with settings optimized for fast completion, however, `OutOfMemory` exceptions can occur, if the Java Virtual Machine is not well-tuned.

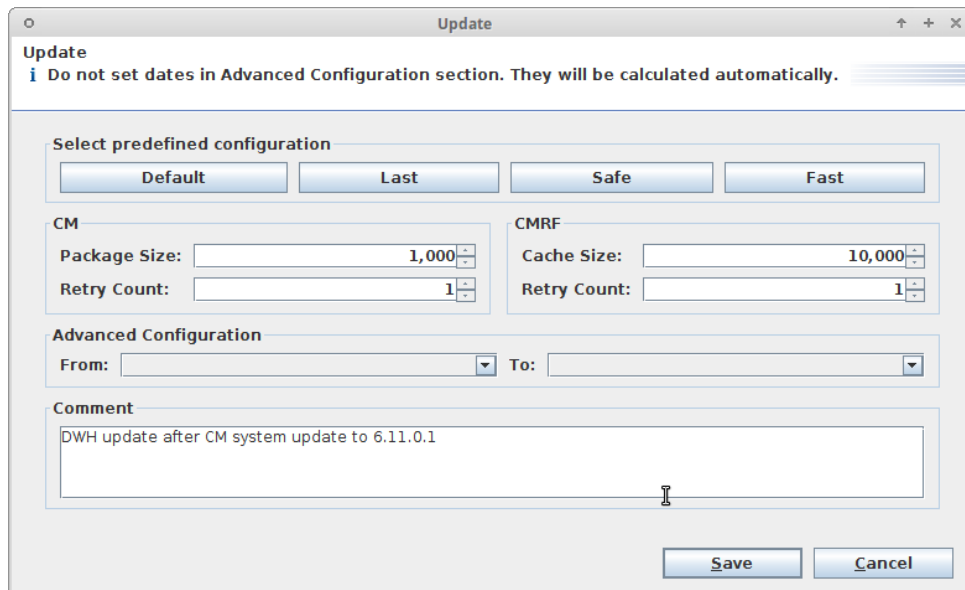
The individual settings addressed by these overall predefined configurations can be adjusted below the buttons. On the left side of the dialog `Package Size` and `Retry Count` can be set for the sending side (CMAS) and on the right side of the dialog these parameters can be set for the receiving side (CMRF). The parameter `Package Size` was existing before, taken from the system property `batch-commit-interval` in the module `cmas-dwh-server`, but there was no way of defining it for a single job without changing the standard value. The parameter `Retry Count` was not accessible before.

The parameters offered in the section *Advanced Configuration* for setting a date interval to be covered by the job should not be used without very clear understanding of the consequences. It could lead to an inconsistent data warehouse. They should be only used when specifically advised with detailed instructions by **ConSol** support or **ConSol CM** consulting.



Please do not use the *Advanced Configuration* options unless clearly instructed by a **ConSol** representative to do so!

The bottom field for data entry is a new comment/description field for the job labeled *Comment* identical to the one explained for the initialize dialog above. The next screenshot shows the update dialog with a reasonable example comment filled in.



**Update**

**i** Do not set dates in Advanced Configuration section. They will be calculated automatically.

Select predefined configuration

Default Last Safe Fast

**CM**

Package Size: 1,000

Retry Count: 1

**CMRF**

Cache Size: 10,000

Retry Count: 1

**Advanced Configuration**

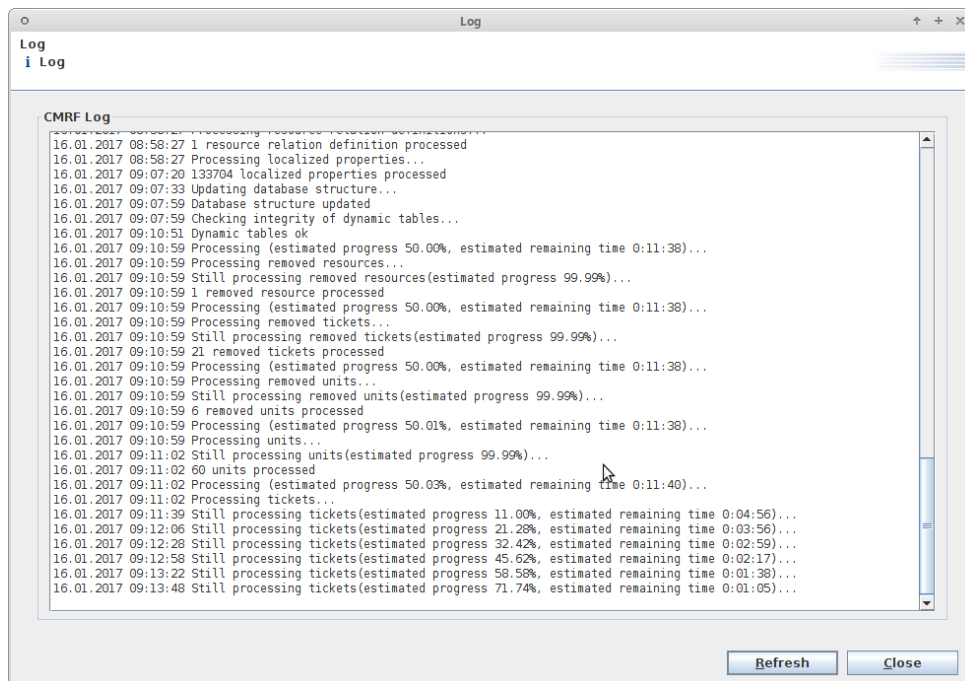
From: To:

**Comment**

DWH update after CM system update to 6.11.0.1

Save Cancel

The button directly to the right of the job control functions *Pause*, *Resume*, and *Delete* will open a log viewer window which displays the log file content for the data warehouse (CMRF) component. This log only shows data warehouse related information which may not be located on the same server as the application server providing the **Admin Tool**. It shows detailed information about the processing of the jobs.



**Log**

**i** Log

**CMRF Log**

```

16.01.2017 08:58:27 1 resource relation definition processed
16.01.2017 08:58:27 Processing localized properties...
16.01.2017 09:07:20 133704 localized properties processed
16.01.2017 09:07:33 Updating database structure...
16.01.2017 09:07:59 Database structure updated
16.01.2017 09:07:59 Checking integrity of dynamic tables...
16.01.2017 09:10:51 Dynamic tables ok
16.01.2017 09:10:59 Processing (estimated progress 50.00%, estimated remaining time 0:11:38)...
16.01.2017 09:10:59 Processing removed resources...
16.01.2017 09:10:59 Still processing removed resources(estimated progress 99.99%)...
16.01.2017 09:10:59 1 removed resource processed
16.01.2017 09:10:59 Processing (estimated progress 50.00%, estimated remaining time 0:11:38)...
16.01.2017 09:10:59 Processing removed tickets...
16.01.2017 09:10:59 Still processing removed tickets(estimated progress 99.99%)...
16.01.2017 09:10:59 21 removed tickets processed
16.01.2017 09:10:59 Processing (estimated progress 50.00%, estimated remaining time 0:11:38)...
16.01.2017 09:10:59 Processing removed units...
16.01.2017 09:10:59 Still processing removed units(estimated progress 99.99%)...
16.01.2017 09:10:59 6 removed units processed
16.01.2017 09:10:59 Processing (estimated progress 50.01%, estimated remaining time 0:11:38)...
16.01.2017 09:10:59 Processing units...
16.01.2017 09:11:02 Still processing units(estimated progress 99.99%)...
16.01.2017 09:11:02 60 units processed
16.01.2017 09:11:02 Processing (estimated progress 50.03%, estimated remaining time 0:11:40)...
16.01.2017 09:11:02 Processing tickets...
16.01.2017 09:11:39 Still processing tickets(estimated progress 11.00%, estimated remaining time 0:04:56)...
16.01.2017 09:12:06 Still processing tickets(estimated progress 21.28%, estimated remaining time 0:03:56)...
16.01.2017 09:12:28 Still processing tickets(estimated progress 32.42%, estimated remaining time 0:02:59)...
16.01.2017 09:12:58 Still processing tickets(estimated progress 45.62%, estimated remaining time 0:02:17)...
16.01.2017 09:13:22 Still processing tickets(estimated progress 58.58%, estimated remaining time 0:01:38)...
16.01.2017 09:13:48 Still processing tickets(estimated progress 71.74%, estimated remaining time 0:01:05)...
  
```

Refresh Close

The configuration dialog will open when clicking the button on the far right below the list.

**Configuration**

**Please edit configuration of DWH**

**Mode**

DWH Mode Selection **LIVE**

**Notification**

Protocol: **smtp**

Host: mail.consol.de

Port: 25

User:

Password:

**Error** **Successful** **Unsuccessful**

From: m6-bugtracking@consol.de

To: cm6-admin-l@consol.de

Subject: r occurred (cm6.consol.de)

Description: DWH Error occurred:

**Save** **Cancel**

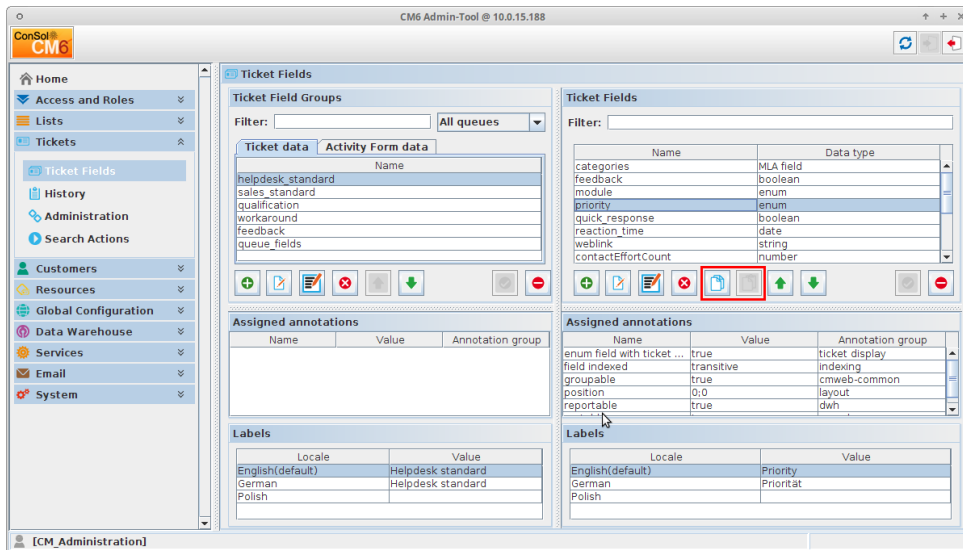
The dialog for data warehouse configuration displays the data warehouse mode selection on top which was on the tab *Configuration* earlier. The contents of the previous tab *Notification* are located below this selection. Besides this slightly simplified design the appearance and usage of the configuration dialog are unchanged.

### 3.2.7 Copy and paste for fields in *Admin Tool* (#630464)

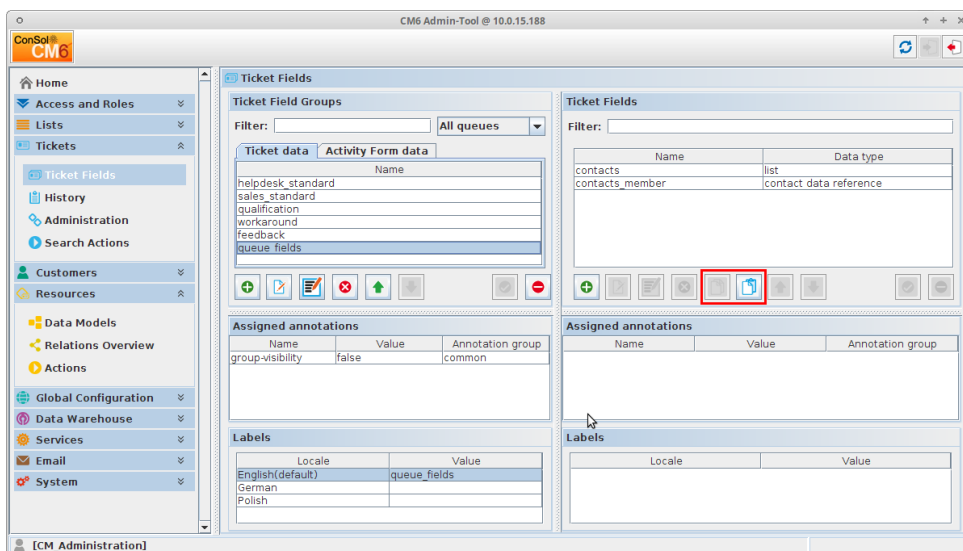
The data fields for tickets, customers, and resources in *Admin Tool* had to be prepared manually in every detail for each field. This often repetitive task has been eased in this release by introducing copy and paste functionality for fields. This capability allows to duplicate fields, so that the effort to generate mostly similar data fields can be drastically reduced. The new field created by copying and pasting an existing field has mostly the same annotations including their values as the source field. All localization values are copied as well. Only in cases where it is technically not possible or highly

impractical annotations do not get copied, details are explained below. It is possible to copy list and struct fields. In such a case the dependent fields will be copied as well so that the whole field structure is copied. Furthermore, it is possible to copy fields from one object type to another meaning that ticket fields can be copied to resources and customers and vice versa.

The field listing, for example the ticket fields, now features two new buttons for the copy and paste operations.

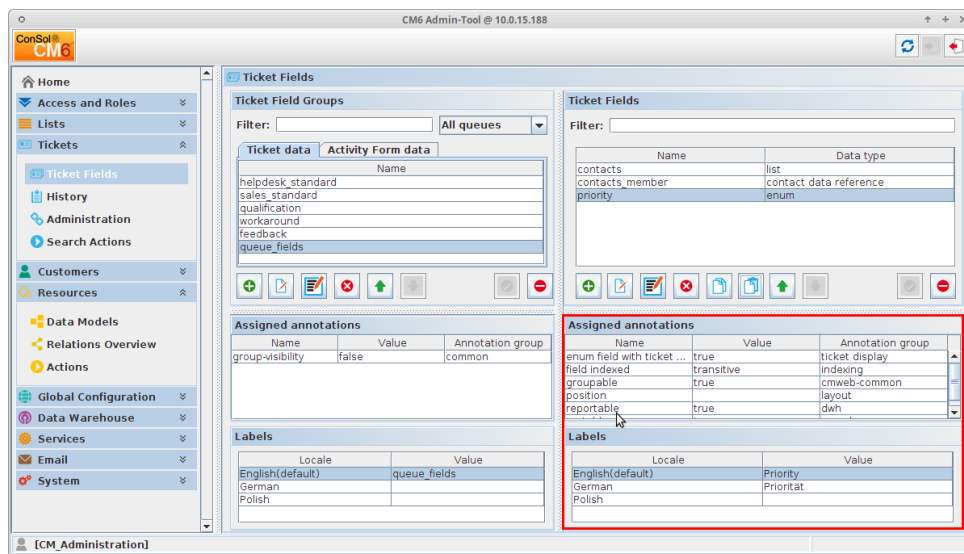


The copy button is available only when a field is selected in the list. The button for the paste functionality will only get enabled, if a field already has been copied. Both limitations can be seen when comparing the screenshot above with the one below from the target ticket data model.

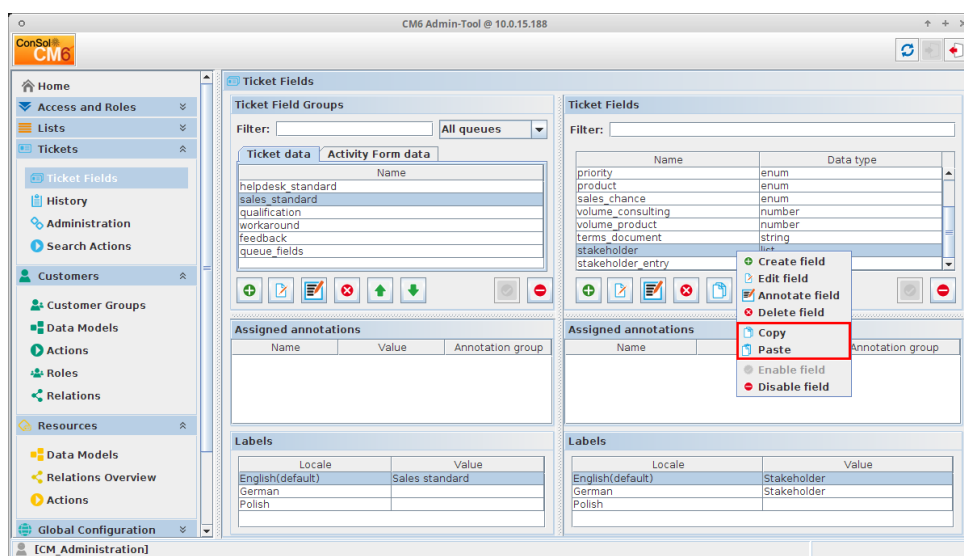


As a result the new field (in a different field group in this example) is almost exactly the same as the source field with most annotations and localization labels being identical:





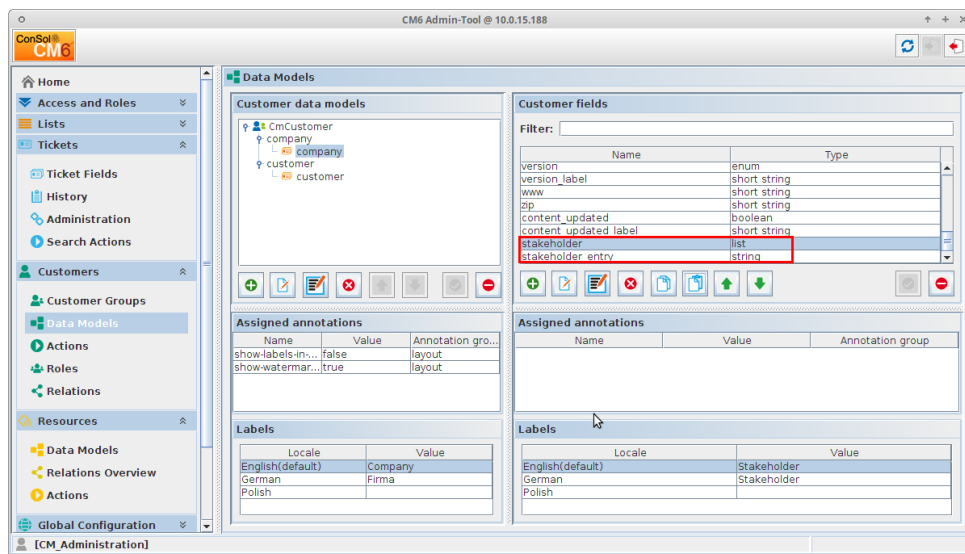
A complete field structure defined as struct or list field can be copied just as easily duplicating the whole structure with all dependent data fields.



The copy and paste operations can be accessed from the context menu as well as with a keyboard shortcut. The shortcuts are the ones commonly used for this kind of operations:

- Copy a field (structure): CTRL-C
- Paste a previously copied field (structure): CTRL-V

The next screenshot shows the list structure copied above from the ticket data model pasted into a customer data model.



As mentioned above all annotations and their values get copied from the source field to the new field with the exception of those annotations where this is technically impossible or highly impractical. The annotations which will not be duplicated are these:

- `ldapid`: This annotation can be only once in a data model. Duplication would cause an invalid model.
- `username`: This annotation can be only once in a data model. Duplication would cause an invalid model.
- `password`: This annotation can be only once in a data model. Duplication would cause an invalid model.
- `position`: The value for this annotation must be unique, so the annotation is duplicated, but the value is removed from the copy.
- `ticket-list-position`: This annotation should be used very specifically and, thus, it should be present only for very few fields. Duplicating it would potentially multiply it although it should not be used for the majority of copies.

Every other annotation is duplicated in the field copy including its value.

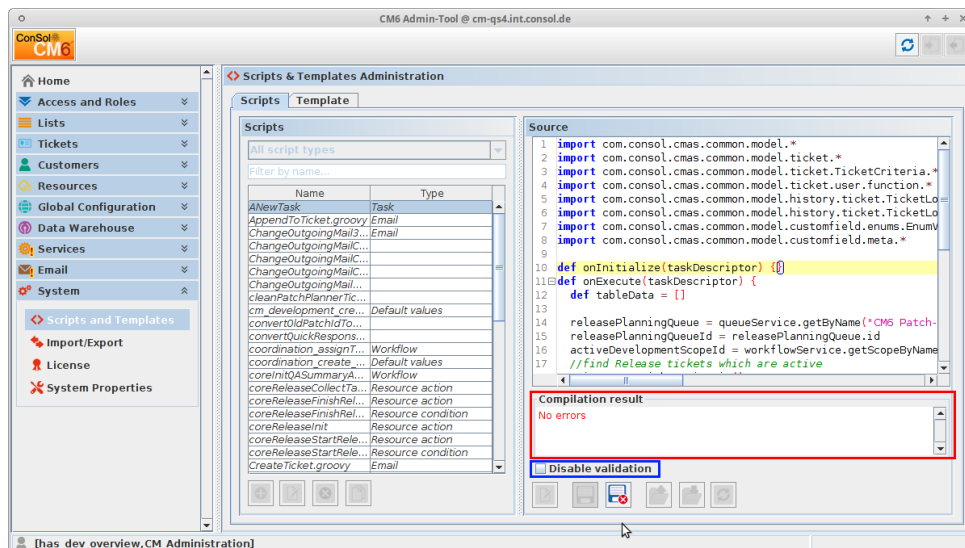
In the case a field with the same name is already present in the destination field group the new field will get `_copy` appended to the name and be named `priority_copy` for example.

### 3.2.8 Groovy code editor in *Admin Tool* and *Process Designer* extended (#629731)

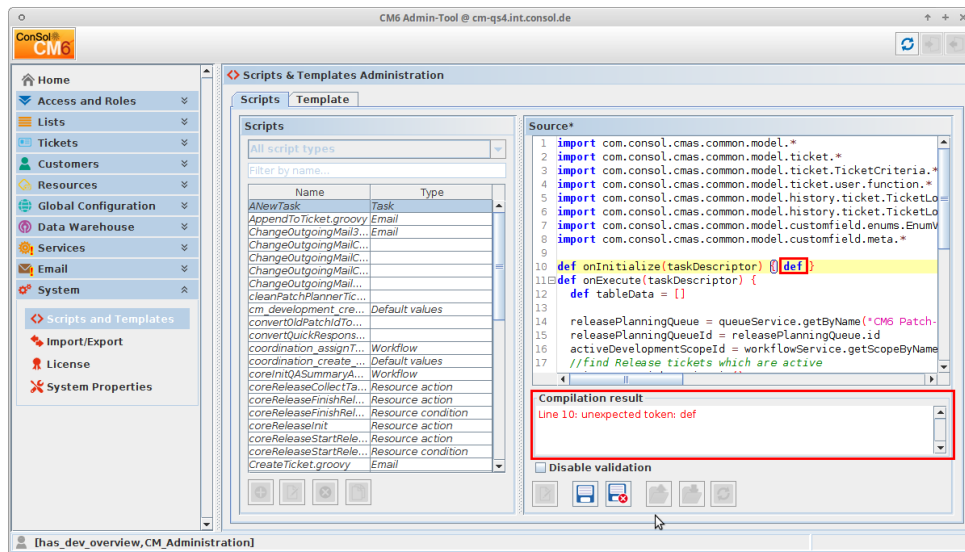
The code editor which is offered for script editing in *Admin Tool* and *Process Designer* features significant enhancements. Code editing in *Admin Tool* now offers code validation and code completion. Both have not been present before. *Process Designer* has been adapted so that these features are present there is the same way as in *Admin Tool*. It offered validation before, but not code completion.

The code completion in both tools does not offer every possible class and method **ConSol CM** implements, but only these present in the locally executed tool (technically: in its classpath). In contrast the validation is done on the server side, so it takes advantage of every class and method of the server component including external libraries used. The refresh interval for the script validation on the server side can be set in a new system property. The property `script.validation.interval.seconds` in the module `cmas-app-admin-tool` allows to define the time interval between two validations on the server side for both tools. The property value unit is seconds and it defaults to the value 1. This allows to adapt the frequency and thus the network and performance impact to the needs and potential of an individual installation.

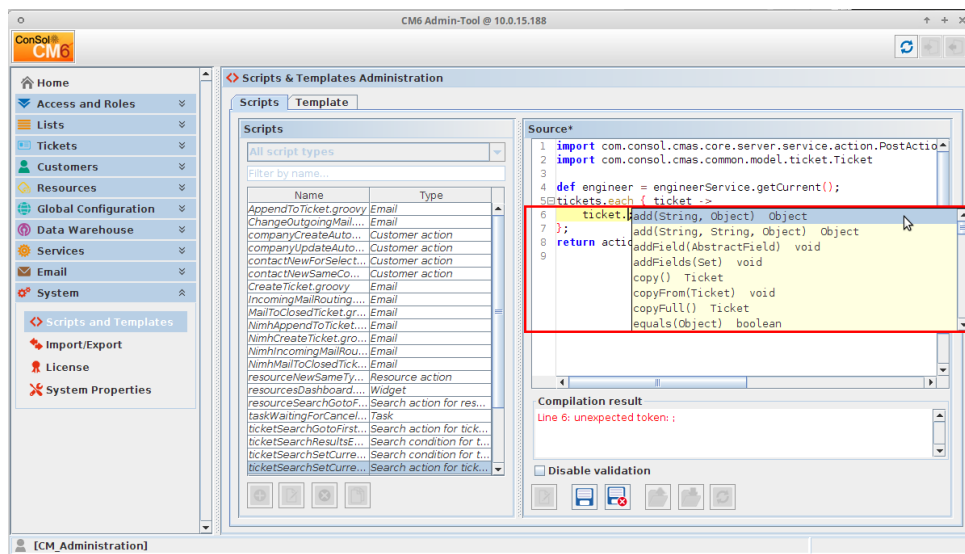
The current validation result for code completion in **Admin Tool** is shown below the editor text area in a section labeled *Compilation result*. Below the validation message there is a checkbox *Disable validation* to deactivate the code validation on the server completely for this session. An example without validation errors can be seen in the first screenshot with the message highlighted by a red box. The checkbox is highlighted by a blue box.



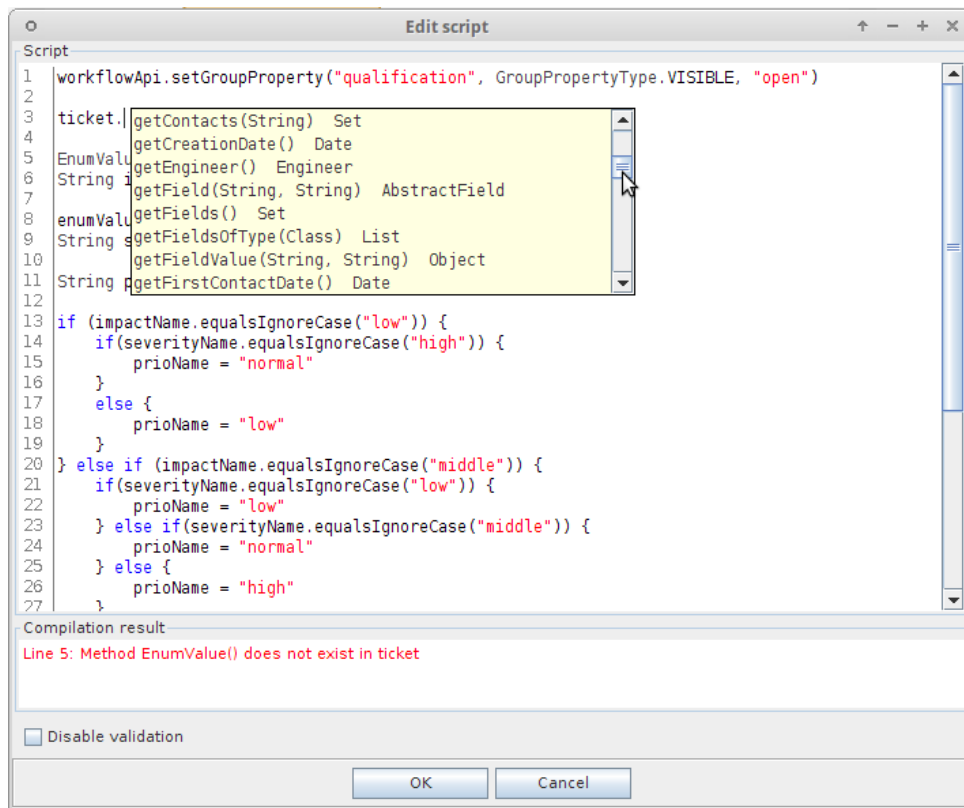
A validation error can be seen in the next image. This error originates only from not having finished entering the code highlighted in the editor above.



The code completion can be activated in the editor after typing the dot after an object name. At this point the method selection can be invoked by typing CTRL-Space. It then offers a dropdown list with valid methods. As mentioned above this list only contains elements which are in the classpath of the client tool. Classes and methods only available on the server will not be offered.



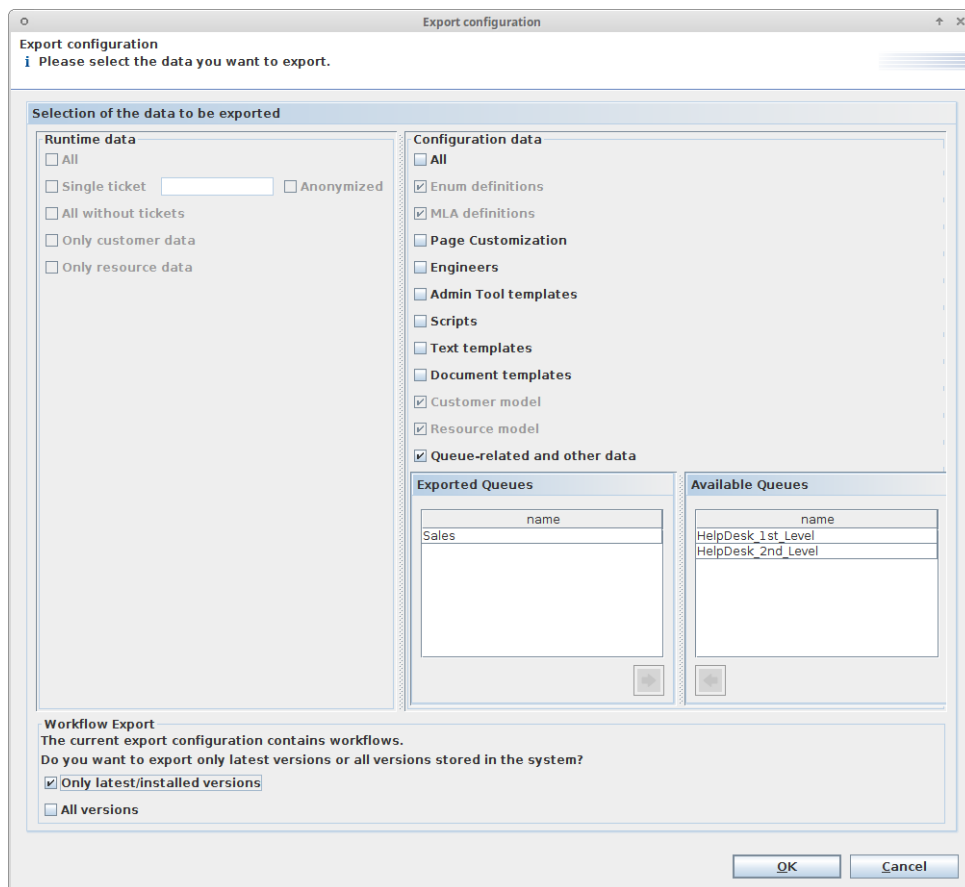
The code completion has been added to the **Process Designer** as well. Code validation in this tool has been aligned to appear and behave in the same way as in **Admin Tool**. Both features can be observed in the next illustration.



### 3.2.9 Scene export configuration detail and logging extension (#629535, #629753)

The detail configuration options for the scene export in **Admin Tool** to define the scope of the configuration and runtime data export have proven very useful in the past. However, more options and more detailed selections for defining the exact scope for the objects to be included in the export have been identified as desirable by now. To accommodate these needs new export settings are being made available in this release.

The screenshot illustrates the new export options.



There are new choices for configuration data:

- ENUM definitions
- MLA definitions
- Page customization

The option “Queue-related and other data” allows now to select the queues to export from the available queues. The queue selection works identically to other selections of this kind.

Additionally a new workflow related export selection has been introduced. It allows to choose, if only the latest/installed versions of the workflows to export should be included or all versions of these workflows should be exported.

In the screenshot it also can be observed that the selections which are implied from choosing an option will be made automatically and will be displayed as inactive. So these necessary export options cannot be disabled manually.

The logging of the export/import operations has been extended and improved. The log file `transfer.log` in the standard log directory will now feature detailed information about each step performed during a scene export or import. This extended information is being logged for a log level configuration of `INFO` or more explicit.

The addition to the logging configuration must be made manually when performing an update, but it is included in a fresh setup. The following lines may have to be added to the configuration file `cm6.xml` (or its counterpart in use) in the logging subsection.

```

<size-rotating-file-handler name="TRANSFER_FILE" autoflush="true">
  <file relative-to="jboss.server.log.dir" path="transfer.log"/>
  <append value="true"/>
  <rotate-size value="300m"/>
  <max-backup-index value="6"/>
  <formatter>
    <pattern-formatter pattern="%d %-5.5p [%X{username}-%X{context}-%X{sessionId}]
    %m%n"/>
  </formatter>
</size-rotating-file-handler>

<logger category="TRANSFER" use-parent-handlers="false">
  <level name="INFO"/>
  <handlers>
    <handler name="TRANSFER_FILE"/>
  </handlers>
</logger>

```

Example lines for a scene export can be seen in this excerpt:

```

2017-01-19 10:26:34,795 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c] Export
of data using transfer mechanism has started
[...]
2017-01-19 10:27:03,547 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketTransferParticipatorImpl: Export of tickets started, number of entities:
128, export package size: 50
2017-01-19 10:27:08,830 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketRelationTransferParticipatorImpl: Export of ticket relations started, number
of entities: 4, export package size: 50
2017-01-19 10:27:09,035 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TimeBookingTransferParticipatorImpl: Export of time bookings started, number of
entities: 3, export package size: 50
2017-01-19 10:27:09,342 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketHistoryTransferParticipatorImpl: Export of ticket history started, number of
entities: 8634, export package size: 50
2017-01-19 10:28:10,475 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketContentTransferParticipatorImpl: Export of ticket content started, number of
entities: 82, export package size: 50
[...]
2017-01-19 10:28:15,701 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c] Export
of data using transfer mechanism has finished

```

The information logged for an import is even more verbose which can be observed in the example from an import which also deletes the data previously present in the system:

```
2017-01-19 10:30:24,847 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
WorkflowLayoutTransferParticipatorImpl: Deleting workflow layout data, number of
entities: 3
2017-01-19 10:30:25,176 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
CustomizationTransferParticipatorImpl: Deleting customizations, number of
entities: 17
2017-01-19 10:30:25,239 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
PersonalEngineerDataTransferParticipatorImpl: Deleting engineer personal data,
number of entities: 0
[...]
2017-01-19 10:30:42,956 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c] Import
of external data using transfer mechanism has started
[...]
2017-01-19 10:32:18,682 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketTransferParticipatorImpl: Import of tickets has started, packages to import:
3, default package size: 50
2017-01-19 10:32:18,682 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketTransferParticipatorImpl: Importing package no. 1
2017-01-19 10:32:24,737 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketTransferParticipatorImpl: Importing package no. 2
2017-01-19 10:32:30,772 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketTransferParticipatorImpl: Importing package no. 3
2017-01-19 10:32:33,519 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketRelationTransferParticipatorImpl: Import of ticket relations has started,
packages to import: 1, default package size: 50
2017-01-19 10:32:33,519 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketRelationTransferParticipatorImpl: Importing package no. 1
2017-01-19 10:32:33,658 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TimeBookingTransferParticipatorImpl: Import of time bookings has started, packages
to import: 1, default package size: 50
2017-01-19 10:32:33,659 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TimeBookingTransferParticipatorImpl: Importing package no. 1
2017-01-19 10:32:33,854 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketHistoryTransferParticipatorImpl: Import of ticket history has started,
packages to import: 173, default package size: 50
2017-01-19 10:32:33,854 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketHistoryTransferParticipatorImpl: Importing package no. 1
2017-01-19 10:32:34,296 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketHistoryTransferParticipatorImpl: Importing package no. 2
2017-01-19 10:32:34,934 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketHistoryTransferParticipatorImpl: Importing package no. 3
[...]
2017-01-19 10:33:47,337 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketHistoryTransferParticipatorImpl: Importing package no. 173
2017-01-19 10:33:47,691 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketContentTransferParticipatorImpl: Import of ticket content has started,
packages to import: 2, default package size: 50
2017-01-19 10:33:47,692 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketContentTransferParticipatorImpl: Importing package no. 1
2017-01-19 10:33:50,543 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
TicketContentTransferParticipatorImpl: Importing package no. 2
```



```
[...]
2017-01-19 10:33:56,486 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c]
WorkflowLayoutTransferParticipatorImpl: Import of workflow layout data has
started, packages to import: 0, default package size: 50
2017-01-19 10:33:56,511 INFO [admin--304b381e-de29-11e6-939c-c791d0c87c3c] Import
of external data using transfer mechanism has finished
```

### 3.2.10 Access logging configuration (#630120)

A configuration section to enable access logs for **Web Client** was introduced in this **ConSol CM** version. This section is by default deactivated (commented out) in the standard configuration files. Activating (uncommenting) it will log detailed information about access and usage of the **Web Client** in order to analyze the user interactions with the system so that client problems can be traced.

The relevant configuration data is in the three lines commented out in the example configuration snippet from the file `cm6.xml` (or the corresponding file in an installation) below. Uncommenting these lines in the web subsystem configuration will activate the access logging for diagnostics.

```
[...]
<subsystem xmlns="urn:jboss:domain:web:1.5" default-virtual-server="default-host"
native="false">
  <connector name="http" protocol="HTTP/1.1" scheme="http" socket-binding="http"/>
  <virtual-server name="default-host" enable-welcome-root="false">
    <alias name="localhost"/>
    <!--<access-log pattern='%h %l %u %t %r %s %b %{Referer}i %{User-Agent}i %S
%T'>-->
      <!--<directory path="." relative-to="jboss.server.log.dir"/>-->
      <!--</access-log>-->
    </virtual-server>
  </subsystem>
[...]
```

## 3.3 Changes

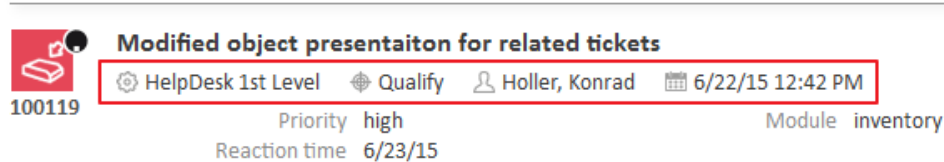
This section illustrates all relevant software product changes for version 6.11.0.1 of **ConSol CM**.

### 3.3.1 Layout improvements

#### Ticket attributes extended with icon symbol (#629779)

The standard ticket attributes (queue, scope, engineer, created date and on hold date) have been enhanced by adding an icon symbol to each one. The vertical separator line between each of these fields has been removed as well.

##### Ticket

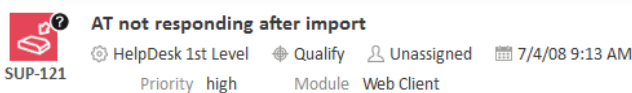


The screenshot shows a ticket header for ticket 100119. The title is "Modified object presentation for related tickets". Below the title, there are four attributes, each with an icon: "HelpDesk 1st Level" (gear icon), "Qualify" (magnifying glass icon), "Holler, Konrad" (person icon), and "6/22/15 12:42 PM" (calendar icon). Below these attributes, there are two more attributes: "Priority high" and "Module inventory". At the bottom, there is a "Reaction time 6/23/15".

#### Action icons in page headers, section headers and within subsections (#629781)

The action links shown in the page headers, in the section headers and within subsections (where applicable) have been extended by icon symbols to better distinguish the different standard actions. The ticket page header actions with the new icons are highlighted in the next image.

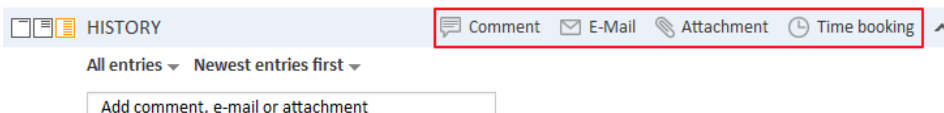
##### Ticket



The screenshot shows a ticket header for ticket SUP-121. The title is "AT not responding after import". Below the title, there are four attributes, each with an icon: "HelpDesk 1st Level" (gear icon), "Qualify" (magnifying glass icon), "Unassigned" (person icon), and "7/4/08 9:13 AM" (calendar icon). Below these attributes, there are two more attributes: "Priority high" and "Module Web Client".

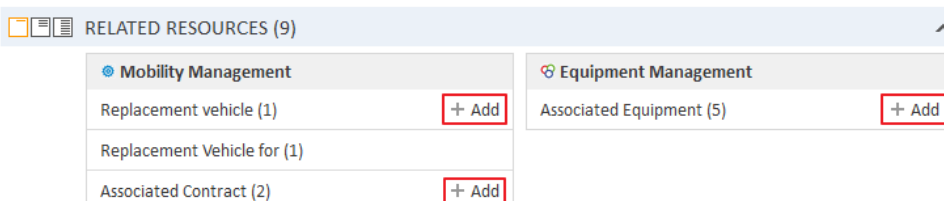
Accept Edit Clone Print

An example for the new icons in the section header can be observed in the following screenshot of the ticket history section header.



The screenshot shows the "HISTORY" section header. Below the header, there are four action links, each with an icon: "Comment" (speech bubble icon), "E-Mail" (envelope icon), "Attachment" (paperclip icon), and "Time booking" (clock icon). Below these action links, there is a dropdown menu with "All entries" selected and "Newest entries first" as an option. Below the dropdown menu, there is a text input field with the placeholder text "Add comment, e-mail or attachment".

The new icon inside a subsection is illustrated by the example below for the resource relation section of the resource page. *Edit* links within a more detailed view will also show the corresponding icon for example. In the image only *Add* links with icon are present.



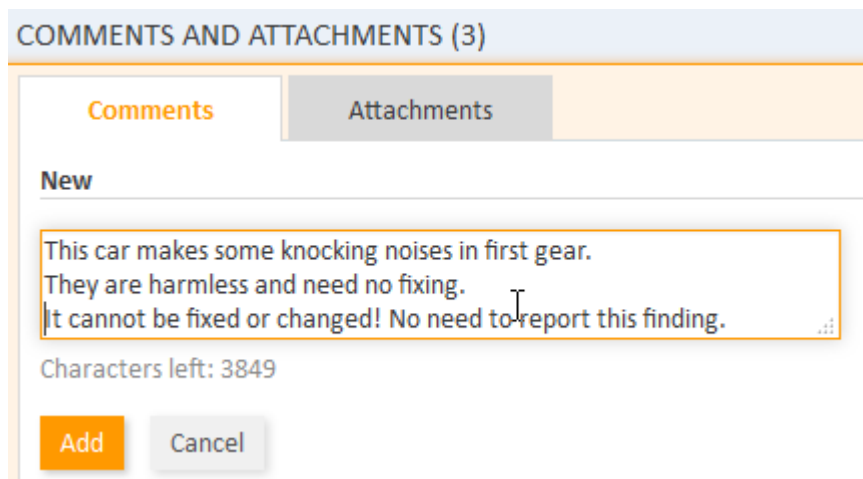
The screenshot shows the "RELATED RESOURCES (9)" section. It is divided into two subsections: "Mobility Management" and "Equipment Management". Under "Mobility Management", there are three items: "Replacement vehicle (1)", "Replacement Vehicle for (1)", and "Associated Contract (2)". Each item has a "+ Add" link with a plus icon. Under "Equipment Management", there is one item: "Associated Equipment (5)", which also has a "+ Add" link with a plus icon.

### Dynamic width of rich text editor for emails and comments (#630101)

The rich text editor entry area previously had a fixed width initially until the user resized it. This initial width was too small for many real-life usages. It has been changed to a dynamically calculated initial width making use of the available space within the browser window. This accommodates normal uses with respect to the available room.

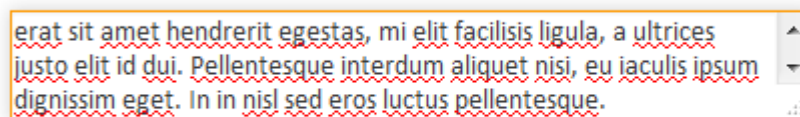
### Comments editor enhancements for customer and resource additional details (#630098)

The size of the comment editing text field in the additional details section on the customer and resource page has been increased to enable more comfortable text entry. Below the field it now informs about the number of characters remaining, i.e. how many characters can still be entered before reaching the text size limit of the field.



When pasting text which exceeds the size limit the character count will be supplemented by a message warning about the overly long text. When trying to add/save this text despite the warning another message will be displayed above the field.

**Comment length is too long (max 4000 characters).**



**You have reached the maximum number of characters. Please shorten your text.**  
**Characters left: -547**

Line breaks added while entering the comment text will be preserved when viewing the text. Longer texts will be abbreviated initially when displayed and will be shown fully after clicking the *more* link at the end of the text.

## List of comments

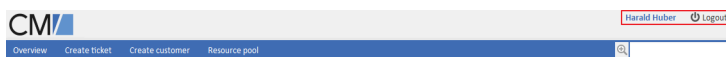
Date ↕	Added by ↕	Comment ↕	Actions
<input type="text"/>	Choose One ▼	<input type="text"/>	Apply filters Clear filters
12/20/16 2:51 PM	Huber, Harald	This car makes some knocking noises in first gear. They are harmless and need no fixing. It cannot be fixe... <a href="#">more</a>	✕
5/15/15 9:47			

## Text template table column width improvement (#630128)

The column widths of the table showing the text templates in the template administration was calculated on a wrong basis. This caused an unpleasant appearance impeding the table usage. The column widths are calculated differently now resulting in a more pleasant table which is clearly better to use.

## Engineer profile and logout links position change (#629786)

The position of the engineer name as the link to the profile page and of the logout link have been changed. Both are now on top right side of the page.



The logout link now shows the command label *Logout* next to the symbol which previously was the sole link element.

Line breaks in Activity Control Form description show in the **Web Client** (#629673)

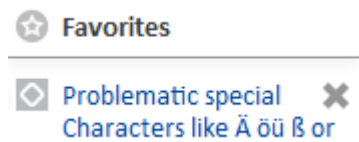
The description text for an Activity Control Form entered in the **Admin Tool** did not show line breaks in the **Web Client**. This has been changed so that the line breaks are preserved when displaying the Activity Control Form as it is marked by the red box in the screenshot.

## Ticket

## Favorites presentation changes (#629933, #630151, #630377)

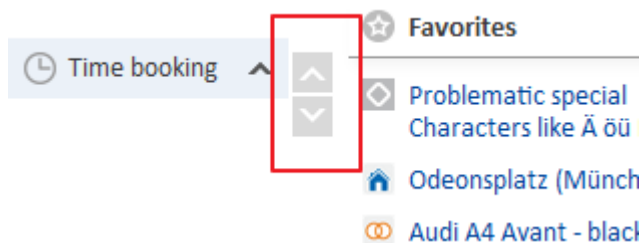
The label to identify favorites saved in the **Web Client** has been changed to show two lines to ease identification of the desired item. If it is longer than the available space it will be cut off. Originally the size was limited to one line and in the latest release no limitation was imposed. The current limitation

allows for many favorites and still provides enough information to choose the right favorite. Besides that the icon for deleting a favorite from the list has been updated.



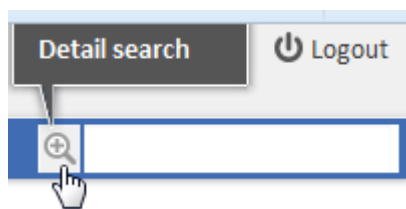
### Top/bottom scroll button symbols associated more clearly (#630122)

The up/down arrow symbols of the buttons on the right side of the ticket area to scroll to the top/bottom of the ticket have been moved slightly closer to the ticket area. This clarifies the association of these symbols with the ticket display.



### Tooltip for detail search button introduced (#630133)

Previously the magnifying glass button to access the detail search page did not show a tooltip when the mouse cursor was hovering over it. This has been introduced and a tooltip saying "detail search" will be shown now.



### Ticket list secondary toolbar added on demand (#630115)

The changes of the new skin could result in the situation that ticket list grouping options were not accessible. This happened when a grouping for the ticket list with many options had been selected and the active option also contained enough tickets to fill the available height. Then the grouping options lower in the list were off the screen and thus inaccessible. This rather specific case has been addressed and a second scrollbar will be shown then. The new outer scrollbar enables scrolling in the whole ticket list element listing all the grouping options so that the lower ones can be accessed. The inner scrollbar has been present before and can be used to scroll through the list of tickets in the currently selected grouping set.

### Contrast improvement for darker text class background colors (#630127)

The informative labels in history entries informing about date and time of the entry as well as text class information and individual steps description were hard to read, if the text class background color was a darker one from the palette. This has been improved by changing the font color to increase the contrast and thus the legibility of the text.

### Carlito font embedded as fallback (#630180)

The free font *Carlito regular* has been embedded and referenced as fallback for systems which do not have the default skin font *Calibri* installed. Especially on Linux (client) systems the default font is not pre-installed and these systems need it for the intended appearance.

### German terms previously untranslated (#630217, #630222)

The term on the tooltip for the scope information has been changed from the untranslated term *Scope* to the German word *Bereich*.

Furthermore, the message when trying to add a search field in the details search by typing part of the name in the corresponding filter field, but getting no results, was not translated in the German localization. This has been fixed so that now *Keine Suchergebnisse* is displayed instead of formerly *No matches found*.

### Multiple minor design issues in new skin corrected

(#629777, #629980, #629983, #630099, #630121, #630125, #630128, #630134, #630136, #630210, #630211, #630220, #630384)

The new skin of **ConSol CM** introduced in the most last release proved to have a number of minor design issues. Multiple weaknesses of this kind were addressed. The changes include:

- Unnecessary lines drawn when displaying struct lists were removed and missing column borders were added.
- Messages informing about searches yielding no results are now shown without a box around them.
- The resource type section on the resource pool overview page used wrong colors in the header. It has been changed from colors indicating an inactive section to those used for an active section.
- Unnecessary white space has been removed in the quick search. On the lowermost row with the actions on the right edge a superfluous area was wrongly displayed white.
- The relations table filter row occupied too much height showing unnecessary white space above and below the filter fields. The height has been corrected to use only the needed space.
- The links in the email editor to show the additional *CC:* and *BCC:* fields have been improved by adding a whitespace between the terms to separate them which improves legibility.
- The letter's descenders (parts below the line) were cut off in the addressee buttons in the addressee fields of the email editor. This has been corrected so that the descenders are fully visible now.

- Initially an undesired white gap was shown below a collapsed *Related Resources* section on the ticket page which is not displayed in this release anymore.
- A undesired small vertical offset of the plus symbol relative to the text has been removed. It appeared in the link to add all customers of the ticket to an email addressee list.
- In the data transfer section when deleting customers or resources a line break was missing and the remove entry symbol in the selection field was misplaced. Both weaknesses haven been corrected.
- Fixed line breaks which are not required have been removed and multiple enhancements and corrections in the HTML markup were done to enhance the design.
- The fields *Queue* and *Assigned to* showed a colon at the end of the label when creating a ticket which was different from other fields. These inconsistent colons have been removed.
- The ticket list view selection dropdown detached from the field showing its value and scrolled with the ticket page after the last item was reached in the list. This happened specifically when scrolling with the mouse wheel. The dropdown will not detach anymore, rather it will close.
- An irregular appearance of the right page column with activities and favorites specifically on Internet Explorer browsers has been resolved.
- The resource symbol was displaced and too close to the box border when editing a resource. The displacement has been corrected.

### Browser tab favicon change and product name spelling adjustment (#629993)

The browser tab favicon has been changed to the new **ConSol CM** logo and in conjunction with this the product name on this tab has been adjusted to the new spelling without asterisk.

### Admin Tool visibility names, label and localization changes (#629823)

The visibility option value names in **Admin Tool** for text classes and the ticket protocol settings have been changed to an improved wording. The new names should be clearer and easier to understand. Additionally these items are localized now and will show in German as well which was not the case earlier. Furthermore, the box label for projects in **Admin Tool** has been localized as well.

## 3.3.2 Performance improvements

### Queue deletion with reduced customer group permission overhead (#678900)

The deletion of queues in **Admin Tool** could fail with a timeout in large systems. This was caused by an unnecessary overhead when updating the customer group permissions of engineers in the process of deleting the queue. The said overhead has been reduced to the minimum required and queue deletion has been massively sped up even in systems with very high numbers of engineers.

### Improved customer handling performance (#629635)

The addition of customers to a ticket and the assignment of customer roles have been slow in the latest release of **ConSol CM**. This has been enhanced and performance of these customer operations in the **Web Client** has been significantly improved.

### Ticket and other display operation performance (#629930)

Several aspects of displaying tickets, special cases for displaying customers as well as detail search execution and page changes executed slower than previously in the latest release. This performance decrease has been addressed and the cases described run as fast as in earlier releases of **ConSol CM**.

### Annotation `contains_contact` behavior changed to improve handling of high customer counts (#630112)

The annotation `contains_contact` for list fields (only one instance allowed in a model) has been changed in its behavior so that it does not create history entries, thus mirroring the behavior of fields with the annotation `no-history-field` set. This improves the performance of displaying tickets with very high numbers of customers reaching several hundreds of additional customer references.

### 3.3.3 Sections renamed (#630216)

Two sections have been renamed since their names have been causing confusion among some users of **ConSol CM**:

- The former section *Groups* has been changed to *Details* (in German now *Detailldaten* instead of *Gruppen*).
- The section previously named *Additional details* has been changed to *Comments and attachments* (in German *Kommentare und Attachments*, which was before *Ergänzende Details*).

The new names should be clearer and avoid confusion.

### 3.3.4 Format information for time booking duration field (#626469)

The field *Duration* in the **Web Client** for entering a time booking previously did not provide a tooltip and the message informing about an invalid entry was unspecific. Thus, it was unclear what kind of value could be entered or how to correct an invalid entry. This has been changed and now the tooltip as well as the validation error message now provide information about valid entries and their meaning. The allowed format is composed by the following rules:

- Integer values are allowed, decimal values will be prohibited.
- Integer values need a unit suffix: “m” for minutes, “h” for hours.
- Integer values can be preceded by a minus sign (“-”) for corrections.
- Two integers (two digits each) separated by a colon are allowed, if they describe a valid time interval, for example “02:15” meaning two hours and fifteen minutes.

Negative durations will be subtracted and can be used for corrections of time bookings.

### 3.3.5 Specific history entry for password field changes (#629800)

Customer fields used for storing the password to log in from CM/Track by means of assigning the annotation `password` to the field previously used standard logging in the customer history. This behavior enabled engineers with sufficient privileges to see the changed value in the history. This usually undesired visibility has been changed. Changes to a data field with the annotation `password` now only show “Password has been changed” in the history so that the value is not visible. This can be considered the usually wanted behavior.



### 3.3.6 Unused database columns removed (#600336)

Several database columns in the context of the data warehouse data transfer which have not been used in the **ConSol CM** application for many releases have been removed. This change should not affect any existing installation since the removed columns are not in regular use. However, as a consequence several methods have been removed from different objects in the public API. These methods had been offered to get and set values for these columns which are not available anymore now. The methods removed are listed for reference in the table below, however, they usually should have not been used in scripting.



Please make sure that these methods are not used in scripts of the installation.

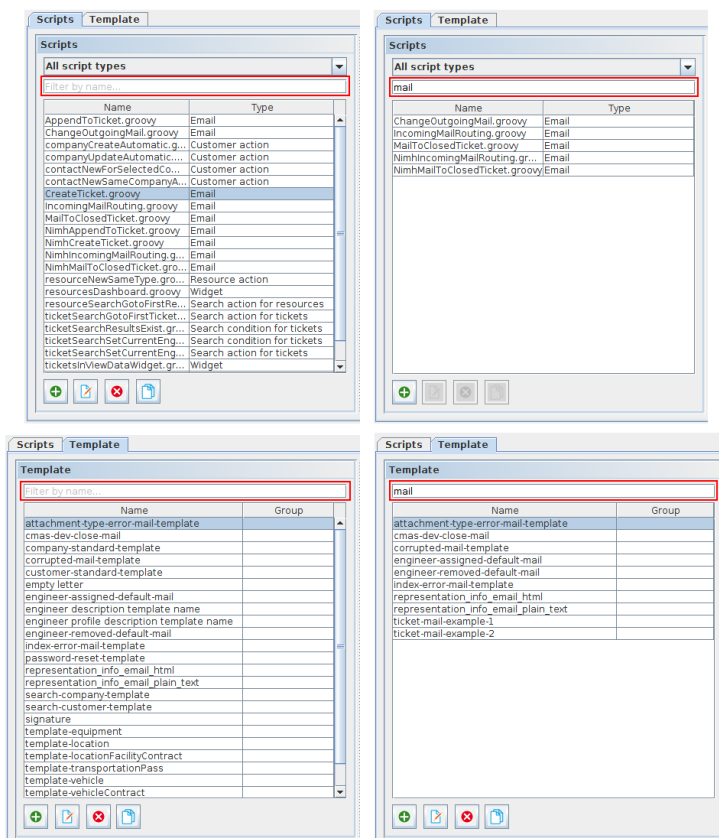
Class	Change	Detail/method information
<b>Ticket</b> (com.consol.cmas.common.model.ticket)	Methods removed	isAdditionalContact() setAdditionalContact() getWorkTime() setWorkTime() getPhoneTime() setPhoneTime()
<b>TicketTo</b> (com.consol.cmas.common.transfer.data)	Methods removed	isAdditionalContact() setAdditionalContact() getWorkTime() setWorkTime() getPhoneTime() setPhoneTime()
<b>CustomerGroupDTO</b> (com.consol.cmas.dwh.common.dto)	Methods removed	getDescription() setDescription()
<b>ClientGroup</b> (com.consol.cmrf.common.model.dim)	Methods removed	getDescription() setDescription()

### 3.3.7 New **Admin Tool** script type “Widget” introduced (#630289)

The available option to set for a script type in the **Admin Tool** script administration has been extended with the type “Widget”. This type is intended to be used for dashboard widget scripts to make useful filtering of the script list available. It should help keeping the overview over widget scripts in systems with many scripts. **No** additional limitation that widget scripts must use this type has been introduced. The type of existing widget scripts will not be changed from the previously recommended type “Page customization”. The new type “Widget” can thus be seen as a synonym for the existing type “Page customization” to improve organization.

### 3.3.8 Filter fields for scripts and templates added in **Admin Tool** (#629761)

The script and template administration panels in the **Admin Tool** did not allow filtering by a string from the object's name. A field for entering such a filter string has been added above both the script and template lists in the **Admin Tool**, please compare the illustration below. The usage is identical to other filter entry fields like the filter fields for ENUM definition lists (#629586) introduced in the ConSol CM version 6.10.5.3.



The screenshots compare lists without filter with the filter string “mail” both for scripts above and templates below. In this example it can be well observed that the filter string has no requirement to be a word or at the beginning of the name but will be filtering for all scripts/templates which contain it as a substring.

### 3.3.9 Management capabilities for the Task Execution Framework in a cluster (#629591)

The tasks of the Task Execution Framework can be manually run from the task panel of the **Admin Tool**. However, in clustered environments it is possible that a task started automatically runs on a different cluster node than the one an **Admin Tool** instance is connected to. Previously, it was not possible to stop this task from this **Admin Tool** instance, neither was it possible to explicitly define a node for running a specific task. These management capabilities have been introduced in this release. The

new system property `task.execution.node.id` has been introduced in the module `cmas-core-server` to this end. It limits the nodes in a cluster which will execute tasks in general to the cluster node name supplied as a value.

### 3.3.10 Standard scenes offered during setup replaced (#627925)

The selection of standard scenes offered when running the system setup routine have been replaced. The example scenes available in previous releases ("Helpdesk", "Sales", "Helpdesk and Sales", each both with and without runtime data) have been removed and the only scene to select now is called "Test and Demo Scene". The new scene is less an illustration of **ConSol CM** basic functionalities, but rather a test scene for validating most available functionality. It may be more challenging to handle and provides less intuitive naming, but allows for validating more system capabilities. Therefore, it could prove more helpful in real-world usage.

### 3.3.11 Large email imports failing for timeout (#630198)

Large emails which exceeded the size limitation configured can be imported manually in the corresponding **Admin Tool** panel. However, in some installations this failed occasionally due to exceeding transaction timeouts. This timeout has now been set to ten hours, so that even on systems with lower performance manual email imports should not be aborted by a timeout.

### 3.3.12 Property flag `REST Accessible` included in scene export/import (#629469)

The flag `REST Accessible` for system properties introduced in the latest release (see [REST API read access to individual configuration properties \(#626746\)](#)) originally was not included exporting and re-importing a scene. Thus the setting was lost in such a case. Since this loss usually is not desired, it has been changed, so that from this release on the flag value is included in a scene export as well as in a later import of such an exported scene.

### 3.3.13 Property `supportEmail` removed (#630242)

The system property `supportEmail` from the module `cmweb-server-adapter` has been completely removed. This property has been completely replaced by the standard administrator email address in earlier **ConSol CM** releases already. Therefore, it is unneeded now and will be automatically removed during the update.

### 3.3.14 Property `checkUserOnlineIntervalInSeconds` removed (#622433)

The system property `checkUserOnlineIntervalInSeconds` in the module `cmweb-server-adapter` has been removed from the property list in the **Admin Tool**. It had no influence on the system behavior since **ConSol CM** release 6.5 anymore and was listed without function ever since. Therefore, it has been removed completely.

### 3.3.15 Annotation `field-group` removed (#613643)

The ticket field annotation `field-group`, originally intended to group fields with common values as long as a value for all fields has been set, has not been working properly for many releases. Due to lack of productive uses this annotation has been removed from the system and it is not available for configuration anymore.

### 3.3.16 Automatic company creation by default incoming email script (#619012)

The default script to process incoming emails and create tickets from them has been improved. Now the script creates a new company instead of issuing an exception, if no company can be identified from information about the email sender. This script is only created, if no standard scene is selected during setup.

### 3.3.17 Thread scheduler provided with ID (#626029)

The thread scheduler bean was not supplied with an ID in previous releases. Therefore, filtering log files for the output of this Quartz component required unnecessary effort when trying to analyze log files. This omission has been remedied and the scheduler bean now logs with the ID `customizationVersionHandlerScheduler`. This value can easily be used for filtering log files.

### 3.3.18 Validation exception detail information logging in *Admin Tool* (#630429)

In case a validation exception was passed to the *Admin Tool* there were no additional detail information logged previously even though this information was provided in the exception. This has been improved and this release shows details of the validation error message in the log file, for example:

```
com.consol.cmas.app.admin.common.exception.ServerSideException:
  com.consol.cmas.common.service.ValidationException: {null=ValidationErrors
    {groupKey='null', errors=[Please set "Priority" for a new ticket]}}
```

### 3.3.19 Irrelevant XA recovery warnings removed from log files (#629999)

Warnings about an XA recovery module error were frequently written to the log files when using **ConSol CM** on the **JBoss EAP** application server platform with the **Oracle** database product. The component writing the error, however, is not used in the system, so these warning messages are irrelevant. Thus, the warnings have been eliminated by configuring the database driver to not rely on the XA recovery mechanism. This has been achieved by adding the property `<recovery no-recovery="true"/>` to the driver configuration in the standard configuration files (section `<xa-datasource ...>`). This way all new installations will profit from the change. In existing installations this property may have to be added manually to achieve the desired effect.

### 3.3.20 ***JBoss*** configuration option added for using unpacked applications (#629693)

The configuration directive `auto-deploy-exploded` has been added to the default configuration files for this application server product. This directive allows to enable running applications from an unpacked EAR archive file besides usage of the archive files. This mode of operation is only recommended in special situations on test and development systems. It is strongly discouraged to use it on production systems. By default the value is set to “false” disallowing running applications from unpacked archives. Changing it to “true” will allow this mode of operation. It can be found in the default configuration file `cm6.xml` and its counterparts.

## 3.4 Bugs fixed

The following defects have been corrected in this **ConSol CM** version.

Number	Description
621850	<b>Exception on login attempt</b> An exception occurred and the user was not able to login, if the user session was invalidated while rendering the initial page after login. This could happen due to a thread race condition with double logins on several browser tabs with the "Remember me" option enabled. The issue was resolved and the exception should not occur anymore.
623904	<b>Log entry about missing preference not DEBUG level only</b> The log line informing about requesting a preference from the preference store which does not exist was logged for other log levels than "DEBUG". This has been corrected and now this message is only logged for the "DEBUG" log level.
627091	<b>Display with rounding error in dashboard labels</b> Occasionally a numeric dashboard label, for example on an axis, did not show a full integer value but a value like 0.99999999 appearing like a rounding error. This display problem has been fixed and these labels will be displayed with a full integer value now.
629364	<b>Unit history template inoperational</b> The template configured for the history display of units (companies and customers) was not used for the display of the unit name in the ticket history. This deficit has been addressed and the template now is used for display.
629414	<b>No previous queue falsely returned from method to get log entries</b> The method call <code>ticketLogService.getLogEntries(ticket, TicketLogType.QUEUE_CHANGE)</code> always returned "NULL" even for cases when this was incorrect and other methods to get this information about the previous queue ( <code>previousQueue</code> ) returned a value. This error has been corrected and the call returns the expected value now.
629498	<b>Deactivation of up/down arrows for sorting Activity Control Form fields</b> After clicking the up/down arrows for the first time in the <b>Admin Tool</b> form with the Activity Control Form fields configuration, the buttons got deactivated and could not be used anymore for sorting. This undesired behavior has been changed so that sorting will still be possible then.

Number	Description
629547	<p><b>Internal methods to remove deleted content caused timeouts</b></p> <p>The internal methods to remove content like attachments or comments from tickets, customers and resources caused timeout errors caused by ineffective database queries. These queries have been strongly improved so that these timeout errors are being avoided now.</p>
629585	<p><b>Undesired field change entries shown in the history</b></p> <p>History entries about field data changes were shown even though these were unwanted due to the configuration. This required the general configuration that by default field value changes should not show on the basic level, but some specific field(s) being configured to show on all levels, so that only changes to this field(s) are desired to show in the history on the basic view level. In this case other field data changes could be seen unwantedly on the basic level, too. This visibility flaw has been eradicated so that the history display now is as desired when configured in the way described.</p>
629604	<p><b>Exception when trying to add holidays to a business calendar without working day definition</b></p> <p>When trying to add holidays in the <i>Admin Tool</i> to a business calendar which did not have the working days defined yet, an exception occurred in the latest release and the operation could not be completed. This problem has been resolved and holidays can be added under these circumstances now.</p>
629670	<p><b>CM/Track unusable due to multiple BadRequest errors</b></p> <p>The (original) <i>CM/Track</i> portal client could not be reasonably used together with the latest <i>ConSol CM</i> release since usage caused multiple <code>BadRequest</code> errors. This was caused by a mismatch in the component configuration of the REST API. It has been corrected and <i>CM/Track</i> can be used normally again.</p>
629691	<p><b>Email processing scripts for MULE still installed during setup</b></p> <p>The scripts for processing incoming emails with the MULE component were still installed by the setup routine even though the MULE component has been removed in the previous release. This has been changed so these useless scripts are not installed anymore.</p>
629726	<p><b>Selectors below paging links not visible after zooming</b></p> <p>The selectors for the result number on a page and for the result table export were not visible anymore in a search result table after zooming in the browser. This could be easily observed after zooming in with the keyboard shortcut <code>CTRL++</code>. The problem has been addressed and the selectors will not disappear anymore after zooming.</p>
629798	<p><b>Company and product name correction in Admin Tool About dialog</b></p> <p>The company and product name for ConSol CM in the <i>About</i> dialog in <i>Admin Tool</i> have been corrected and adjusted to the new spelling without an asterisk.</p>

Number	Description
629810	<p><b>Deleting a second object using the keyboard button caused exception</b></p> <p>After deleting an object in the <b>Admin Tool</b> by pressing the delete button on the keyboard and confirming this action, another press of the button caused an exception instead of deleting the next object in the list. This behavior could be observed in several data tables: customer groups, customer data model, resource data model, customer actions, resource actions, search actions. This misbehavior has been addressed and now after the confirmed deletion the next object in the list is selected and can be deleted as expected by pressing the delete key.</p>
629857	<p><b>Resource type detail search could cause exception</b></p> <p>A resource type detail search for a specific resource type could cause an <code>IndexOutOfBoundsException</code> exception. This has been corrected and a search for a resource type now generally works again.</p>
629884	<p><b>Empty class filter in ticket attachment table</b></p> <p>The filter drop-down for the <i>Class</i> field in the attachment table on the ticket page showed an empty list while attachments were present. Even after attaching a first file with no specific class selection the default attachment class should be listed here. This has been corrected so that the available classes, at least the default attachment class, will be listed always.</p>
629885	<p><b>Page customization scope link disappeared when hovering over it</b></p> <p>The links for the available page customization scopes disappeared when hovering the mouse pointer over them for the user profile information box on the profile page. Therefore these links could not be clicked at all in the latest release. Access through the tree structure was not affected. The behavior has been fixed so that these links are usable again.</p>
629889	<p><b>Update failed on systems created with early ConSol CM versions using <i>Oracle</i> databases</b></p> <p>The update to the latest version of <b>ConSol CM</b> failed, if the system had originally been created with very early <b>ConSol CM</b> versions and it used the <b>Oracle</b> database product. This issue originated from sequence errors and constraint violations which have been changed now, so that the failure will not happen anymore.</p>
629954	<p><b>Attachment added during ticket creation is inaccessible later</b></p> <p>Attachments which were added while creating the ticket were inaccessible afterwards, if the view level was set to basic and the attachment section was configured to be collapsed initially. The attachment section could not be opened and showed the information that the ticket had no attachment despite the fact that the attachments were associated with the ticket correctly. This unwanted interaction with the history visibility settings has been removed and the attachment listing works as expected now.</p>



Number	Description
630020	<b>Database connection errors when retrieving attachments from a large database</b> In installations with large databases the latest release failed to retrieve attachments returning database connection errors. This connection issue has been resolved and attachments will be retrieved from large databases without problems as well.
630100	<b>Import handling error for queue related script settings</b> The handling of the settings for queue related scripts like default value scripts, email scripts, and clone scripts in an import was defective. A new value for such a setting could not be imported, but the existing value always remained unchanged. This has been corrected, so that now the value from the import will be used generally which also includes unsetting a previous value for a queue related script, if the import contains a "NULL" value.
630428	<b>Scope activity wrongly displayed as manual activity in <i>Process Designer</i></b> Scope activities which had an Activity Control Form associated were displayed in <i>Process Designer</i> wrongly as manual activities. This display error has been fixed and scope activities are shown correctly now in both cases.
630628	<b>Data warehouse initialization failure after update</b> A new data warehouse initialization after a <b>ConSol CM</b> update from a version before 6.11.0.0 could fail causing subsequent data warehouse operations to fail as well. This issue has been resolved and the initialization works as expected.

## 4. Version 6.11.0.2 (08.03.2017)

Version 6.11.0.2 includes all **ConSol CM** changes and additions of

- 6.10 versions up to 6.10.5.6
- 6.9 versions up to 6.9.4.6
- 6.8 versions up to 6.8.5.8

Newer versions and the respective changes are not included in this **ConSol CM** version.

## 4.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.11.0.2 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

### 4.1.1 System upgrade from earlier versions



The application template for the **WebLogic** application server product is not in a functional state and cannot be used to update a **ConSol CM** installation on a **WebLogic** server to this release. It will be available again in an upcoming 6.11 release.

#### Oracle JDBC driver issue in data warehouse operations

An issue present in the Oracle JDBC driver could cause the operations following the switch from the **ConSol CM** data warehouse ADMIN mode to the LIVE mode to fail. The failure reports an ORA-01000 error informing about the “maximum open cursors exceeded”. The problem is caused by the Oracle JDBC Driver for Oracle 12.0.1.2 databases.

The presence of this specific problem when encountering the error can be identified by running the following query in a database client:

```
select sql_text, count(*) from v$open_cursor group by sql_text;
```

The driver issue in question caused the error in case this query returns a high number of open cursors for the following originating queries:

```
select 'TABLE' as table_type from dual union select 'VIEW' as table_type from dual  
union select 'SYNONYM' as table_type from dual
```

The problematic behavior can be resolved by **either one** of these measures:

- Install the unaffected Base 12.1.0.1.0 JDBC driver from the Oracle Technology Network website and replace the previous driver. You can get it from this location. <http://www.oracle.com/technetwork/database/features/jdbc/jdbc-drivers-12c-download-1958347.html>
- install the patched driver from Oracle support (<http://support.oracle.com/>). After login search for patch 19632480. Download the patched JDBC driver from this location. You will need a valid login for this procedure.



Please install an unaffected version of the Oracle JDBC driver, if you are affected by the error!

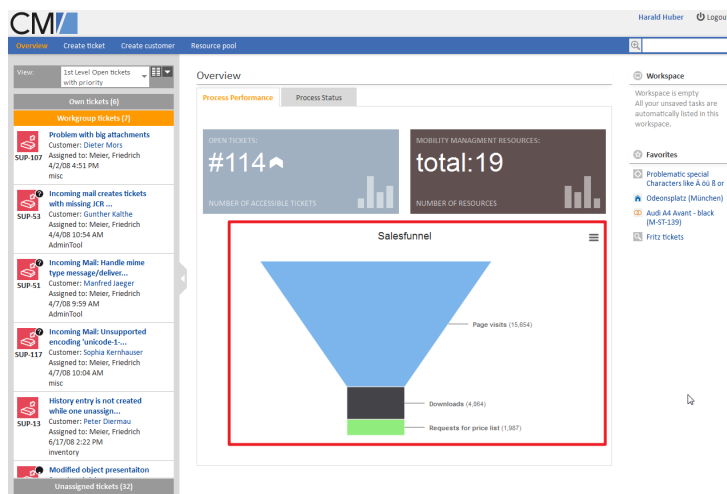
No further instructions available.

## 4.2 New Features

The features newly introduced in this **ConSol CM** version 6.11.0.2 are described in detail in this section.

#### 4.2.1 Funnel charts for dashboards (#630931)

A new dashboard widget is being introduced in this **ConSol CM** release. It is a funnel type visualization often used in Sales pitches and also in other contexts. The screenshot illustrates an instance of this chart type in a complex dashboard.



Technically this kind of visualization is another type of chart widget on a dashboard. Therefore, it is configured in the same way like other chart widget types, only the *type* sub-attribute of the *chart* attribute must have “funnel” as its value. In principle this can be done in the page customization configuring the chart, however, in many cases this will be achieved in the script defined for the chart. In a widget layout it is referenced as a regular chart widget, for example by “salesFunnel:Chart”.

Below there is an example of a script for a funnel chart widget, however, the example shows a bit more complexity using options specific for the funnel chart design and a consequent localization yielding the appearance from the illustration above. For simplification it lists hard-coded data instead of dynamically derived data.

```

return [title:      "{text:      _('title')}",
      chart:      "{type:      'funnel', \
                    marginLeft: '50', \
                    marginRight: '150'}",
      plotOptions:  "{series:{ height:      '90%', \
                                width:      '85%', \
                                neckWidth:  '20%', \
                                neckHeight: '20%', \
                                dataLabels: {enabled:'true', \
                                              format: '<b>{point.name}</b>'
                                              \
({point.y:,.0f})', \
                                softConnector: 'true'}}}",
      visible:      "true",
      series:      "[{name: _('users'), \
                      data: [[_('visits')      , 15654], \
                              [_('downloads'),  4064], \
                              [_('requests')   , 1987]]}], \
                      localization: {de: {title:      'Vertriebsstrichter', \
                                            users:      'Individuelle Benutzer', \
                                            visits:     'Seitenaufrufe', \
                                            downloads: 'Downloads', \
                                            requests:  'Anfrage Preisliste'}, \
                                     en: {title:      'Salesfunnel', \
                                            users:      'Unique users', \
                                            visits:     'Page visits', \
                                            downloads: 'Downloads', \
                                            requests:  'Requests for price list'}}
]

```

The funnel chart type is a module for the integrated Highcharts visualization product and the full documentation for the funnel charts is located on the creator's website: [Funnel series](http://www.highcharts.com/docs/chart-and-series-types/funnel-series) (<http://www.highcharts.com/docs/chart-and-series-types/funnel-series>).

## 4.3 Changes

This section illustrates all relevant software product changes for version 6.11.0.2 of **ConSol CM**.

### 4.3.1 Layout improvements

#### File type column of attachment table too wide (#630821)

The column for the file type with the filter selector and the file type for attachments on the contact and company pages was overly wide impairing the usability of the respective page. The width has been adjusted so that this column is not overly wide anymore.

#### Displaced remove entry symbol in scripted autocomplete fields (#630892)

The cross symbol at the right end of a scripted autocomplete field which is used to remove a selected value was displaced. It was located too far on the left and too low in the field. This was corrected so that now the placement is centered on the right end of the field

#### Incorrect styling for several buttons (#630714)

Several buttons in the application showed incorrect styling with underlined text labels on the button or wrong spacing margins. For example the *Search* button on the detail search page was affected. The buttons known to have these styling issues were changed to have the desired regular styling now.

#### Date entry with time value split over two lines (#630916)

Date entry fields with the accuracy annotation set to "date-time" were shown with the time part entry in a new line below the date picker in every Activity Control Form. This unwanted layout variation has been corrected in all places it was known to surface.

#### Workspace ticket icon symbol from previous skin (#630765)

Tickets which were – usually automatically – added to the workspace, because the edits had not been saved yet, showed a wrong icon symbol in the workspace list. The icon exhibited a styling from the former skin of **ConSol CM** before version 6.11.0.0. The symbol was changed to the new skin style like the corresponding icons in the favorites list.

#### Date and time entry fields displaced (#630960)

The date and time entry fields for data fields configured to have both were vertically displaced relative to another or to the symbol to open the calendar entry, thus not appearing on the same line. Such a displacement could be found on the customer, resource, and engineer profile pages. The alignment has been adjusted so that there is no displacement anymore in these cases.

#### Data warehouse admin panel misspellings (#631051)

Several minor misspellings in the data warehouse administration panel in the **Admin Tool** for the German localization have been corrected.

## 4.4 Bugs fixed

The following defects have been corrected in this **ConSol CM** version.

Number	Description
<b>630631 630781</b>	<b>Incoming emails with attachments could break indexing of ticket changes</b> Incoming emails with attachments could cause the indexer used to scan ticket changes for searches to stop working. The problematic attachments were files in document formats containing no text (but only images for example). The problem could arise even with indexing of attachments disabled. Even after restart the same email caused the same problem, effectively disabling indexing of changes. This very serious problem has been corrected and emails with the kind of attachments described will not terminate indexing of ticket changes.
<b>630792</b>	<b>Dialog title bar missing for ticket escalation dialog</b> The title bar of the standard dialog to set the escalation time for a ticket was missing with all its contents. Thus, there was no dialog title and no cross symbol button to close the dialog. This omission has been fixed and the title has the expected content again.
<b>630802</b>	<b>Customer fields configured for display in a field group tab duplicated</b> Fields from a customer data model configured for display in a field group tab appeared a second time in the main customer field area after the visibility of this group had been overridden by a script. This effectively caused duplicated display of the affected field-s/field group. This unwanted behavior has been changed so that this duplication does not happen anymore.
<b>630803</b>	<b>Field values in the ticket list prefixed with unwanted whitespace</b> Ticket field values configured to be shown in the ticket list entries were prefixed with a whitespace character on the line. This spoiled the layout and the visual appearance of the ticket list entry. This unwanted blank has been removed and the layout should appear more consistent now.
<b>630854</b>	<b>Saving a script in <i>Process Designer</i> without server connection broken</b> In the latest release it caused an exception when trying to save a script in <b><i>Process Designer</i></b> , if the connection to the server was interrupted. This was connected to the recent introduction of syntax validation on the server. This problem was resolved and saving a script when offline works again as expected.
<b>630860</b>	<b>Error with forced engineer logout when trying to open an appointment</b> When trying to open an appointment in the calendar section for <b><i>MS Exchange</i></b> integration an error occurred which also caused the engineer to be logged out. The issue was corrected and opening an appointment for interaction is functional again.

Number	Description
<b>630862</b>	<p><b>Wrong German labels for queue export selection</b></p> <p>The German labels for the list to control which queues are included in a scene export were using wrong terms referring to resource types. This has been fixed so that theses labels now correctly refer to queues.</p>
<b>630897</b>	<p><b>Exception when trying to sort <i>Admin Tool</i> scripts descending by type</b></p> <p>Attempting to sort scripts by type in a descending order inside the <i>Admin Tool</i> caused an exception as long as not all scripts had a type set. The workaround was to set a type for all script entries in the list. The error has been corrected and no exception occurs on setting a descending sort order anymore.</p>
<b>630937</b>	<p><b><i>Admin Tool</i> and <i>Process Designer</i> not starting over an HTTPS connection</b></p> <p>When trying to launch <i>Admin Tool</i> or <i>Process Designer</i> over an HTTPS connection both tools did not start but quit with an exception when using the latest release of <i>ConSol CM</i>. This problem has been resolved and both tools can be used over an HTTPS connection again as expected.</p>
<b>630961</b>	<p><b>Minor defects when folding/unfolding history entries fixed</b></p> <p>The folding of history entries introduced in <i>ConSol CM</i> version 6.10.5.4 exhibited some minor defects in the latest release. In some cases the arrow on the bottom to fold up a previously unfolded entry was missing and in other cases clicking the headline did not unfold a folded entry. These small problems when folding/unfolding history entries have been corrected and the documented behavior is restored except for the defect #631038 listed in the section <a href="#">Known Issues</a>.</p>
<b>631088</b>	<p><b>Firefox browser does not react on new lines in Activity Control Form text fields</b></p> <p>The Firefox browser did not start a new line when the user typed a return for a new line in a multi-line text area of an Activity Control Form. When later displaying the entered text in view mode the new lines were displayed correctly. This, however, meant a significant inconsistency leaving the user unclear about where (and how many) new lines were entered while editing the text. The display problem for such a text entry has been resolved and new lines work as expected in this case for the Firefox browser again.</p>



## 5. Version 6.11.0.3 (10.04.2017)

Version 6.11.0.3 includes all **ConSol CM** changes and additions of

- 6.10 versions up to 6.10.5.6
- 6.9 versions up to 6.9.4.7
- 6.8 versions up to 6.8.5.8

Newer versions and the respective changes are not included in this **ConSol CM** version.

## 5.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.11.0.3 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

No further instructions available.

## 5.2 Changes

This section illustrates all relevant software product changes for version 6.11.0.3 of **ConSol CM**.

### 5.2.1 Layout improvements

#### Improved vertical spacing between list field tables (#631221)

In case two list fields were located above each other when displaying the data, there was virtually no space between the two tables separating the list values of the first table from those of the second table. In some cases, this could be confusing about the field association of the values. Therefore, this visual appearance has been changed so that adequate spacing separates the tables and the field association is now unambiguous.

### 5.2.2 Scope activities workflow effects settled (#631183)

The introduction of scope activities for workflows in **ConSol CM** had effects on the behavior of so-called interrupts. An interrupt caused by any kind of trigger did not return to the previous activity after a scope activity had been introduced in the respective workflow scope. In the **Web Client** only the scope activity was available then. Basically this was correct behavior since there is another activity available after the trigger execution: the scope activity. However, this led to changed behavior of the application, which generally is undesired. The expectation and desired behavior is that the introduction of scope activities does not influence or change the existing workflow behavior. This has been implemented and the availability of scope activities is ignored by triggers now, so that interrupts work identically, if there is a scope activity in their scope or not.

## 5.3 Bugs fixed

The following defects have been corrected in this **ConSol CM** version.

Number	Description
<b>631232</b>	<b>Unnecessary index synchronization traffic in cluster configurations</b> A problem has been introduced by an earlier change which caused index synchronization messages between cluster nodes every second. These messages were sent, even if the indices on the different nodes were perfectly in sync. Since this kind of message can be larger it causes undesired and unwanted network traffic. This problem has been resolved, and, thus, there will be no unnecessary network traffic for this cause anymore.
<b>631255</b>	<b>Omitted changes from 6.10.5.5 release</b> A small number of minor changes made in <b>ConSol CM</b> release 6.10.5.5 have not been introduced to the previous version 6.11.0.2. These corrections have been applied to this version so that now all changes from the earlier release are present.
<b>631261</b>	<b>Exception caused by missing property</b> A ticket could cause an exception and fail to be displayed in the <b>Web Client</b> , if it had relations to which the engineer had no access. A property required to communicate this information internally was missing after an earlier change. The property has been reintroduced so that tickets with the structure described can be displayed without exception again.
<b>631283</b>	<b>Ticket history entry context menu sporadically inaccessible</b> The context menu of history entries opened by clicking on the triangle symbol occasionally did not show when trying to open it. Thus, the menu was inaccessible in this case. Sometimes a ticket reload allowed to access it again, but this remedy also was not reliable in making the menu available again. The problem has been resolved and the context menu is generally accessible again for all ticket history entries.
<b>631284</b>	<b>Workflow trigger exception caused by failing removal from the stack</b> Workflow triggers could fail with an exception. The exception was caused because a trigger could not be removed from the stack. This issue has been corrected so that all validated triggers should execute without exception again.

## 6. Version 6.11.0.4 (02.06.2017)

Version 6.11.0.4 includes all **ConSol CM** changes and additions of

- 6.10 versions up to 6.10.6.0
- 6.9 versions up to 6.9.4.7
- 6.8 versions up to 6.8.5.8

Newer versions and the respective changes are not included in this **ConSol CM** version.

## 6.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.11.0.4 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

### 6.1.1 System upgrade from earlier versions

This **ConSol CM** release needs specific planning for an update from earlier releases.

See [General Update and Installation Instructions](#) also.

#### **CM/Track V2** update

This release features the full support for **CM/Track V2** with specifically built distribution packages built for the **ConSol CM** version. More information can be found in the section [Full CM-Track V2 support for CM 6.11 versions \(#631292\)](#).



Please upgrade your **CM/Track V2** installation along with **ConSol CM** using this versions distribution archive.

No further instructions available.

## 6.2 New Features

The features newly introduced in this **ConSol CM** version 6.11.0.4 are described in detail in this section.

### 6.2.1 Full **CM/Track V2** support for CM 6.11 versions (#631292)

The degree of support for the portal client **CM/Track V2** when using a 6.11 version of **ConSol CM** previously did depend on integrating the corresponding changes from the 6.10 version into 6.11 versions. **CM/Track V2** feature development is currently oriented at the 6.10 versions release cycle. The current 6.11.0.4 release introduces full support for **CM/Track V2** for all upcoming 6.11 releases. This means that there will be a corresponding **CM/Track V2** release for every 6.11 version starting with this release. This corresponding package should be installed when updating.

The 6.11.0.4 **CM/Track V2** release is functionally and feature-wise identical to the latest 6.10 release from the version 6.10.6.0.

## 6.3 Changes

This section illustrates all relevant software product changes for version 6.11.0.4 of **ConSol CM**.

### 6.3.1 Layout improvements

#### Ticket prefix usage may cut off ticket number (#631348)

When using a single letter ticket name prefix the last digit(s) of the ticket number may not have been completely visible in the ticket list. For prefixes with multiple letters the full ticket name could be spread across two lines. The full ticket name was correctly shown in the corresponding tooltip. This visual problem was corrected so that the full ticket name can be read directly off the ticket list.



## 6.4 Bugs fixed

The following defects have been corrected in this **ConSol CM** version.

Number	Description
<b>631282</b>	<b>Link to show attachment addition in history absent</b>  The link to jump to the history entry with the addition of an attachment was missing in the latest 6.11 releases. This link should show in the last column labeled <i>Action</i> for each row in the table of the attachment section. It has been restored so that this linking available again, although it may interact with folded or filtered history entries.
<b>631544</b>	<b>Activity control form field layout position option New Table dysfunctional</b>  The option value "New Table" to control the field layout position relative to the preceding field did not yield the desired effect in the latest release. The layout was present as if the default value "Next Cell" had been entered. This layout value dysfunction has been corrected and the value works as expected again.

## 7. Version 6.11.0.5 (27.09.2017)

Version 6.11.0.5 includes all **ConSol CM** changes and additions of

- 6.11.0 versions up to 6.11.0.4
- 6.10 versions up to 6.10.7.0
- 6.9 versions up to 6.9.4.8
- 6.8 versions up to 6.8.5.8

Newer versions and the respective changes are not included in this **ConSol CM** version.

## 7.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.11.0.5 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

### 7.1.1 System upgrade from earlier versions

This section informs about specific steps when upgrading **ConSol CM** from 6.11.0 or earlier versions to version 6.11.0.5.

#### Updates to 6.11.0 versions below 6.11.0.5



Please follow the instructions described for version 6.11.0.0 and for all intermediate versions when planning and executing such an update.

A new update preparation step has been introduced in the section [System Upgrade from 6.10 and earlier versions](#) after a correction in this release. This new step is only required, if the update targets a lower 6.11.0 version than this 6.11.0.5 release, namely the releases 6.11.0.0 to 6.11.0.4 (included). For additional detail regarding the correction please see [Update script changed for update from earlier versions \(#631836\)](#).

#### External system access to **Web Client**

This release 6.11.0.5 also introduces all changes from **ConSol CM** version 6.10.7.0, including *Cross-Site Request Forgery prevention mechanism introduced for ConSol CM Web Client (#631506)*. This change introduced now will affect all external systems trying to access the **Web Client** by HTTP. These attempts will be blocked, if the new criteria for requests are not met, namely providing the `Origin` or `Referer` HTTP header in requests. This will also block monitoring systems which send insufficient HTTP headers. It can be addressed by configuring the monitoring system to send proper header information.



Please be aware that monitoring systems will be blocked as well, if they do not send the `Origin` or `Referer` header in HTTP requests. Adjust the requests issued by monitoring systems, if necessary!

### 7.1.2 Configuration modification requirements

The changes in this release require several configuration items to be reviewed and possibly adjusted. Please see the following sections for details:

- [Text class icons matching the new skin design \(#631872\)](#)

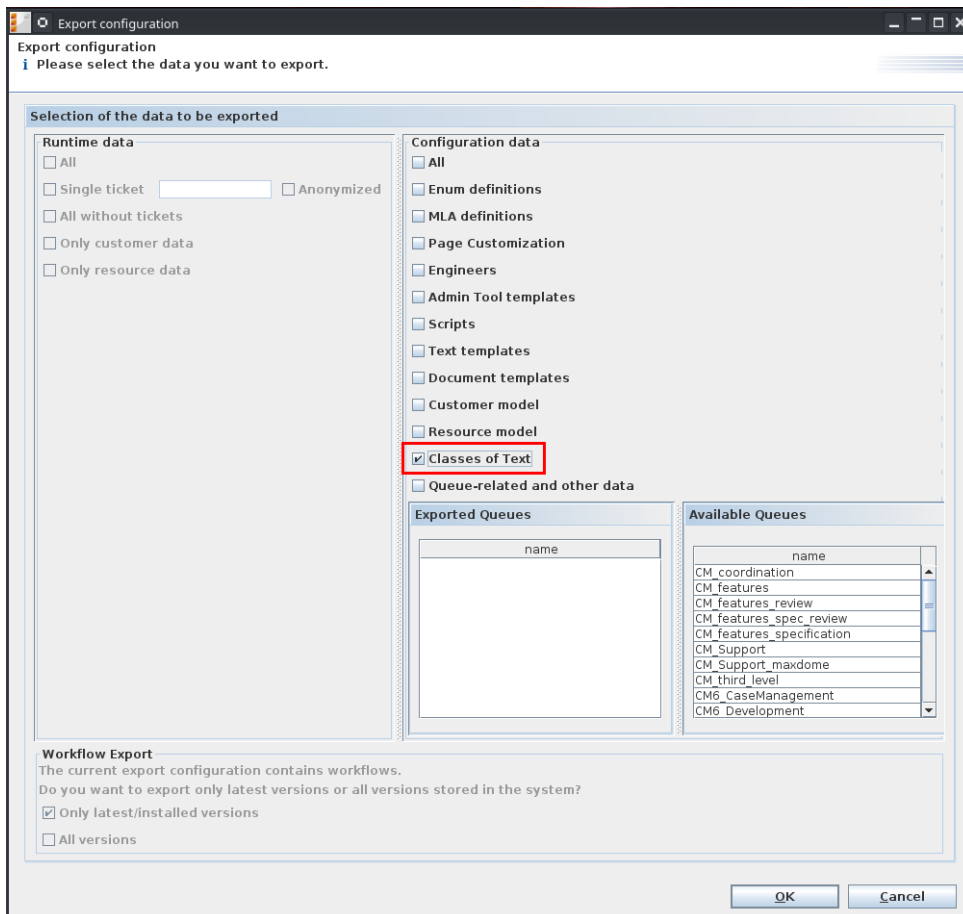
No further instructions available.

## 7.2 New Features

The features newly introduced in this **ConSol CM** version 6.11.0.5 are described in detail in this section.

### 7.2.1 Export option for selectively exporting all classes of text (#631874)

A new feature has been introduced in the scene export functionality in the **Admin Tool**. This addition allows to control if all classes of text present in the system should be included in the configuration export or only those which are associated with a queue selected for the export. For this decision an additional checkbox has been added to the export dialog.



The new checkbox labeled *Classes of text* will ensure all classes of text in the system are included in the scene export file, if checked. In case this item is left unchecked for a configuration export, only those classes of text will be included in the scene which are assigned to a queue selected for export. In consequence classes of text without queue association will not be exported at all when this option is deactivated. Please verify that this option is selected if you want all classes to be included in the scene.

## 7.3 Changes

This section illustrates all relevant software product changes for version 6.11.0.5 of **ConSol CM**.

### 7.3.1 Layout improvements

#### Activity Control Form description text line wrapping (#631679)

The description text for Activity Control Forms did not wrap to a new line after the latest skin improvements. For long description texts this meant that an unwanted horizontal scrollbar was shown since all the text was presented in one line. The styling has been adapted to allow wrapping of long lines for the description text in Activity Control Forms so that no unwanted horizontal scrollbars are necessary anymore.

#### Table cell text line wrapping (#631827)

Text presented in table cells, for example in STRUCT lists or in tables not prominently visible, was presented in a single line even if the text was rather long. This could cause the table display to be overly wide and showing a horizontal scrollbar. This undesired presentation has been modified so that longer texts now wrap into new lines in a table cell. Thus, the affected tables will fit within the width of the page and horizontal scrollbars will not be needed. The same problem in some relation tables still exists and will be addressed in a future release.

#### Headline misplacement on the document template edit page (#632075)

The headline on the document template edit page indicating the edit usage was placed outside the box of the editing form. In other forms on other pages a headline of this kind is placed first within the form box. This inconsistency has been addressed and the headline now also is inside the editing form box.

#### Template attachment selection formatting improvement (#632130)

The selection list for template attachments when choosing attachments from a text template had a uniform presentation regarding the text formatting in the current **Web Client** skin. The previous skin featured different font formats for the different information categories of an entry like boldface for the file name and a lighter font color for additional information. This differentiation has been introduced to the new skin as well.

### 7.3.2 Update script changed for update from earlier versions (#631836)

A change in the update scripts from **ConSol CM** versions before 6.11 has been made necessary. This adjustment is fully implemented into the update procedure for this 6.11.0.5 version, however, it cannot be added to the previous releases 6.11.0.0 up to 6.11.0.4. In case a specific reason exists to update to one of these versions, an additional SQL statement must be executed before starting the update. Updating to 6.11.0.5 does **not** require this additional action.

In case of requiring the additional manual update preparation step for an update target of 6.11.0.4 or any lower 6.11 version, please execute the following SQL statement before initiating the automatic update process by starting the application server:

```
DELETE FROM cmas_web_customization_values WHERE id IN (SELECT id FROM cmas_web_customization WHERE type_='attachmentSection');
```



This additional preparation step is not required when updating to **ConSol CM** version 6.11.0.5 or higher. It only must be performed when updating to a **ConSol CM** version between 6.11.0.0 and 6.11.0.4!

The script removes obsolete duplicate page customization values which previously were used for attachment display configuration. This information is not used in 6.11 versions of **ConSol CM** anymore.

### 7.3.3 CMRF/Data warehouse optimizations (#631216)

This release of **ConSol CM** features numerous optimizations in the CMRF (CM Reporting Framework) and the associated data warehouse implementation. The changes cover a wide range of mostly internal aspects of the component and they do not result in any change of data warehouse and CMRF usage or administration. The list of improvements below is provided for reference only. The modifications are these:


- Database locking has been improved for usage on multiple cluster nodes.
- Four new indices have been added to improve database performance.
- Unneeded integrity checks during deployment and live mode have been removed.
- A transfer now recreates the tables instead of the less efficient row deletion, since it rebuilds the whole content data completely.
- A transfer which deletes all previously available data in the data warehouse will omit the unnecessary step of sending information about deleted objects.
- An error was corrected which surfaced during the transfer of additional data after creating a field in a new group, annotating it as reportable and then running a data warehouse task.
- It is now ensured in all cases that no processing of data warehouse tasks will be performed at all if the data warehouse status is not “operational”.
- Previously history entries had been processed even if the object they belong to did not exist in the data warehouse. This has been changed so that history entries are only processed for objects in the data warehouse.
- Previously it was not possible to delete a contact relation definition if a data warehouse task for it existed. This restriction has been removed so that deletion is now possible.
- Transaction timeouts for the live mode have been reduced in order to deal with an **MS-SQL** issue for specific configurations. The problem was caused by some possible open database transaction(s) after a server shutdown which blocked the restart of the server.

### 7.3.4 Custom properties created or updated during scene import (#631743)

Custom system properties created in an installation are added during a scene import if they do not exist. In case the custom property is already present in the system, the value is now updated from the import. This was not the case previously when the value was not overwritten by the value of an imported scene.

### 7.3.5 Text class icons matching the new skin design (#631872)

The symbols used for classes of text in **ConSol CM** are not changed when updating to a 6.11.0 version featuring the new skin design. There are no default symbols in the system, so **ConSol** now provides an archive file with new symbols matching the new **Web Client** appearance. In case usage of this new icon style is desired, each symbol to be replaced must be exchanged in the definition dialog for the class of text using it.

 Please turn to your **ConSol** representative to obtain the icon set archive file, if required!

### 7.3.6 Text templates additional scripting restriction (#632069)

Text templates could contain `<script>` tags in their content. In case these tags contained executable Javascript code, this code was executed previously when rendering the template text in order to allow additional user interactions. This behavior has been disabled to prohibit potentially unwanted interactions with external systems which in principle could also be crafted using this mechanism. In consequence, potentially executable code in the template will be escaped in a way yielding content without the potential to be executed. The change also disables user interactions modeled by this means. It applies to the template management pages as well as template usage in tickets. The modified content handling is extended to template data fields like group and subgroup as well.

### 7.3.7 Text escaping improved in ticket history (#631981)

The text in a history entry like a comment or an email generally gets escaped to avoid execution of script code in the texts. The code in effect is not executable anymore after this change. The escaping was not fully applied specifically to the content of a collapsed section, which in theory could be exploited to execute script code within the browser page display. The text escaping in the ticket history has been revised to fully escape all content of history entries in all display modes, so that this potential injection vector conceptually cannot succeed anymore, no matter how the script code has been added to the ticket history.

### 7.3.8 **CM/Track V2** improvements

#### Availability of changes from **CM/Track V2** version 6.10.7.0 (#631839, #632297)

This release features all new features, changes, and corrections introduced in **CM/Track V2** version 6.10.7.0. The full support introduced in the last release (please see [Full \*\*CM.Track V2\*\* support for CM 6.11 versions \(#631292\)](#)) implies that this release incorporates all modifications developed in for the mentioned version.

## 7.4 Bugs fixed

The following defects have been corrected in this **ConSol CM** version.

Number	Description
<b>631470</b>	<b>Exception in <i>Admin Tool</i> after clicking on column header</b> When using the <b>Admin Tool</b> to edit a ticket field annotation, clicking on a column header of the annotation table after a value cell had been made editable caused a <code>NullPointerException</code> and left the tool in an unusable state. This exception has been eliminated and an accidental click on a column header does not cause problems anymore.
<b>631664</b>	<b>Needless scrollbars for history entries in <i>Internet Explorer 11</i></b> Users of the browser <b>Internet Explorer 11</b> experienced the display of needless scrollbars within some individual history entries. These functionless scrollbars have been removed, so that this behavior cannot cause confusion anymore.
<b>631668</b>	<b>No return to previous page after re-login following a session timeout</b> The page which was shown to an engineer when he logged in again after his previous session timed out was not the page previously accessed but the overview page. This undesired behavior which was present only in the latest releases has been corrected, so that such a re-login now leads directly to the previous page again.
<b>631702</b>	<b>Non-completed create ticket page not saved to workspace in <i>Internet Explorer 11</i></b> The create ticket page was not saved to the workspace in <b>Internet Explorer 11</b> when leaving the page by clicking on the main menu overview page link while filling in the customer. This omission has been corrected so that for this case the partially created ticket is saved to the workspace as expected even in this browser.
<b>631759</b>	<b>Ticket name invisible for tickets without visible ticket fields</b> In case there was a prefix configured for the queue and the ticket had no ticket fields for display, the ticket name was invisible and only the prefix could be seen. This problematic display form has been fixed so that now the whole ticket name with prefix and number is always visible, even without ticket field values to show.
<b>631890</b>	<b>Changing Activity Control Form fields blocked <i>Admin Tool</i> and <i>Process Designer</i></b> After modifying an Activity Control Form in the <b>Admin Tool</b> by removing ticket fields and/or moving a field to another position, an exception could occur which turned the <b>Admin Tool</b> and in consequence the <b>Process Designer</b> unusable. The problem was caused by producing an invalid field sort order which caused irrecoverable errors in the tools. This issue has been resolved so that modifying an Activity Control Form will be possible without blocking the tools.



Number	Description
<b>631969</b>	<b><i>Hibernate</i> errors with parallel engineer system access</b>  The log files occasionally could show numerous <b><i>Hibernate</i></b> errors (HHH000099) with multiple parallel engineers accessing the server, especially when operating in cluster mode. These errors mostly had no consequences, but in principle this could block all server threads. The cause for these errors has been settled, so that this issue may not impede server operation anymore.
<b>631986</b>	<b>Misleading symbol in dialog to save script to file</b>  After successfully saving an <b><i>Admin Tool</i></b> script to the file system the confirmation dialog notifying about the success of the operation showed a symbol suggesting an error. This misleading symbol has been replaced by another one better representing the success of the operation.
<b>632157</b>	<b>Applying ticket relation filter on resource page by pressing <i>Return</i> inoperational</b>  When trying to apply a filter criterion entered in the filter bar of the ticket relation table on a resource detail page by pressing the <i>Return</i> key, the filter was not applied. Using the Apply command link on the right-hand side worked as expected. Applying the filter by pressing <i>Return</i> now has been made to apply the filter as well.

## 8. Version 6.11.0.6 (18.12.2017)

Version 6.11.0.6 includes all **ConSol CM** changes and additions of:

- 6.11.0 versions up to 6.11.0.5
- 6.10 versions up to 6.10.8.0
- 6.9 versions up to 6.9.4.7
- 6.8 versions up to 6.8.5.8

Newer versions and the respective changes are not included in this **ConSol CM** version.

## 8.1 Update and installation instructions

Please read all information on update and installation of **ConSol CM** specific for version 6.11.0.6 in this section before performing a system update or installation. Please consult the general product documentation on update and installation procedures as well as earlier version Release Notes, if applicable.

### 8.1.1 System upgrade from earlier versions

This section informs about specific steps when upgrading **ConSol CM** from 6.11.0 or earlier versions to version 6.11.0.6.



Please follow the instructions described for version 6.11.0.0 and for all intermediate versions when planning and executing such an update.

#### Updates to 6.11.0 versions below 6.11.0.6

When updating **ConSol CM** to a version below 6.11.0.6, an additional update step might be required. If you plan to update to a version below 6.11.0.6, please contact the **ConSol CM** support . Please see [Update script changed to prevent blocked text class administration \(#631714\)](#) for further information.



This step is **not** necessary for updates to 6.11.0.6 and if the first installation was version 6.3.0 or higher.

### 8.1.2 Support for Windows Server 2016 added (#632293)

Support for Windows Server 2016 has been added starting with version 6.11.0.6.

### 8.1.3 Configuration modification requirements

The changes in this release require several configuration items to be reviewed and possibly adjusted. Please see the following sections for details:

- [Show comment author \(#631688\)](#)
- [Annotations minValue and maxValue for fixed-point numbers \(#631703\)](#)
- [Ticket update event when changing the main customer \(#631895\)](#)
- [Synchronized XML configuration files \(#632400\)](#)
- [Colspan supported for autocomplete Enum fields \(#632403\)](#)
- [New convenience method to execute an activity \(#632418\)](#)
- [Unexpected log entries removed \(#632440\)](#)
- [Behavior of scope activities before end and jump-out node changed \(#632488\)](#)

No further instructions available.

## 8.2 New Features

The features newly introduced in this **ConSol CM** version 6.11.0.6 are described in detail in this section.

### 8.2.1 Scripted field visualization (#632091, #632125)

The **ConSol CM** API has been enhanced to provide support for customizing the display of data fields using scripts. This new feature enables the customization of several GUI aspects of the **Web Client** and **CM/Track V2**. Possible use cases are:

- Organizing data fields in several groups with headlines
- Changing the background color of certain data fields to highlight important information
- Adding images as field content
- Adding maps as field content
- Adding Highcharts widgets as field content

This feature works for data fields in ticket, customer, and resource objects in the **Web Client**, and for data fields in ticket objects in **CM/Track V2**.

The following figure shows an image on the contact page in the **Web Client**. The image border and the styling of the caption are done using a customized CSS file.

#### Contact



The new script type *Field visualization* has been added to the **Admin Tool**. A script of this type contains two new methods: `resources()` and `render()`. Resources, e.g., images, stylesheets, and JavaScript files, can be stored in the file system. A new folder `resources` can be created in the **ConSol CM** data directory for this purpose. Alternatively, resources can also be retrieved using URLs.

The name of the script needs to be entered as a value of the annotation `common, visualization` of the respective data field.

The methods `resources()` and `render()` provide several parameters:

- **pContext**: object from which the script is called
- **pFieldKey**: key of the field which calls the script
- **pFieldValue**: value of the field
- **pClient**: type of client, can be “web”, “track”, or “rest”

These parameters allow you, for example, to adapt the behavior to the field value or to configure a different behavior for the **Web Client** and **CM/Track V2**.

### Scripting examples

The following example shows how to display images on a contact page (see figure above). Each contact has his own image. The images are saved as `.png` in the folder of their customer type (either `contact` or `company`) within the `resources` folder. Each contact has his own subfolder named as the contact's ID. The `person.css` file contains layout information.

```
import com.consol.cmas.common.model.customfield.meta.FieldKey;
import
com.consol.cmas.common.model.customfield.visualization.FieldVisualizationContext;

def render(FieldKey pFieldKey, Object pFieldValue, String pClient,
FieldVisualizationContext pContext) {
def path = "${pContext.getUnit().getDefinition().getType().name().toLowerCase
()}${pContext.getUnit().getId()}/person.png";
return """
<div class='photoBox'>
    <img src='${path}' class='person' >
    <h2>${pFieldValue}</h2>
</div>
""" as String
}

def resources(FieldKey pFieldKey, Object pFieldValue, String pClient,
FieldVisualizationContext pContext) {
def path = "${pContext.getUnit().getDefinition().getType().name().toLowerCase
()}${pContext.getUnit().getId()}/person.png";
List<String> resources = [
    "person.css",
    path
] as String[];
log.info resources;
return resources;
}
```

The following script allows you to highlight a certain data field depending on its value. For example, you might want to highlight fields which require the engineer to take some action. The following script

is used for the data field containing the remaining days of work. If more than 10 days remain, the field is displayed with a red background. If not, the background is green. The visualization is only applied for the **Web Client**.

```
import com.consol.cmas.common.model.customfield.meta.FieldKey;
import
com.consol.cmas.common.model.customfield.visualization.FieldVisualizationContext;

def render(FieldKey pFieldKey, Object pFieldValue, String pClient,
FieldVisualizationContext pContext) {
def highlight = "default";

if(pClient.equalsIgnoreCase("track")) {
return null
} else {
if (pFieldValue < 10) {
highlight = "green";
} else {
highlight = "red";
}
return ""
<div>
<span class="${highlight}">${pFieldValue}</span>
</div>
"" as String
}
}

def resources(FieldKey pFieldKey, Object pFieldValue, String pClient,
FieldVisualizationContext pContext) {
List<String> resources = [
"highlight.css"
] as String[];
return resources;
}
```

The `highlight.css` file contains the following, very simple, settings.

```
.red {
background-color:red;
}

.green {
background-color:green;
}

.default {
background-color:inherit;
}
```

## 8.3 Changes

This section illustrates all relevant software product changes for version 6.11.0.6 of **ConSol CM**.

### 8.3.1 Layout improvements

#### Navigation bar overlapped content (#631680)

Previously, the navigation bar (main menu) overlapped the page content if it consisted of more than one line. The layout has been adapted and this kind of overlap does not occur anymore.

#### Search results moved when scrolling the page (#631749)

The field displaying the results of the Quick Search moved when scrolling the page. The layout has been adapted, so the Quick Search results always stay in place just below the Quick Search field.

#### Wrong alignment of the *Note* label of a related resource (#631851)

The label of the *Note* field in the *Related Resources* section of a ticket was displaced. The layout has been adapted and the label is now aligned with the *Note* field.

#### Horizontal scrollbars by ticket field group (#631917)

The horizontal scrollbar, which appears if there is not enough space in the browser window to display all the fields in a row, is now located directly below the respective ticket field group. Previously, it was located at the end of the section.

#### Vertical scrollbar added to engineer selector (#632685)

The drop-down list to select the assigned engineer of a ticket now features a vertical scrollbar. This scrollbar is displayed in case there are too many engineers to display within the list. Previously the list was cut off and the user could not select an engineer from the end of the list.

#### Wrapping of ticket field labels in view mode (#632096)

In view mode, the labels of ticket fields now adjust to the column width, so that long labels do not break the layout anymore.

#### Position of the *Upload* button in the image upload window of the Rich Text Editor (#632296)

The position of the *Upload* button in the image upload window of the Rich Text Editor has been changed. The button is now displayed in a new line. This prevents the button from overlapping with the name of the uploaded file or error messages.

#### Alignment of labels in ACFs (#632686)

In ACFs consisting of more than one column, the alignment of labels could be wrong if one of the other columns contained fields spanning more than one row. This has been corrected, so these labels are aligned with their fields now.

## 8.3.2 Performance improvements

### Deletion of resource relations (#631069)

The performance of the deletion of resource relations (resource-resource, resource-customer, and resource-ticket) has been improved to prevent timeouts when deleting resources with many relations.

### Export of related customers of a resource (#630881)

The performance of the export of related customers of a resource has been improved to prevent timeouts which may occur if the resource has a lot of related customers.

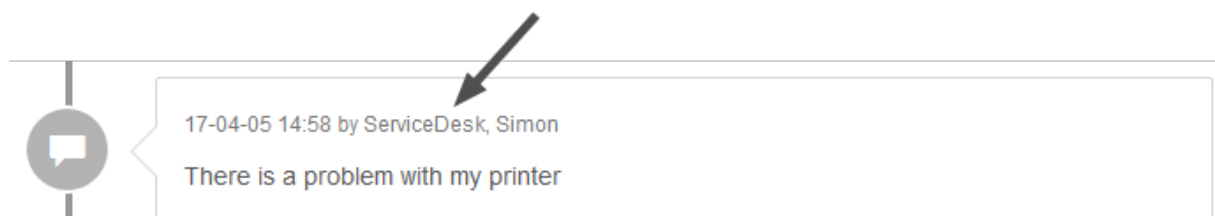
## 8.3.3 *CM/Track V2* improvements

### Availability of changes from *CM/Track V2* version 6.10.8.0

This release includes all new features, changes, and corrections introduced in *CM/Track V2* version 6.10.8.0 (#631589, #632149, #631537, #631860, #631028, #631837, #631865, #631687, #632120, #632200, #632164, #632215, #632057, #632191, #632196, #631156, #631689, #631863, #631846, #632309, #631855). The full support introduced in the last release (please see [Full \*CM/Track V2\* support for CM 6.11 versions \(#631292\)](#)) implies that this release incorporates all modifications developed in the mentioned version.

### Show comment author (#631688)

The ticket history in *CM/Track V2* now shows the author of the comments and attachments.

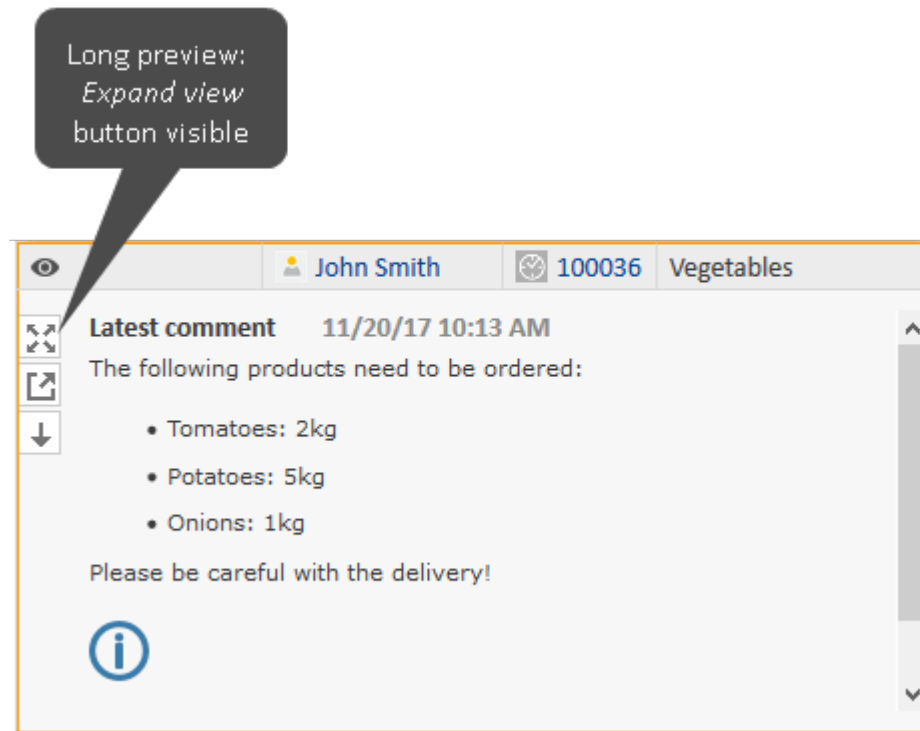


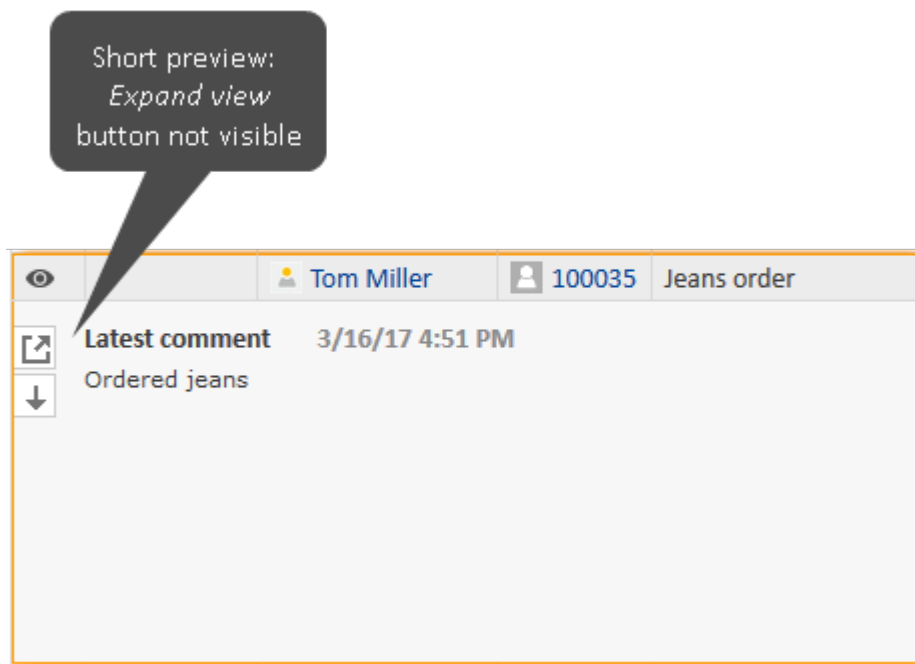
The previous behavior, where the author is not shown, can be restored by setting the system property `cmas-restapi-core.comment.authors.disabled` to `"true"`.



### 8.3.4 Improved availability of the *Expand view* option in the ticket preview (#628732)

The *Expand view* option in the ticket preview has been removed for entries which do not include content to expand. Now, it is only displayed if the preview of the ticket can be expanded. Compare the following figures:





### 8.3.5 Error message when clicking removed attachments (#630387)

Clicking the *Attachment added* link of a deleted attachment in the history section of a customer or resource page caused an exception if the attachment had already been removed from the database.

This behavior has been corrected. Now, the user is redirected to the overview page and an error message is displayed if he tries to open an attachment which has already been removed from the database.

The requested file has been removed meanwhile



Note that a removed attachment can still be opened as long as it is present in the database. This additional issue will be addressed in a future release of **ConSol CM**.

### 8.3.6 Calendar start day changed for English locale (#630888)

The calendars displayed in the *Calendar* section and the engineer profile of the **Web Client** have been adapted. Previously, the week started with Sunday when accessing the **Web Client** with an English locale. This has been changed and the week now starts with Monday both for the English and the German locale.

### 8.3.7 Annotations `minValue` and `maxValue` for fixed-point numbers (#631703)

The annotations `minValue` and `maxValue` to check the input of data fields can now be used for fields of the data type *fixed-point number*. Previously, they could be used only for fields of the data type *number*.

If the entry in the field does not conform to the configured limits, the corresponding validation error is displayed.

price	<input type="text" value="2.5"/>	The value of 'price' must be at least 10.
-------	----------------------------------	---

### 8.3.8 Update script changed to prevent blocked text class administration (#631714)

When updating **ConSol CM** to a version below 6.11.0.6, a problem preventing the user from editing text classes in the **Admin Tool** might occur. This problem has been corrected in version 6.11.0.6. However, it cannot be added to the previous releases 6.11.0.0 up to 6.11.0.5. If you plan to update to a version below 6.11.0.6, an additional SQL statement must be executed. Please contact the **ConSol CM** support to receive a script which solves this issue. Updating to 6.11.0.6 does not require this additional action.



This additional preparation step is not required when updating to **ConSol CM** version 6.11.0.6. It only must be performed when updating to a **ConSol CM** version between 6.11.0.0 and 6.11.0.5, and if the first installed **ConSol CM** version was a version lower than 6.3.0.

### 8.3.9 Ticket update event when changing the main customer (#631895)

Setting an additional customer of a ticket as the main customer did not trigger a ticket update event. This behavior has been corrected, and a ticket update event now occurs when an additional customer is set as the ticket's main customer.

### 8.3.10 Support for Windows Server 2016 added (#632293)

Support for Windows Server 2016 has been added starting with version **ConSol CM** 6.11.0.6.

### 8.3.11 Synchronized XML configuration files (#632400)

The default content of the files `cm6.xml`, `cm6-cmrf.xml`, `domain.xml` has been synchronized for all databases. Some unnecessary differences between the files have been corrected.

### 8.3.12 Colspan supported for autocomplete ENUM fields (#632403)

The annotation `layout, colspan` is now supported for autocomplete ENUM fields, i.e., for fields with the annotation `enum-type = autocomplete`. It can be used to set the width of the field in edit mode. The width of the drop-down list containing the ENUM values is controlled by the length of its values.

### 8.3.13 New convenience method to execute an activity (#632418)

The **ConSol CM** API has been enhanced with a new convenience method to execute an activity for a ticket. Only activities which are allowed according to the ticket's position in the workflow and the relevant precondition script can be executed.

The method signature is `executeActivity(String pName)`. It returns the Boolean value "true" if the activity execution was successful and "false" if the activity could not be executed, e.g., because it is not allowed.

### Scripting example

This method can be used, for example, to close tickets found in a ticket search. The script for the search action contains the following lines of code to execute the activity *Dismiss ticket* for the selected tickets.

```
for(Ticket t : tickets){  
    t.executeActivity("defaultScope/Service_Desk/Ticket_dismissed/Dismiss_ticket_");  
}
```

### 8.3.14 Unexpected log entries removed (#632440)

When editing a text template, some unneeded log entries were written to `server.log`:

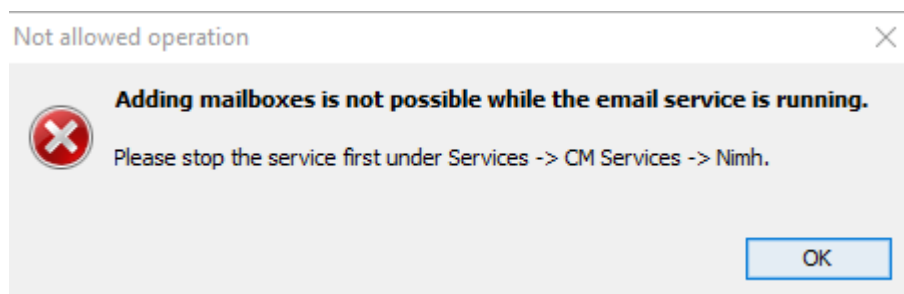
```
[exec] 2017-10-17 12:12:14,286 WARN  [.validation.TemplateValidation] [fischer-  
template(reminder_en)-0c8661ea-b323-11e7-8dee-718cec6305b2] Found not-allowed  
tags/attributes in template script: >  
[exec] <div>  
[exec] <div>remember to consider a new icons..</div>  
[exec] </div>  
[exec] </div></div>
```

These entries were not necessary and have been removed.

### 8.3.15 Block NIMH setting changes when NIMH is running (#632461)

When adding or editing a mailbox in the **Admin Tool** while NIMH was running, the other mailboxes were temporarily unavailable. This could lead to the NIMH service becoming unusable. The problem could be prevented by switching off the NIMH service in the navigation group *Services*, navigation item *CM Services* in the **Admin Tool** before editing the mailboxes and switching it on afterwards.

In this release, the navigation group *Email*, navigation item *Email* in the **Admin Tool** has been enhanced to prevent the user from adding or editing mailboxes while NIMH is running. A warning message informing the user that he has to stop the NIMH service first is displayed. The mailboxes cannot be edited until the NIMH service has been stopped.



### 8.3.16 Behavior of scope activities before end and jump-out node changed (#632488)

The behavior of scope activities has been changed for the case that a scope activity ends with a jump-out node or an end node. Previously, the scope activity was treated as an interrupt in this situation. This caused the ticket to return to the scope of the scope activity after passing the jump-out or end node, i.e., it was not possible to close a ticket from a scope activity or to jump to another workflow from a scope activity. This problem has been solved and scope activities are treated as exceptions in this special case. Therefore, it is now possible to use scope activities before end and jump-out nodes.

### 8.3.17 Template for **CM/Track V2** configuration updated (#632742)

The template used as an example for the **CM/Track V2** configuration has been updated. It is displayed in the **Admin Tool**, navigation group *Clients*, navigation item *Configurations*. The template now includes new localizations and the configuration to enable or disable password changes and resets.

## 8.4 Bugs fixed

The following defects have been corrected in this **ConSol CM** version.

Number	Description
<b>630800</b>	<b>View sort options stored in the user preferences lost</b> The selected sorting of the ticket list in the <b>Web Client</b> was lost when the user switched the locale and logged in again. The default sorting was used in this case. This problem has been corrected so the user preferences are stored independently of the locale.
<b>630891</b>	<b>Problems when editing links in outgoing emails and comments</b> There were some minor issues when editing links in outgoing emails and comments. It is now possible to use the <code>mailto</code> protocol and click links within the template preview.
<b>631000</b>	<b>Resource Pool Dashboard cannot be added</b> There was a bug which prevented the user from adding the dashboard on the Resource Pool overview page in the <b>Web Client</b> . The <code>resourceDashboard</code> node in the page customization was missing and the dashboard could not be configured. This problem has been corrected, so the <code>resourceDashboard</code> node is now present even if no dashboard has been configured.
<b>631064</b>	<b>DWH update could fail</b> In some cases, the DWH update could fail with an error message like "Unexpected action type: REGULAR. Expected START_TRANSFERSTART_UPDATE or START_ADDITIONAL_DATA". This problem has been solved.
<b>631165</b>	<b>Process Designer does not exit properly</b> Closing the <b>Process Designer</b> with the menu option <i>Exit</i> did not close the application properly. The application was still cached and was opened again when the user tried to open another <b>Process Designer</b> from a different location. This problem has been solved and the <b>Process Designer</b> now closes properly when exiting.
<b>631447</b>	<b>Empty index tasks not deleted</b> Empty index tasks, which can occur due to a lost database connection, are now automatically deleted from the task list in the <b>Admin Tool</b> .
<b>631595</b>	<b>Duplicate notification emails for engineer assignment</b> When assigning an engineer in an automatic activity directly after ticket creation, duplicate email notifications regarding the engineer assignment were sent. This problem has been corrected and now the engineer only receives one notification email.

Number	Description
<b>631669</b>	<b>Sorting workflows by modification date not working correctly</b> When sorting workflows by modification date in the <i>Process Designer</i> , the dates were interpreted as strings. This problem has been corrected and the workflows are sorted by date now.
<b>631856</b>	<b>Exception when enabling autocommit for DWH tasks</b> An exception was logged when the user enabled the option <i>Automatic commit of administrative changes</i> for DWH tasks in the <i>Admin Tool</i> . This problem has been corrected and the exception is not logged anymore.
<b>632236</b>	<b>Problems while importing old scenes</b> The scene import could fail due to missing transactions. This problem has been corrected, so that there should be no failures during scene import.
<b>632442</b>	<b>Line breaks in ACFs not displayed</b> Line breaks in the description of an ACF were not displayed in the <i>Web Client</i> . This problem has been corrected and the line breaks are now displayed.
<b>632532</b>	<b>Wrong model used on resource page</b> The wrong model was used on the resource page causing warnings in the log files. This problem has been corrected and there are no warnings anymore.
<b>632654</b>	<b>Exception during scene import</b> When importing a scene on a newly set up system without deleting existing data, an exception could occur. This problem has been solved and there is no exception during import anymore.

## 9. Known issues

The following table lists known issues in the 6.11.0 releases. Please note that the column “Since” does not specify the earliest release this issue became known if it was known before version 6.11.0.0.

Number	Since	Resolved	Description
<b>623171</b>	6.11.0.0 and earlier	will be resolved in 6.11.2.0	<b>Exception opening a ticket from the workspace after queue change</b> It causes an exception and an empty browser screen when trying to open a ticket from the workspace, if the referenced ticket in the meantime has been moved to another queue for which the engineer has no access (scheduled for version 6.11.2.0).
<b>626675</b>	6.11.0.0 and earlier	open	<b>REST response missing unit count</b> The REST API response for unit search using a number range lacks the field “Total number of elements” with the result count.
<b>627286</b>	6.11.0.0 and earlier	open	<b>Issues with inline images in pasted text</b> Pasting (inline) images together with HTML text can still cause the images not to be displayed if the image link cannot be resolved later on a different computer. In this special case images are not included but linked and depending on the client computer's specific network accessibility the link address may in some cases not be accessible from this machine. In a future release improved handling of this kind of image pasting will be implemented.
<b>629520</b>	6.11.0.0 and earlier	resolved in 6.11.0.1	<b>Exception when creating a customer previously saved in the workspace</b> When starting to create a customer, then switching to another page and returning to the customer creation, an exception and user logout can be provoked. This leads to an unresponsive server. For this to occur it is necessary to try to create a different new customer in another customer group when accessing the page by the workspace link.
<b>629670</b>	6.11.0.0	resolved in 6.11.0.1	<b>CM.Track (Version 1) inoperational</b> The <b>CM/Track</b> client (Version 1) cannot be used with <b>ConSol CM</b> 6.11.0.0 mostly getting <code>Bad Request</code> responses from the server.



Number	Since	Resolved	Description
<b>629704</b>	6.11.0.0 and earlier	no change planned	<p><b>Customer data model object deactivation not working as expected</b></p> <p>The functionality offered in the <b>Admin Tool</b> to deactivate objects or elements in a customer data model is not working as expected. Deactivating objects does not have any impact on the existing configuration of the current system. A deactivated customer data model is not available for selection when creating a new customer group, but it remains functional in existing customer groups. Deactivated customer objects and customer field groups are not exported to other systems, but they remain functional in the current system.</p> <p>It is not planned to change this behavior.</p>
<b>629954</b>	6.11.0.0	resolved in 6.11.0.1	<p><b>Attachment section inaccessible for newly created tickets</b></p> <p>The attachment section can be inaccessible for tickets created after the update if the page customization controlling the section visibility is set to collapsed. It shows the correct section header text initially, but switches to "No attachments" when expanding the section and will not allow accessing the attachments which were added. This faulty behavior can be corrected by changing the page customization value to expanded and back.</p>
<b>630596</b>	6.11.0.1	will be resolved in 6.11.1.0	<p><b>WebLogic application server template defective</b></p> <p>The application template for use with the <b>WebLogic</b> application server product is not functional.</p>
<b>630631 630781</b>	6.11.0.1	resolved in 6.11.0.2	<p><b>Incoming emails with attachments can break indexing of ticket changes</b></p> <p>Incoming emails with attachments can cause the indexer used to scan ticket changes for searches to stop working. The problematic attachments are files in document formats containing no text (but only images for example). The problem can arise even with indexing of attachments disabled. Even after a restart the same email will cause the same problem, effectively disabling indexing of changes. <b>This when occurring can be considered a showstopper!</b></p>

Number	Since	Resolved	Description
<b>630717</b>	6.11.0.1	resolved in 6.11.0.4 (from solution in 6.10.6.0)	<b>Dashboard layout customization attribute value whitespace issue</b> The complex string value defining a dashboard layout in the page customization attribute layout cannot be parsed correctly if it contains whitespace. In consequence the Web Client will turn unusable. Removing unnecessary whitespace corrects the problem, but may heavily impede readability of the value.
<b>630718</b>	6.11.0.1	will be resolved in 6.11.1.0	<b>Non-uniform script validation class imports</b> The script validation in the <i>Admin Tool</i> and <i>Process Designer</i> uses different class imports which occasionally yields display of validation errors which are not applicable to the validated script meaning that the script is valid despite the validation errors.
<b>631038</b>	6.11.0.1	resolved in 6.11.0.4 (from solution in 6.10.6.0)	<b>No unfold arrow in shortened display for image only entry</b> The arrow to unfold a shortened history entry can be missing if the entry consists only of a picture. This only happens in the basic view configured for short display depending on the user privileges. This is the follow-up ticket for the correction of the issue from ticket #630510, which had not been introduced to the 6.11.0 versions yet.
<b>631078</b>	6.11.0.2	will be resolved in 6.11.1.0	<b>Scripted autocomplete fields dysfunctional when used for companies</b> Using a scripted autocomplete field on the company edit page results in an exception. Therefore, this functionality cannot be used for companies in the affected <i>ConSol CM</i> versions.
<b>631540</b>	6.11.0.0 and earlier	resolved in 6.11.0.5 (from solution in 6.10.7.0)	<b>Amperands of links in emails and comments wrongly escaped</b> The ampersands which can be an essential element in links are wrongly escaped in emails and comments in tickets, so that they could not be recognized correctly and opening the links is not possible.
<b>631552</b>	6.11.0.0 and earlier	resolved in 6.11.0.5 (from solution in 6.10.7.0)	<b>Deleting a ticket attachment via REST API dysfunctional</b> The functionality to delete an attachment of a ticket by the corresponding request to the REST API does not work. Instead a "405 Method not Allowed" status code is returned.

Number	Since	Resolved	Description
<b>631773</b>	6.11.0.0 and earlier	resolved in 6.11.0.6	<b>Wrong sender and reply-to address choice for engineer assignment notification</b> The system chooses wrong sender and reply-to addresses from the wrong system property for the administrator email address when using email templates for engineer assignment notification.
<b>631960</b>	6.11.0.0 and earlier	resolved in 6.11.0.6	<b>Email address identification error for commas and semicolons</b> When entering an email address in the <b>Web Client</b> Email Editor which contains a comma or semicolon in the display part of the address, the email address is not correctly recognized even though these characters are correctly escaped in quotes. Instead, the parts before and after such a character are considered separate email addresses which then are mostly deficient.

## 10. Web applications expiry

**ConSol CM** includes several **Java Web Start** tools and **Java applets**. These technologies validate the downloaded programs by validating a certificate. This applies to all recent and supported versions of the Java platform at the time of writing. Any certificate for this purpose includes an expiry date after which it will not validate anymore. After this date a program containing this certificate will not be considered valid anymore as well and an update to a version with a newer certificate is required to have the tool operational.

The **ConSol CM** releases covered in this document include Java Web Start tools and Java applets with the following certificate expiry dates:

Release version(s)	Certificate expiry date
6.11.0.0	05.03.2017
6.11.0.1 and higher	28.10.2019

The **Java Web Start** tools and **Java applets** of **ConSol CM** affected by this expiry date are these:

- **Admin Tool**
- **Process Designer**
- **CM/Doc**



Please make sure you always have a **ConSol CM** version with a valid certificate installed to guarantee uninterrupted usage of the **Java Web Start** tools and **Java applets**!