Control-M Workload Automation 8.0.00.900 Upgrade Guide

October 2016
Contacting BMC Software

You can access the BMC Software website at http://www.bmc.com. From this website, you can obtain information about the company, its products, corporate offices, special events, and career opportunities.

United States and Canada

Address    BMC SOFTWARE INC
            2101 CITYWEST BLVD
            HOUSTON TX
            77042-2827
            USA

Telephone  ▪  713 918 8800  ▪  800 841 2031
Fax        ▪  713 918 8000

Outside United States and Canada

Telephone  ▪  (01) 713 918 8800
Fax        ▪  (01) 713 918 8000

© Copyright 1999-2016 BMC Software, Inc.

Your use of this information is subject to the terms and conditions of the applicable End User License Agreement for the product and the proprietary and restricted rights notices included in this documentation. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of BMC Software, Inc.

BMC, BMC Software, the BMC logo, the BMC Software logo, and other BMC marks, and the tagline “Bring IT to Life” are the exclusive properties of BMC Software, Inc., or its affiliates or subsidiaries and are registered or may be registered with the U.S. Patent and Trademark Office and in other countries. All other BMC trademarks, service marks, and logos may be registered or pending registration in the U.S. or in other countries. All other trademarks or registered trademarks are the property of their respective owners.

For BMC Control-M Products that are licensed on the “per CPU – Full Capacity” unit of measurement and installed in an Amazon Web Services (“AWS”) or Microsoft Azure (“Azure”) cloud environment, a license is required for the total number of CPUs in each AWS or Azure instance upon which the Product is installed or which the Product manages, either remotely or locally. For AWS, one CPU is equivalent to one vCPU, as defined by AWS. For Azure, one CPU is equivalent to up to four Virtual Cores (as defined by Azure), rounded up to the closest multiple of four.

IBM® Tivoli® Business Service Manager, IBM Tivoli Workload Scheduler, IBM Cognos, IBM InfoSphere DataStage, IBM iSeries, IBM Websphere, and AIX® are the trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both.

UNIX® is the registered trademark of The Open Group in the US and other countries.

Linux is the registered trademark of Linus Torvalds.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

SAP® R/2 and SAP R/3, SAP Business Objects, and SAP NetWeaver are trademarks or registered trademarks of SAP AG in Germany and in several other countries.

Restricted rights legend
Customer support

You can obtain technical support by using the BMC Software Customer Support website or by contacting Customer Support by telephone or e-mail. To expedite your inquiry, see “Before contacting BMC.”

Support website

You can obtain technical support from BMC 24 hours a day, 7 days a week at http://www.bmc.com/support. From this website, you can:

- Read overviews about support services and programs that BMC offers
- Find the most current information about BMC products
- Search a database for issues similar to yours and possible solutions
- Order or download product documentation
- Download products and maintenance
- Report an issue or ask a question
- Subscribe to receive proactive e-mail alerts when new product notices are released
- Find worldwide BMC support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

Support by telephone or e-mail

In the United States and Canada, if you need technical support and do not have access to the web, call 800 537 1813 or send an e-mail message to customer_support@bmc.com. (In the subject line, enter SupID:<yourSupportContractID>, such as SupID:12345). Outside the United States and Canada, contact your local support center for assistance.

Before contacting BMC

Have the following information available so that Customer Support can begin working on your issue immediately:

- Product information
  - Product name
  - Product version (release number)
  - License number and password (trial or permanent)
- Operating system and environment information
  - Machine type
  - Operating system type, version, and service pack or other maintenance level such as PUT or PTF
  - System hardware configuration
• Serial numbers
• Related software (database, application, and communication) including type, version, and service pack or maintenance level

Sequence of events leading to the issue

Commands and options that you used

Messages received (and the time and date that you received them)
  • Product error messages
  • Messages from the operating system, such as file system full
  • Messages from related software

License key and password information

If you have questions about your license key or password, contact BMC as follows:

• (USA or Canada) Contact the Order Services Password Team at 800 841 2031, or send an e-mail message to ContractsPasswordAdministration@bmc.com.

• (Europe, the Middle East, and Africa) Fax your questions to EMEA Contracts Administration at +31 20 354 8702, or send an e-mail message to password@bmc.com.

• (Asia-Pacific) Contact your BMC sales representative or your local BMC office.

Third party Software

For the provisions described in the BMC License Agreement and Order related to third party products or technologies included in the BMC Product, see https://docs.bmc.com/docs/display/workloadautomation/Control-M+Workload+Automation+Documentation and click Third-party software (TPS).
Contents

Control-M Upgrade process .................................................................................................................. 6
Introduction to Control-M Upgrade ...................................................................................................... 8
Upgrade planning process .................................................................................................................... 9
Control-M/Server upgrade considerations .......................................................................................... 11
Control-M/EM upgrade considerations ............................................................................................... 12

Control-M/EM Upgrade ....................................................................................................................... 13
Installing the Control-M/EM Upgrade Export Pack ........................................................................... 13
Validating and correcting the Control-M/EM old version ................................................................... 14
Exporting the Control-M/EM old data .................................................................................................. 14
Importing the Control-M/EM exported data to the new version ............................................................ 16

Control-M/Server Upgrade ................................................................................................................. 18
Upgrading Control-M/Server automatically ....................................................................................... 18
Editing the Control-M/Server upgrade parameters ......................................................................... 21
Control-M/Server upgrade parameters ............................................................................................... 22
Control-M/Server Manual Upgrade .................................................................................................. 24
Post-Control-M/Server upgrade procedures ...................................................................................... 29

Troubleshooting Control-M Upgrade ................................................................................................. 33
Readiness report messages ................................................................................................................ 33
Debugging the Control-M/EM export and import processes ............................................................... 45
Control-M/Forecast exception conditions ......................................................................................... 46
Control-M/Forecast Historical Data .................................................................................................. 46
BMC Batch Impact Manager Web Application settings from a previous version .................................. 47
Remedy system parameters upgrade ............................................................................................... 47

Changes in Control-M versions .......................................................................................................... 48
New features introduced in version 6.4.01 ...................................................................................... 49
New features introduced in version 7.0.00 ...................................................................................... 50
New features introduced in version 8.0.00 ...................................................................................... 52
Control-M Upgrade process

The Control-M Upgrade process requires that you prepare for the next production environment by installing the new Control-M version in the new environment while the old environment continues to run. First, you install the new release of Control-M Workload Automation and apply the latest fix pack in the new environment. After preparing the new installation, you can upgrade all of the static data such as definitions, configurations, and more, from the old environment to the new environment.

Before transferring the active data, you must test the environment.

The setup is performed while the old production continues to run, which enables you to reduce the amount of data to transfer, and the amount of downtime. When it is time to transfer the active data, you bring the production environment down for a short time, because all the static data has been transferred and the environment has already been tested.

Control-M Upgrade comprises the following tools:

- **Control-M/EM Upgrade Tool**: Upgrades your Control-M/EM data from a source environment to version 8.0.00, which enables you to continue working in a new version of Control-M/EM. The supported source versions include 6.3.01, 6.4.01, and 7.0.00.

  You can upgrade Control-M/EM and continue working with older versions of Control-M/Server. For more information on setting your plan for your site, see Upgrade planning process (on page 9).

  The steps include:
  1. Installing the Control-M/EM Upgrade Export Pack on the source version
  2. Validating and correcting the data
  3. Exporting the data
  4. Importing the data to the destination version

  For more information on the steps for Control-M/EM Upgrade, see Control-M/EM Upgrade (on page 13).

- **Control-M/Server Upgrade Tool**: Upgrades your Control-M/Server data from a source environment to version 8.0.00, including job definitions, configurations, and active jobs. To minimize Control-M/Server down time, you can upgrade the historical data (logs) and definitions data during the preparation phase, and keep the Control-M/Server running the active jobs until the later phase when you are prompted to bring down the Control-M/Server. You are also prompted to set the number of log days to include when you export from the source environment, which reduces the transfer if you do not need the data. The supported source versions include 6.3.01, 6.4.01, 7.0.00, and 8.0.00.

  You can only upgrade Control-M/Server if you have already upgraded Control-M/EM to version 8.0.00. For more information on setting your plan for your site, see Upgrade planning process (on page 9). There are two types of Control-M/Server upgrades, as described in Control-M/Server Upgrade (on page 18):
• **Automatic Control-M/Server upgrade process:** Enables you to perform a full upgrade process from the destination version of Control-M/Server. The destination Control-M/Server must connect to the source Control-M/Server using a remote host connection, and uses jobs to accomplish the task of validating, exporting, and importing. The automatic upgrade uses the destination Control-M/Server to copy the upgrade tool to the source Control-M/Server and automatically performs the export and copies the data to the destination for import, as described in Upgrading Control-M/Server automatically (on page 18).

• **Manual Control-M/Server upgrade process:** Enables you to perform Control-M/Server upgrade by installing Control-M/Server Upgrade Export Pack on the source environment (if it is not version 8.0.00), validating and correcting the data, exporting the data in the source environment, and then importing the data to the destination version. For more information on the steps for Control-M/Server Manual Upgrade, see Control-M/Server Manual Upgrade (on page 24).

For more information about Control-M/Server upgrade considerations, see Control-M/Server upgrade considerations (on page 11).
Introduction to Control-M Upgrade

Control-M Upgrade is a process that includes the Control-M/EM Upgrade Tool and the Control-M/Server Upgrade Tool, which enable you to upgrade your Control-M data from a source environment to the new Control-M Workload Automation version 8.0.00 environment. For more information about the Control-M Upgrade, see these topics:

- **Upgrade planning process** (on page 9): A checklist that provides valuable information about the various workflows and other tips for implementing a successful upgrade.
- **Control-M Upgrade process** (on page 6): The process that includes a number of options to upgrade from your Control-M environment successfully.
- **Upgrade considerations**: Describes some potential administrative items that involve additional attention. For additional considerations, see Knowledge Base solution KA346538 on the Customer Support website, located at http://www.bmc.com/support.
  - **Control-M/Server upgrade considerations** (on page 11): Describes some Control-M/Server upgrade considerations that require additional attention.
  - **Control-M/EM upgrade considerations** (on page 12): Describes some Control-M/EM upgrade considerations that require additional attention.

After you have reviewed this Control-M Upgrade documentation, you can plan your upgrade according to your site requirements.

Following are the main workflows for the Control-M Upgrade process:

- **Control-M/EM Upgrade** (on page 13): Enables you to upgrade Control-M/EM. You can continue to work with old Control-M/Servers.
- **Control-M/Server Upgrade** (on page 18): Enables you to upgrade Control-M/Server after you have upgraded Control-M/EM to version 8.0.00.
Upgrade planning process

The following table describes the main tasks in setting and implementing your Control-M Upgrade plan.

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan your upgrade</td>
<td>Review the following information on Control-M Upgrade:</td>
</tr>
<tr>
<td></td>
<td>▪ AMIGO Upgrade program - Knowledge Base solution KA346538 on the Support site <a href="http://www.bmc.com/support">http://www.bmc.com/support</a></td>
</tr>
<tr>
<td></td>
<td>▪ Open an AMIGO Starter issue with BMC Support to receive the upgrade plan template and upgrade considerations.</td>
</tr>
<tr>
<td></td>
<td>▪ New features introduced in version 9.0.00</td>
</tr>
<tr>
<td></td>
<td>After reviewing all the above documentation, create a plan that includes the installation, testing and an upgrade date.</td>
</tr>
<tr>
<td>Install the new environment</td>
<td>Review the following sources to prepare your new environment so that you can work in parallel with the old environment while you prepare your installation:</td>
</tr>
<tr>
<td></td>
<td>▪ To plan the computers on which to install and check compatibility requirements, see Installation.</td>
</tr>
<tr>
<td></td>
<td>▪ To find the Control-M Workload Automation installation files, see Product Distribution in the Control-M Workload Automation version 9.0.00 Release Notes.</td>
</tr>
<tr>
<td></td>
<td>▪ Install the new Control-M Workload Automation solution, as described in Control-M installation.</td>
</tr>
<tr>
<td>Upgrade</td>
<td>You can upgrade Control-M/EM only and continue working with old Control-M/Servers and later upgrade Control-M/Server or upgrade both Control-M/EM and Control-M/Server at the same time. Agents can be upgraded after the Control-M/Server is upgraded to minimize application changes. Select the relevant workflow and schedule the upgrade for your site:</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M/EM Upgrade (on page 13): Enables you to upgrade Control-M/EM.</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M/Server Upgrade (on page 18): Enables you to upgrade Control-M/Server after you have already upgraded Control-M/EM to version 9.0.00.</td>
</tr>
<tr>
<td>Tasks</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Test the upgrade process</td>
<td>Export both the (old) EM and Control-M/Server data and import this into the new environments for testing before the Upgrade cutover date. The export and import process can be repeated.</td>
</tr>
<tr>
<td>Review final upgrade plan with BMC support</td>
<td>Contact BMC support two weeks before the upgrade date to open an issue for an AMIGO Review of the upgrade plan.</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>For more information on troubleshooting your upgrade, see Troubleshooting Control-M Upgrade (on page 33) or contact Customer Support <a href="http://www.bmc.com/support">http://www.bmc.com/support</a>.</td>
</tr>
<tr>
<td>Verify new environment</td>
<td>To become familiar with the new Control-M Workload Automation client, see the following in the Control-M Workload Automation version 8.0.00 Release Notes:</td>
</tr>
<tr>
<td></td>
<td>▪ New features introduced in version 9.0.00 in Control-M version 8.0.00.</td>
</tr>
</tbody>
</table>
Control-M/Server upgrade considerations

The following table describes the Control-M/Server upgrade considerations before you upgrade the Control-M/Server.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual conditions</td>
<td>This file is upgraded only if it exists in the default <code>&lt;ctmServerHome&gt;/tmp</code> folder.</td>
<td>If the <code>ctmldnrs.dat</code> file resides in a non-default location, copy it manually to the new server.</td>
</tr>
<tr>
<td>SSL certifications:</td>
<td>SSL upgrade is not available when you upgrade from UNIX to Windows, or from Windows to UNIX. SSL upgrade is available only when you upgrade from UNIX to UNIX, and from Windows to Windows.</td>
<td>When you upgrade from UNIX to Windows, or from Windows to UNIX, you must define the SSL configuration manually.</td>
</tr>
<tr>
<td>Control-M/Server SMTP configuration settings</td>
<td>Configuration parameters of SMTP are not upgraded.</td>
<td>Define the SMTP configuration parameters manually in the destination.</td>
</tr>
<tr>
<td>User Exit scripts and configuration parameters</td>
<td>User Exit scripts and parameters are not upgraded.</td>
<td>Copy the User Exit scripts manually to the new Server and define the configuration parameters.</td>
</tr>
<tr>
<td>Configuration parameters</td>
<td>Configuration parameters that are related to the environments are not moved to the new environment.</td>
<td>Review the <code>config.dat</code> file and other customized files.</td>
</tr>
</tbody>
</table>
Control-M/EM upgrade considerations

The following table describes the Control-M/EM upgrade considerations before you upgrade Control-M/EM.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
</table>
| LDAP user definitions in Control-M | Consider the following cases:  
  - LDAP authentication is configured in Control-M/EM version 7.0.00 (or 8.0.00 fix pack 2 or earlier) and Control-M for z/OS is connected to Control-M/EM. Control-M for z/OS users are managed in RACF  
  - LDAP authentication is configured in Control-M/EM version 7.0.00 and the cross platform Control-M CTMSEC utility is used.  
  Job actions might not pass Control-M security for these users after upgrade to 8.0.00. | Do the relevant action:  
  - In the Control-M for z/OS RACF interface, cancel the exit used to map user short names to long names.  
  - In the cross platform Control-M CTMSEC utility, update the user name definitions from long format (user@domain) to short format (user) that is entered during login. |
| Enabling SYNC mode between Control-M/EM version 8.0.00 and Control-M for z/OS version 8.0.00 | After upgrading to 8.0.00 a special user must be defined in Control-M for z/OS to enable automatic synch with Control-M/EM. | Define a Control-M/EM CTMSYNC user in Control-M for z/OS. |
Control-M/EM Upgrade

Control-M/EM Upgrade is a process that exports the data from the old environment to the new environment.

The following procedures describe how to upgrade from the old environment to the new environment:

- Installing the Control-M/EM Upgrade Export Pack (on page 13)
- Validating and correcting the Control-M/EM old version (on page 14)
- Exporting the Control-M/EM old data (on page 14)
- Importing the Control-M/EM exported data to the new version (on page 16)

Installing the Control-M/EM Upgrade Export Pack

This procedure describes how to install the Control-M/EM Upgrade Export Pack on UNIX and Windows on the old environment. This is used to export Control-M/EM data to a file in the old environment, and then import it into the new environment.

**NOTE:** The Control-M Upgrade pack is automatically installed on the Control-M/EM 8.0.00 environment and is maintained and updated with Control-M/EM fix packs. If a Control-M/EM fix pack is applied after performing the following steps, then these steps must be repeated.

**Before you begin**

Ensure that you have successfully installed the following:

- Control-M/EM 8.0.00, as described in Control-M Installation.

**To install the Control-M/EM Upgrade Export Pack:**

1. Copy one of the following from the root folder of the new Control-M/EM 8.0.00 installation to a temporary folder in the old version environment of Control-M/EM:
   - **UNIX:** `<em_home>/ctm_em/Upgrade/Export/install_upgrade`
   - **Windows:** `<em_home>/Default\Upgrade\Export\install_upgrade.exe`

2. From the temporary folder, run the file that was copied.

The upgrade files are extracted to `<em_home>/Default\Upgrade_Export` (for Windows) and `<em_home>/ctm_em/Upgrade_Export` (for Unix) under the Control-M/EM home directory, and a message appears to indicate that the installation completed successfully.

Validate the data, as described in [Validating and correcting the Control-M/EM old version](#) (on page 14).
Validating and correcting the Control-M/EM old version

This procedure describes how to validate the Control-M/EM old data to ensure that it functions correctly with the destination environment.

**NOTE:** You do not need to shut Control-M/EM down when you validate the old version data.

> **To validate and correct the Control-M/EM old version:**

1. Run one of the following upgrade commands:
   - **UNIX:** `<em_home>/ctm_em/Upgrade_Export/upgrade`
   - **Windows:** `<em_home>/Default\Upgrade_Export\upgrade.bat`
     
     For Windows, this command needs to run from a command prompt launched with *Run as Administrator*.

   The Upgrade (Export) menu appears.

   ![Select one of the following options:]
   
   1) Validate your data readiness for 9.0.0x.
   2) View readiness report.
   3) Export.
   4) Exit Menu

   Enter option number—–> []:  

2. To validate the source data, enter 1.

3. Follow the on-screen instructions until the validation is complete.

   A Readiness report is generated at the location described in step 1.

4. To view the Readiness Report, enter 2.

5. Analyze the results and correct all errors manually.

   Data that generated informational messages and warnings are automatically adjusted when imported to the new 8.0.00 version. For more information on the Readiness report, see Readiness report messages (on page 33).

6. Repeat the data validity check in steps 2 - 5, until no error messages are generated and the message *The data is ready to be exported* appears.

7. Export the data, as described in Exporting the Control-M/EM old data (on page 14).

Exporting the Control-M/EM old data

This procedure describes how to export the Control-M/EM old data. The export and import process can be repeated as many times as needed for testing.

**NOTE:** You do not have to shut down Control-M/EM when you export data from the old version.

**Before You Begin**

Ensure you have the Control-M/EM database owner user name and password, and Database System Administrator user name and password.
For testing, you do not have to shut down anything. A full export can be performed while the old EM is up and running.

For the final export, ensure that you have shut down all of the EM components (only the database needs to be up):

- GUI Server
- Global Conditions Server
- Gateways
- BMC Batch Impact Manager Server
- Forecast Server
- Central Management Server (CMS)
- Configuration Agent
- All open connections to the Control-M/EM database that use database tools such as isql, osql, or sqlplus

➢ To export the Control-M/EM old data:

1. Run one of the following upgrade commands:
   - UNIX: `<em_home>/ctm_em/Upgrade_Export/upgrade`
   - Windows: `<em_home>\Default\Upgrade_Export\upgrade.bat`

   The Upgrade (Export) menu appears.

2. Enter 3.

3. Follow the on-screen instructions until the export is complete.

```sql
Select one of the following options:
1) Validate your data readiness for 9.0.0x.
2) View readiness report.
3) Export.
4) Exit Menu
Enter option number----> [1]:
```

2. Enter 3.

3. Follow the on-screen instructions until the export is complete.

If this is your final upgrade, shut down all open connections before continuing.

If you are testing the export process, continue, as long as no database changes are made during the export.

Select one of the following options:

```sql
1) Continue with export
2) Shutdown local Control-M/EM components
3) Display database connections
4) Exit
Enter option number----> [1]:
```

NOTE: Database connections to the Control-M/EM include isql, osql, or sqlplus.

4. After you start the export process, shut the Control-M/EM old environment down permanently. This ensures that new data is not generated and definitions cannot be updated or changed.

The exported files are saved at the following location:
5. Copy the exported files to the following locations of the new 8.0.00 environment:
   - **UNIX**: `<em_home>/ctm_em/Upgrade_Export/EMExportForUpgrade.tar`
   - **Windows**: `<em_home>\Default\Upgrade_Export\data\*`

Export ended successfully.

The export files are stored in the following locations:
- **UNIX**: "Upgrade_Export/EMExportForUpgrade.tar"
- **Windows**: "Upgrade_Export/data/"

To proceed with the upgrade process, copy or replace the export output pack/files to the 9.8.0x machine/account as follows:
- In UNIX, copy to `<EM_HOME>/Upgrade/Import` directory.
- In Windows, copy the `<EM_HOME>\Upgrade\Import\data` folder.

For more information, see the Upgrade Guide.

Press ENTER to continue.

6. Import the exported data in the new 8.0.00 environment, as described in .

For information on debugging the Control-M/EM export process, see Debugging the Control-M/EM export and import processes (on page 45).

### Importing the Control-M/EM exported data to the new version

This procedure describes how to import the Control-M/EM exported data to the new version of Control-M/EM.

**Before You Begin**

Ensure that you have met the following requirements:

- Installation of the new version of the EM with the latest EM fix packs
- No open connections to the Control-M/EM database
- The Control-M/EM database server is up and running
- All the Control-M/EM components are shut down:
  - GUI Server
Control-M Workload Automation Upgrade Guide

- Global Conditions Server
- Gateways
- BMC Batch Impact Manager Server
- Control-M/Forecast Server
- Configuration Management Server (CMS)
- Configuration Agent

Ensure you have the Control-M/EM database owner user name and password, and Database System Administrator authorization.

➢ To import:

1. Copy the following exported files from the accessible location you saved them to the destination environment as follows:
   - **UNIX**: `<em_home>/Upgrade/Import/EMExportForUpgrade.tar`
   - **Windows**: `<em_home>\Upgrade\Import\data`*

2. Run one of the following commands:
   - **UNIX**: `<em_home>/Upgrade/upgrade`
   - **Windows**: `<em_home>\Upgrade\Import\upgrade.bat`

The Upgrade (Import) menu appears.

```
Upgrade (Import)
Before Import, make sure that:
  * The exported upgrade data is placed under <EM_HOME>/Upgrade/Import/data.
  * There are no open connections to Control-M/EM database.
  * All Control-M/EM components are down.
  * The Control-M/EM database server is up and running.

Select one of the following options:
1> Import
2> Exit Menu.
Enter option number----> []: 
```


4. Follow the on-screen instructions until the import is complete.

The import process converts the data and imports it into the new database.

5. Start up the EM components.

For information on debugging the Control-M/EM import process, see Debugging the Control-M/EM export and import processes (on page 45).
Control-M/Server Upgrade

The Control-M/Server upgrade Exports your Control-M/Server data from the old environment so that you can import the data into the new Control-M/Server environment.

The Control-M/Server upgrade can be performed in Automatic or Manual mode. The Manual mode is similar to the Control-M/EM upgrade process.

- **Automatic Control-M/Server Upgrade**: Enables you to perform a full upgrade process from the new version of Control-M/Server. The new Control-M/Server must connect to the old Control-M/Server using a remote host connection, and uses jobs to accomplish the task of validating, exporting, and importing. The automatic upgrade uses the new Control-M/Server to copy the upgrade tool to the old Control-M/Server and automatically performs the export and copies the data to the new for import, as described in [Upgrading Control-M/Server automatically](on page 18).

Automatic upgrade uses agentless technology, which requires both the local Control-M/Agent (installed with the Control-M/Server) and the old environment to meet the same conditions as the Control-M/Agent and remote host used for agentless execution. For more information on setting up an SSH or WMI connection, see [Defining a remote host]().

- **Manual Control-M/Server Upgrade**: Enables you to upgrade data by validating and exporting data from the old environment and importing the data to the new version, as described in [Control-M/Server Manual Upgrade](on page 24). You can export the data from the old environment to a file, and then import the file to the new environment.

Both the Automatic and Manual Control-M/Server upgrade allow for a two-phase export and import. If the Control-M/Server is not running when the export is started, then both the Static and Active data will be exported to a file. If the Control-M/Server is running when the export is started, the Phase 1 - Static data export will be performed and then you will be prompted to only export the Static data or shutdown the Control-M/Server to additionally export the Phase 2 - Active data. This will allow you to export your static data while the Control-M/Server is running.

- **Static Phase 1**: Export the historical and definition data while the old Control-M/Server is running. The Control-M/Server can continue to run while you export the historical and definition data. This can be used to test the export and import process and populate the new environment for testing.

- **Active Phase 2**: Export only the active data. The Control-M/Server cannot be running during this phase. This export is performed if "static" phase 1 export was previously performed and only the active data needs to be copied to the new environment. This can reduce the export/import time on the day of the final upgrade.

### Upgrading Control-M/Server automatically

This procedure describes how to automatically upgrade historical, definition, and active data from the Control-M/Server old environment to the new environment. Automatic upgrade minimizes the shutdown time of Control-M/Server and removes the need to log in to the old environment of Control-M/Server.

**Before You Begin**

Ensure that you have successfully completed the following:
Control-M/EM Upgrade (on page 13) to version 8.0.00.

- Verify that you have an SSH or WMI connection between the new and old environments, as described in Defining a remote host.

- Review the Control-M/Server upgrade parameters, as described in Editing the Control-M/Server upgrade parameters (on page 21).

- If you want to skip validation and enable the process to fix the validation errors automatically, in the <server_home>/ctm_server/upgrade_ctm/data/migration.cfg file, set VALIDATION_SKIP to YES.

➢ To upgrade Control-M/Server automatically:

1. Run one of the following upgrade commands on the new environment:
   - UNIX: <server_home>/ctm_server/upgrade/import/upgrade
   - Windows: <server_home>/ctm_server\upgrade\import\upgrade.bat

   The Control-M/Server 9.0.00 - Upgrade Menu appears.

2. To upgrade historical, definition, and active data from the new environment, enter 1.

   The Automatic Upgrade menu appears.

3. Follow the on-screen instructions until the old environment connection parameters are set.

4. To test the connection and continue the upgrade process, enter 9.

   After you have imported the data, the validation errors are fixed automatically.
If you have completed Phase 1 (upgrading definition data), and completed steps 1 - 7, and in step 8, you selected LATER, you were instructed to complete steps 1 - 6. When you get to this step, the menu appears with an additional option that includes Phase 2. You can complete Phase 2, and select 3 (upgrading definition and active) or 4 (upgrading only active).

5. To generate a validation report, do the following:
   a. To validate the data, enter 1.
   b. To view the Readiness report, enter 2.
   c. Analyze the results and correct all errors, as described in the Readiness report messages (on page 33).
   d. Go to 5a until no errors are encountered in the validation report, unless you want to use VALIDATION_SKIP set to Yes.

6. To start the upgrade, enter 3 (Automatic Upgrade - Upgrades historical, definitions, and active data). You will be prompted later to upgrade the active data. At that time, the Control-M/Server will need to be stopped.

The upgrade process starts executing and the following prompt message appears only if ASK_LOG_DAYS is set to YES parameter in the migration.cfg file located in the <server_home>/ctm_server/upgrade_ctm/data folder.
You also have the option to set the Log_Depth field, if the ASK_LOG_DAYS is set to NO.

Number of historical data days to export(Full historical data)
For Control-M/Agents version 6.4.01 Fix Pack 4 and later, you are prompted to add the new Control-M/Server host to the Authorized Servers list. This may take a long time.

7. To upgrade definition data, do one of the following:
   - Without any historical days, type 0.
   - With all historical days, type ALL.
   - With some historical days, type a number between 1 and 100 to indicate which historical days

The upgrade process continues and the following prompt message appears:

When do you plan to upgrade active environment <requires old environment shutdown>?<NOW:LATER:NEVER>

8. Do one of the following:
   - To import the active data now, type NOW. The definitions and active data are upgraded.
   - To import the active data at another time, type LATER, and do one of the following:
     o If you decide that you do not want to import the active data at all, run the <server_home>/ctm_server/upgrade_export/FINALIZE command, which does the following:
       - Moves agent definitions and communication parameters from the old environment to the 8.0.00 environment, and updates permitted agent utilities.
- Re-enables the New Day procedure on the 8.0.00 environment (it is disabled during Automatic upgrade).
- Updates job counters used for job ID generation. Clears definitions used by the Automatic upgrade.
  
  o If you decide to import the active data at another time, complete step 1 through step 6 and then do one of the following:
    - To upgrade historical data, definitions, and active data, enter 3 (Full Environment Upgrade).
    - To upgrade just the active data, enter 4 (Active Environment Upgrade).
  
  • To upgrade historical and definition data only, type NEVER and continue with step 10.

  BMC Software recommends that you use the NEVER option to test the new target environment several days before you perform the actual upgrade.

  If you choose use this option, you will not be able to perform job actions in Production from the Archived Viewpoint.

  The following prompt message appears:

  For export of active environment, Control-M Server on source(production) environment must be down. Would you like Control-M Upgrade to shut down the Control-M Server? <YES/NO>

9. Do one of the following:
  
  • To upgrade job definitions only without shutting down the active job runtime environment, type NO.

    If you do not shut down the production environment, you will not be able to import the active data.

  • To shut down Control-M/Server, type YES.


Editing the Control-M/Server upgrade parameters

This procedure describes how to review and edit the export/import parameters.

➢ To edit the Control-M/Server upgrade parameters:

1. Review the Control-M/Server upgrade parameters in the migration.cfg file, as described in Control-M/Server upgrade parameters (on page 22).
   
   • UNIX: <server_home>/ctm_server/upgrade_export/data
   
   • Windows: <server_home>\ctm_server\upgrade_export\data

2. To edit, set the values, and save the migration.cfg file.
Control-M/Server upgrade parameters

The following table lists the Control-M/Server upgrade parameters. These parameters can be defined in the `migration.cfg` file:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASK_LOG_DAYS</td>
<td>Description</td>
<td>Determines whether to prompt the user for the number of log days to export during the Control-M/Server upgrade process.</td>
</tr>
<tr>
<td></td>
<td>Default value</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Valid values</td>
<td>▪ Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ No</td>
</tr>
<tr>
<td>LOG_DEPTH</td>
<td>Description</td>
<td>Determines the number of log days the user wants to export during the Control-M/Server upgrade process.</td>
</tr>
<tr>
<td></td>
<td>Default value</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Valid values</td>
<td>0 - 100</td>
</tr>
<tr>
<td>LONG_TIMEOUT</td>
<td>Description</td>
<td>Determines the time in seconds to wait for jobs submitted to the old environment during Control-M/Server Automatic upgrade.</td>
</tr>
<tr>
<td></td>
<td>Default value</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>Valid values</td>
<td>Any positive number. 180 or greater is recommended.</td>
</tr>
<tr>
<td>SHORT_TIMEOUT</td>
<td>Description</td>
<td>Determines the time in seconds to wait for jobs submitted to the old environment during Control-M/Server Automatic upgrade.</td>
</tr>
<tr>
<td></td>
<td>Default value</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Valid values</td>
<td>Any positive number. 60 or greater is recommended.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Attribute</td>
<td>Value</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>VALIDATION_SKIP</td>
<td>Description</td>
<td>Determines whether to skip the validation process on the export, even if there are validation errors on the old environment. If you skip the validation on the export, the import automatically fixes the spaces in job names that were found during the export.</td>
</tr>
</tbody>
</table>

Default value: No

Valid values:  
- Yes
- No
Control-M/Server Manual Upgrade

The following procedures describe how to perform a manual upgrade by exporting the old data from the old Control-M/Server, copying the file and importing it into the new Control-M/Server version:

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Control-M/Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control-M/EM Upgrade (on page 13)</td>
<td>Before you begin Control-M/Server upgrade, the Control-M/EM must be upgraded to the new version.</td>
</tr>
<tr>
<td>Installing the Control-M/Server Upgrade Export Pack (on page 25)</td>
<td>Places the Control-M/Server export pack in the old environment.</td>
</tr>
<tr>
<td>Editing the Control-M/Server upgrade parameters (on page 21)</td>
<td>Configure the Control-M/Server upgrade parameters including whether to prompt for the number of log days to include in the export.</td>
</tr>
<tr>
<td>Validating and correcting the Control-M/Server old data (on page 25)</td>
<td>Examines the old data for compatibility with the new format and enables you to correct the data.</td>
</tr>
<tr>
<td>Exporting the Control-M/Server old data (on page 26)</td>
<td>Exports the data from the old environment to a file.</td>
</tr>
<tr>
<td>Importing the Control-M/Server exported data to the new version (on page 28)</td>
<td>Imports the data into the new environment.</td>
</tr>
<tr>
<td>Post-Control-M/Server upgrade procedures (on page 29)</td>
<td>The following procedures describes the post-Control-M/Server upgrade process:</td>
</tr>
<tr>
<td></td>
<td>- Promoting Control-M/Server in Control Configuration Manager (CCM) (on page 29): Synchronizes the Control-M/Server data formats in the Control-M/EM database from the old to the new 8.0.00 data formats by running the Promote action in the Control-M/EM environment in the Control-M Configuration Manager.</td>
</tr>
<tr>
<td></td>
<td>- Renaming the Control-M/Server in Control Configuration Manager (CCM): Enables you to rename the Control-M/Server that was upgraded.</td>
</tr>
<tr>
<td></td>
<td>- Continuing after Control-M/Server upgrade (on page 31): Describes how to continue working with existing agents after you have finished the Control-M/Server upgrade.</td>
</tr>
</tbody>
</table>
Installing the Control-M/Server Upgrade Export Pack

This procedure describes how to install the Control-M/Server Upgrade Export Pack in the old environment. The latest version of the Control-M Upgrade pack is automatically installed in the new environments. Manual upgrade requires you to copy the Control-M/Server Upgrade Export Pack to the old environment.

If a previous old version of the Control-M/Server Upgrade is detected during installation, it is backed up to the upgrade_export.PREVIOUS directory in the old version on the Control-M/Server environment.

Before you begin

Ensure you have successfully installed the following:

- Control-M/Server 8.0.00, as described in Control-M Installation.

**NOTE:** The Control-M Upgrade is automatically installed in the Control-M/Server 8.0.00 environment and is maintained and updated with Control-M/Server 8.0.00 fix packs. If a Control-M/Server fix pack is applied after performing the following steps, then these steps will need to be repeated (copy and install the Upgrade export pack into the old environment).

➢ To install the Control-M/Server Upgrade Export Pack:

1. Copy the following from the Control-M/Server 8.0.00 installation to the old environment:
   - **UNIX:** `<server_home>/upgrade/export/ctm_upgrade_export`
   - **Windows:** `<server_home>/upgrade/export/ctm_upgrade_export.exe`

2. In the old environment, run the file you have copied from the Control-M/Server 8.0.00.

   The upgrade files are extracted to `<server_home>/ctm_server/upgrade_export` in the Control-M/Server home directory, and a message appears to indicate that the installation completed successfully and where the files are located.

3. Validate the data, as described in Validating and correcting the Control-M/Server old data (on page 25).

Validating and correcting the Control-M/Server old data

This procedure describes how to validate and correct the Control-M/Server old version data to ensure that the functionality is preserved in the new version. If a problem with the data is detected, a message is written to the Readiness report.

➢ To validate and correct the Control-M/Server old data:

1. Run one of the following upgrade commands:
   - **UNIX:** `<server_home>/ctm_server/upgrade_export/upgrade`
   - **Windows:** `<server_home>/ctm_server/upgrade_export/upgrade.bat`
The Upgrade 8.0.00 Manual Upgrade Menu for Control-M/Server appears.

2. To validate the old data, enter 1.
3. Follow the on-screen instructions until the validation is complete.
4. To view the Readiness report, enter 2.
5. Analyze the results and correct all errors, as described in the Readiness report (on page 33).
6. Repeat the data validity check until no error messages are generated.
7. Export the data, as described in Exporting the Control-M/Server old data (on page 26).

Exporting the Control-M/Server old data

This procedure describes how to export the Control-M/Server old data to a file that can be then imported to the new environment.

➢ To export the Control-M/Server old data:
1. Run one of the following upgrade commands:
   - UNIX: `<server_home>/ctm_server/upgrade_export/upgrade`
   - Windows: `<server_home>\ctm_server\upgrade_export\upgrade.bat`
The Upgrade 8.0.00 Manual Upgrade Menu for Control-M/Server appears.

2. Enter 3 (Export).

3. Follow the on-screen instructions until the export is complete.

For Control-M/Agents version 6.4.01 fix pack 4 and later, you are prompted to add the new Control-M/Server host to the Authorized Servers list. This may take a long time. This option only appears if the old Control-M/Server is up and running when the export is performed.

- To upgrade job definitions only, without any historical days, type 0 for Maximum of log days to export. This prompt only appears when ASK_LOG_DAYS is set to YES in the migration.cfg file located in the <server_home>/ctm_server/upgrade_export/data/migration.cfg folder. You also have the option to set the Log_Depth field.

- To export job definitions only without shutting down the active job runtime environment, type NO to Proceed with export of Active data and shut down source Control-M/Server processes <YES/NO>.

The export of the historical and job definition data can only be used to test the import into the new Control-M/Server 8.0.00 environment.
If you do not shut down the production environment, you will not be exporting the Active Job runtime environment. This export can be used to test the export and import process. On the day of the upgrade when you can shut down the old Control-M/Server, you can re-run the export to export both the static and Active Job runtime environment.

The exported files are saved in the following location:

- **UNIX**: `<server_home>/ctm_server/upgrade_export/output/<Type of Export>_<timestamp>.tar`
- **Windows**: `<server_home>/ctm_server/upgrade_export/output/<Type of Export>_<timestamp>.tar`

In the path, replace the `<Type of Export>` with one of the following:
- **LDR** = Full export of Logs (Historical data), Definitions data, Runtime (Active data)
- **LD** = Export of Logs (Historical data) and Definitions data only
- **R** = Active data export (Runtime) - continued from a process that was stopped after historical and definition data were exported

4. Copy the exported file to the Control-M/Server 8.0.00 environment.

**NOTE:** If the exported files are copied using FTP, they must be transmitted in binary mode.

5. Import the export file to the new environment, as described in Importing the Control-M/Server exported data to the new version (on page 28).

### Importing the Control-M/Server exported data to the new version

This procedure describes how to import the Control-M/Server exported data to the new version of Control-M/Server.

➢ **To import the Control-M/Server exported data to the new version:**

1. Run one of the following upgrade commands:
   - **UNIX**: `<server_home>/ctm_server/upgrade/import/upgrade`
   - **Windows**: `<server_home>/ctm_server/upgrade/import\upgrade.bat`
The Control-M/Server 8.0.00 - Manual Menu appears.

2. Enter **2 - Manual Upgrade**.

   The Upgrade 8.0.00 Manual Upgrade Menu - Control-M/Server menu appears.

3. Enter **1 - Import**.

4. Follow the on-screen instructions until the import is complete.

   The import process converts and imports the data into the 8.0.00 environment.

5. To load the database with all the statistics that are required for performance, run the ctmdbopt utility.

Post-Control-M/Server upgrade procedures

After you finish upgrading the Control-M/Server, you need promote the Control-M/Server, as described in Promoting Control-M/Server in Control Configuration Manager (CCM) (on page 29).

Promoting Control-M/Server in Control Configuration Manager (CCM)

This procedure describes how to promote Control-M/Server data after upgrading both Control-M/EM and Control-M/Server.

**Before You Begin**

Verify that you have met the following requirements:
Control-M/Server Upgrade (on page 18)

Ensure that the new Control-M/Server status is set to Unmanaged. Setting the Control-M/Server to Managed before the promote process, can cause corruption.

Do not start up the corresponding gateway until after you complete this procedure. The Promote only affects the Control-M/Server data that is in the Control-M/EM database. It does not need to connect to the Control-M/Server to perform this procedure.

**NOTE:** You need to follow this procedure only when the Control-M/Server was upgraded to 8.0.00. If only the Control-M/EM was upgraded and not the Control-M/Server then you do not perform these steps.

➢ To promote Control-M/Server in Control Configuration Manager (CCM):

1. Log in to the new version of Control-M/EM 8.0.00 client and open Control-M Configuration Manager (CCM).

   **NOTE:** Do not change the version of the Control-M/Server component in the CCM. The Promote Control-M action performs this change automatically.

2. From CCM, select the Control-M/Server that you want to synchronize with Control-M/EM and check the **Version** column.

   **NOTE:** If the Control-M/Server version for the selected server is an earlier version than the version of the server that is actually installed (because the server was upgraded), then continue with this procedure. Otherwise, there is no need to promote.

3. From the CCM, select the Control-M/Server that was upgraded, right-click and select **Promote Control-M/Server**.

4. In the **Version** field, select version 8.0.00

5. Set the fields, as described in **Promote parameters** (on page 31).

6. Click **OK**

7. Right-click **Gateway** and select **Desired State > Up**.
Promote parameters

The following table describes the Promote fields:

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote</td>
<td>Defines whether to update the data for a Control-M/Server in the Control-M/EM database to a new version.</td>
</tr>
<tr>
<td>Control-M</td>
<td></td>
</tr>
<tr>
<td>Version</td>
<td>Select the new version of the upgraded Control-M/Server. All job definitions will be converted to a format that is consistent with the standards for the new version.</td>
</tr>
<tr>
<td></td>
<td>If you upgraded the Control-M/Server on UNIX, Windows or z/OS to a version lower than 8.0.00, then select the version that the Control-M/Server was upgraded to.</td>
</tr>
<tr>
<td>Host</td>
<td>Defines the name of the Control-M/Server machine (maximum length: 255 characters).</td>
</tr>
<tr>
<td>Port</td>
<td>Defines either:</td>
</tr>
<tr>
<td></td>
<td>• The port number of the Control-M/Server Configuration Agent or</td>
</tr>
<tr>
<td></td>
<td>• The port number of the Control-M/Server listening port</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> Only one can be selected. If this Control-M/Server is being managed by the CCM, then you should select and set the Control-M/Server Configuration Agent Port number.</td>
</tr>
<tr>
<td>Synchronization</td>
<td>Determines how to synchronize data between Control-M/Server and Control-M/EM, as described in Configuring Control-M/Server synchronization.</td>
</tr>
<tr>
<td>Mode</td>
<td></td>
</tr>
</tbody>
</table>

Continuing after Control-M/Server upgrade

This procedure describes how to continue working with existing agents after you have finished the Control-M/Server upgrade.

➢ **To continue after Control-M/Server upgrade:**

1. To continue working with Control-M/Agents from the old environment, do one or more of the following:
   - Add the new Control-M/Server host name to the Authorized Servers list for every Control-M/Agent. For more information on the Authorized Server field, see *Control-M Installation Guide*. 

31
Configure the Control-M/Server default communication protocol to match the version of the majority of your connected Control-M/Agents. The default communication protocol version in Control-M/Server 9.0.0 is 11. For details, see Defining Control-M/Server system parameters and Communication parameters (Administration Guide).

2. Configure the correct Agent configuration parameter PROTOCOL_VERSION. The Server to Agent protocol version must be set to the lowest version of either the Control-M/Server or Agent. This parameter is set on both the Agent and the Server for that agent and they must match. You can use the Agent utility ctmagcfg to set the parameter on the Agent and the Control-M/Server utility ctm_menu to set it on the server. Here are the possible values for PROTOCOL_VERSION:

<table>
<thead>
<tr>
<th>Control-M/Agent Version</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.3.0x</td>
<td>07</td>
</tr>
<tr>
<td>6.4.0x</td>
<td>08</td>
</tr>
<tr>
<td>7.0.0x</td>
<td>09</td>
</tr>
<tr>
<td>8.0.0x</td>
<td>10</td>
</tr>
<tr>
<td>9.0.0x</td>
<td>11</td>
</tr>
</tbody>
</table>

**EXAMPLE:** If Control-M/Server is 8.0.00 and the Agent is 8.0.00, then the PROTOCOL_VERSION should be set to 10.

3. If the ctmldmrs.dat file is upgraded, copy the ctmldmrs.dat file from the Control-M/Server home folder (<server_home>) to the default location (<server_home>/ctm_server/tmp) or another location as required.

**NOTE:** On UNIX, the ctmldmrs.dat is deleted from the default location (<server_home>/ctm_server/tmp) when Control-M/Server is started.

**Uninstalling the Control-M/Server Upgrade**

This procedure describes how to uninstall the Control-M/Server Upgrade on the source environment of Control-M/Server.

➢ To uninstall the Control-M/Server Upgrade:

- From the source environment of Control-M/Server, delete one of the following folders:
  - UNIX: <server_home>/ctm_server/upgrade_export folder.
  - Windows: <server_home>/ctm_server/upgrade_export folder.
Troubleshooting Control-M Upgrade

The following topics describe errors and how to troubleshoot some issues during upgrade:

- **Readiness report messages** (on page 33)
- **Debugging the Control-M/EM export and import processes** (on page 45)
- **Control-M/Forecast exception conditions** (on page 46)
- **Control-M/Forecast Historical Data** (on page 46)
- **BMC Batch Impact Manager Web Application settings from a previous version** (on page 47)
- **Remedy system parameters upgrade** (on page 47)

### Readiness report messages

Readiness report messages enable you to view and analyze errors and warnings that indicate issues during the Control-M upgrade export process.

- View the description of the message, as described **Control-M/EM messages** (on page 33) and **Control-M/Server messages** (on page 41).
- Analyze the message according to the prefixes, as described in **Readiness report message prefixes** (on page 44). The following prefixes indicate if corrective action is mandatory or not:
  - **ERR** messages: Correction of errors is mandatory
  - **ERR99** with PLN messages: Correction of PLN problems is mandatory
  - **ERR99** without PLN messages: Contact BMC Customer support [http://www.bmc.com/support](http://www.bmc.com/support)
  - **WRN** messages: Correction of the problem is optional
  - **INF** messages: No action required
- Determine the corrective action if any. To correct Control-M/Server problems, see **Correcting the export problems** (on page 43).

### Control-M/EM messages

The messages in this section describe the Control-M/EM Readiness messages.

**ERR30001 Fields contain illegal TAB sign**

**Explanation:** The specified field cannot contain a TAB sign.
The export procedure cannot process the data.

**Corrective Action:** Delete the illegal TAB signs.
ERR30002 Special characters are used in the ViewPoint Collection definitions: !,()[]{}.+^$|

Explanation: The 6.2.01 environment treats the following special characters as regular expressions: !, ()[]{}.+^$|
The export procedure cannot process the data.
Corrective Action: ‘Escape’ the special characters by adding a backslash character "\" before each special character if the "\" is not present. To avoid a change of behavior in the old environment, make this correction when the system is down and ready to export the data.

ERR30003 Special characters are used in the ViewPoint filter definitions: ,^

Explanation: The 6.2.01 environment treats the following special characters as regular expressions: ,^ The export procedure cannot process the data.
Corrective Action: ‘Escape’ the special characters by adding a backslash character "\" before each special character if the "\" is not present. To avoid a change of behavior in the old environment, make this correction when the system is down and ready to export the data.

ERR30004 Special characters are used in the Displayed Jobs Filter of user authorization definitions: ,^

Explanation: Special characters are used in the Displayed Jobs Filter for user authorization definitions. The 6.2.01 environment treats the following special characters as regular expressions: ,^ The export procedure cannot process the data.
Corrective Action: ‘Escape’ the special characters by adding a backslash character "\" before each special character if the "\" is not present. To avoid a change of behavior in the old environment, make this correction when the system is down and ready to export the data.

ERR30005 Special characters are used in the Resource Authorizations of user authorization definitions: !,()[]{}.+^$|*?

Explanation: Special characters are used in the resource authorization definitions. The 6.2.01 environment treats the following special characters as regular expressions: !,()[]{}.+^$|*?
The export procedure cannot process the data.
Corrective Action: ‘Escape’ the special characters by adding a backslash character "\" before each special character if the "\" is not present. To avoid a change of behavior in the old environment, make this correction when the system is down and ready to export the data.
ERR30006 Encountered a data center not supported by Control-M/EM version 7.0.0x.

Explanation: Control-M/Enterprise Manager version 7.0.0x supports data centers for the following products only:

Control-M/Server for Distributed Systems version 6.2.0x
Control-M for OS/390 and Control-M for z/OS version 6.2.0x

Data centers for versions previous than those listed above must be upgraded. The export procedure cannot process the data.

Corrective action: Upgrade data center to a version which is supported by Control-M/Enterprise Manager 7.0.0x.

ERR30007 Fields contain illegal new line character

Explanation: The specified field cannot contain a new line character. The new line character is represented in the Readiness report with the string "<NL>"
The export procedure cannot process the data.

Corrective action: Delete the illegal new line character.

ERR30008 TableName contains illegal slash / characters

Explanation: The specified field cannot contain slash / characters.
The export procedure cannot process the data.

Corrective action: Delete the illegal slash / characters.

ERR30009 JobName or MemName contain illegal slash / characters

Explanation: The specified field cannot contain slash / characters.
The export procedure cannot process the data.

Corrective action: Delete the illegal slash / characters.

ERR30010 TableName or Job name in DO-Force Job statement contain illegal slash / characters

Explanation: The specified field cannot contain slash / characters.
The export procedure cannot process the data.

Corrective action: Delete the illegal slash / characters.
ERR30011 Slash "/" characters are used in the ViewPoint Collection definitions in JobName or MemName attributes

**Explanation:** JobName or MemName attributes cannot contain slash / characters. The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

ERR30012 Slash "/" characters are used in the ViewPoint Filter definitions in TableName or JobName or MemName attributes

**Explanation:** TableName, JobName or MemName attributes cannot contain slash / characters. The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

ERR30013 Slash "/" characters are used in the Displayed Jobs Filter of user authorization definitions in JobName or MemName attributes

**Explanation:** JobName or MemName attributes cannot contain slash / characters. The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

ERR30014 Slash "/" characters are used in the Resource Authorizations of user authorization definitions in TableName attribute

**Explanation:** TableName attributes cannot contain slash / characters. The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

ERR40001 Fields contain illegal TAB sign

**Explanation:** The specified field cannot contain a TAB sign. The export procedure cannot process the data.

**Corrective action:** Delete the illegal TAB signs.

ERR40002 Encountered a data center not supported by Control-M/EM version 7.0.0x.

**Explanation:** Control-M/Enterprise Manager version 7.0.0x supports data centers for the following products only:
Data centers for versions previous than those listed above must be upgraded. The export procedure cannot process the data.

**Corrective action:** Upgrade data center to a version which is supported by Control-M/Enterprise Manager 7.0.0x.

**ERR40003 Fields contain illegal new line character**

**Explanation:** The specified field cannot contain a new line character. The new line character is represented in the Readiness report with the string "<NL>".

The export procedure cannot process the data.

**Corrective action:** Delete the illegal new line character.

**ERR40004 TableName contains illegal slash / characters**

**Explanation:** The specified field cannot contain slash / characters.

The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

**ERR40005 JobName or MemName contain illegal slash / characters**

**Explanation:** The specified field cannot contain slash / characters.

The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

**ERR40006 TableName or JobName in DO-Force Job statement contain illegal slash / characters**

**Explanation:** The specified field cannot contain slash / characters.

The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

**ERR40007 Slash "/" characters are used in the ViewPoint Collection definitions in JobName or MemName attributes**

**Explanation:** JobName or MemName attributes cannot contain slash / characters.

The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.
ERR40008 Slash "/" characters are used in the ViewPoint Filter definitions in TableName or JobName or MemName attributes

Explanation:  TableName, JobName or MemName attributes cannot contain slash / characters.
The export procedure cannot process the data.
Corrective action:  Delete the illegal slash / characters.

ERR40009 Slash "/" characters are used in the Displayed Jobs Filter of user authorization definitions in JobName or MemName attributes

Explanation:  JobName or MemName attributes cannot contain slash / characters.
The export procedure cannot process the data.
Corrective action:  Delete the illegal slash / characters.

ERR40010 Slash "/" characters are used in the Resource Authorizations of user authorization definitions in TableName attribute

Explanation:  TableName attributes cannot contain slash / characters.
The export procedure cannot process the data.
Corrective action:  Delete the illegal slash / characters.

ERR50001 TableName contains illegal slash / characters

Explanation:  The specified field cannot contain slash / characters.
The export procedure cannot process the data.
Corrective action:  Delete the illegal slash / characters.

ERR50002 JobName or MemName contain illegal slash / characters

Explanation:  The specified field cannot contain slash / characters.
The export procedure cannot process the data.
Corrective action:  Delete the illegal slash / characters.

ERR50003 TableName or JobName in DO-Force Job statement contain illegal slash / characters

Explanation:  The specified field cannot contain slash / characters.
The export procedure cannot process the data.
Corrective action:  Delete the illegal slash / characters.
ERR50004 Slash "/" characters are used in the ViewPoint Collection definitions in JobName or MemName attributes

**Explanation:** JobName or MemName attributes cannot contain slash / characters. The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

ERR50005 Slash "/" characters are used in the ViewPoint Filter definitions in TableName or JobName or MemName attributes

**Explanation:** TableName, JobName or MemName attributes cannot contain slash / characters. The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

ERR50006 Slash "/" characters are used in the Displayed Jobs Filter of user authorization definitions in JobName or MemName attributes

**Explanation:** JobName or MemName attributes cannot contain slash / characters. The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

ERR50007 Slash "/" characters are used in the Resource Authorizations of user authorization definitions in TableName attribute

**Explanation:** TableName attributes cannot contain slash / characters. The export procedure cannot process the data.

**Corrective action:** Delete the illegal slash / characters.

INF30001 Special characters - |(){}$! - are used in the ViewPoint Filter definitions.

**Explanation:** In the 6.2.01 environment the specified characters have different meanings. To avoid a change behavior after migrating to the 6.2.01 environment, the system will add a "\" before each special character if the backslash is not present, but will remove it if it is present.

INF30002 Special characters - |(){}$! - are used in the Displayed Jobs Filter of user authorization definitions.

**Explanation:** In the 6.2.01 environment the specified characters have different meanings. To avoid a change behavior after migrating to the 6.2.01 environment, the system will add a "\" before each special character if the backslash is not present, but will remove it if it is present.
INF50001 History definitions: TableName contains illegal slash / characters

**Explanation:** The specified field cannot contain slash / characters.

The system removes the slash / character from the specified field. For example, a/b is replaced by ab.

INF50002 History definitions: JobName or MemName contain illegal slash / characters

**Explanation:** The specified field cannot contain slash / characters.

The system removes the slash / character from the specified field. For example, a/b is replaced by ab.

INF50003 History definitions: TableName or JobName in DO-Force Job statement contain illegal slash / characters

**Explanation:** The specified field cannot contain slash / characters.

The system removes the slash / character from the specified field. For example, a/b is replaced by ab.

WRN30001 Wildcard characters * and ? are used for Viewpoint collection definitions

**Explanation:** Wildcard characters * and ? when used in Viewpoint collection definitions in combination with operators =, <, >, !=, yield incorrect results.

**FieldName**  **Operator**  **FieldValue**

**Group**  =  *group*

If production groups *group* and %group% both exist, the Viewpoint collection will display jobs with %group% only.

All wildcard characters * and ? when used in Viewpoint collection definitions in combination with operators =, <, >, != will be replaced by % and _ respectively.

WRN40001 Default.rsc parameters different from factory settings

**Explanation:** The Control-M/EM configuration parameters in the Default.rsc files differ from the default factory setting's values.

**Corrective action:** Contact BMC Customer Support in order to determine the value that should be set for the target version.

WRN50001 Default.rsc parameters different from factory settings

**Explanation:** The Control-M/EM configuration parameters in the Default.rsc files differ from the default factory setting values.

**Corrective action:** Contact BMC Customer Support in order to determine the value to set for the target version.
Control-M Workload Automation Upgrade Guide

Control-M/Server messages

The messages in this section describe the Control-M/Server Readiness messages.

WRN100 Quantitative resource name cannot be set to a blank value

**Explanation:** The problematic quantitative resource name appears in the indicated job processing definition. The export procedure cannot process the data.

**Corrective Action:** Specify a valid value for the resource name, or delete the resource from the job processing definition or run the upgrade FIX WRN100 command on the old environment, which deletes the resource from the indicated job processing definition.

To skip validation, set the parameter VALIDATION_SKIP=YES in the migration.cfg file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

WRN101 Quantitative resource name in Active Jobs file cannot be set to a blank value

**Explanation:** The problematic quantitative resource name appears in the indicated job processing definition in Production. The export procedure cannot process the data.

**Corrective Action:** In Production, manually specify a valid value for the resource name, or delete the resource from the job or run the upgrade FIX WRN101 command on the old environment, which deletes the resource from the indicated job processing definition in Production. To skip validation, set the parameter VALIDATION_SKIP=YES in the migration.cfg file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

WRN16 Quantitative resource has a quantity value of zero

**Explanation:** Zero is an invalid quantity for a Quantitative resource. The minimum quantity is 1. The problematic resource quantity appears in the indicated job processing definition. The export procedure cannot process the data.

**Corrective Action:** Delete the resource from the job processing definition, or run the upgrade RX WRN16 command on the old environment, which deletes all the rows where the quantity is zero in the indicated job processing definition. To skip validation, set the parameter VALIDATION_SKIP=YES in the migration.cfg file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

WRN17 Quantitative resource in Active Jobs file has a quantity value of zero

**Explanation:** Zero is an invalid quantity for a Quantitative resource. The minimum quantity is 1. The problematic resource quantity appears in the indicated job in Production. The export procedure cannot process the data.

**Corrective Action:** In Production, delete the resource or the job or run the upgrade RX WRN17 command on the old environment, which deletes all the rows where the quantity is zero in the indicated job processing definition in Production.
To skip validation, set the parameter VALIDATION_SKIP=YES in the `migration.cfg` file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

**WRN701** In Control-M 7.0.0 the SCHEDTAB field of the CMS_JOBDEF table cannot contain the ‘?’, ‘*’, ‘$’, or ‘/’ characters

**Explanation:** In version 7.0.00, the Scheduling table name in the definition table cannot contain the ‘?’, ‘*’, ‘$’, or ‘/’ characters. The export procedure cannot process the data.

**Corrective Action:** Run the `upgrade RX WRN701` command on the old environment which removes characters (? * / $) from the scheduling table name (in case of duplicates, the <_><!><+><A>..<Z> characters are used instead). The character $ is replaced with the @ character or you can fix the Scheduling table name via the Control-M Workload Automation application (Scheduling Folder Manager Window) and upload the new definition to Control-M/Server.

To skip validation, set the parameter VALIDATION_SKIP=YES in the `migration.cfg` file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

**WRN702** In Control-M 7.0.0 the SCHEDTAB field of the CMR_AJF table cannot contain the ‘?’, ‘*’, ‘$’, or ‘/’ characters

**Explanation:** In version 7.0.00, the scheduling table name in the active tables cannot contain the ‘?’, ‘*’, ‘$’, or ‘/’ characters. The export procedure cannot process the data.

**Corrective Action:** Run the `upgrade RX WRN702` command on the old environment which removes characters (? * / $) from the scheduling table name (in case of duplicates, the <_><!><+><A>..<Z> characters are used instead). The character $ is replaced with the @ character.

To skip validation, set the parameter VALIDATION_SKIP=YES in the `migration.cfg` file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

**WRN703** In Control-M 7.0.0 the JOBNAME field of the CMS_JOBDEF table cannot contain the ‘?’, ‘*’, ‘$’, or ‘/’ characters

**Explanation:** In version 7.0.00, the job name in the definition tables cannot contain the ‘?’, ‘*’, ‘$’, or ‘/’ characters. The export procedure cannot process the data.

**Corrective Action:** Run the `upgrade RX WRN703` command on the old environment which removes characters (? * / $) from the job name (in case of duplicates, the <_><!><+><A>..<Z> characters are used instead). The character $ is replaced with the @ character or you can fix the job name via the Control-M Workload Automation application and upload the new definition to Control-M/Server.

To skip validation, set the parameter VALIDATION_SKIP=YES in the `migration.cfg` file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

**WRN704** In Control-M 7.0.0 the JOBNAME field of the CMR_AJF table cannot contain the ‘?’, ‘*’, ‘$’, or ‘/’ characters

**Explanation:** In version 7.0.00, the job name in active tables cannot contain the ‘?’, ‘*’, ‘$’, or ‘/’ characters. The export procedure cannot process the data.
Corrective Action: Run the **upgrade RX WRN704** command on the old environment which removes characters (? * / $) from the JOBNAME (in case of duplicates, the <_><!><+><A><..<Z> characters are used instead). The character $ is replaced with the @. To skip validation, set the parameter **VALIDATION_SKIP=YES** in the migration.cfg file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

WRN705 In Control-M 7.0.0 the TAGNAME field of the CMS_TAG table cannot contain the ‘?’, ‘*’, ‘$’, or ‘/’ characters

Explanation: In version 7.0.00, the tag name cannot contain the '*','?','$',''' or ',' characters. The export procedure cannot process the data.

Corrective Action: Run the **upgrade RX WRN705** command, which deletes characters (* ? $ ',' from the TAG. To skip validation, set the parameter **VALIDATION_SKIP=YES** in the migration.cfg file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

WRN706 In Control-M 7.0.0 the TAGNAME field of the CMS_TAG table cannot contain whitespace characters

Explanation: In version 7.0.00, the tag name cannot contain whitespace characters. The export procedure cannot process the data.

Corrective Action: Run the **upgrade RX WRN706** command on the old environment, which replaces spaces in the tag name to an underscore character (_) in all relevant tables. To skip validation, set the parameter **VALIDATION_SKIP=YES** in the migration.cfg file. If the parameter is set, the script is executed automatically on the new 8.0.00 environment.

INFO770 Files pointed to by the %%LIBMEMSYM AutoEdit are not migrated by the Control-M/Server migration process

Explanation: The files that are associated with the %%LIBMEMSYM AutoEdit variable are not migrated by the Control-M/Server migration process. No influence to export process. No action.

Corrective Action: If the file that is associated with the %%LIBMEMSYM AutoEdit variable is not available on the new 8.0.00 environment, copy the file to the same location on the new 8.0.00 environment. If you are copying the file to different location, change the job definitions on the new 8.0.00 environment after completion of the migration process.

Correcting the export problems

This procedure describes how to run a command to correct an error from the Validation Report.

**Before you begin**

Ensure you have reviewed, analyzed, and determined the command to correct the problem, as described in Control-M/Server messages (on page 41).
To correct export problems:

- Run one of the following upgrade commands:
  - **UNIX**: `<server_home>/ctm_server/upgrade_export/Upgrade FIX <ERROR Code>`
  - **Windows**: `<server_home>\ctm_server\upgrade_export\Upgrade RX <ERROR Code>`

For each error, see the relevant command in the Corrective Action that is described in the Error message.

Readiness report message prefixes

Each message type has a unique prefix describing the nature of the message as described in the following table:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERR</td>
<td><strong>Error</strong></td>
</tr>
<tr>
<td></td>
<td>Error messages indicate that job processing definitions contain values that are inconsistent with new version formats. These values might affect job scheduling.</td>
</tr>
<tr>
<td></td>
<td>You must manually correct the errors identified in job processing definitions before continuing the upgrade.</td>
</tr>
<tr>
<td></td>
<td>Errors in a job in Production must be corrected, or the job must be removed from the Active Jobs database. If you can, manually correct the errors. If not, the job can be removed by the New Day procedure at the beginning of the next day. Otherwise, you can manually request the job to be deleted during the next daily maintenance.</td>
</tr>
<tr>
<td>INFO</td>
<td><strong>Information</strong></td>
</tr>
<tr>
<td></td>
<td>These messages indicate that the data contains values that are no longer relevant or supported in the new version. The data is automatically corrected during the &quot;import&quot; process. In most cases, no manual changes are required or accepted. The automatic changes do not affect your scheduling environment in the new version.</td>
</tr>
</tbody>
</table>
### Prefix Description

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Description</th>
</tr>
</thead>
</table>
| PLN    | **PLN Warning**  
These messages warn that job processing definitions in your current environment contain an improper combination of basic scheduling parameters that affect the job's scheduling plan in the new version.  
PLN messages are always accompanied by an **ERR99** message, which is a general error message indicating that job scheduling plan differences in the new version.  
The data cannot be upgraded until the scheduling plan differences are resolved. The Control-M Upgrade cannot determine what corrections to make. You must perform the required changes manually.  
If **ERR99** is issued without any PLN warnings, notify BMC Software Customer Support. |
| WRN    | **Warning**  
These messages indicate that job processing definitions in your current environment contain statements that have no production meaning. For example, an ON statement with no DO action, or a SHOUT statement with no new version.  
You can correct these warning situations (for example, you can add a DO action to an ON statement, or a destination to a SHOUT statement). However, if you choose not to correct these warnings, the problematic statements are removed during the "import" process to the new version. These changes do not affect your scheduling environment. |

### Debugging the Control-M/EM export and import processes

This procedure describes how to set the debugging mode for the Control-M/EM export and import stages, and where the logs are located.

➢ **To debug the Control-M/EM export and import processes:**

1. To check the installation, open the installation log file:
   - **UNIX**: `<em_home>/Upgrade_Export/log/em_upgrade.log`
   - **Windows**: `<em_home>\Upgrade_Export\logs\em_upgrade.log`

2. If a problem occurs during the export stage, run one of the following commands in the previous version environment:
   - **UNIX**: `<emHome>/Upgrade_Export/export -debug`
   - **Windows**: `<emHome>\Upgrade_Export\export.bat -debug`

The debug information for the export is saved in the `em_upgrade.txt` Control-M Upgrade log file, which is located in the previous version in the following locations:
• UNIX: `<emHome>/Upgrade_Export/logs`
• Windows: `<emHome>/Upgrade_Export/logs`

3. If a problem occurs during the import stage, run one of the following commands in the new version environment:
• UNIX: `<emHome>/Upgrade/Import/import -debug`
• Windows: `<emHome>/Upgrade/Import/import.bat -debug`

The import debugging information is saved in the `em_upgrade.txt` Control-M Upgrade log file, which is located in the new version environment in the following locations:
• UNIX: `<emHome>/Upgrade/Import/logs`
• Windows: `<emHome>/Upgrade/Import/logs`

Additional debugging information is saved in the `util.log` and `util_auth.log` files, which are located at:
• Export debugging information
  o UNIX: `<emHome>/Upgrade/Export/logs`
  o Windows: `<emHome>/_upgrade/Export/logs`
• Import debugging information
  o UNIX: `<emHome>/Upgrade/Import/logs`
  o Windows: `<emHome>/Upgrade/Import/logs`

**NOTE:** If a problem occurs during the execution stage of the `util` utility as part of the Control-M Upgrade operation, use the `-debug_util` flag (not the `-debug` flag).

### Control-M/Forecast exception conditions

When you are upgrading from version 6.3.01, 6.3.01 Fix Pack1 or Fix Pack 2, if the upgrade of Control-M/Forecast exception conditions do not complete successfully the upgrade procedure must be executed manually. One of the following error messages is issued:

- **Failed to import Forecast rules.** For information on how to migrate the Control-M/Forecast exception conditions manually, see Control-M Upgrade.
- **Failed to execute Forecast rules.** For information on how to migrate the Control-M/Forecast exception conditions manually, see Control-M Upgrade.

**Solution:** After upgrade, execute the following command from the command line:

- UNIX: `em -no_wrap forecastsrv -fc_SimExCond_to_Scenario`
- Windows: `emforecastsrv -fc_SimExCond_to_Scenario`

### Control-M/Forecast Historical Data

Control-M/Forecast reports are based on Control-M/Forecast Historical data that resides in the database. This data can be upgraded from old to the new using the Control-M Upgrade Toolkit.
When the Control-M Upgrade process identifies Control-M/Forecast historical data in the old environment, you are prompted to include this data in the Control-M/EM Upgrade Tool. No is the suggested default, as upgrading the data could require a significant amount of time, Control-M/Forecast still accurately generates information without this data. If you choose to upgrade the Control-M/Forecast data, and the upgrade of Control-M/Forecast fails, it has no impact on the rest of the Control-M/EM upgrade process.

BMC Batch Impact Manager Web Application settings from a previous version

To preserve the filter setting on the Services List display, you must copy the <old> bim_filters.xml file to the BMC Batch Impact Manager Server home folder of the new version.

- <emHome>/appl/bim/etc/bim_filters.xml for UNIX.
- <emHome>/bim/etc/bim_filters.xml for Windows.

Remedy system parameters upgrade

When you upgrade from version 6.3.01 Fix Pack 4 while DO Remedy is in use, you must run the remedy configure utility and re-enter the Remedy password. For more information, see Control-M BMC Batch Impact Manager parameters.
Changes in Control-M versions

To facilitate a smooth upgrade from your old environment to the new 8.0.00 Control-M environment, see the following new and changed features:

- **New features introduced in version 6.4.01** (on page 49): For more detailed information on What's New and What's Changed, see Release Notes from Control-M/EM, Control-M/Server, and Control-M/Agent version 6.4.01.

- **New features introduced in version 7.0.00** (on page 50): For more detailed information on What's New and What's Changed, see Release Notes from Control-M/EM, Control-M/Server, and Control-M/Agent version 7.0.00.

- **New features introduced in version 8.0.00** (on page 52): For more information, see Control-M Workload Automation version 8.0.00 Release Notes. Also see the Release Notes for the latest fix pack for Control-M/EM, Control-M/Server, and Control-M/Agent on the Support site http://www.bmc.com/support.

- **New features introduced in version 9.0.00**: For more information, see Control-M Workload Automation version 9.0.00 Release Notes.
New features introduced in version 6.4.01

The following table describes the new and changed features introduced in Control-M version 6.4.01.

<table>
<thead>
<tr>
<th>What's new</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Version Management</td>
<td>Enables you to:</td>
</tr>
<tr>
<td></td>
<td>▪ Maintain historical generations for detailed tracking</td>
</tr>
<tr>
<td></td>
<td>▪ Compare details of versions</td>
</tr>
<tr>
<td></td>
<td>▪ Revert back to a previous version</td>
</tr>
<tr>
<td></td>
<td>Updates job processing definitions, and includes the following improvements:</td>
</tr>
<tr>
<td></td>
<td>▪ Support of job fields in Control-M Control Module job parameters</td>
</tr>
<tr>
<td></td>
<td>▪ Support of more flexible use of wild cards</td>
</tr>
<tr>
<td></td>
<td>▪ Support of job manipulation presets</td>
</tr>
<tr>
<td>Find and update for all job fields</td>
<td>Reruns a job at a specific time, or at varying offsets.</td>
</tr>
<tr>
<td>Embedded scripts in Job Definition</td>
<td>Scripts or JCLs are saved as part of a job definition. This enables you to</td>
</tr>
<tr>
<td></td>
<td>schedule a script that is located in the Control-M database instead of on a</td>
</tr>
<tr>
<td></td>
<td>target computer.</td>
</tr>
<tr>
<td>Auditing user changes</td>
<td>Records of changes that impact production include the actual change in</td>
</tr>
<tr>
<td></td>
<td>addition to noting that there was a change.</td>
</tr>
<tr>
<td>Embedded lightweight database</td>
<td>An installation option that reduces product complexity and footprint by</td>
</tr>
<tr>
<td></td>
<td>lowering hardware requirements, and simplifying installation, deployment,</td>
</tr>
<tr>
<td></td>
<td>and updates.</td>
</tr>
</tbody>
</table>

Control-M version 6.4.01 also includes many changes in addition to the new features. For more information, see Control-M/EM, Control-M/Server, and Control-M/Agent version 6.4.01 Release Notes.
The following table describes the new and changed features introduced in Control-M from version 7.0.00.

<table>
<thead>
<tr>
<th>What's new</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Workload Policies</td>
<td>Defines a set of rules for a group of jobs that can:</td>
</tr>
<tr>
<td></td>
<td>▪ Limit the resources available to the group of jobs</td>
</tr>
<tr>
<td></td>
<td>▪ Limit the number of jobs within the group that are concurrently running</td>
</tr>
<tr>
<td></td>
<td>▪ Route specific jobs within the group to a specific node or node group</td>
</tr>
<tr>
<td>Rule-based Calendars</td>
<td>Define Rule-based Calendars (RBCs) to set the dates that will be scheduled (included RBCs) in a job, sub-folder, and SMART folder, by adding and selecting the RBCs for the Rule-based Calendar list.</td>
</tr>
<tr>
<td>One Installation for all product components</td>
<td>Installs Control-M/EM, Control-M/Server, Control-M/Agent and all Application Plug-ins.</td>
</tr>
<tr>
<td>Annotation for user actions</td>
<td>Requires users to write a free text annotation, describing the reason for the action before the action is performed. System administrators can define which user actions require annotation.</td>
</tr>
<tr>
<td>L&amp;F enhancements to Reporting Facility</td>
<td>▪ The user interface has an enhanced look and feel.</td>
</tr>
<tr>
<td></td>
<td>▪ The Reporting Facility is available to all end users without the need to install a database client on Control-M/EM client computers.</td>
</tr>
<tr>
<td></td>
<td>▪ You can summarize report data by report fields.</td>
</tr>
<tr>
<td></td>
<td>▪ Job definition fields with multiple values can be included in a report.</td>
</tr>
<tr>
<td>Conversion tool</td>
<td>The Control-M Conversion Tool enables you to import data from other schedulers.</td>
</tr>
<tr>
<td>Add-ons</td>
<td>The following add-ons are available in version 7.0.00:</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M Self Service</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M Self Service for Mobile</td>
</tr>
</tbody>
</table>
### What's new

<table>
<thead>
<tr>
<th>What's new</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug-ins</td>
<td>The following plug-ins are available in version 7.0.00:</td>
</tr>
<tr>
<td></td>
<td>- Control-M for Informatica</td>
</tr>
<tr>
<td></td>
<td>- Control-M for IBM Cognos</td>
</tr>
<tr>
<td></td>
<td>- Control-M for SAP Business Objects</td>
</tr>
<tr>
<td></td>
<td>- Control-M for Cloud</td>
</tr>
</tbody>
</table>

Control-M version 7.0.00 also includes many changes in addition to the new features. For more information, see *Control-M/EM, Control-M/Server, and Control-M/Agent version 7.0.00 Release Notes.*
New features introduced in version 8.0.00

Control-M Workload Automation version 8.0.00 includes enhancements across all components of the Control-M solution. The following items are new features:

<table>
<thead>
<tr>
<th>What’s new</th>
<th>Description</th>
</tr>
</thead>
</table>
| Simplified User Interface               | Control-M Workload Automation version 8.0.00 has a new simplified user interface that enables you to perform tasks efficiently with less training. The simplified user interface has the following items:  
  - Single UI  
  - Simplified (streamline) high-frequency activities  
  - Consistent menus and flow  
  - New look and feel  
  For more information, see Simplified User Interface in Control-M Workload Automation version 8.0.00 Release Notes. |
| Workspaces                              | Workspaces are used to edit jobs/folders that can be shared by users. They can be checked in and checked out to enable you to lock and edit jobs/folders. This process replaces write and upload. Workspaces are stored in a database which allows collaboration with other users. For more information, see Workspaces in Control-M Workload Automation version 8.0.00 Release Notes. |
| Significant performance and capacity improvement | Control-M/Server’s selector process that is responsible for submission is much more enhanced. The time between job submissions has been reduced significantly, and many more jobs can be submitted by one Control-M/Server. For more information, see What’s new in Control-M/Server in Control-M Workload Automation version 8.0.00 Release Notes. |
| Linux 64bit                              | Control-M Workload Automation 8.0.00 now supports Linux 64bit on Control-M/Enterprise Manager, Control-M/Server, and Control-M/Agent. |
| Zero downtime for Control-M/Agent Upgrade | Control-M/Agent on Unix platforms can now be upgraded to Control-M Workload Automation version 8.0.00 without any downtime. For more information, see Control-M/Agent enhancements in Control-M Workload Automation version 8.0.00 Release Notes. |
## What's new

<table>
<thead>
<tr>
<th>What's new</th>
<th>Description</th>
</tr>
</thead>
</table>
| Trial Mode Installation | The installation of Control-M Workload Automation version 8.0.00 allows you to install a trial version of the solution with all optional components including:  
  - BMC Control-M Self Service  
  - BMC Control-M Batch Impact Manager  
  - BMC Control-M Advanced File Transfer 7.0.00  
  - Control-M for Cloud 7.0.00  
  - Control-M for IBM Cognos 7.0.00  
  - Control-M for Oracle Business Intelligence 7.0.00  
  This version is intended for testing and evaluation, not for use in a production environment. |
| Full Installation   | The Control-M Workload Automation 8.0.00 full installation includes the following Application Plug-ins:  
  - Control-M for SAP 7.0.00  
  - Control-M for Databases 7.0.00  
  - Control-M for SAP Business Objects 7.0.00  
  - Control-M for Informatica 7.0.00  
  - Control-M for PeopleSoft 8.0.00 |
| Application Plug-ins | Now you can install all Application Plug-ins using the new Control-M Application Plug-in DVD.  |
| Terminology         | Several terms were changed from previous releases in Control-M Workload Automation version 8.0.00.  
  - Terminology (on page 54): Terms that have changed.  
  - Changed Control-M/Server utility names (on page 54): Utility names that have changed.  
  - Changed Control-M/Server utility parameters (on page 55): Utility parameters that have changed. |

Control-M Workload Automation version 8.0.00 also includes many changes in addition to the new features. These changes significantly impact how the end user works with the product. For more information, see Changed features in Control-M version 8.0.00 (on page 57).
Terminology

Some terms were changed in Control-M Workload Automation version 8.0.00. The following table lists the old terms and the new ones for this version.

<table>
<thead>
<tr>
<th>Old term</th>
<th>New term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table</td>
<td>Folder</td>
</tr>
<tr>
<td>Group</td>
<td>Sub Application</td>
</tr>
<tr>
<td>Owner</td>
<td>Run as User</td>
</tr>
<tr>
<td>Author</td>
<td>Created by</td>
</tr>
<tr>
<td>Node</td>
<td>Host (Node group changed to Host group)</td>
</tr>
<tr>
<td>Sysout</td>
<td>Output</td>
</tr>
<tr>
<td>User Daily</td>
<td>Order Method</td>
</tr>
<tr>
<td>Memlib</td>
<td>File path</td>
</tr>
<tr>
<td>Memname</td>
<td>File name</td>
</tr>
<tr>
<td>Overlib</td>
<td>Override path</td>
</tr>
<tr>
<td>AutoEdit</td>
<td>Variable</td>
</tr>
<tr>
<td>Active Jobs File (AJF)</td>
<td>Active Jobs Database</td>
</tr>
</tbody>
</table>

The change has been made both on Control-M/Server and Control-M/EM. Usage of utilities with the old terms are supported, and new utilities with new terms are also supported.

Changed Control-M/Server utility names

Some utility names were changed in Control-M Workload Automation version 8.0.00. The following table lists the old Control-M/Server names and the new ones for this version.

<table>
<thead>
<tr>
<th>Old name</th>
<th>New name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ctmdeftab</td>
<td>ctmdeffolder</td>
</tr>
<tr>
<td>ctmdefsubtab</td>
<td>ctmdefsubfolder</td>
</tr>
<tr>
<td>ctmnodegrp</td>
<td>ctmhostgrp</td>
</tr>
</tbody>
</table>

Usage of utilities with the old terms are supported, and new utilities with new terms are also supported. For more information about terminology changes, see Terminology (on page 54).
### Changed Control-M/Server utility parameters

Some Control-M/Server utility parameters were changed in Control-M Workload Automation version 8.0.00. The following table lists the old utility parameters, the new ones, and the affected utilities.

<table>
<thead>
<tr>
<th>Old parameter name</th>
<th>New parameter name</th>
<th>Affected utilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE</td>
<td>FOLDER</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmexdef</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefsubfolder</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmorder</td>
</tr>
<tr>
<td>GROUP</td>
<td>SUB_APPLICATION</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
<tr>
<td>TABLE_ORD</td>
<td>FOLDER_ORD</td>
<td>ctmcreate</td>
</tr>
<tr>
<td>NODEGRP</td>
<td>HOSTGRP</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
<tr>
<td>MEMLIB</td>
<td>FILE_PATH</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
<tr>
<td>MEMNAME</td>
<td>FILE_NAME</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmexdef</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmfw</td>
</tr>
<tr>
<td>OWNER</td>
<td>RUN_AS</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
<tr>
<td>AUTHOR</td>
<td>CREATED_BY</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
<tr>
<td>OVERLIB</td>
<td>OVERRIDE_PATH</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
<tr>
<td>AUTOEDIT</td>
<td>VARIABLE</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmorder</td>
</tr>
<tr>
<td>Old parameter name</td>
<td>New parameter name</td>
<td>Affected utilities</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>DOAUTOEDIT</td>
<td>DOVARIABLE</td>
<td>ctmcreate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ctmdefine</td>
</tr>
</tbody>
</table>

Usage of utilities with the old terms are supported, and new utilities with new terms are also supported.
Changed features in Control-M version 8.0.00

Control-M Workload Automation version 8.0.00 includes many changes and enhancements in particular to how the end user works with the product. Here is the list of the changes that you must be familiar with before upgrading to version 8.0.00:

<table>
<thead>
<tr>
<th>What's changed</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitions Synchronization</td>
<td>The definition databases of Control-M/EM, Control-M/Server, and Control-M for z/OS are now synchronized (sync) by default, and the user can update them in one check-in operation. The administrator can set this sync behavior for each Control-M/Server. This is an advantage for Mainframe users who want to avoid constant downloading of their definitions to Control-M/EM. Control-M/Servers prior to version 8.0.00 have partial sync support.</td>
</tr>
<tr>
<td>Editing a workspace</td>
<td>Folders and jobs are edited and updated in a workspace. After a workspace is checked out, all the folders within it cannot be edited by other users. Workspaces can be saved while checked out, and viewed from the Planning domain home page. You are also able to view its related workspaces according to the security definitions. The former actions of write and upload are now replaced by a single check-in action, which is performed on the entire workspace. For more information, see Workspaces Control-M Workload Automation version 8.0.00 Release Notes.</td>
</tr>
<tr>
<td>Connection with GUI Server</td>
<td>Control-M Workload Automation 8.0.00 requires the user to connect and log in. In previous releases, to edit a job, you did not have to connect to Control-M/Desktop. However, it is possible to edit XML files not as a checked-out workspace (and avoid locking folders) with Planning &gt; Tools &gt; Jobs &amp; Folders File Editor option.</td>
</tr>
<tr>
<td>New Default for User daily</td>
<td>In Control-M Workload Automation version 8.0.00, when defining a new Folder (previously known as Table), the default userdaily will be Automatic (previously known as SYSTEM) and not blank. Existing users that use the upgrade procedure will receive the old behavior.</td>
</tr>
<tr>
<td>Application and Group</td>
<td>In Control-M Workload Automation version 8.0.00 Application and Sub-application (Group) are not mandatory anymore in the Job entity. Existing users can set the system parameter to work with the old behavior in which those fields are mandatory.</td>
</tr>
</tbody>
</table>
### What’s changed | Description
--- | ---
Authorizations | Authorizations dialog is now part of the Control-M Configuration Manager, **Control-M Configuration Manager > Tools > Security > EM Authorizations**.
LDAP username login screen | The username used in Control-M Workload Automation 8.0.00 with LDAP is now in a `{username}` format, rather than `{username@domain}`.