Control-M
9.0.18
Migration Guide

December 2017
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       Telephone     713 918 8800       Fax     713 918 8000
            2103 CITYWEST BLVD             ▪     713 918 8000       ▪     800 841 2031
            HOUSTON TX
            77042-2827
            USA

Outside United States and Canada

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

© Copyright 1999-2017 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.

Server Endpoint Licensing

All machines upon which any Control-M component is installed or upon which Control-M managed workload runs must be licensed. This includes Control-M Agent/Agentless platforms onto which one or more application plug-ins are installed but also includes Control-M Agent/Agentless platforms where no application plug-ins are installed. Control-M Agent/Agentless platforms on which jobs are ordered are counted regardless of whether those jobs execute or not. All Server Endpoints are counted, including development, staging, QA, pre-production, test, and production environments.
The licensing guidelines for application plug-ins are as follows:

- **ERP and BI/DI**: The application server(s) upon which Control-M managed processes are executed should be licensed in addition to the Control-M Agent machine(s) (in some cases, this may be the same machine).

- **Databases**: Each database server upon which Control-M managed database related processes are being executed should be counted in addition to the Control-M Agent machine(s).

- **AFT and MFT**: Only the machine(s) upon which the AFT or MFT plug-in is installed should be licensed.

- **Web Services, Java & Messaging**: only the Control-M Agent machine(s) upon which the plug-in is installed should be licensed.

- **Backup**: The Control-M Agent machine(s) where the Backup plug-in is installed and also the hosts which are running the backup server software should be licensed (note that this excludes the client machines for which the Backup Server software is managing actual backup processes except where a backup takes place of the backup server machine itself).

- **Cloud**: only the Control-M Agent machine(s) upon which the plug-in is installed should be licensed.

- **Hadoop**: All machines in each managed Hadoop Cluster should be licensed.

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**

U.S. Government Restricted Rights to Computer Software. UNPUBLISHED -- RIGHTS RESERVED UNDER THE COPYRIGHT LAWS OF THE UNITED STATES. Use, duplication, or disclosure of any data and computer software by the U.S. Government is subject to restrictions, as applicable, set forth in FAR Field 52.227-14, DFARS 252.227-7013, DFARS 252.227-7014, DFARS 252.227-7015, and DFARS 252.227-7025, as amended from time to time. Contractor/Manufacturer is BMC SOFTWARE INC, 2101 CITYWEST BLVD, HOUSTON TX 77042-2827, USA. Any contract notices should be sent to this address.

**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](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

Introduction to Control-M Migration ........................................................................................................... 8

Migration planning process ........................................................................................................................... 9
Control-M/EM migration considerations ........................................................................................................ 11
Control-M/Server migration considerations .................................................................................................. 12

Control-M/EM Migration .............................................................................................................................. 13
Installing the Control-M/EM Migration Export Pack .................................................................................. 13
Validating and correcting the Control-M/EM old version ........................................................................ 14
Exporting the Control-M/EM old data ......................................................................................................... 15
Importing the Control-M/EM exported data to the new version ................................................................. 17
Migrating Control-M Workload Archiving .................................................................................................. 18
Migrating Control-M Application Integrator job types .............................................................................. 19

Control-M/Server Migration ......................................................................................................................... 20
Editing the Control-M/Server migration parameters .................................................................................. 21
Control-M/Server migration parameters .................................................................................................... 21
Migrating Control-M/Server automatically ............................................................................................... 22
Control-M/Server Manual Migration .......................................................................................................... 26
Post-Control-M/Server migration procedures ........................................................................................... 31

Control-M Reporting Facility migration ..................................................................................................... 35
Reporting Facility migration process planning .......................................................................................... 35
Migrating Reporting Facility reports ......................................................................................................... 35
Key differences between the versions ......................................................................................................... 40

Troubleshooting Control-M Migration ......................................................................................................... 44
Readiness report messages ......................................................................................................................... 44
Debugging the Control-M/EM export and import processes ...................................................................... 57
Control-M/Forecast Historical Data ........................................................................................................ 58
BMC Batch Impact Manager Web Application settings from a previous version ..................................... 58

Changes in Control-M versions ................................................................................................................... 59
BMC Batch Impact Manager Web Application settings from a previous version .................................... 59
Introduction to Control-M Migration

The Control-M Migration process enables you to copy your existing Control-M data to the Control-M 9.0.18 environment. The new version of Control-M must be installed before you begin the export/import process.

The Migration process must be performed separately for Control-M/EM and Control-M/Server. For more details on the planning flow, see Migration planning process (on page 9).

The following list of actions summarizes the migration process:

- Install version 9.0.18 in a new location and apply the latest fix pack
- Install the Migration export utility in the old environment
- Export the data from the old environment
- Import the data into the new environment

The migration tools for Control-M/EM and Control-M/Server enable you to export the data from your old environment and then import it into the new 9.0.18 environment. The export and import process can be repeated as many times as needed for testing:

- **Control-M/EM Migration Tool**: Exports your Control-M/EM data from the old environment so that you can import the data into the new 9.0.18 environment. The Control-M/EM migration export can be performed while the old EM is up and running. This allows for testing of the migration export process, importing into the new Control-M/EM 9.0.18, configuration of the new environment and running test jobs in the new environment. The Control-M/EM migration tool can migration from Control-M/EM versions 6.4.01, 7.0.00, and 8.0.00.

  The Control-M/EM 9.0.18 can connect to Control-M/Server 9.0.18, 8.0.00, 7.0.00 and 6.4.01. For your migration plan, you can initially migrate only the Control-M/EM to 9.0.18 and connect it to your old Control-M/Server or you can also migrate one or more of your Control-M/Server at the same time. The only requirement is that the Control-M/EM version has to be at or above the Control-M/Server version.

- **Control-M/Server Migration Tool**: Exports your Control-M/Server data from the old environment so that you can import the data into the new 9.0.18 environment. The Control-M/EM needs to be migrated to 9.0.18 before upgrading the Control-M/Server to 9.0.18. The Control-M/Server migration export can be performed while the old Control-M/Server is up and running. This allows for testing of the migration export and import process, configuration of the new environment and running test jobs in the new environment. The Control-M/Server migration tool can migrate from 7.0.00 and 8.0.00.
# Migration planning process

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

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan your migration</td>
<td>Review the following information on Control-M Migration:</td>
</tr>
<tr>
<td></td>
<td>- AMIGO Upgrade program - Knowledge Base solution <a href="http://www.bmc.com/support">000011573</a></td>
</tr>
<tr>
<td></td>
<td>- Open an AMIGO Starter issue with BMC Support to receive the migration plan template and migration considerations.</td>
</tr>
<tr>
<td></td>
<td>- New features introduced in version 9.0.00 (on page 64)</td>
</tr>
<tr>
<td></td>
<td>After reviewing all the above documentation, create a plan that includes the installation, testing and a migration 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 installation files, see Product Distribution in the Control-M version 9.0.00 Release Notes.</td>
</tr>
<tr>
<td></td>
<td>- Install the new Control-M solution, as described in Control-M installation.</td>
</tr>
<tr>
<td>Migration</td>
<td>You can migrate Control-M/EM only and continue working with old Control-M/Servers and later migrate Control-M/Server or migrate both Control-M/EM and Control-M/Server at the same time. Agents can be migrated after the Control-M/Server is migrated to minimize application changes. Select the relevant workflow and schedule the migration for your site:</td>
</tr>
<tr>
<td></td>
<td>- Control-M/EM Migration (on page 13): Enables you to migrate Control-M/EM.</td>
</tr>
<tr>
<td></td>
<td>- Control-M/Server Migration (on page 20): Enables you to migrate Control-M/Server after you have already migrated 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 migration process</td>
<td>Export both the (old) EM and Control-M/Server data and import this into the new environments for testing before the Migration cutover date. The export and import process can be repeated.</td>
</tr>
<tr>
<td>Review final migration plan with BMC</td>
<td>Contact BMC support two weeks before the migration date to open an issue for an AMIGO Review of the migration plan.</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>For more information on troubleshooting your migration, see Troubleshooting Control-M Migration (on page 44) 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 client, see the following in the Control-M version 9.0.18 Release Notes:</td>
</tr>
<tr>
<td></td>
<td>▪ New features introduced in version 9.0.00 (on page 64) in Control-M version 9.0.18.</td>
</tr>
</tbody>
</table>
# Control-M/EM migration considerations

The following table describes the Control-M/EM migration considerations before you migrate 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 migration to 9.0.18. | 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 9.0.18 and Control-M for z/OS version 8.0.00 | After upgrading to 9.0.18 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/Server migration considerations

The following table describes the Control-M/Server migration considerations before you migrate 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 migrated only if it exists in the default <code>&lt;ctmServerHome&gt;/tmp</code> folder.</td>
<td>If the <code>ctmldnsr.dat</code> file resides in a non-default location, copy it manually to the new server.</td>
</tr>
<tr>
<td>SSL certifications: The SSL kdb files in the import environment are in <code>&lt;ctmServerHome&gt;/ctm_server/data/SSL/cert</code></td>
<td>SSL migration is not available when you migrate from UNIX to Windows, or from Windows to UNIX. SSL migration is available only when you migrate from UNIX to UNIX, and from Windows to Windows.</td>
<td>When you migrate 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 migrated.</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 migrated.</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 Migration

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

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

- Installing the Control-M/EM Migration 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 15)
- Importing the Control-M/EM exported data to the new version (on page 17)
- Migrating Control-M Workload Archiving (on page 18)

Installing the Control-M/EM Migration Export Pack

This procedure describes how to install the Control-M/EM Migration 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 Migration pack is automatically installed on the Control-M/EM 9.0.18 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 9.0.18, as described in Control-M Installation.

➢ To install the Control-M/EM Migration Export Pack:

1. Copy one of the following from the root folder of the new Control-M/EM 9.0.18 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 migration 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 9.0.18 version. For more information on the Readiness report, see *Readiness report messages* (on page 44).

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 15).
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.

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

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:

- **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 9.0.0x 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.

5. Copy the exported files to the following locations of the new 9.0.18 environment:

- **UNIX**: `<em_home>/Upgrade/Import/EMExportForUpgrade.tar`
- **Windows**: `<em_home>/Upgrade/Import/data/*`

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

If you are using the Migration process to move from UNIX to Windows, extract the EMExportForUpgrade.tar file, and copy the extracted files to the data directory on the Windows computer.

6. Import the exported data in the new 9.0.18 environment.

For information on debugging the Control-M/EM export process, see Debugging the Control-M/EM export and import processes (on page 57).
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
  - 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/upgrade_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----> [1]: 1

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.

**NOTE:** If you are upgrading from Control-M/EM version 7.0.00 or earlier and you use a Web Server, you must define the Web Server component in the CCM from Control-M/EM version 8.0.00 and higher.

For information on debugging the Control-M/EM import process, see Debugging the Control-M/EM export and import processes (on page 57).

### Migrating Control-M Workload Archiving

This procedure describes how to migrate Control-M Workload Archiving from an older version on one computer to version 9.0.18 on another Control-M/EM Distributed computer.

**NOTE:**
- If you are using Control-M/EM 9.0.00.100 or higher, you can upgrade to version 9.0.18 on the same computer, as described in Control-M upgrade.
- You can migrate archive data from Control-M Workload Archiving 8.0.00.800 and from Control-M/EM Distributed 9.0.00.200 and higher to version 9.0.18 on a different computer.
- The Workload Archiving Migration Toolkit supports data migration only from a PostgreSQL database.

#### Before you begin
- Successful completion of Control-M Workload Archiving installation
- Verify that there are no job definitions or Archive policies on the new version. The utility overwrites all previous data.

➢ To migrate Control-M Workload Archiving:

1. From the new version, navigate to the following directory:

    `<Control-M/ EM home dir>\archive\CopyDataUtil`
2. Run the following script:

   run_archive_migration

3. Follow the on-screen instructions.

   The script migrates the data from the old version to version 9.0.18.

   **NOTE:** If the Workload Archiving server was up on the new computer before migration, it is restarted automatically. If not, you can restart the server when the following message appears:

   **Starting migration from source’s DB to target’s DB**

4. Activate all the required rules, and click **Save**, as described in Defining Workload Archiving policies.

---

### Migrating Control-M Application Integrator job types

This procedure describes how to migrate Control-M Application Integrator job types from Control-M/EM version 8.0.00 to version 9.0.18.

**NOTE:** Relevant only if you have already defined Application Integrator jobs in Control-M.

**Before you begin**

- Successful completion of Control-M Application Integrator installation, as described in Installation in Control-M Application Integrator Administrator Guide.

  - **To migrate Control-M Application Integrator job types:**

    1. Log in to the Application Integrator from Control-M/EM version 8.00.00.
    2. From the **Home page**, click the deployed Job Type you want to migrate.
    3. Click **Export**.

        The exported file `<JobTypeName>.ctmai` is saved locally.

    4. (Optional) To migrate additional job types, repeat steps 2 and 3.
    5. Log in to the Application Integrator from Control-M/EM version 9.0.18.

        **NOTE:** The Application Integrator plug in engine is automatically installed with Control-M/EM version 9.0.18.

    6. From the **Home page**, click **Import job type from file**.
    7. Select the Job Type that has been exported in step 3 and click **Open**.

        The **Job Type** editing tab appears.

    8. Click **Deploy**.

        The **Deploy job type** window appears.

    9. Select which Control-M/Agent you want to deploy the Job Type.

        **NOTE:** Control-M Application Integrator 8.0.00 fix pack 1 or later must be installed on the Agent.

        The Job Type has now been deployed to Control-M and Control-M/Agents.
Control-M/Server Migration

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

- **Automatic Control-M/Server Migration**: Enables you to perform a full migration 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 migration uses the new Control-M/Server to copy the migration tool to the old Control-M/Server and automatically performs the export and copies the data to the new for import, as described in Migrating Control-M/Server automatically (on page 22).

  Automatic migration 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 Migration**: Enables you to migrate 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 Migration (on page 26). 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 migration 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 migration.

**NOTE**: Ensure that you are using the Export/Migration package from the latest fixpack before you export the older version data. The Import process validates the version of the Export tool to ensure that data is exported in the required format.
Editing the Control-M/Server migration parameters

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

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

1. Review the Control-M/Server migration parameters in the migration.cfg file, as described in Control-M/Server migration parameters (on page 21).
   - 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 migration parameters

The following table lists the Control-M/Server migration 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 migration process.</td>
</tr>
<tr>
<td></td>
<td>Default value</td>
<td>No</td>
</tr>
</tbody>
</table>
|                    | Valid values | ▪ Yes
▪ No                |
| LOG_DEPTH          | Description | Determines the number of log days the user wants to export during the Control-M/Server migration process. |
|                    | Default value | 100                                                                 |
|                    | Valid values | 0 - 100                                                              |
| LONG_TIMEOUT       | Description | Determines the time in seconds to wait for jobs submitted to the old environment during Control-M/Server Automatic migration. |
|                    | Default value | 180                                                                 |
|                    | Valid values | Any positive number. 180 or greater is recommended.               |
Migrating Control-M/Server automatically

This procedure describes how to automatically migrate historical, definition, and active data from the Control-M/Server old environment to the new environment. Automatic migration 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 Migration](on page 13) to version 9.0.18.
- 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 migration parameters, as described in Editing the Control-M/Server migration 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**.

---

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<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 migration.</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>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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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>
<tr>
<td></td>
<td>Default value</td>
<td>No</td>
</tr>
</tbody>
</table>
|                 | Valid values     | • Yes  
|                 |               | • No                                                  |
To migrate Control-M/Server automatically:

1. Run one of the following migration 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 migrate 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 migration 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 44).

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 migration, enter 3 (Automatic Upgrade - Upgrades historical, definitions, and active data).

You will be prompted later to migrate the active data. At that time, the Control-M/Server will need to be stopped.

The migration 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 migrate 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 migration 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 migrated.
   - To import the active data at another time, type LATER, and do one of the following:
     - 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 9.0.18 environment, and updates permitted agent utilities.
       - Re-enables the New Day procedure on the 9.0.18 environment (it is disabled during Automatic migration).
       - Updates job counters used for job ID generation. Clears definitions used by the Automatic migration.
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 migrate historical data, definitions, and active data, enter 3 (Full Environment Upgrade).
- To migrate just the active data, enter 4 (Active Environment Upgrade).

- To migrate 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 migration.

If you choose to 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 migrate 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.

## Control-M/Server Manual Migration

The following procedures describe how to perform a manual migration 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 Migration (on page 13)</td>
<td>Before you begin Control-M/Server migration, the Control-M/EM must be migrated to the new version.</td>
</tr>
<tr>
<td>Installing the Control-M/Server Migration Export Pack (on page 27)</td>
<td>Places the Control-M/Server export pack in the old environment.</td>
</tr>
<tr>
<td>Editing the Control-M/Server migration parameters (on page 21)</td>
<td>Configure the Control-M/Server migration 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 28)</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 29)</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 31)</td>
<td>Imports the data into the new environment.</td>
</tr>
<tr>
<td>Post-Control-M/Server migration procedures (on page 31)</td>
<td>The following procedures describes the post-Control-M/Server migration process:</td>
</tr>
<tr>
<td>* Synchronizing Control-M/Server in the CCM (on page 32):* Synchronizes the Control-M/Server data formats in the Control-M/EM database from the old to the new 9.0.18 data formats by running the Elevate action in the Control-M/EM environment in the Control-M Configuration Manager.</td>
<td></td>
</tr>
<tr>
<td>* Renaming the Control-M/Server in Control Configuration Manager (CCM) (on page 32):* Enables you to rename the Control-M/Server that was migrated.</td>
<td></td>
</tr>
<tr>
<td>* Continuing after Control-M/Server migration (on page 34):* Describes how to continue working with existing agents after you have finished the Control-M/Server migration.</td>
<td></td>
</tr>
</tbody>
</table>
Installing the Control-M/Server Migration Export Pack

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

Manual migration requires you to copy the Control-M/Server Migration Export Pack to the old environment.

If a previous old version of the Control-M/Server Migration 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 9.0.18, as described in Control-M Installation.

**NOTE:** The Control-M Migration is automatically installed in the Control-M/Server 9.0.18 environment and is maintained and updated with Control-M/Server 9.0.18 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 Migration export pack into the old environment).

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

1. Copy the following from the Control-M/Server 9.0.18 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 9.0.18.

   The migration 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 28).
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 migration commands:
   - **UNIX**: `<server_home>/ctm_server/upgrade_export/upgrade`
   - **Windows**: `<server_home>\ctm_server\upgrade_export\upgrade.bat`

   The Upgrade 9.0.18 Manual Upgrade Menu for Control-M/Server appears.

   ![Upgrade 9.0.00 Manual Upgrade Menu - Control-M/Server](image)

   Options:
   1. **Validation** - Performs the upgrade Data Readiness test to ensure that your data conforms to the new version validation rules.
   2. **View** - View the Readiness report.
   3. **Export** - Exports historical, definitions, and active data to a file.
   4. **Quit**

   Select an Option:

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 44).

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 29).
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.

Before you begin:

- Shut down Control-M/Server and the Control-M/Server Configuration Agent.

To export the Control-M/Server old data:

1. Run one of the following migration commands:
   - **UNIX**: `<server_home>/ctm_server/upgrade_export/upgrade`
   - **Windows**: `<server_home>/ctm_server/upgrade_export\upgrade.bat`

   The Upgrade 9.0.18 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 migrate 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 9.0.18 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 migration 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>/dtm_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 9.0.18 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 31).
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.

Before you begin:

- Shut down Control-M/Server and the Control-M/Server Configuration Agent.

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

1. Run one of the following migration commands:
   - **UNIX**: `<server_home>/ctm_server/upgrade/import/upgrade`
   - **Windows**: `<server_home>/ctm_server\upgrade\import\upgrade.bat`

   The **Control-M/Server 9.0.18 - Manual Menu** appears.

2. Enter 2 - Manual Upgrade.

   The **Upgrade 9.0.18 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 9.0.18 environment.

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

Post-Control-M/Server migration procedures

After you finish upgrading the Control-M/Server, you need to do the following:

- Renaming the Control-M/Server in Control Configuration Manager (CCM) (on page 32)
- Synchronizing Control-M/Server in the CCM (on page 32)
- Continuing after Control-M/Server migration (on page 34)
Renaming the Control-M/Server in Control Configuration Manager (CCM)

This procedure describes how to rename the Control-M/Server name if needed after upgrading both Control-M/EM and Control-M/Server.

**NOTE:** The following Control-M/EM components must be stopped before you attempt to rename a Control-M: GCS, GUI Server, BIM, Forecast, SLS and the associated GTW.

To rename the Control-M/Server name in Control Configuration Manager (CCM):

1. Log in to the new version of Control-M/EM 9.0.18 client and open Control-M Configuration Manager (CCM).
2. From the CCM, select the Control-M/Server that was migrated, right-click and select Rename.
3. In the **New Name** field, enter the new name for the Control-M/Server.
4. Click **OK**.
5. Start the Control-M/EM processes.

Synchronizing Control-M/Server in the CCM

This procedure describes how to synchronize Control-M/Server data formats in the Control-M/EM database from the old to the new 9.0.18 data formats by running the Elevate action in the Control-M/EM environment in the CCM.

**Before You Begin**

Verify that you have met the following requirements:

- **Control-M/Server Migration** (on page 20)
- If both Control-M/EM and Control-M/Server were migrated, you need to rename the Control-M/Server, as described in Renaming the Control-M/Server in Control Configuration Manager (CCM) (on page 32).
- Ensure that the new Control-M/Server status is set to **Un-Managed**. Setting the Control-M/Server to **Managed** before the elevation process, can cause corruption.
- Do not start up the corresponding gateway until after you complete this procedure, which 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 migrated to 9.0.18. If only the Control-M/EM was migrated and not the Control-M/Server then you do not perform these steps.

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

1. Log in to the CCM from Control-M/EM version 9.0.18.
   **NOTE:** Do not change the version of the Control-M/Server component in the CCM, as this action performs the 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 migrated), then continue with this procedure. Otherwise, there is no need to synchronize.

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

4. In the Version field, select version 9.0.18

5. Set the fields, as described in **Elevate parameters** (on page 33).

6. Click **OK**.

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

**Elevate parameters**

The following table describes the Elevate fields:

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elevate Control-M</strong></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><strong>Version</strong></td>
<td>Select the new version of the migrated Control-M/Server. All job definitions will be converted to a format that is consistent with the standards for the new version. If you migrated the Control-M/Server on UNIX, Windows or z/OS to a version lower than 9.0.18, then select the version that the Control-M/Server was migrated to.</td>
</tr>
<tr>
<td><strong>Host</strong></td>
<td>Defines the name of the Control-M/Server machine (maximum length: 255 characters).</td>
</tr>
</tbody>
</table>
| **Port**          | Defines either:
|                  |   - The port number of the Control-M/Server Configuration Agent or
|                  |   - The port number of the Control-M/Server listening port
| **NOTE:** 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. |
| **Synchronization Mode** | Determines how to synchronize data between Control-M/Server and Control-M/EM, as described in Configuring Control-M/Server synchronization. |
Continuing after Control-M/Server migration

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

➢ To continue after Control-M/Server migration:

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.
   - 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 9.0.00 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 9.0.18 and the Agent is 8.0.00, then the PROTOCOL_VERSION should be set to 10.

3. If the ctmldnrs.dat file is migrated, copy the ctmldnrs.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 ctmldnrs.dat is deleted from the default location (<server_home>/ctm_server/tmp) when Control-M/Server is started.
Control-M Reporting Facility migration

The following section describes the steps required to migrate reports from the old Control-M Reporting Facility to the new Control-M Reports.

Reporting Facility migration involves the following process:

- Migration of Control-M jobs that are scheduled to run reports using either the EMReportCLI.exe command line utility, or Control-M Report job type.
- Migration of old report templates (RPT files), which are located on a host that has Control-M client with Reporting Facility installed and has report definition files (RPT).

The reporting migration tool provides a set of utilities to accomplish the above. Manual adjustment is required to complete the migration.

Reporting Facility migration process planning

When planning your migration process consider the following:

- EMReportcli.exe is no longer supported in Control-M/EM version 9.0.18 and above. You need to update the hosts that run jobs which execute EMReportcli.exe, as described in Control-M Report jobs definition (on page 39).
- Due to changes in Control-M Reports, there might differences between previously generated reports and the converted reports. For more information about Control-M Reports capabilities, supported Control-M Reports, output formats, filtering parameters and operator comparisons, see Key differences between the versions (on page 40).
- For a limited period, old versions (prior to Control-M/EM version 9.0.18) of the Reporting Tool continue to work with Control-M/EM version 9.0.18. To do this, refrain from upgrading the Control-M client and choose to do a fresh installation of the new Control-M client side-by-side.

To migrate your old reports to the new Control-M Reports, see Migrating Reporting Facility reports (on page 35).

Migrating Reporting Facility reports

This procedure describes how to migrate reports from the old Reporting Facility to the new Control-M Reports.

➢ To migrate Reporting Facility reports:

1. Identify hosts that run jobs, which execute Reporting Facility reports, by running the rf_jobs_analyzer utility as described in Hosts running Reporting jobs identification (on page 36).

   NOTE: The rf_jobs_analyzer utility does not affect your currently installed version. It is recommended that you execute the utility prior to your migration process and then review your previously defined jobs that execute Reporting Facility reports.
2. Install the new Control-M/EM version (including Control-M/EM Server, Control-M Client, and Control-M Automation API).

   **NOTE:** Ensure you do not upgrade current Control-M clients that are running EmReportcli.exe until the migration process has ended.

   If you are running a Control-M/EM Server and Client on the same Windows machine, upgrade affects both Server and Client. However, for a limited time, you may continue using the Reporting Facility side-by-side with Control-M Reports, by installing a Control-M client version 9.0.00 under a new instance name prior to the upgrade. This allows you to continue viewing your old reports while moving to use the new Control-M Reports. For more information about installation, see Introduction to Control-M installation.

3. From the host(s) that you identified in step 1, convert Reporting Facility reports files (*.rpt) to Control-M Reports format (*.JSON), by Running the EmReportConvcli.exe utility (on page 38).

4. Import the converted reports into Control-M reports in the new Control-M client instance, as described in Importing converted reports into Control-M Reports (on page 39).

5. Create/modify jobs that execute Reporting Facility reports, as described in Control-M Report jobs definition (on page 39).

Hosts running Reporting jobs identification

The **rf_jobs_analyzer** utility identifies hosts which are running jobs that execute Reporting Facility reports. To run the **rf_jobs_analyzer**, see Running the rf_jobs_analyzer utility (on page 36).

The utility generates a report about Control-M Report job types and O/S jobs that execute EMReportcli.exe under a specific Control-M/EM Server. The report includes the following information:

- Summary of the Hosts and the number of identified jobs on each Host.
- Detailed information on each identified job, including details about output types and filtering parameters that are no longer supported by Control-M Reports.
- General warnings

A summary report is displayed on screen, while a detailed report is available in the **Report jobs analyzer-Detailed-Report.txt** file in the utility's directory. If case there are enhancements created by the latest version that might require your attention, see Key differences between the versions (on page 40).

Running the rf_jobs_analyzer utility

This procedure describes how to run the **rf_jobs_analyzer** utility.

- To run the **rf_jobs_analyzer** utility:
  1. Navigate to `<installation_directory>\CdImage\<operating system>\Setup_files\TOOLS\Reporting\Reports_Jobs_Analyzer`.
  2. Move the **rf_jobs_analyzer** utility folder to the specific Control-M/EM Server that you want to run the utility.
3. Open a command prompt window, navigate to the rf_jobs_analyzer folder and type the following command and press enter:
   rf_jobs_analyzer

4. If the utility is unable to automatically detect the environmental information for its execution, you may run it manually by providing your own data. Information about the **rf_jobs_analyzer** parameters are available by typing the following:
   run_rf_jobs_analyzer -h

5. To view a detailed report, navigate to the utility's directory and open the Report jobs analyzer-Detailed-Report.txt file.

### Report jobs definition comparison

The following table compares old Reporting tool output file types with Control-M Reports supported file types.

**NOTE:**
- Control-M/EM versions 9.0.18 and above makes use of the new powerful Control-M Automation API, which replaces the EMReportsCLI.exe and Control-M Report job type.
- Reports parameters are no longer supported on Control-M/EM version 9.0.18 and the generation of such reports is not possible.
- Control-M/EM version 9.0.18 supports the reports output file types: CSV and PDF.

<table>
<thead>
<tr>
<th>Old Reporting Tool</th>
<th>New Control-M Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Excel 97-2000 (*.xls)</td>
<td>N/a</td>
</tr>
<tr>
<td>Microsoft Excel 97-2000 (Data Only)(*.xls)</td>
<td>N/a</td>
</tr>
<tr>
<td>Microsoft Word (*.doc)</td>
<td>N/a</td>
</tr>
<tr>
<td>Acrobat (*.pdf)</td>
<td>Acrobat (*.pdf)</td>
</tr>
<tr>
<td>HTML 4.0 (*.html)</td>
<td>N/a</td>
</tr>
<tr>
<td>XML (*.xml)</td>
<td>N/a</td>
</tr>
<tr>
<td>Comma Separated Values (*.csv)</td>
<td>Comma Separated Values (*.csv)</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> The Output structure has been changed</td>
</tr>
<tr>
<td>Tab Separated Text (*.txt)</td>
<td>N/a</td>
</tr>
</tbody>
</table>
Reporting Facility reports conversion

The **EmReportConvCli.exe** utility converts Reporting Facility reports (*.rpt) to Control-M Report format (*.JSON).

To run the utility, see [Running the EmReportConvcli.exe utility](on page 38).

The utility generates a Report Conversion Summary, which includes the following information:

- Summary of the reports handled by the conversion utility together with the conversion status.
- Details about each report together with any differences and suggested action due to the enhancements made by version 9.0.18.

The Conversion Summary Report is in **ReportConversionCLI\ConvertedReports\** that also holds all new *.JSON report files.

**NOTE:** Ensure that you review the Report Conversion Summary for any action you may need to take when converting and importing the *.JSON files into Control-M Reports.

Running the EmReportConvcli.exe utility

This procedure describes how to run the EMReportConvcli.exe utility, which converts Reporting Facility reports (*.rpt) to Control-M Report format (*.JSON).

➢ **To run the EmReportConvCli.exe utility:**

1. Navigate to the following directory:

   \(<installation_directory>\CdImage\windows\Setup_files\TOOLS\Reporting\ReportConversionCLI\*

2. Move the **ReportConversionCLI** utility folder to old reporting facility client machine.

3. Open a command prompt window as administrator and navigate to the **ReportConversionCLI** folder, type the following command and press enter:

   ```
   EmReportConvCli.exe -s <RPT Source files folder> -d <JSON file destination folder>
   ```

   When running the utility, you can provide your own source and destination directories, by using the following:

   - `-s <The full path to the folder containing the old Reporting Facility Reports>`
   - `-d < The full path of the desired destination folder>

   Information about the ReportConversionCLI parameters are available by typing:

   ```
   ReportConversionCLI -h
   ```

   **EXAMPLE:**

   ```
   c:\ReportConversionCLI\EmReportConvCli.exe -s "C:\Reporting Facility Reports" -d "c:\Control-M Reports"
   ```
Importing converted reports into Control-M Reports

You can import your old reports into Control-M Reports after converting to Control-M Reports, as described in Reporting Facility reports conversion (on page 38).

This procedure describes how to import the converted reports.

➢ To import a report into Control-M Reports:

1. From the Tools domain, in the Other Tools section, select Control-M Reports.

   The Control-M Reports window appears.

2. From the Control-M Reports window click Report and select Load from file.

3. Navigate to the directory where the file is located and click Open.

   The Report now appears.

For more information about Control-M Reports import and export capabilities, see Report management.

Control-M Report jobs definition

If you want to run a report in the new Control-M Reports, you need to download and install Control-M Automation API. You then use it to define a Report generation command, by defining an O/S job. For more information, see Control-M Reports job definition in Control-M Reports User Guide.

If you have defined a Control-M Report job type or an O/S jobs that executes EMReportCli.exe, you need to manually update the following:

- **Control-M Report job type:** Find and replace these job types with an O/S job type adding the Control-M Automation API command that you have defined.

- **OS Job type with the EMReportCli.exe command:** Find the O/S job type with the EMReportCli.exe command and replace the command execution with the Control-M Automation API command that you have defined.

**EXAMPLE:** An O/S job uses the following command:

```
emreportcli -pf "pass.txt" -s serverName -template "Daily Task Count" -output_file_type PDF -output_file_path "C:/Temp/report.pdf"
```

should be adapted to use the following command:

```
ctm reporting report::get Alerts_Sample pdf -o C:/Temp/Alerts.pdf
```

For more information about Control-M Automation-API, see AAPI Getting Started.
Key differences between the versions

Control-M/EM versions 9.0.18 and above contain several enhancements that might influence your reports. Below is a summary of the main differences between old Control-M Reporting Facility and the new Control-M Reports.

<table>
<thead>
<tr>
<th>Old Reporting Tool Type</th>
<th>Old Reporting Tool Sub Type</th>
<th>New Control-M Reports - Category</th>
<th>New Control-M Reports - Report Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Alerts</td>
<td>Active</td>
<td>Alerts</td>
</tr>
<tr>
<td></td>
<td>Extreme Peaks Usage</td>
<td>Active</td>
<td>Extreme Peaks Usage</td>
</tr>
<tr>
<td></td>
<td>Managed Servers</td>
<td>Active</td>
<td>Managed Servers</td>
</tr>
<tr>
<td></td>
<td>Users Authorization</td>
<td>N/a</td>
<td>N/a</td>
</tr>
<tr>
<td>Active</td>
<td>Active Jobs</td>
<td>Active</td>
<td>Active Jobs</td>
</tr>
<tr>
<td></td>
<td>Quantitative Resources</td>
<td>Active</td>
<td>Quantitative Resources</td>
</tr>
<tr>
<td></td>
<td>Control Resources</td>
<td>Active</td>
<td>Control Resources</td>
</tr>
<tr>
<td></td>
<td>Prerequisite Conditions</td>
<td>Active</td>
<td>Prerequisite Conditions</td>
</tr>
<tr>
<td></td>
<td>Active Links</td>
<td>N/a</td>
<td>N/a</td>
</tr>
<tr>
<td></td>
<td>Active Manual</td>
<td>N/a</td>
<td>N/a</td>
</tr>
<tr>
<td>Audit</td>
<td>Custom Audit</td>
<td>Active</td>
<td>Audit</td>
</tr>
<tr>
<td></td>
<td>WCM Request</td>
<td>N/a</td>
<td>N/a</td>
</tr>
<tr>
<td>BMC Batch Impact Manager</td>
<td>Service-Jobs</td>
<td>N/a</td>
<td>N/a</td>
</tr>
<tr>
<td></td>
<td>SLA Analysis History Detailed</td>
<td>Batch Impact Manager</td>
<td>BIM</td>
</tr>
<tr>
<td></td>
<td>Job-Services</td>
<td>N/a</td>
<td>N/a</td>
</tr>
<tr>
<td>Old Reporting Tool Type</td>
<td>Old Reporting Tool Sub Type</td>
<td>New Control-M Reports - Category</td>
<td>New Control-M Reports - Report Type</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------</td>
<td>---------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>Definition</td>
<td>Jobs Definitions</td>
<td>Jobs</td>
<td>Jobs Definition</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>NOTE:</strong> There is no option to display nested columns, such as conditions, and variables. If needed, use one of the new Definition Sub Types.</td>
</tr>
<tr>
<td>Folders Definitions</td>
<td>Definition</td>
<td>Folders Definitions</td>
<td></td>
</tr>
<tr>
<td>Links Definition</td>
<td>N/a</td>
<td>N/a</td>
<td></td>
</tr>
<tr>
<td>Manual Definitions</td>
<td>N/a</td>
<td>N/a</td>
<td></td>
</tr>
<tr>
<td>N/a</td>
<td>N/a</td>
<td>Definition</td>
<td>In Conditions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Out Condition</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jobs Variables</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Control Resource</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quantitative Resource</td>
</tr>
<tr>
<td>Forecast Analysis</td>
<td>Execution</td>
<td>History</td>
<td>Jobs Execution</td>
</tr>
<tr>
<td></td>
<td>Workload</td>
<td>History</td>
<td>Workloads</td>
</tr>
<tr>
<td></td>
<td>Trend Analysis</td>
<td>N/a</td>
<td>N/a</td>
</tr>
</tbody>
</table>
Operator comparison

The following table compares the filter operators between the old Control-M Reporting Tool and the new Control-M Reports.

<table>
<thead>
<tr>
<th>Old Reporting Tool</th>
<th>New Control-M Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>=</td>
<td>Is</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> You cannot separate values by comma. If required, use one of the operators:</td>
</tr>
<tr>
<td></td>
<td>▪ Any of the following</td>
</tr>
<tr>
<td></td>
<td>▪ None of the following</td>
</tr>
<tr>
<td>!=</td>
<td>Is not</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> You cannot separate values by comma. If required, use one of the operators:</td>
</tr>
<tr>
<td></td>
<td>▪ Any of the following</td>
</tr>
<tr>
<td></td>
<td>▪ None of the following</td>
</tr>
<tr>
<td>&lt;</td>
<td>Less than</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less or equals to</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater or equals to</td>
</tr>
<tr>
<td>LIKE</td>
<td>Like</td>
</tr>
<tr>
<td></td>
<td>You can use any of the following:</td>
</tr>
<tr>
<td></td>
<td>▪ (&lt;\text{character}&gt;): Finds the value of the character. For example, \textbf{a} finds the value \textbf{a}.</td>
</tr>
<tr>
<td></td>
<td>▪ (&lt;\text{character}&gt;<em>): Finds any value that starts with the character. For example, \textbf{a</em>} searches for any value that starts with \textbf{a}.</td>
</tr>
<tr>
<td></td>
<td>▪ (&lt;\text{character}&gt;\text{a}): Finds any value that ends with the character. For example, \textbf{*a} searches for any value that ends with \textbf{a}.</td>
</tr>
<tr>
<td></td>
<td>▪ (&lt;\text{character}&gt;*): Finds any value that has or in any position.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> You cannot separate values by comma. If required, use one of the operators:</td>
</tr>
<tr>
<td></td>
<td>▪ Any of the following</td>
</tr>
<tr>
<td></td>
<td>▪ None of the following</td>
</tr>
</tbody>
</table>
The following operators are new in Control-M Reports:

- Not Like

- You can use any of the following:
  - `<character>`: Ignores the value of the character. For example, `a` ignores the value `a`.
  - `<character>*`: Ignores any value that starts with the character. For example, `a*` ignores any values that starts with `a`.
  - `*<character>`: Ignores any value that ends with the character. For example, `*a` ignores any value that ends with `a`.
  - `*or*`: Ignores any value that has or in any position.

- Any of the following

  **NOTE:** List of possible values are separated by comma. Accepts asterisk.

- None of the following

  **NOTE:** List of possible values are separated by comma. Accepts asterisk.
Troubleshooting Control-M Migration

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

- Readiness report messages (on page 44)
- Debugging the Control-M/EM export and import processes (on page 57)
- Control-M/Forecast exception conditions
- Control-M/Forecast Historical Data (on page 58)
- BMC Batch Impact Manager Web Application settings from a previous version (on page 58)
- Remedy system parameters upgrade

Readiness report messages

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

- View the description of the message, as described Control-M/EM messages (on page 44) and Control-M/Server messages (on page 52)
- Analyze the message according to the prefixes, as described in Readiness report message prefixes (on page 56). 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)
  - 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 55).

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 migrated. 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:
- Control-M/Server for Distributed Systems versions 6.2.0x, 6.3.0x, 6.4.0x, and 7.0.0x
- Control-M for OS/390 and Control-M for z/OS version 6.2.0x, 6.3.0x, and 7.0.0x

Data centers for versions previous than those listed above must be migrated. 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**

<table>
<thead>
<tr>
<th>Group</th>
<th>=</th>
<th><em>group</em></th>
</tr>
</thead>
</table>
| 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/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 migration 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 9.0.18 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 migration 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 9.0.18 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 migration FIX 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 9.0.18 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 migration FIX 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 9.0.18 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 migration FIX 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 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 9.0.18 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 migration FIX 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 9.0.18 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 migration FIX 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 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 9.0.18 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 `migration FIX 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 9.0.18 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 FIX 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 9.0.18 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 FIX 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 9.0.18 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 9.0.18 environment, copy the file to the same location on the new 9.0.18 environment. If you are copying the file to different location, change the job definitions on the new 9.0.18 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 52).

➢ To correct export problems:

- Run one of the following migration commands:
  - **UNIX**: `<server_home>/ctm_server/upgrade_export/ Upgrade FIX <ERROR Code>`
  - **Windows**: `<server_home>\ctm_server\upgrade_export\ Upgrade FIX <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 migration.</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>
<tr>
<td>PLN</td>
<td><strong>PLN Warning</strong></td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>PLN messages are always accompanied by an <strong>ERR99</strong> message, which is a general error message indicating that job scheduling plan differences in the new version.</td>
</tr>
<tr>
<td></td>
<td>The data cannot be migrated until the scheduling plan differences are resolved. The Control-M Migration cannot determine what corrections to make. You must perform the required changes manually.</td>
</tr>
<tr>
<td></td>
<td>If <strong>ERR99</strong> is issued without any PLN warnings, notify BMC Software Customer Support.</td>
</tr>
</tbody>
</table>
Prefix | Description
--- | ---
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`
Control-M Migration Guide

Additional debugging information is saved in the `util.log` and `util_auth.log` files, which are located at:

- **Export debugging information**
  - UNIX: `<emHome>/Upgrade/Export/logs`
  - Windows: `<emHome>\Upgrade\Export\logs`

- **Import debugging information**
  - UNIX: `<emHome>/Upgrade/Import/logs`
  - Windows: `<emHome>\Upgrade\Import\logs`

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

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 migrated from an old environment to the new environment using the Control-M Migration Toolkit.

When the Control-M Migration process identifies Control-M/Forecast historical data in the old environment, you are prompted to include this data in the Control-M/EM Migration 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.
Changes in Control-M versions

To facilitate a smooth upgrade from your old environment to the new 9.0.18 Control-M environment, see the following new and changed features:

- **New features introduced in version 7.0.00 (on page 60):** 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 62):** For more information, see Control-M 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 (on page 64):** For more information, see Control-M version 9.0.00 Release Notes.

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.
New features introduced in version 7.0.00

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 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 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 version 8.0.00 Release Notes. |
<p>| 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 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 version 8.0.00 Release Notes. |
| Linux 64bit                                | Control-M 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 migrated to Control-M version 8.0.00 without any downtime. For more information, see Control-M/Agent enhancements in Control-M version 8.0.00 Release Notes. |</p>
<table>
<thead>
<tr>
<th>What's new</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trial Mode Installation</td>
<td>The installation of Control-M version 8.0.00 allows you to install a trial version of the solution with all optional components including:</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M Self Service</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M Batch Impact Manager</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M Advanced File Transfer 7.0.00</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M for Cloud 7.0.00</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M for IBM Cognos 7.0.00</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M for Oracle Business Intelligence 7.0.00</td>
</tr>
<tr>
<td></td>
<td>This version is intended for testing and evaluation, not for use in a production environment.</td>
</tr>
<tr>
<td>Full Installation</td>
<td>The Control-M 8.0.00 full installation includes the following Application Plug-ins:</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M for SAP 7.0.00</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M for Databases 7.0.00</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M for SAP Business Objects 7.0.00</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M for Informatica 7.0.00</td>
</tr>
<tr>
<td></td>
<td>▪ Control-M for PeopleSoft 8.0.00</td>
</tr>
<tr>
<td>Application Plug-ins</td>
<td>Now you can install all Application Plug-ins using the new Control-M Application Plug-in DVD.</td>
</tr>
<tr>
<td>Terminology</td>
<td>Several terms were changed from previous releases in Control-M version 8.0.00.</td>
</tr>
<tr>
<td></td>
<td>▪ Terminology: Terms that have changed.</td>
</tr>
<tr>
<td></td>
<td>▪ Changed Control-M/Server utility names: Utility names that have changed.</td>
</tr>
<tr>
<td></td>
<td>▪ Changed Control-M/Server utility parameters: Utility parameters that have changed.</td>
</tr>
</tbody>
</table>

Control-M 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.
Control-M version 9.0.00 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>
<tbody>
<tr>
<td>High Availability</td>
<td>Control-M High Availability enables you to maximize your production environment uptime and prevent data loss in the event of a hardware maintenance or failure. When using an Oracle or MSSQL database, in the case of a hardware issue or if all processes are unexpectedly down, you can perform either an automatic or manual failover for both Control-M/EM and Control-M/Server. Once the problem is fixed, you can fallback to the primary host. When using a Control-M PostgreSQL database, the database can be replicated. If there is a hardware issue, you can perform a manual failover to a secondary Control-M server, and later, when the problem is fixed, you can fall back to the primary Control-M server.</td>
</tr>
<tr>
<td>Automated Agent deployment</td>
<td>Upgrade one or many agents to 9.0.00 and future versions of fix packs in just a few simple steps. Options are available to transfer the package to agents and deploy at a later time, or automatically transfer and deploy in a single step.</td>
</tr>
<tr>
<td>Automated Client deployment</td>
<td>The new Client deployment utility replaces the WebLaunch tool in previous Control-M versions. Use the Client deployment utility to easily distribute full client installation packages, fix packs and patches to users. Set policies to force users to apply update packages by a specific date.</td>
</tr>
<tr>
<td>Control-M Configuration Manager (CCM)</td>
<td>The CCM user interface has been updated to improve user experience. In addition, the following components are now managed by the Control-M/EM Configuration Agent and appears in the CCM:</td>
</tr>
<tr>
<td>Control-M Configuration Manager (CCM)</td>
<td>- Database</td>
</tr>
<tr>
<td></td>
<td>- Naming Server (NS)</td>
</tr>
<tr>
<td>enhancements</td>
<td>- Configuration Management Server (CMS)</td>
</tr>
<tr>
<td></td>
<td>- Control-M Workload Archiving</td>
</tr>
<tr>
<td></td>
<td>The Configuration Agent starts up all the required components. You no longer have to start up the CMS, NS or PostgreSQL database (if installed).</td>
</tr>
<tr>
<td><strong>What's new</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Promotion between environments</td>
<td>Promotion between environments is a new capability of the Control-M Workload Change Manager that enables you to move job definitions between environments, such as from a development environment to a production environment. During the promotion process, the job definitions are modified and validated according to the Site Standards of the target environment.</td>
</tr>
<tr>
<td>Runtime estimations</td>
<td>With Control-M Batch Impact Manager, you can now see the estimated runtimes of all the jobs in a regular viewpoint without them being defined as a part of a Batch Impact Manager service.</td>
</tr>
<tr>
<td>Usage Alerts</td>
<td>Keep an eye on your task usage with Usage Alerts, available from within the CCM. Define task usage alert thresholds across all of your Control-M/EMs. Exceeding a threshold will send an email alert.</td>
</tr>
<tr>
<td>Security enhancements</td>
<td>The SSL certificate deployment capability extends the packaging and deployment of SSL security certificates with an option to specify an external Certificate Authority.</td>
</tr>
</tbody>
</table>
| Improved security algorithms   | Control-M Enterprise Manager password hashed using SHA-512. SSL support for:   
  ▪ AES suite ciphers (128 bit and 256 bit)   
  ▪ RSA keys with length 2048, 3072 and 4096   
  ▪ SHA-2 hashing (on Enterprise Manager Client-Server communication) |
| NFS support for Control-M Server and Control-M Agent installation | You can now install Control-M/Server and Control-M Agents on NFS.                                                                                                                                    |
| I Pv6 communication            | I Pv6 support, including support for mixed IPv4 and IPv6 environments, is now available for the following components:   
  ▪ Control-M Agent and Agentless   
  ▪ Control-M Server   
  ▪ Control-M Mainframe   
  ▪ Control-M Enterprise Management - Server, Clients |
<table>
<thead>
<tr>
<th>What's new</th>
<th>Description</th>
</tr>
</thead>
</table>
| Additional options to enhance the power of your enterprise scheduling | - Improved monitoring and troubleshooting for the job flows that span on multiple days. You can now configure the active environment retention period for a SMART folder so the Smart Folder itself and its jobs are kept in the active environment until the end of the period.  
- Ability to order jobs on remote Control-M Servers by setting an action in a job to trigger another job on a different Control-M/Server and also pass variables as a part of the order operation.  
- Ability to share information between jobs by extracting data from a job output and passing it to other jobs as a variable. Additional granularity of the variables is introduced as well, allowing to define variables in groups called "named pools", in addition to global and local variables.  
- z/OS customers can use the following additional tools on the user interface:  
  - View, edit and manage CMEM rules from the user interface  
  - Set up a graphic indication on the job node for the pre-execution state |
<p>| What If Host simulation                        | New capability for Control-M Batch Impact Manager and Forecast to simulate the influence of the unavailability of a specific Control-M Agent or a group of Control-M Agents on your job flows, and prepare for planned shutdowns and maintenance windows. |
| Global Calendars                               | You can now save time and reduce the efforts invested in calendar management by creating a single calendar in the Control-M Enterprise Manager that will be distributed to all the Control-M Servers. |
| Bookmarks                                      | You can bookmark the jobs in a workspace or a viewpoint to analyze flows and easily locate jobs. Bookmarks are supported in the Planning, Monitoring, Forecast, and History domains. |
| Export flow diagram to a file                  | You can now export flow diagrams to a Microsoft Visio-compatible EMF format from any domain. Just click the Save as option in the application File menu. |
| Enhanced search when loading jobs to a workspace | You can now view more fine-tuned search results when loading jobs into a workspace in the Planning domain by filtering folders and jobs with a larger variety of fields. |</p>
<table>
<thead>
<tr>
<th><strong>What's new</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Help on Web server</td>
<td>The online help is now available from the Control-M Web server.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> Verify that the Web server is up.</td>
</tr>
<tr>
<td>Multiple Application plug-ins installation</td>
<td>You can now install Application plug-ins from the Control-M full installation DVD.</td>
</tr>
</tbody>
</table>