IBM Copy Services Manager
Version 6 Release 1

Release Notes
March 2016

IBM

Edition notice

This edition applies to Version 6, Release 1, Modification 1 of IBM Copy Services Manager and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

About this document

This document contains the release notes in support of IBM® Copy Services
Manager Version 6, Release 1, Modification 1.

What's new

The following functions are introduced in IBM Copy Services Manager version 6.1.1:

Version 6, Release 1, Modification 1

This table provides the current technical changes and enhancements to Copy Services Manager as of March 2016.

Table 1. What's new in Copy Services Manager Version 6.1.1 (March 2016)

Function	Description
Support for configuring LDAP authentication by using the Copy Services Manager GUI	You can now configure LDAP in your Copy Services Manager environment by using either the GUI or CLI. You can set the configuration to connect to either an Active Directory or LDAP server for authentication.
Enable LDAP authentication for DS8000 storage systems	DS8000 storage systems can now use a Copy Services Manager server to enable LDAP authentication on the storage system.
Enable HyperSwap on multi-target Metro Mirror - Global Mirror, and Metro Mirror - Global Mirror with Practice sessions	These sessions have a Metro Mirror leg. When the HyperSwap option is enabled, this leg tells the I/O supervisor (IOS) in z/OS to automatically swap I/O from the source to the target if a primary read/write I/O error occurs.
Enable hardened freeze on multi-target Metro Mirror - Global Mirror, and Metro Mirror - Global Mirror with Practice sessions	A hardened freeze operation is now available on Metro Mirror - Global Mirror, or Metro Mirror - Global Mirror with Practice multi-target session types.
Ability to set delay time on automatic restart option for SAN Volume Controller Global Mirror sessions	Copy Services Manager Version 6.1 added the ability to set an option on SAN Volume Controller Global Mirror sessions to immediately issue an automatic restart if a 1720/1920 error occurs. Copy Services Manager Version 6.1.1 now adds the ability to delay the restart. This delay allows some time for the situation to correct itself. Or, if you have several sessions, you can stagger them so that they do not all restart at the same time, which can cause impact to the system. Choose the *set delay time* feature to define a time, in seconds, for the delay between when Copy Services Manager processes the 1720/1920 event and when the automatic restart is issued.
Support DS8000 storage system migration by using the multi-target sessions	Before the 6.1.1 release, all systems in a multi-target session were required to apply the multi-target feature code, including the target systems. With this change, the target systems do not require the multi-target feature code. Without that requirement, you can migrate from a target system without the feature code to a new target system with the feature code.

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Table 1. What's new in Copy Services Manager Version 6.1.1 (March 2016) (continued)

Function	Description
Detect and support external failback on SAN Volume Controller Metro Mirror and Global Mirror sessions	Before the 6.1.1 release, a Copy Services Manager SAN Volume Controller session could detect an external failover and move to the Target Available state. With this update, an external failback, including the switch command, is recognized by Copy Services Manager, which then updates the state and direction of the session.
Improvements to the GUI	The Copy Services Manager GUI is now updated with some minor changes to assist with usability.
Historical reporting and export for SAN Volume Controller Global Mirror with Change Volume sessions	Copy Services Manager now stores a history of recovery point objective (RPO) values for SAN Volume Controller Global Mirror with Change Volume sessions. You can export the RPO values by using either the GUI or CLI. For more information, see Chapter 4, "Exporting historical RPO data for SAN Volume Controller Global Mirror with Change Volume sessions," on page 7.
Match between SAN Volume Controller consistency group names and session names, with new 15-character session name limitation in GUI	The name for a SAN Volume Controller consistency group will now match the session name. Because there is a new 15-character limitation for SAN Volume Controller session names, the session name can now be used as the consistency group name as well. In previous releases, when a SAN Volume Controller consistency group was created during the start on the Copy Services Manager session, a name that was automatically generated by the SAN Volume Controller was used. This fact made it difficult to distinguish consistency groups that were created by Copy Services Manager when viewing them in the SAN Volume Controller GUI or CLI. With this change, as long as the Copy Services Manager session name is 15 characters or less, it is used to create the SAN Volume Controller consistency group name. This limit keeps the Copy Services Manager session and consistency group name the same, which makes it easier to distinguish on the hardware. **Note:** If you need a SAN Volume Controller session name to be longer than 15-characters, you can bypass this GUI limitation by using the CLI. However, the trade off is that the consistency group name will be automatically generated by the hardware, and therefore will not match the session name.

Chapter 1. Prerequisites

Prerequisites for Copy Services Manager include supported operating systems, browsers, and storage systems.

The Copy Services Manager Version 6.1.x prerequisites can be found at http://www-01.ibm.com/support/docview.wss?uid=ssg1S1005402.

Chapter 2. General information

The following general information refers to IBM Copy Services Manager Version 6.1.1:

Getting support

For technical support with this release of Copy Services Manager, go to the following websites:

- IBM System Storage products: http://www.ibm.com/servers/storage
- IBM Copy Services Manager Support Portal: http://www.ibm.com/support/entry/portal/product/system_storage/storage_software/storage_infrastructure_management/ibm_copy_services_manager

Product documentation

The Copy Services Manager online product documentation at http://www-01.ibm.com/support/knowledgecenter/SSESK4 contains all of the information that is required to install, configure, and manage Copy Services Manager. The online documentation is updated between product releases to provide the most current information.

You can order or download individual publications that have an order number from the IBM Publications website at http://www-05.ibm.com/e-business/linkweb/publications/servlet/pbi.wss.

Table 2. Copy Services Manager product publications

Title	Description	Order number
IBM Copy Services Manager Installation and Configuration Guide	Provides task-oriented information for anyone who installs and configures Copy Services Manager.	SC27-8543
IBM Copy Services Manager User's Guide	Provides task-oriented information for users of Copy Services Manager. Users should be familiar with the following topics: - Copy Services concepts - General principles of IBM AIX, Linux, Windows, and the IBM z/OS operating systems - Simple Network Management Protocol (SNMP) concepts - Storage Area Network (SAN) concepts	SC27-8542

Chapter 3. Installing the command-line interface on a remote system

You can install the Copy Services Manager CLI to run on a remote system.

About this task

To install the Copy Services Manager CLI on a remote system, you must download and extract the appropriate compressed files for your operating system to the proper location.

Procedure

1. Download the Copy Services Manager CLI installation package (`csm-CLI`) for your system type to the remote server where you want to run the command line. This file package can be obtained from the same location as the other Copy Services Manager installation files. The available package types and associated file names are listed in the following table:

Table 3. Copy Services Manager CLI installation package file names by operating system

Operating system	Copy Services Manager CLI installation package file name
Windows	`csm-CLI-6.1.1-win.zip`
AIX	`csm-CLI-6.1.1-aix.tar.gz`
Linux 64-bit PowerPC and Power Architecture	`csm-CLI-6.1.1-linux-ppc.tar.gz`
Linux on IBM z Systems	`csm-CLI-6.1.1-linux-s390x.tar.gz`
RedHat or SuSE Linux	`csm-CLI-6.1.1-linux-x86_64.tar.gz`
z/OS	`csm-CLI-6.1.1-zos.pax`

2. Extract the `csm-CLI` file package to a directory on the remote system, referred to in the following steps as the *CSM_CLI_DIR* directory: For Windows, extract the files by right-clicking and selecting **Extract All**. For AIX or Linux, use the **gunzip**, and then **tar** commands to extract the files. For z/OS, extract the files by using the **pax** command.

3. **For z/OS only:** After extracting files using the **pax** command, there is an additional step to set file attributes on Java libraries that the CLI uses:

   `extattr +a CSM_CLI_DIR/csm/Java/lib/s390x/compressedrefs/libj9ifa27.so`

   `extattr +a CSM_CLI_DIR/csm/Java/lib/s390x/default/libj9ifa27.so`

4. Open the *CSM_CLI_DIR*/csm/CLI directory.

5. Edit the `repcli.properties` file by typing the server name and port of your Copy Services Manager server. The default setting in the file is shown:

   ```
   server=localhost
   port=9560
   ```

   The updated setting in the file appears as follows:

   ```
   server=myCSMserver.domain.com
   port=9560
   ```

   Where *myCSMserver.domain.com* correlates to the Copy Services Manager server name in your environment.

Note: Port 9560 is the default port that is used during Copy Services Manager installation. If you used a custom port, you must change the port setting.

6. Start the Copy Services Manager CLI by entering the **csmcli.bat** command for Windows, or the **csmcli.sh** command on AIX, Linux, or z/OS systems. Enter the associated Copy Services Manager user name and password. See the following example:

```
C:\temp\csm-CLI-6.1-win\csm\CLI>csmcli.bat
Please enter a username for logging onto the server
csmadmin
Please enter a password for logging onto the server
>
IBM Copy Services Manager Command Line Interface (CLI)
 Copyright 2007, 2012 IBM Corporation
 Version: 6.1
 Build: a20150818-0519
 Server: csmwin2k12     Port: 9560    UseREST: false
 Authentication file: csmcli-auth.properties

csmcli>
```

Results

The Copy Services Manager CLI is now configured to run on the remote system.

Chapter 4. Exporting historical RPO data for SAN Volume Controller Global Mirror with Change Volume sessions

You can use the GUI or the CLI to export historical RPO data for SAN Volume Controller Global Mirror with Change Volume sessions.

About this task

You can store and export historical records for recovery point objective (RPO) values on SAN Volume Controller Global Mirror with Change Volume sessions. Every time the actual RPO is calculated, the value is maintained in the internal data store. You can export the values to a `CSV` file, over a one-month time period.

You can use either the Copy Services Manager GUI or CLI to export RPO data.

Format of the `CSV` file for SAN Volume Controller Global Mirror with Change Volumes history

The `CSV` file is generated with the following values separated by a comma:

Table 4. SAN Volume Controller Global Mirror with Change Volumes history CSV file output values

CSV file value	Description
Query Time	Time that the actual RPO value was calculated.
Session Name	Name of the Copy Services Manager session.
Role Pair Name	Name of the role pair represented in the data.
Consistency Group Name	Name of the consistency group on the hardware.
Query Interval (in seconds)	Query interval setting to determine actual RPO.
Data Exposure (in hours:minutes:seconds format)	RPO data exposure displayed in a readable format.
Data Exposure (in milliseconds)	RPO data exposure to provide for graphing and charting.

Example CSV file output

```
#Generated at:,"Feb 23, 2016 4:14:55 PM"

#Session Name:,CSM-GMCV

#Role Pair:,H1-H2

#Start Date:,"Nov 1, 2015"

#End Date:,"Feb 23, 2016"
```

```
#Query Time,Session Name,Role Pair Name,Consistency Group Name,Query
    Interval(secs),Data Exposure(hh:mm:ss),Data Exposure(milliseconds),2015-11-23
 11:56:05.0,CSM-GMCV,H1-H2,CSM-GMCV,30,0:03:19,199000,
```

Exporting RPO history by using the GUI

About this task

Follow these steps to export RPO history through the GUI:

Procedure

1. Log in to the Copy Services Manager GUI as a user with administrator privileges.
2. From the Overview panel, click **Session Overview**. Or, from the menu bar, click **Sessions** to get to the Sessions Details panel.
3. From the **Session Actions** menu, select **Export** > **Export Global Mirror Data**. A pop-up window is displayed.
4. Ensure that the **Exporting RPO data** option is selected. Then enter a valid date range that spans no longer than a 31-day period for the start and end dates for the export.
5. Click **OK** to confirm, or click **Cancel** to exit.

Results

A **CSV** file is created with the historical RPO data. A link is also provided to download the file to your local system.

Exporting RPO history by using the CLI

About this task

Follow these steps to export RPO history through the CLI:

Procedure

1. Log in to the Copy Services Manager CLI as a user with administrator privileges.
2. Use the **exportgmdata** command with the -rpohistory option to indicate that you want to export the RPO history. Then use the **-rpo_start** and **-rpo_end** parameters to specify the date range, which must span within a 31-day period.

Results

A message is displayed, which indicates the location of the newly created **CSV** file. This file now contains the historical RPO data for the specified dates.

Customizing settings in the `rmserver.properties` file

About this task

You can customize some of the settings for the historical RPO reporting in the `rmserver.properties` file, including the retention period, the query interval, and the reserved disk space.

- **Retention period:** The default retention for RPO data is set to 91 days. After 90 days, RPO data is removed from the internal data store. The **db.svcgmsessionrpo.retention.days** property can be created and set in the `rmserver.properties` file to change the default retention value. Change this value to indicate how many days of data to keep in the internal data store.

- **Query interval:** During the 30-second default query interval, the actual RPO is calculated and an entry for the session is added to the internal data store. You can modify the query interval in the **hw.svc.gmcv.dataExposureInterval** property in the `rmserver.properties` file. The value is in seconds. Change the value of this property to the number of seconds that you want to determine the actual RPO.

- **Reserved disk space:** You can determine the amount of space needed for historical reporting. With the default query interval set to 30 seconds, a year of data for a single session is estimated at around 200 MB of disk space. If you increase values for retention or query interval, you must ensure that there is enough disk space to accommodate the changes.

Chapter 5. Known issues and workarounds

The following information describes current known issues with IBM Copy Services Manager Version 6.1.1 and any associated workarounds.

Table 5. IBM Copy Services Manager Version 6.1.1 known issues and workarounds

Issue	Explanation and possible workaround
When defined with the same consistency group name, all sessions that share the same DS8000 storage system have the same Master/Subordinate topology, even if there are sessions that do not span the same set of storage systems.	Copy Services Manager supports assigning the same consistency group name to multiple Global Mirror sessions. Master/Subordinate sessions for DS8000 are supported, but limited testing was completed for different combinations of Master/Subordinate configurations, due to environment limitations. Consult with IBM Support to ensure proper coverage of your required configuration.
When more than 256 Copy Services Manager sessions are assigned the same consistency group name, internal issues are encountered.	Limit the number of sessions with the same consistency group name to under 256. This issue will be addressed in a future release.
The Global Mirror options are not synced across sessions that share the same consistency group name. Therefore, when the Global Mirror Master is started, it uses the options that were defined for one of the sessions.	In Copy Services Manager, you can modify certain options for Global Mirror sessions, such as the consistency-group interval time. Ensure that all sessions that have the same consistency group name are also defined with the same Global Mirror options.
When the Global Mirror data for a session is exported, gaps might result with no data while the session was in a suspended state.	When a Global Mirror session that shares a consistency group name with other sessions is suspended, the suspended session is removed from the Master on the hardware while the other sessions are restarted and continue to form consistency groups. When a session is removed from the Master, Copy Services Manager stops collecting historical Global Mirror data for that session. This code limitation has no current workaround.
Copy Services Manager does not support the ability to change the Master of the Metro Global Mirror session from the H2 volumes to the H1 volumes without affecting the other Global Mirror sessions that share the consistency group name.	Copy Services Manager supports the ability to use the same consistency group name across a Metro Global Mirror session. However, when running H1>H2, if you issue either a Start H1>H3 to complete an Incremental Resync, or you issue a Suspend/Recover/Start H2H1H3 to switch the direction of the session, the Global Mirror session is terminated at site 2, which affects the other shared Global Mirror sessions. This is a code limitation with no current workaround.

Table 5. IBM Copy Services Manager Version 6.1.1 known issues and workarounds (continued)

Issue	Explanation and possible workaround
Copy Services Manager does not support local OS authentication.	When migrating from a Tivoli® Storage Productivity Center for Replication installation that uses local OS authentication to a Copy Services Manager installation (see the *IBM Copy Services Manager Installation and Configuration Guide* for migration instructions), local OS users are displayed on the Administration page with an indication that they were not found in either the LDAP or Basic User Registries. Delete these local OS users, and then either create new basic users for local users, or configure LDAP to use LDAP users or groups for authentication.
There is a known DS8000 issue on certain microcode levels when a relationship is running in Global Copy and switched to a Metro Mirror mode. An error occurs indicating that the multi-target feature is not supported. This problem might be encountered on Multi-Target Metro Mirror - Global Mirror and Multi-Target Metro Mirror - Global Mirror with Practice session types.	Suspend the Metro Mirror pairs, and then restart to work around the issue.
After a Recover to Site 3 for a Metro Mirror - Global Mirror with Practice session using count key data (CKD) volumes, when a Start H3->H1->H2 or Start H3->H2->H1 command is issued, the hardware might return an error code 0F74 with Sense Byte 9 set to 0A on the H1-H3 relationships. This situation leads to a full copy of the data from H3 to H1.	There is a known issue after recovering to site 3 for a Metro Mirror - Global Mirror with Practice session using CKD volumes. The Start H3->H1->H3 and Start H3->H2->H1 command attempt to establish failed over relationships from the H3 volume back to H1 to avoid a full copy, as H3 is the target of the FlashCopy relationship and not in the remote copy relationship between site 1 and site 3. Due to the error in setting up the failback to avoid a full copy, the H3 to H1 relationship performs a full copy of the data.

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