IBM System Storage SAN Volume Controller and IBM

Storwize V7000 Command-Line Interface User's Guide – Errata

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Contents

SAN Volume Controller and Storwize V7000 Command-Line Interface User's Guide – Errata, November 23, 2011

Introduction

This guide provides errata information that pertains to release 6.3.0 of the *IBM System Storage SAN Volume Controller and Storwize V7000 CLI User's Guide.*

This guide contains the corrections and additions on a per chapter basis. The chapter numbers in this guide correspond directly with the chapter numbers in the *CLI User's Guide* supplied with your SAN Volume Controller or Storwize V7000.

Who should use this guide

This errata should be used by anyone using the *IBM System Storage SAN Volume Controller and Storwize V7000 Command-Line Interface User's Guide.* You should review the errata contained within this guide and note the details with respect to the copy of the *Command Line Interface User's Guide* supplied with your SAN Volume Controller or Storwize V7000.

Last Update

This document was last updated: November 23, 2011

Change History

The following revisions have been made to this document:

Revision Date	Sections Modified
November 23, 2011	New publication

Table 1: Change History

Chapter 3. Using the CLI

The following corrections should be noted.

Configuring remote authentication service with Tivoli Integrated Portal (TIP) using CLI

The following section has been corrected.
Page 65

You can use the command-line interface (CLI) to configure the SAN Volume Controller to allow users of SAN Volume Controller management applications, such as IBM® Tivoli® Storage Productivity Center, to authenticate to the clustered system using Tivoli Integrated Portal (TIP).

To use the SAN Volume Controller with TIP, follow these steps:

1. Configure the system with the location of the remote authentication server. Issue the chauthservice command to change system settings, and issue the lssystem command to view system settings.
   Remember: You can use either an http or https connection to the server. If you use http, the user, password, and SSH key information is transmitted as clear text over the IP network.
2. Configure user groups (with roles) on the system by matching those that are used by the authentication service. For each group of interest known to the authentication service, a SAN Volume Controller user group must be created with the same name and with the remote setting enabled. For example, if members of a group called sysadmins require the SAN Volume Controller Administrator (Administrator) role, issue the following command: mkusergrp -name sysadmins -remote -role Administrator
   If none of the groups for a user match any of the SAN Volume Controller user groups, the user cannot access the system.
3. Configure users who do not require Secure Shell (SSH) access. SAN Volume Controller users use the remote authentication service and do not require SSH access should be deleted from the system.
   Remember: A superuser cannot be deleted and cannot use the remote authentication service.
4. Configure users who require SSH access. All SAN Volume Controller users who use the remote authentication service and require SSH access must have remote settings enabled and the same password and an SSH key set both on the system and on the authentication service.
5. Configure the system time. The current time of both the SAN Volume Controller clustered system and the system that is running the remote authentication service must match.
   Important: Use the same Network Time Protocol (NTP) server for both systems.

SAN Volume Controller and Storwize V7000 Command-Line Interface User's Guide – Errata, November 23, 2011

Chapter 17. Information Commands

The following corrections should be noted.

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lscluster

The following section has been corrected.
Page 220

The lscluster command returns a concise list or a detailed view of a clustered system.

Syntax

```
>>- lscluster -- --+-----------------------------------+-- ----->
                   '- -filtervalue -- attribute=value -'

>--+----------+-- --+----------+-- ----------------------------->
   '- -nohdr -'     '- -bytes -'

>--+---------------------+-- -- --+---------------+--------->
   '- -delim -- delimiter -'       '- -filtervalue? -'

>--+--------------+----------------------------------------->< 
   +- system_id ----+
   '- system__name -'
```

Parameters

-filtervalue attribute=value
   (Optional) Specifies a list of one or more filters. Only objects with a value that matches the filter attribute value are displayed. If a capacity is specified, the units must also be included.

   Note: Some filters allow the asterisk character (*) when you enter the command. The following rules apply to the use of wildcard characters with the SAN Volume Controller CLI:
   - The wildcard character is an asterisk (*).
   - The command can contain a maximum of one wildcard.
   - When you use a wildcard, you must enclose the filter entry within double quotation marks (""), as follows:

   ```
   lscluster -filtervalue  "name=md*"
   ```

-nohdr

(Optional) By default, headings are displayed for each column of data in a concise style view, and for each item of data in a detailed style view. The -nohdr parameter suppresses the display of these headings.

Note: If there is no data to be displayed, headings are not displayed.

-bytes

(Optional) Specifies that you want the report to display all capacities as bytes.

-delim delimiter

(Optional) By default in a concise view, all columns of data are space-separated. The width of each column is set to the maximum possible width of each item of data. In a detailed view, each item of data has its own row, and if the headers are displayed, the data is separated from the header by a space. The **-delim** parameter overrides this behavior. Valid input for the **-delim** parameter is a one-byte character. If you enter -delim : on the command line, the colon character (:) separates all items of data in a concise view; for example, the spacing of columns does not occur. In a detailed view, the data is separated from its header by the specified delimiter.

-filtervalue?

(Optional) displays a list of filters that can be applied against this view. The following filter attributes are valid for the lscluster command:

- **system_name**
- **system_unique_id**
- **id**
- **name**

system_id | system_name

(Optional) Specifies the name or ID of a clustered system. When you use this parameter, the detailed view of the specific clustered system is displayed and any value that you specified by the **-filtervalue** parameter is ignored. If you do not specify the system_id | system_name parameter, the concise view of all clusters that match the filtering requirements that are specified by the **-filtervalue** parameter are displayed.

Description

This command displays a concise list or a detailed view of a clustered system.

Table 35 provides the attribute values that can be displayed as output view data.

Table 35. Attribute Values

Attribute	Possible Values
layer	replication, storage (default) Replication means the system can create partnerships with SAN Volume Controller. Storage means the system can present storage to SAN Volume Controller.
location	local, remote
statistics status	on, off
auth_service_type	TIP or Native Lightweight Directory Access Protocol (LDAP)

auth_service_configured	True (if the auth_service_type is configured)
	Note: The auth_service_configured field will return true if:
	1. The auth_service_type is LDAP-only (if at least one LDAP server is configured)
	2. The auth_service_type is TIP-only:
	    ○ If the name, password, and URL are established
	    ○ An SSL certificate is created (if a HTTPS URL was constructed)

email_state	running, stopped, invalid
partnership	fully_configured, partially_configured_local, partially_configured_local_stopped, not_present, fully_configured_stopped, fully_configured_remote_stopped, fully_configured_local_excluded, fully_configured_remote_excluded, fully_configured_exceeded
tier	Which tier information is being reported
tier_capacity	The total MDisk storage in the tier.
tier_free_capacity	The amount of MDisk storage in the tier that is unused.
rc_buffer_size	The resource buffer size assigned for Metro Mirror and Global Mirrored Copy Services.

Attribute	Possible Values
layer	replication, storage (default) Replication means the system can create partnerships with SAN Volume Controller. Storage means the system can present storage to SAN Volume Controller.
has_nas_key	yes | no

Information about the remote clustered system is reported by the lscluster command if the mkpartnership command has been issued from the local clustered system to the remote clustered system; for example, if the partnership has been at least partially established from the local clustered system.

You can issue the lscluster command to display a detailed view of the clustered system.

```
lscluster -delim : 10030a007e5
```

where **10030a007e5** is the clustered system name.

Detailed view shows the fields described for remote systems only; if the clustered system **Location** is **local**, then **Partnership** and **Bandwidth** do not apply (and are not defined or provided). For a remote clustered system, these fields indicate the following information:
- **Location**: remote
- **Partnership**:

fully_configured
> The mkpartnership command has been issued in both directions and the remote clustered system is online and available.

partially_configured_local
> The mkpartnership command has only been issued from the local clustered system to the remote clustered system. The remote clustered system is online and available for partnership.

partially_configured_local_stopped
> The mkpartnership command has only been issued from the local clustered system to the remote clustered system. The chpartnership command with the stop parameter has been issued from the local system, and the remote clustered system is online and available. You need to issue the chpartnership command with the start parameter on the local clustered system, and mkpartnership on the remote clustered system.

not_present

> The mkpartnership command has been issued from the local clustered system to the remote clustered system, and the remote clustered system is not available. Either the remote clustered system is offline, or it is not connected to the local system.

fully_configured_stopped

> The mkpartnership command has been issued in both directions and the remote clustered system is online and available. The chpartnership command with the stop parameter has been issued from the local clustered system.

fully_configured_remote_stopped

> The mkpartnership command has been issued in both directions and the remote clustered system is online and available. The chpartnership command with the stop parameter has been issued from the remote clustered system.

fully_configured_local_excluded

> The mkpartnership command has been issued in both directions. The local clustered system has excluded the connection to the remote clustered system due to too many problems, or either clustered system in the partnership is unable to sustain the I/O workload for the Metro Mirror or Global Mirror relationships.

fully_configured_remote_excluded

> The mkpartnership command has been issued in both directions. The remote clustered system has excluded the connection to the local clustered system due to too many problems, or either clustered system in the partnership is unable to sustain the I/O workload for the Metro Mirror or Global Mirror relationships.

fully_configured_exceeded

> There are too many clustered systems in the system network, and the partnership from the local clustered system to the remote has been disabled. Refer to the 1710/1720 errors in the clustered system error log at the local and remote clustered system.

- **Bandwidth**: The bandwidth available on the intersystem link for background copy, in megabytes per second (Mbps).

The console_IP field displays either the:
- Automatically-populated in system port 1 IP Address - Internet Protocol Version 4 (IPv4) or IPv6
- User-populated IPv4 address

The port value is always *443*, which requires the system to run using default Hypertext Transfer Protocol Secure (HTTPS).

A concise invocation example

```
lscluster -delim :
```

The concise resulting output

```
id:name:location:partnership:bandwidth:id_alias
000002006420A162:cluster0:local:::000002006420A162
```

A detailed invocation example

```
lscluster -delim : system1
```

The detailed resulting output

```
id:1521071282978998
name:system1
location:local
partnership:fully_configured_stopped
bandwidth:
total_mdisk_capacity:1673.3GB
space_in_mdisk_grps:0
space_allocated to vdisks:0.00MB
total_free_space:1673.3GB
statistics_status:on
statistics_frequency:15
system_locale:en_US
time_zone:522 UTC
code_level:5.1.0.0
console_IP:9.20.165.12:123
id_alias:1521071282978998
gm_link_tolerance:300
gm_inter_system_delay_simulation:0
gm_intra_system_delay_simulation:0
email_reply:fred@mycompany.com
email_contact:Fred Higgins
email_contact_primary:01202 123456
email_contact_alternate:44-202-876543-4455
email_contact_location:London Thames Bank
email_state:running
inventory_mail_interval:0
total_vdiskcopy_capacity:40.00GB
total_used_capacity:22.50GB
total_overallocation:67
total_vdisk_capacity:30.00GB
system_ntp_ip_address:9.20.199.43
system_isns_IP_address:
iscsi_auth_method:none
iscsi_chap_secret:
auth_service_configured:yes
```

```
auth_service_enabled:yes
auth_service_url:https://1.2.3.4/login
auth_service_user_name:secadmin
auth_service_pwd_set:yes
auth_service_cert_set:yes
auth_service_type ldap
relationship_bandwidth_limit:25
total_allocated_extent_capacity:100.00TB
email_contact2:barry
email_contact2_primary:6347
email_contact2_alternate:6458
```

An invocation example

```
lscluster system1
```

The resulting output

```
id 0000020061C15D90
name system1
location local
partnership
bandwidth
total_mdisk_capacity 8.1TB
space_in_mdisk_grps 8.1TB
space_allocated_to_vdisks 8.00TB
total_free_space 131.9GB
statistics_status on
statistics_frequency 15
system_locale ko_KR
time_zone 522 UTC
code_level 6.1.0.0 (build 42.8.1006110000)
console_IP 9.1.114.20:443
id_alias 0000020061C15D90
gm_link_tolerance 300
gm_inter_system_delay_simulation 0
gm_intra_system_delay_simulation 0
email_reply
email_contact
email_contact_primary
email_contact_alternate
email_contact_location
email_state stopped
inventory_mail_interval 0
total_vdiskcopy_capacity 8.00TB
total_used_capacity 8.00TB
total_overallocation 98
total_vdisk_capacity 8.00TB
system_ntp_IP_address
system_isns_IP_address
iscsi_auth_method none
iscsi_chap_secret
```

```
auth_service_configured no
auth_service_enabled no
auth_service_url
auth_service_user_name
auth_service_pwd_set no
auth_service_cert_set no
relationship_bandwidth_limit 25
gm_max_host_delay 5
tier generic_ssd
tier_capacity 0.00MB
tier_free_capacity 0.00MB
tier generic_hdd
tier_capacity 8.13TB
tier_free_capacity 131.88GB
email_contact2
email_contact2_primary
email_contact2_alternate
total_allocated_extent_capacity 8.00TB
layer replication
```

An invocation example for a clustered system with two tiers

```
lscluster china6
```

The resulting output

```
id 000002006220A5EE
name china6
location local
partnership fully_configured_stopped
bandwidth
total_mdisk_capacity 474.1GB
space_in_mdisk_grps 474.1GB
space_allocated_to_vdisks 1.87GB
total_free_space 472.2GB
statistics_status on
statistics_frequency 15
system_locale pt_BR
time_zone 325 Etc/GMT+1
code_level 6.1.0.0 (build 46.4.1008240000)
console_IP 9.71.43.210:443
id_alias 000002006220A5EE
gm_link_tolerance 300
gm_inter_system_delay_simulation 0
gm_intra_system_delay_simulation 0
email_reply:fred@mycompany.com
email_contact:Fred Higgins
email_contact_primary:01202 123456
email_contact_alternate:44-202-876543-4455
email_contact_location:London Thames Bank
email_state:running
inventory_mail_interval:0
```

```
total_vdiskcopy_capacity 30.58GB
total_used_capacity 1.28GB
total_overallocation 6
total_vdisk_capacity 20.27GB
system_ntp_IP_address
system_isns_IP_address
iscsi_auth_method none
iscsi_chap_secret
auth_service_configured:yes
auth_service_enabled:yes
auth_service_url:https://1.2.3.4/login
auth_service_user_name:secadmin
auth_service_pwd_set:yes
auth_service_cert_set:yes
relationship_bandwidth_limit 25
gm_max_host_delay 5
tier generic_ssd
tier_capacity 270.91GB
tier_free_capacity 270.03GB
tier generic_hdd
tier_capacity 203.19GB
tier_free_capacity 201.94GB
email_contact2:barry
email_contact2_primary:6347
email_contact2_alternate:6589
total_allocated_extent_capacity 2.97GB
has_nas_key no
```

An invocation example with buffer data

```
lscluster 000002007680001A
```

The resulting output

```
id 000002007680001A
name System_0.0.0.0
location local
partnership
bandwidth
total_mdisk_capacity 475.1GB
space_in_mdisk_grps 0
space_allocated_to_vdisks 0.00MB
total_free_space 475.1GB
total_vdiskcopy_capacity 0.00MB
total_used_capacity 0.00MB
total_overallocation 0
total_vdisk_capacity 0.00MB
total_allocated_extent_capacity 0.00MB
statistics_status on
statistics_frequency 15
cluster_locale en_US
```

```
time_zone 522 UTC
code_level 6.3.0.0 (build 54.0.1109120000)
console_IP 0.0.0.0:443
id_alias 000002007680001A
gm_link_tolerance 300
gm_inter_cluster_delay_simulation 0
gm_intra_cluster_delay_simulation 0
gm_max_host_delay 5
email_reply
email_contact
email_contact_primary
email_contact_alternate
email_contact_location
email_contact2
email_contact2_primary
email_contact2_alternate
email_state stopped
inventory_mail_interval 0
system_ntp_IP_address
system_isns_IP_address
iscsi_auth_method none
iscsi_chap_secret
auth_service_configured no
auth_service_enabled no
auth_service_url
auth_service_user_name
auth_service_pwd_set no
auth_service_cert_set no
auth_service_type tip
relationship_bandwidth_limit 25
tier generic_ssd
tier_capacity 0.00MB
tier_free_capacity 0.00MB
tier generic_hdd
tier_capacity 0.00MB
tier_free_capacity 0.00MB
has_nas_key no
layer replication
rc_buffer_size 128
```

A concise invocation example with buffer data

```
lscluster 000002006F400028
```

The concise resulting output

```
id 000002006F400028
name System_0.0.0.0
location local
partnership
bandwidth
```

```
total_mdisk_capacity 100.0GB
space_in_mdisk_grps 0
space_allocated_to_vdisks 0.00MB
total_free_space 100.0GB
statistics_status on
statistics_frequency 15
system_locale en_US
time_zone 522 UTC
code_level 6.2.0.0 (build 35.8.1105160000)
console_IP 0.0.0.0:443
id_alias 000002006F400028
gm_link_tolerance 300
gm_inter_cluster_delay_simulation 0
gm_intra_cluster_delay_simulation 0
email_reply
email_contact
email_contact_primary
email_contact_alternate
email_contact_location
email_state stopped
inventory_mail_interval 0
total_vdiskcopy_capacity 0.00MB
total_used_capacity 0.00MB
total_overallocation 0
total_vdisk_capacity 0.00MB
system_ntp_IP_address
system_isns_IP_address
iscsi_auth_method none
iscsi_chap_secret
auth_service_configured no
auth_service_enabled no
auth_service_url
auth_service_user_name
auth_service_pwd_set no
auth_service_cert_set no
relationship_bandwidth_limit 25
gm_max_host_delay 5
tier generic_ssd
tier_capacity 0.00MB
tier_free_capacity 0.00MB
tier generic_hdd
tier_capacity 0.00MB
tier_free_capacity 0.00MB
email_contact2
email_contact2_primary
email_contact2_alternate
total_allocated_extent_capacity 0.00MB
rc_buffer_size 48
```

A detailed invocation example with buffer data

```
lscluster 0000020075A0001A
```

The resulting output

```
id 0000020075A0001A
name System_0.0.0.0
location remote
partnership partially_configured_local
bandwidth 20
total_mdisk_capacity
space_in_mdisk_grps
space_allocated_to_vdisks
total_free_space
statistics_status on
statistics_frequency 0
cluster_locale en_US
time_zone 522 UTC
code_level 6.2.0.0 (build 35.8.1105160000)
console_IP 0.0.0.0:443
id_alias 0000020075A0001A
gm_link_tolerance 300
gm_inter_cluster_delay_simulation 0
gm_intra_cluster_delay_simulation 0
email_reply
email_contact
email_contact_primary
email_contact_alternate
email_contact_location
email_state stopped
inventory_mail_interval 0
total_vdiskcopy_capacity
total_used_capacity
total_overallocation
total_vdisk_capacity
system_ntp_IP_address
system_isns_IP_address
iscsi_auth_method none
iscsi_chap_secret
auth_service_configured no
auth_service_enabled no
auth_service_url
auth_service_user_name
auth_service_pwd_set no
auth_service_cert_set no
relationship_bandwidth_limit 25
gm_max_host_delay 5
tier generic_ssd
tier_capacity
tier_free_capacity
tier generic_hdd
tier_capacity
tier_free_capacity
email_contact2
email_contact2_primary
email_contact2_alternate
```

```
total_allocated_extent_capacity
rc_buffer_size 128
```