IBM System Storage SAN Volume Controller

Command-Line Interface User's Guide - Errata

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Contents

Introduction **5**
Who should use this guide 5
Last Update 5
Change History 5

Chapter 11. Virtual disk commands **7**
chvdisk 7

Introduction

This guide provides errata information that pertains to release 4.3.1of the *IBM System Storage SAN Volume Controller 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.

Who should use this guide

This errata should be used by anyone using the *IBM System Storage SAN Volume Controller 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.

Last Update

This document was last updated: November 18, 2009

Change History

The following revisions have been made to this document:

Revision Date	Sections Modified
November 18, 2009	New publication

Table 1: Change History

Chapter 11. Virtual disk commands

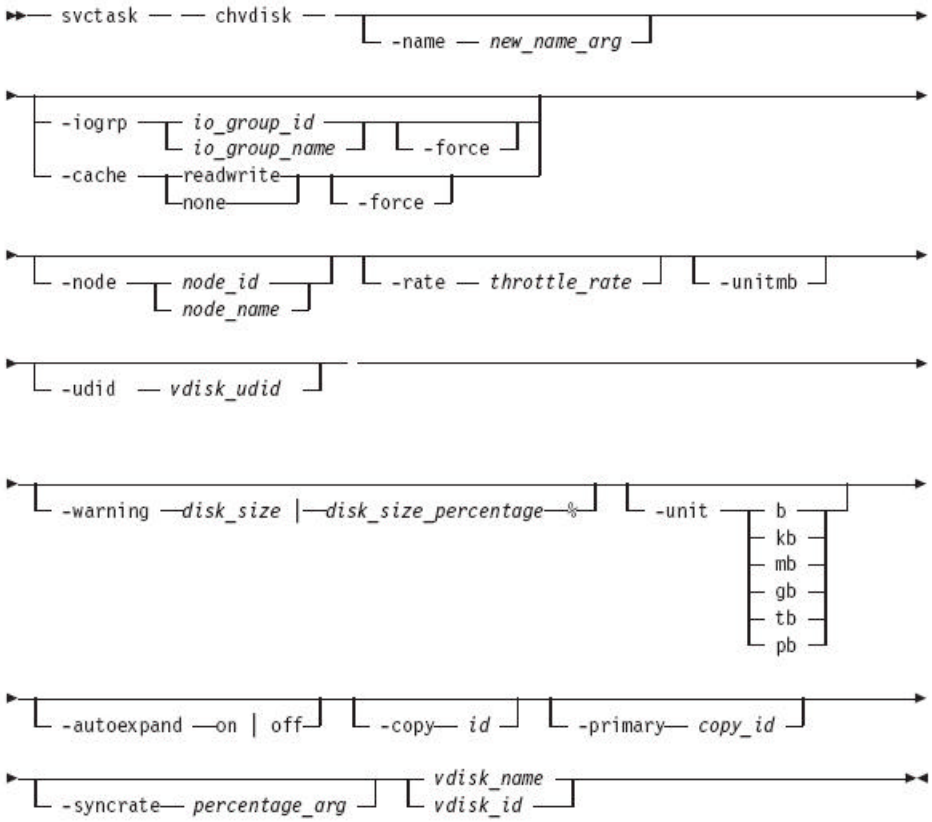
The following correction should be noted.

chvdisk

The following section has been corrected.
Page 86.

The **chvdisk** command modifies the properties of a virtual disk, such as the disk name, I/O group, I/O governing rate, or unit number.

Syntax



Parameters

-name *new_name_arg*

(Optional) Specifies a new name to assign to the virtual disk. You cannot use this parameter with the **-iogrp**, **-rate**, **-node**, or **-udid** parameters. This parameter is required if you do not use the **-iogrp**, **-rate**, or **-udid** parameter.

-iogrp *io_group_id | io_group_name*

(Optional) Specifies a new I/O group to move the virtual disk to, by IO group ID or IO group name. You can use the **-node** parameter with the **-iogrp** parameter to specify a preferred node for the specified VDisk.

Notes:

1. If the VDisk has a mapping to any hosts, it is not possible to move the VDisk to an I/O group that does not include any of those hosts.
2. This parameter can fail if there is not enough space to allocate bitmaps for a mirrored VDisk in the target IO group.
3. This parameter can fail if any copy is not synchronized. The -force parameter can be used to force the move, but this resynchronizes the VDisk.
4. If the VDisk is offline, use one of the recovervdisk commands to recover the VDisk and bring it back online. Beginning with SAN Volume Controller version 4.3.1, use of the recovery I/O group is not required.

-cache readwrite | none

(Optional) Specifies the caching options for the VDisk. Valid entries are **readwrite**, to enable the cache for the VDisk, or **none**, to disable the cache mode for the VDisk.

-force

(Optional) The **force** parameter can only be used for changing the I/O group of a VDisk or the caching mode. Use the **force** parameter with the **iogrp** parameter to force the VDisk to be removed from an I/O Group. Use the **force** parameter with the **cache** parameter to specify that you want the system to change the cache mode of the VDisk even if the I/O group is offline. This option overrides the cache flush mechanism.

Attention:

1. If the **-force** parameter is used for changing the caching mode or I/O group of a VDisk, the contents of the cache are discarded and the VDisk might be corrupted by the loss of the cached data. This could occur if the cluster is able to destage all write data from the cache or not. The **force** parameter should be used with caution.
2. If the **-force** parameter is used to move a VDisk that has out-of-sync copies, a full resynchronization is required.

-rate *throttle_rate* **[-unitmb]**

(Optional) Specifies the I/O governing rate for the VDisk, which caps the amount of I/O that is accepted. The default *throttle_rate* units are I/Os. To change the *throttle_rate* units to megabytes per second (MBps), specify the **-unitmb** parameter. The governing rate for a virtual disk can be specified by I/Os or by MBps, but not both. However, you can set the rate to I/Os for some virtual disks and to MBps for others.

You cannot use this parameter with the **-name**, **-iogrp**, **-node**, or **-udid** parameters.

-udid *vdisk_udid*

(Optional) Specifies the unit number (**udid**) for the disk. The *vdisk_udid* is an identifier that is required to support OpenVMS hosts; no other systems use this parameter. Valid options are a decimal number from 0 to 32 767 or a hexadecimal number from 0 to 0x7FFF. A hexadecimal number must be preceded by **0x** (for example, **0x1234**). If you do not use the **-udid** parameter, the default **udid** is **0**.

You cannot use this parameter with the **-name**, **-iogrp**, **-node**, or **-rate** parameters.

-warning *disk_size* | *disk_size_percentage***%**

(Optional) Generates a warning when the used disk capacity on the space-efficient copy first exceeds the specified threshold. You can specify a *disk_size* integer, which defaults to MBs unless the **-unit** parameter is specified; or you can specify a *disk_size***%**, which is a percentage of the virtual disk size. To disable warnings, specify **0** or **0%**.

-unit b | kb | mb | gb | tb | pb

(Optional) Specifies the data units to use for the **-warning** *disk_size* parameter.

-autoexpand on | off

(Optional) Specifies whether space-efficient VDisk copies automatically expand their real capacities by allocating new extents from their managed disk group. To use this parameter, the VDisk must be space-efficient.

-copy *id*

(Optional) Specifies the copy to apply the changes to. You must specify this parameter with the **-autoexpand** or **-warning** parameter. The **-copy** parameter is required if the specified VDisk is mirrored and only one VDisk copy is space-efficient. If both copies are space-efficient and the **-copy** parameter is not specified, the specified **-autoexpand** or **-warning** parameter is set on both copies.

-primary *copy_id*

(Optional) Specifies the primary copy. Changing the primary copy only takes effect when the new primary copy is online and synchronized. If the new primary is online and synchronized when the command is issued, the change takes effect immediately.

-syncrate *percentage*

(Optional) Specifies the copy synchronization rate, as a percentage of the peak synchronization rate. A value of zero (**0**) prevents synchronization

. **-node** *node_id* | *node_name*

(Optional) Specifies a preferred node for the specified VDisk. When using this parameter, you must also specify the **-iogrp** parameter. You cannot use this parameter with the **-name**, **-rate**, or **-udid** parameters.

vdisk_name | vdisk_id

(Required) Specifies the virtual disk to modify, either by ID or by name.

Description

The **chvdisk** command modifies a single property of a virtual disk (VDisk). To change the VDisk name and modify the I/O group, for example, you must issue the command twice.

You can specify a new name or label. You can use the new name subsequently to refer to the virtual disk. To specify a preferred node for the VDisk, use the **-node** *node_id* | *node_name* parameter.

You can change the I/O group with which this virtual disk is associated. However, to change the I/O group, you must first flush the cache within the nodes in the current I/O group to ensure that all data is written to disk. Ensure that you suspend I/O operations at the host level before you perform this operation.

Attention:

1. Do not move a VDisk to an offline I/O group under any circumstance. To avoid any data loss, you must ensure that the I/O group is online before you move the VDisks.
2. Do not move an offline VDisk to the recovery I/O group. Beginning with SAN Volume Controller version 4.3.1, use of the recovery I/O group is not required. Instead, use one of the **recovervdisk** commands to recover the VDisk and bring it back online.

You can set a limit on the amount of I/O transactions that is accepted for this virtual disk. It is set in terms of I/Os per second or MBs per second. By default, no I/O governing rate is set when a virtual disk is created.

Attention: All capacities, including changes, must be in multiples of 512 bytes. An error occurs if you specify a capacity that is not a multiple of 512, which can only happen when byte units (**-b**) are used. The default capacity is in MB.

When the virtual disk is created, there is no throttling applied to it. Using the **-rate** parameter can change this. To change the virtual disk back to an unthrottled state, specify 0 (zero) with the **-rate** parameter.

You can migrate a VDisk to a new I/O group to manually balance the workload across the nodes in the cluster. You might end up with a pair of nodes that are overworked and another pair that are underworked. Use the following procedure to migrate a single VDisk to a new I/O group. Repeat for other VDisks as required.

Attention: This is a disruptive procedure. Access to the VDisk is lost while you follow this procedure.

Ensure that when you migrate a VDisk to a new I/O group, you quiesce all I/O operations for the VDisk. Determine the hosts that are using this VDisk. Stop and delete any FlashCopy mappings or Metro or Global Mirror relationships that use

this VDisk. To check if the VDisk is part of a relationship or mapping, issue the **svcinfo lsvdisk** *vdiskname* | *id* command, where *vdiskname* | *id* is the name or ID of the VDisk.

Look for the **FC_id** and **RC_id** fields. If these are not blank, the VDisk is part of a mapping or relationship. See the FlashCopy commands or Metro Mirror and Global Mirror commands for details on how to stop or delete the mapping or relationship. Issue the following command to migrate the VDisk: svctask chvdisk -iogrp *newiogrpname*|*id vdiskname*|*id*

Follow the procedure to discover the new vpaths and to check that each vpath is presenting the correct number of paths. See the *Multipath Subsystem Device Driver: User's Guide* for details on how to dynamically reconfigure SDD for the given host operating system.

Note: The command fails if you attempt to change the primary copy of a mirrored VDisk while the **repairvdiskcopy -resync** command is running.

An invocation example

svctask chvdisk -rate 2040 -unitmb 6

The resulting output

No feedback