IBM System Storage SAN Volume Controller

IBM

Service Guide - Errata

Version 4.1.0
November 10, 2006

Contents

Introduction

This guide provides errata information that pertains to release 4.1.0 of the *IBM System Storage SAN Volume Controller Service 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 *Service Guide* supplied with your SAN Volume Controller.

Who should use this guide

Before using the IBM System Storage SAN Volume Controller, you should review the errata contained within this guide and note the details with respect to the copy of the *Service Guide* supplied with you SAN Volume Controller.

Last Update

This document was last updated: November 10, 2006

Change History

The following revisions have been made to this document:

Revision Date	Sections Modified
August 3, 2006	About this guide: IBM Taiwan Product Service Chapter 1: SAN Volume Controller 2145-8F4 ports not used Chapter 1: SAN Volume Controller 2145-8F4 service ports Chapter 6: Node error 564
November 10, 2006	Chapter 5: Service IP address Chapter 6: Cluster error codes 1920, 3000 and 3001

Table 1: Change History

About this guide

The following correction should be noted.
Add this new section following "Related Web sites"

IBM Taiwan Product Service

IBM Taiwan Product Service Contact Info:
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Chapter 1. SAN Volume Controller overview

The following correction should be noted.

SAN Volume Controller 2145-8F4 ports not used

Correction to the list of ports not used.

The SAN Volume Controller 2145-8F4 is equipped with several ports which are not used by the SAN Volume Controller, and have not been tested. Use of these ports, in conjunction with the SAN Volume Controller 2145-8F4 or any other application that might be run on this hardware, is not supported. See Figure 20 for those ports that are not used. In some countries these ports will be covered with self-adhesive non-removable labels.
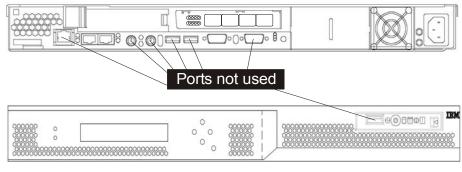

Figure 20. Ports not used

SAN Volume Controller 2145-8F4 service ports

Added definition of service port.

The SAN Volume Controller 2145-8F4 is equipped with a second Ethernet port that is only used during service activity. This port is not used for network communication and has not been tested. Use this port only when directed to do so by the maintenance procedures.
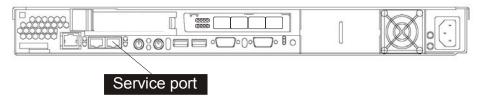

Figure 20a. Service port

Chapter 5. Using the front panel of the SAN Volume Controller

The following correction should be noted.

Recover cluster navigation

Page 96, replace the section for Service IP address.

Service IP address

You can access the service mode with the SAN Volume Controller application using the following Web address, where *serviceipaddress* is the IP address on the front panel display:

```
https://serviceipaddress
```

The service IP address is displayed while service access is enabled. The service IP address should have been correctly set during cluster configuration. If service IP address selection is set for DHCP then the front panel display will show 0.0.0.0 while the node attempts to obtain a DHCP address. It will change automatically when a DHCP address is allocated and activated, or remain at 0.0.0.0 if a DHCP address was not allocated.

If the service IP address was not correctly set, or no DHCP address was allocated, then you have the option of correcting the IP address from this panel. Note that the service IP address must be in the same subnet as the cluster IP address.

To set a specific service mode IP address, perform the following steps:

1. Press and hold the down button.
2. Press and release the select button.
3. Release the down button. The network address based on the cluster IP configuration is displayed as a starting point for a new service IP address.
4. Press and release the select button. The address change menu is displayed. Use the left and right buttons to navigate between the fields. Use the up and down buttons to change the highlighted values.
5. Press select to set the IP address to the required value.
6. Press the left or right button to activate the new address.

To set the service IP address to use DHCP, perform the following steps:

1. Press and hold the up button.
2. Press and release the select button.
3. Release the up button. The display will show 0.0.0.0 while the node attempts to obtain a DHCP address. It will change automatically when a DHCP address is allocated and activated, or remain at 0.0.0.0 if a DHCP address was not allocated.

The service IP address is displayed continuously while the node remains in service mode. You can exit service mode through the Web browser, the CLI or by turning the node off and on.

Chapter 6. Diagnosing problems with the SAN Volume Controller, the uninterruptible power supply, and the master console

The following correction should be noted.

Defining cluster error codes

Page 182, replace the section for cluster error 1920.

1920

Explanation

A Global Mirror or Metro Mirror (Remote Copy) relationship has stopped due to poor performance.

This error might be caused by a problem on the primary cluster, a problem on the secondary cluster, a problem on the inter-cluster link. The problem might be a failure of a component, a component becoming unavailable or having reduced performance due to a service action or it may be that the performance of a component has dropped to a level where the Remote Copy relationship cannot be maintained. Alternatively the error might be caused by a change in the performance requirements of the applications using Remote Copy.

This error is reported on the primary cluster when the copy relationship has not progressed sufficiently over a period of time. Therefore, if the copy relationship is restarted before all the problems are fixed, the error may be reported again when the time period next expires (the default period is five minutes).

You may need to refer to SVC Configuration Requirements and Guidelines (CRG) document while diagnosing this error. This document is at http://www-03.ibm.com/servers/storage/support/software/sanvc/installing.html.

Action

1. If the 1920 error has occurred previously on Remote Copy between the same clusters and all the following actions have been attempted, contact your product support center to resolve the problem.
2. On the primary cluster reporting the error, correct any higher priority errors.
3. On the secondary cluster, review the maintenance logs to determine if the cluster was operating with reduced capability at the time the error was reported. The reduced capability might be due to a software upgrade, hardware maintenance to a 2145 node, maintenance to a backend disk sub-system or maintenance to the SAN.
4. On the secondary 2145 cluster, correct any errors that are not fixed.
5. On the inter-cluster link, review the logs of each link component for any incidents that would cause reduced capability at the time of the SVC error. Ensure the problems are fixed.
6. If a reason for the error has been found and corrected, go to Action 10.

7. On the primary cluster reporting the error, examine the 2145 statistics using a SAN productivity monitoring tool and confirm that all the Remote Copy requirements described in the SVC Configuration Requirements and Guidelines (CRG) document are met. Ensure that any changes to the applications using Remote Copy have been taken into account. Resolve any issues.

8. On the secondary cluster, examine the 2145 statistics using a SAN productivity monitoring tool and confirm that all the Remote Copy requirements described in the SVC Configuration Requirements and Guidelines (CRG) document are met. Resolve any issues.

9. On the inter-cluster link, examine the performance of each component using an appropriate SAN productivity monitoring tool to determine they are operating as expected. Resolve any issues.

10. Mark the error as "fixed" and restart the Remote Copy relationship.

When you restart the Remote Copy relationship there will be an initial period during which Remote Copy performs a background copy to resynchronize the vdisk data on the primary and secondary clusters. During this period the data on the Remote Copy Auxiliary vdisks on the secondary cluster is inconsistent and the vdisks could not be used as backup disks by your applications.

Attention: To ensure the system has the capacity to handle the background copy load you may wish to delay restarting the Remote Copy until there is a quiet period when the secondary cluster and the SAN fabric (including the inter-cluster link) have the required capacity. If the required capacity is not available you may experience another 1920 error and the Remote Copy relationship will stop in an inconsistent state.

Attention: If the Remote Copy relationship has stopped in a consistent state ("consistent-stopped") it is possible to use the data on the Remote Copy Auxiliary vdisks on the secondary cluster as backup disks by your applications. You may therefore wish to start a Flash Copy of your Remote Copy Auxiliary disks on the secondary system before restarting the Remote Copy relationship. This means you maintain the current, consistent, image until the time when the Remote Copy relationship is again synchronized and in a consistent state.

Possible Cause-FRUs or other:
- None

Other:
- Primary 2145 cluster or SAN fabric problem (10%)
- Primary 2145 cluster or SAN fabric configuration (10%)
- Secondary 2145 cluster or SAN fabric problem (15%)
- Secondary 2145 cluster or SAN fabric configuration (25%)
- Inter-cluster link problem (15%)
- Inter-cluster link configuration (25%)

Related tasks
Marking errors as fixed

You can use the SAN Volume Controller Console to mark errors as fixed for the cluster error log. This action is only necessary if you fix an error without using the online maintenance procedures. The online procedures automatically mark an error as fixed after a successful repair.

Page 186, add the following cluster errors.

3000

Explanation

The 2145 UPS temperature is close to its upper limit. If the temperature continues to rise the UPS, and all attached nodes, will shutdown.

This error will continue to be reported every 10 minutes while the problem persists. As the 2145 UPS temperature will take time to fall, the error may continue to be reported for a short while after the problem is rectified.

Action

1. Ensure that the room ambient temperature is within the permitted limits.
2. Ensure that the air vents around the UPS are not obstructed.
3. Ensure that other devices in the same rack are not overheating.
4. When you are satisfied that the cause of the overheating has been resolved, mark the error "fixed".

Possible Cause-FRUs or other:

- UPS

Other:

- Environment problem (90%)
- UPS fault (10%)

Related tasks

Marking errors as fixed

You can use the SAN Volume Controller Console to mark errors as fixed for the cluster error log. This action is only necessary if you fix an error without using the online maintenance procedures. The online procedures automatically mark an error as fixed after a successful repair.

3001

Explanation

The 2145 UPS-1U temperature is close to its upper limit. If the temperature continues to rise the UPS, and the attached node, will shutdown.

This error will continue to be reported every 10 minutes while the problem persists. As the 2145 UPS-1U temperature will take time to fall, the error may continue to be reported for a short while after the problem is rectified.

Action

1. Ensure that the room ambient temperature is within the permitted limits.

2. Ensure that the air vents around the UPS are not obstructed.

3. Ensure that other devices in the same rack are not overheating.

4. When you are satisfied that the cause of the overheating has been resolved, mark the error "fixed".

Possible Cause-FRUs or other:

• UPS

Other:

• Environment problem (90%)

• UPS fault (10%)

Related tasks

Marking errors as fixed

You can use the SAN Volume Controller Console to mark errors as fixed for the cluster error log. This action is only necessary if you fix an error without using the online maintenance procedures. The online procedures automatically mark an error as fixed after a successful repair.

Understanding the node error codes

Page 218, replace the section for node error 564.

564

Explanation

This 2145 node is repeatedly crashing because of a software failure. Software dump data is available in the Dumps directory.

If this is the only node with this problem and if you can still access the data on the virtual disks (VDisks), perform the following actions. If more than one node has this problem or if you cannot access the data on the VDisks, call your support center for assistance.

Action

1. Use the front panel controls to delete the node from the cluster. To do this:
   a. Display Node on the front panel menu. See the 2145 menu options.
   b. Press the left or right buttons until "Create Cluster?" is displayed.
   c. Press select. "Delete Cluster?" is displayed.
   d. Press and hold the up button.
   e. Press and release the select button.
   f. Release the up button. The node is deleted from the cluster and restarts.

2. Delete the node from the cluster. See Deleting a node using the 2145 application on the master console.

3. Fully power-off the node.

4. Power on the node.

5. Add the node back into the cluster. See Adding a node to a cluster using the 2145 application on the master console.

6. Call your software support center for assistance.

Possible Cause-FRUs or other:

- None

Other:

- Software errors