

# *Compaq SANworks™*

## *Release Notes*

### **Data Replication Manager HSG80 Array Controller (ACS Version 8.5P) for Windows NT-X86**

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*This document summarizes features and characteristics of Compaq SANworks Data Replication Manager that are supported in Version 8.5P of the HSG80 Solution Software for Windows NT-X86 platform kit.*

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These Release Notes provide information for Data Replication Manager (operating with HSG80 Array Controller Software (ACS) Version 8.5P) not covered elsewhere in the documentation. Individuals responsible for configuring, installing, and using the Data Replication Manager solution should use this document.

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Data Replication Manager Release Notes for Windows NT-X86  
Fourth Edition (July 2000)  
Part Number: AA-RHPSD-TE

**Please read this entire document before installing or upgrading the software.**

These release notes include the following sections:

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## DRM Solution Kit

The DRM Solution Kit includes firmware for the LP7000 (version 2.20x2) and LP8000 (version 3.00) host bus adapters. These are the versions that have been qualified for this release of DRM. Please refer to the *Readme First* file on the DRM Solution Kit CD for installation instructions.

## Installation Sequence

It's important to install the following firmware and software in the order listed to ensure the correct registry entries:

- Firmware for the LP7000 and LP8000 host bus adapters (see the *Readme First* file on the DRM Solution Kit CD for installation instructions).
- HBA driver
- Platform Kit
- Secure Path for NT

The registry entries can be corrected manually, if necessary.

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**Warning** Using Registry Editor incorrectly can cause serious problems that may require you to reinstall your operating system. Use Registry Editor at your own risk.

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## Secure Path for NT Service Pack

Use the Secure Path Service Pack 1, available on the web, to upgrade from version 3.0 to 3.1 and for 3.1 patches:

<http://www.compaq.com/storage>

## Host Bus Adapter Driver Versions

The LP7000 and LP8000 HBA driver versions qualified for this release of DRM are 4-4.41a5 and 4-4.41a7. These are available in your HSG80 Solutions Software X86 NT platform kit.

## Auto Failback

The Secure Path for NT *Auto Failback* feature currently is not supported in a Data Replication Manager configuration. Please disable this feature.

## SWCC Versions

SWCC versions qualified for Data Replication Manager are as follows:

- StorageWorks Command Console Version 2.2.0.213
- SWCC Agent Version 2.3 Build 77
- HSG80 ACS 8.5 Storage Window Version 2.3.0.13 (Client)
- CLI Window Version 2.0.0.33

## Avoiding Problem Situations

Under certain conditions, you may experience unusual system behavior. This section presents information to help you avoid such situations and to recover from them if they occur.

### SWCC

SWCC can be used for initial storage configuration, however, it is not designed to provide high availability management capabilities. In the event of a controller failure or path failure, be prepared to revert to the manual CLI interface for storage management.

### Check Status

If a target controller or switch becomes inoperative and the Windows NT-X86 host is rebooted, Secure Path Manager will not provide a report informing you that you have lost multi-path capability.

If you attempt to move a LUN to the inoperative path, a warning message appears indicating that you should check the Application Event Log for details. This may be an indication that you have lost multi-path capability.

Check the status of links, target switches, and target controllers.

### **Full Copy Suspend**

When adding targets to multiple remote copy sets during the site failback process, the full copy operation may stall at 0% copied.

To remedy this situation remove the target and immediately re-add it. The full copy operation should then proceed.

### **LUNs Numbered Incorrectly**

When LUNs are moved between hosts (such as during a site failover or a site failback), it is possible that the LUNs may become “out of letter order.”

To prevent the “out of letter order” status, before booting the Windows NT-X86 host, follow step 1 or 2 below:

1. Make sure all LUNs are failed over to one HSG80 path. From the HSG80 CLI prompt, issue the following command:  
**RESTART OTHER\_CONTROLLER**
2. Use Disk Administrator to assign the correct drive letter so that the disks will now match the units on the controller.
3. Once Windows NT sees the disks ordered properly, use Secure Path Manager to move the units to the correct path.

### **Invalid VTDPY Percentages**

During the transition time between site failover and site failback, the log, merge, and copy percentages on the original initiator displayed by VTDPY are not valid. Disregard these percentages.

### **Performance Considerations-Full Copy Operation**

During full copy operations, host I/O performance will be moderately reduced and the length of the copy operation will increase.

### **Performance Considerations-Write History Log Merge**

During Write History Log merge, host I/O performance will be drastically reduced due to the high priority given to the merge operation. The length of time required for the merge operation will not be affected by host I/O.

### **Association Sets**

Association Sets can now contain up to 12 remote copy sets. However, because all copy sets within an association set are moved between controllers as a group, all remote copy sets within an association set must be accessed by the same server.

For instance, 6 remote copy sets (one association set) could be accessed by one server and 6 remote copy sets (another association set) by the other.

In a Windows NT- X86 cluster configuration, all remote copy sets within an association set must be placed in one cluster resource group.

### **Switch Zoning**

More than 64 connections on the fabric requires zoning to limit the number of connections visible to the controller. The controller may crash if the 64 connection number is exceeded. For more information about switch zoning, refer to the *Data Replication Manager HSG80 ACS Version 8.5P Operations Guide for Windows NT-X86*.

### **I/O Pause**

When servers log into (boot) or log off (shutdown) the fabric, you will notice a nominal 1 to 3 second pause in I/O functions on all servers connected to the fabric. This brief cessation of read/write operations is normal.

### **Non-remote copy set LUNs**

Up to 12 non-remote copy set LUNs may be connected to each initiator and target controller pair. These LUNs should, however, be low usage drives. High usage of these non-remote copy set LUNs will have a serious impact on the performance of the remote copy set LUNs, saturating the controller and possibly starving a full copy operation during failback.

When a saturated controller condition begins to occur (approximately at 25% idle time), you may see Aborted Command errors through the Command Line Interface (CLI).

To prevent controller saturation:

1. Avoid placing heavy use loads on the non-remote copy set LUNs.
2. Use the VTDPY screen to monitor controller idle time percentage.
3. Compaq recommends an idle time of greater than 25%.

### **Target Drop**

Raid 5 remote copy set targets may be dropped under the following combined conditions:

- No write history log disk configured.
- Host I/O is accessing the initiator remote copy set LUNs.
- When both target controllers are shut down, a full copy operation will be triggered.
- When the target controllers are restarted, they will begin a 3 minute memory diagnostic.

While the memory diagnostics are running, the full copy I/O to Raid 5 target LUNs will be stalled. Therefore, after approximately 2 minutes a timeout will occur and the target LUNs will be dropped from the remote copy set.

This problem occurs only on Raid 5 remote copy set LUNs.

Remedies:

- Wait 5 minutes to allow for the target controller memory diagnostics to complete, then add the targets back into the remote copy sets. The full copy operation will begin.
- Before target controllers are booted or powered on, set port\_2\_topology on both initiator controllers to *offline*. Wait 5 minutes after target controllers are restarted to allow for memory diagnostics to complete before setting port\_2\_topology on the initiator controllers back to *fabric*.



### **VTDPY Host Display**

The HSG80 controller may crash when using the Display Host functionality in VTDPY. If more than 21 connections are displayed (the equivalent of one page), the controller will crash with a last fail code of 01932588. Zoning can be used to limit the number of connections visible to the controller.

### **Secure Path 3.1 Installation Issues after Uninstalling Secure Path 3.0**

If you had a newer version of HSZDISK (greater than 4.4.06) installed prior to installing Secure Path 3.0 you would have received a pop-up message asking if you would like to replace the current HSZDISK driver version with HSZDISK 4.4.06 version.

If you answered *No*, then the HSZDISK installation would have been aborted.

Because the installation was aborted, the HSZDISK UNINSTALL is not created. In this scenario, if you now uninstall Secure Path 3.0 and then begin installing 3.1, you will receive a pop-up message warning you about a previously installed HSZDISK and you will be advised to use the ADD/REMOVE programs to uninstall it. However, because of the aborted installation, you will not find an UNINSTALL program for HSZDISK.

Remedy:

After clicking “OK” to the warning message, you will receive a pop-up message asking if you would like to continue installing Secure Path 3.1. Click *Yes*. The installation will continue installing all necessary components including HSZDISK.

## **Visit our Website for the Latest Information**

Check our website for the latest drivers, technical tips and documentation for the Data Replication Manager solution. Visit the Compaq website at:

<http://www.compaq.com/storage>