

# *Compaq StorageWorks™*

## **Addendum Dual Redundant Controller Upgrade Procedures for ACS Version 8.5**

MA8000/EMA12000, RA8000/ESA12000 HSG80 Fibre Channel Storage Arrays

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*These Upgrade procedures provide information for the MA8000/EMA12000, RA8000/ESA12000 HSG80 Fibre Channel Storage Arrays ACS version 8.5 Solutions Software not covered elsewhere in the documentation.*

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**Compaq Computer Corporation**

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Dual Redundant Controller Upgrade Procedures for ACS Version 8.5

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## Introduction

The ACS Version 8.5 Software supports both Dual Redundant Controller Shutdown Upgrade and Dual Redundant Controller Rolling Upgrade. A shutdown upgrade is one in which the storage devices are taken off-line for the period of time the software is being installed. If access to the storage devices is needed during the upgrade then use the rolling upgrade procedure. A rolling upgrade allows the host system to continue activity to and from the disk subsystem while the controllers are being upgraded.

Rolling upgrades from ACS Version 8.4F to ACS Version 8.5F or 8.5S are supported. All other ACS Versions must use the shutdown upgrade procedure. For your convenience both upgrade procedures have been provided in this document.

## Before You Begin

Before you can begin the Dual-Redundant Controller Upgrade you will first need to determine which one of the following two upgrade procedures you will perform.

■ **Dual-Redundant Controller Rolling Upgrade:**

The Dual-Redundant Controller Rolling Upgrade procedure is one in which the disk subsystem does not have to be shut down to upgrade the software. Using the failover capabilities of the controllers, only one controller at a time needs to be shut down, allowing the host system to access the disk devices on the controller being upgraded.

■ **Dual-Redundant Controller Shutdown Upgrade:**

The Dual-Redundant Controller Shutdown Upgrade procedure requires that you change your dual-redundant configuration into two single controller configurations for software upgrade. You must shut down and restart both controllers during this upgrade. Units will be unavailable to the host system during this time. Before upgrading the controller software, prepare the host system for this situation by dismounting units or shutting down the system.

Once you have determined which of the two upgrade procedures you wish to perform, follow the appropriate steps outlined in this document.

## Dual Redundant Controller Rolling Upgrade

1. Establish a local connection to the controller through the maintenance port of one of the controllers ("this controller").
2. Wait for the CLI prompt, and then shut down "other controller" by using the following command:  
SHUTDOWN OTHER\_CONTROLLER
3. Before continuing, wait until the Reset button stops flashing and stays lit continuously. This indicates that unwritten data is flushed from the cache module.
4. Read the unit status of "this controller" by issuing the following command:  
SHOW UNIT FULL  
**NOTE:** When the results of this command verify that all units are in the **online this** state, it is safe to continue.
5. Perform the following steps on "other controller" (controller with non-flashing Reset button)
  - a. Remove the program card ESD cover.
  - b. Press and hold the controller Reset button while ejecting the old program card. Release the button after the card is ejected.
  - c. Press and hold the Reset button while inserting the new program card. Release the button after the new card is inserted.  
**NOTE:** Wait for the Reset button to flash at an approximate once per second rate. It is safe to ignore messages pertaining to misconfigured controllers or failover status.
  - d. Replace the ESD cover and push the locking pins to secure it.
6. "Other controller" has been upgraded. Have you performed the upgrade on "this controller"?  
NO - Issue the following command:  
SHUTDOWN THIS\_CONTROLLER  
Then move the maintenance port cable from "this controller" to the "other controller" maintenance port and repeat procedure from step 3 to step 5 to replace the program card and upgrade the second controller.  
YES - You have completed this procedure.

## Dual Redundant Controller Shutdown Upgrade

1. Halt all host I/O activity to the controller and prepare the host system for a controller shutdown using the appropriate procedures for your operating system.
2. Establish a local connection to the controller through the maintenance port of the controller.
3. Shutdown both controllers with the following commands:

```
SHUTDOWN OTHER_CONTROLLER
```

```
SHUTDOWN THIS_CONTROLLER
```



**CAUTION:** Before continuing, wait until the Reset button on the controller stops flashing (lit continuously). This indicates that unwritten data is flushed from the cache module.

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4. Remove the PCMCIA program card ESD covers from both controllers.
5. Press and hold the controller Reset button while ejecting the old program card. Release the button after the card is ejected and repeat for other controller.
6. Press and hold the Reset button while inserting the new program card into the controller. Release the button after the new card is inserted and repeat for other controller.  
**NOTE:** The controller will initialize and the Reset button will flash at an approximate once per second rate when ready for operation.
7. Replace the ESD cover on the controller, pushing the locking pins to secure them in place.
8. Mount the storage units on the host. Resume I/O activity to the controller.

