COMPAQ
STORAGEWORKS

Quick Setup Guide

RAID Array 8000/ESA12000 Fibre Channel
Storage Subsystem for *Compaq Tru64 UNIX*

(ACS V8.4 for Fibre Channel Switch)

Before You Begin

In this Quick Setup Guide we tell you how to create an initial hardware configuration for both the Compaq StorageWorks RAID Array 8000 Fibre Channel Storage Subsystem and the Compaq StorageWorks Enterprise Storage Array 12000 Fibre Channel Storage Subsystem (the "RA8000/ESA12000 storage subsystem" or the "storage subsystem").

To create this configuration you will:

• Install Storage Building Blocks (SBBs) and program cards in the RA8000/ESA12000 storage subsystem cabinet, and install a Fibre Channel adapter in the host;

• Connect the Fibre Channel adapter to the storage subsystem HSG80 controller via a Fibre Channel switch;

• Install StorageWorks software on the server;

• Install the StorageWorks Command Console (SWCC) Client Graphical User Interface on the PC;

• Configure a Storageset.

Before you start these steps follow the instructions on the shipping container to unpack the RA8000/ESA12000 storage subsystem. Then move the storage subsystem to the operating location you have selected. Refer to the *RA8000/ESA12000 Storage Subsystem User's Guide*, EK–SMCPR–UG. A01 (387404-001) for information about selecting a location.

The instructions for installing and connecting storage subsystem components are given for the SW370 pedestal, but apply equally to other Compaq cabinet options. Depending on the storage subsystem you have ordered, you might have to install the storage subsystem in a cabinet and connect the cache module to a cache battery. Refer to the *User's Guide* for more information.

NOTE

You can find complete instructions for unpacking and installing the storage subsystem in the *User's Guide* and in the *RA8000/ESA12000 HSG80 Solution Software V8.4 for **Compaq Tru64 UNIX** Installation Reference Guide, AA–RFAUA–TE/387389–001.*

1 Install the SSBs, a Program Card, and a Fibre Channel Adapter


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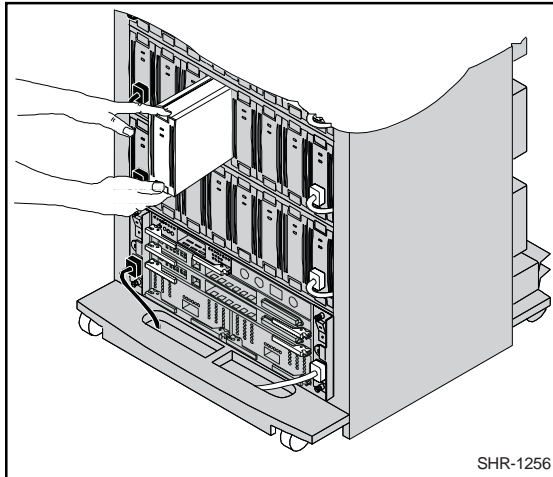
Install the SSBs in the RA8000/ESA12000 Storage Subsystem Cabinet

- Insert an SBB into the shelf guide slots and slide the SBB into the shelf until the mounting tabs snap into place.
- For optimum SCSI bus distribution, install the SBBs from left-to-right and from bottom-to-top.

Install the PCMCIA Card in the HSG80 Controller

- Remove the ESD cover from the controller PCMCIA slot.
- Insert the PCMCIA card in the controller slot.
- Replace the ESD cover over the controller slot.
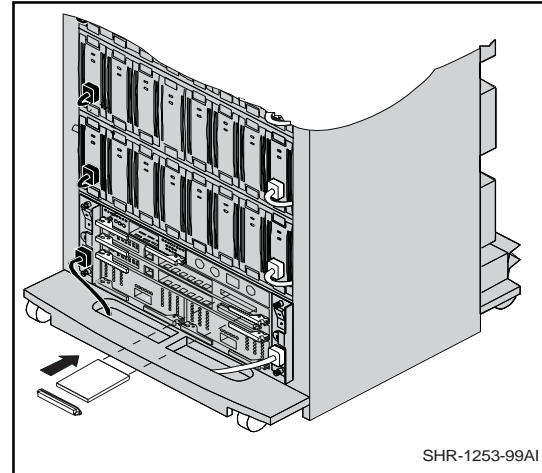
- Repeat the procedure for a second controller.

CAUTION

If you bump against the SCSI ID selector switch above the top controller, you can change the switch setting by mistake. Check the setting before you go on and reset the switch if necessary; the switch should be set on *0* for the first cabinet, *2* for the second cabinet, *3* for the third cabinet, and so on.

## Install the Fibre Channel Adapter in the Host

- Install the adapter according to instructions provided with the adapter and with the host.

2   Connect the Fibre Channel Adapter to the Subsystem Controller

Connect the Fibre Channel Adapter to the Fibre Channel Switch and the Switch to the Storage Subsystem Controller with the Fiber–Optic Cables Supplied.

- Make sure the switch ❸ firmware minimum version is 1.6.
- Install a GBIC-SW module in each switch port you are using.
- Connect a fiber-optic cable from the subsystem ❶ controller to a switch port.
- Connect a fiber-optic cable from the server ❷ Fibre Channel adapter to a switch port.
- Connect the Ethernet network ❹ to the switch RJ-45 connector.
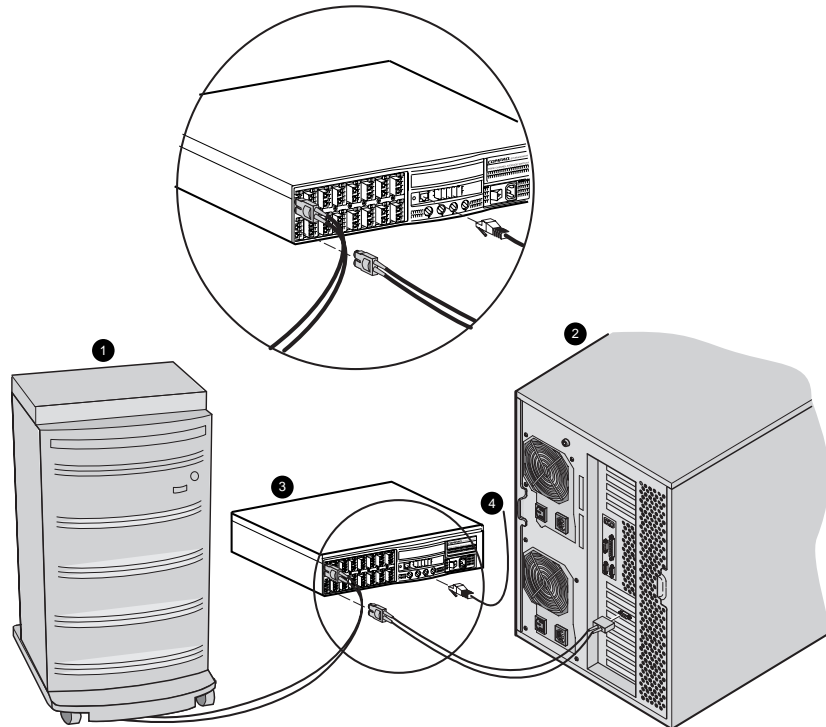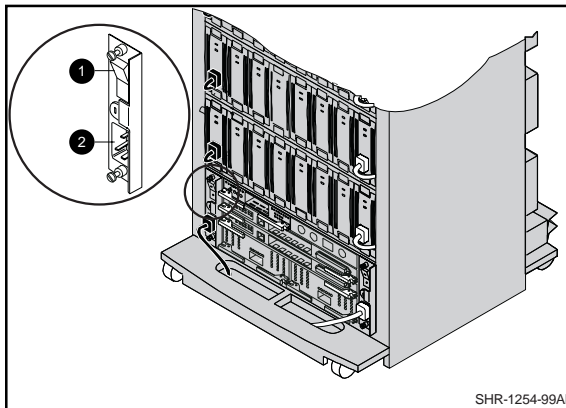
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3   *Turn on the System Power*

Connect the Fibre Channel Switch to an AC Power Outlet

Turn on the AC Power to the Switch (refer to the Fibre Channel Switch User's Guide, AA–RHBXA–TE, to ensure that the switch is configured properly).

Connect the Storage Subsystem to an AC Power Outlet

Turn on the AC Power to the Subsystem

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❶ ac power switch; ❷ ac receptacle

• When the RESET LED on the HSG80 controller blinks at a rate of once per second the storage subsystem is ready to operate.
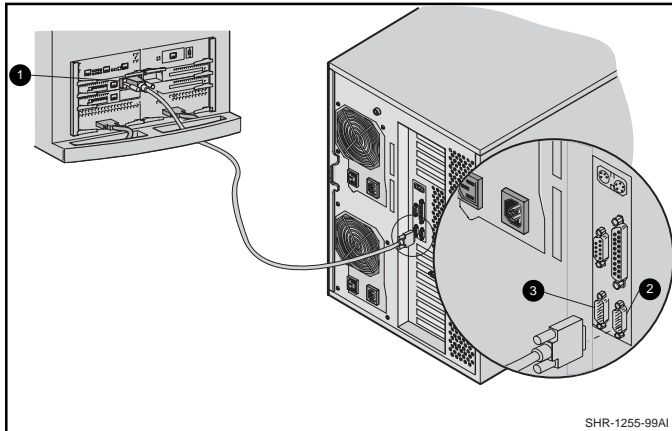
Connect the Host Machine to an AC Power Outlet

Turn on the AC Power to the Host Machine and Boot Compaq Tru64 UNIX

Connect a PC as a Maintenance Terminal

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- Plug the RJ-12 communication cable connector into the maintenance port of the subsystem HSG80 controller ❶.
- Plug the 9-pin communication cable connector into the COM1 or COM2 port of the PC ❷ or ❸.

NOTE

Make sure there is a ferrite bead installed on the communication cable.

- Turn on the power to the PC.

Establish a Connection Between the PC and the Subsystem Controller

- Start a communication program on the PC (for example, _Hyper Terminal_).
- Set the program to use the PC serial port, COM1 or COM2 (whichever port the communication cable is connected to).
- Set the communication parameters as follows:

   8 bits
   9600 baud
   1 stop bit
   No parity

- Issue a connect command to establish connection with the controller.
- Press the Enter key to display the CLI prompt

   `HSG80>`

- You must set the port topology to "FABRIC" and restart both controllers. Type these commands

   SET THIS PORT_1 TOPOLOGY = FABRIC
   SET THIS PORT_2 TOPOLOGY = FABRIC
   RESTART OTHER
   RESTART THIS

- To show the connectons made by the controller to the server via the switch,type **SHOW CONNECTION** at the CLI prompt.For a new, basic installation something similar to the following will appear:

```
Connection
  Name      Operating system  Controller   Port   Address    Status     Unit Offset
!NEWCON01        WINNT           THIS        2     210013    OL this         0
          HOST_ID=1000-0000-C920-A6C5        ADAPTER_ID=1000-0000-C920-A6C5
!NEWCON02        WINNT           OTHER       1     210013    OL other       100
          HOST_ID=1000-0000-C920-A6C5        ADAPTER_ID=1000-0000-C920-A6C5
HSG80>
```

- You must change `Operating system` to `DIGITAL_UNIX` for each connection. The syntax for the command is:

      SET {*connection name*} **OPERATING_SYSTEM = DIGITAL_UNIX**

  Where *{connection name}* is the name from the *SHOW CONNECTION* command. In this example you type:

      SET !NEWCON01 OPERATING_SYSTEM = DIGITAL_UNIX
      SET !NEWCON02 OPERATING_SYSTEM = DIGITAL_UNIX

- Finally, type **SHOW CONNECTION** at the HSG80> prompt to show the change.

```
Connection
  Name      Operating system  Controller   Port   Address    Status     Unit Offset
!NEWCON01      DIGITAL_UNIX      THIS        2     210013    OL this         0
          HOST_ID=1000-0000-C920-A6C5        ADAPTER_ID=1000-0000-C920-A6C5
!NEWCON02      DIGITAL_UNIX      OTHER       1     210013    OL other       100
          HOST_ID=1000-0000-C920-A6C5        ADAPTER_ID=1000-0000-C920-A6C5
HSG80>
```

NOTE

If the connections do not appear, either the installation or the power-on sequence was incorrect. Review and, if necessary, re-do the previous steps.

- From your Tru64 console terminal type **file /dev/rrz*c** at the prompt.
- In the output from this command you will see an entry for *HSG80CCL*; this is the virtual command console LUN.

Install the StorageWorks Software

- Insert the storage subsystem CD–ROM in the
  CD–ROM drive*.

- Mount the CD–ROM with the command

```
mount -r -t cdfs -o rrip /dev/rz6c /mnt
```

- Change to the directory

```
cd /mnt/agent/SWCC210
```

- Execute the installation script

```
./setld -l.
```

- Follow the online instructions to install the software.

*Assuming: rz6 is the CD–ROM drive.

# 6 Install and Launch StorageWorks Command Console (SWCC) Client

Install the SWCC Client

- Insert the StorageWorks software CD–ROM in the CD–ROM drive of the PC.
- Run *File Manager* or Windows *Explorer*.
- Navigate to the folder
    drive_letter:\swcc\client\intel
- Double–click on *Setup.exe.*
- When the setup wizard appears, follow the instructions to complete the installation.
- When installation is complete, restart the system by answering *YES* to the restart question.

Launch the Client

- Click on the windows taskbar *Start* button.
- Move the pointer to *Programs –> Command Console –> HSG80 Storage Window*; click on *HSG80 Storage Window* to display the *Connection Selection* dialog box.
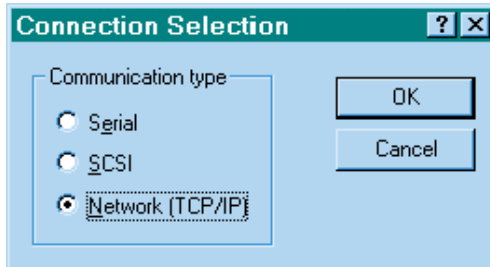
- Click on the *Network (TCP/IP)* button and *OK* to display the *Connect Network (TCP/IP)* dialog box.
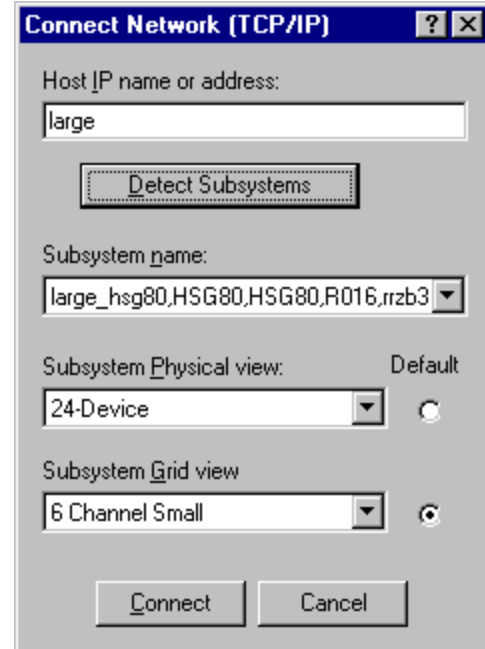
- Enter the **Compaq Tru64 UNIX** host name; then click *Detect Subsystems*. Client searches and finds the storage subsystems connected to your host and displays them in the *Subsystem Name* text box.
- Select a storage subsystem and click the *Connect* button; after two to three minutes the Storage Window is displayed.

7 Verify Controller Properties

Display SCSI Devices in the Devices Window

- Click on *Storage* in the *Storage Window* menu line.

- Move the pointer to *Device –> Add*; click on *Add*. SWCC finds installed drives and displays them in a grid by CHANNEL and SCSI TARGET ID number.
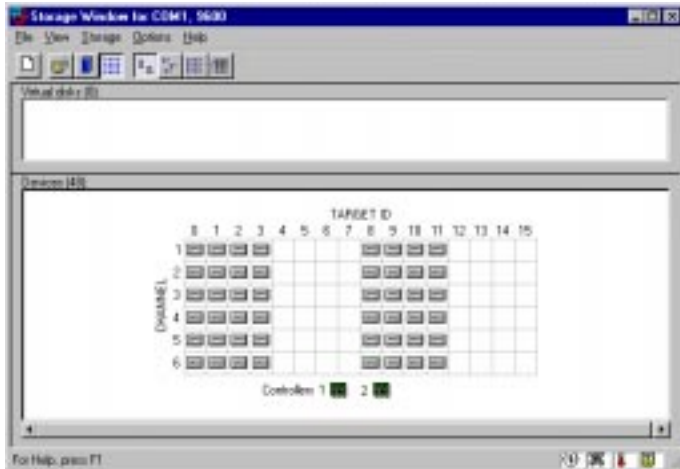

Verify Properties

- Double-click on a controller icon in the *Storage Window*; the *Controller Properties* screen is displayed.

- Click on the tabs of the *Controller Properties* screen successively and confirm that the following values are set:

General tab	Allocation class: 0 SCSI version: SCSI–2
Host Ports tab	
Host Port 1	Requested Topology: Fabric
Host Port 2	Requested Topology: Fabric Requested Port Address: 210213
Cache tab	Cache flush time (seconds): 10 Respond to internal cache battery condition: selected Enable mirrored cache: selected
Battery tab	Confirm that the battery is fully charged
Communications LUN tab	Enabled, fixed
Connection tab	Operating System: DIGITAL UNIX Unit Offset: 0 for Port 1

8 Configure a Storageset

- Click on *Storage* in the *Storage Window* menu selection line and select *Add Virtual Disk* to begin Step 1 of the *Add Virtual Disk Wizard*.

- Click the *Striped parity device group (RAID 3/5)* radio button; click *Next>* for Step 2.

- Select the devices you want to include in the virtual disk by clicking on the disks listed in the *Available storage* windowpane; as you select a disk it is added in the *Selected devices* window.

- Click *Next>* for Step 3.
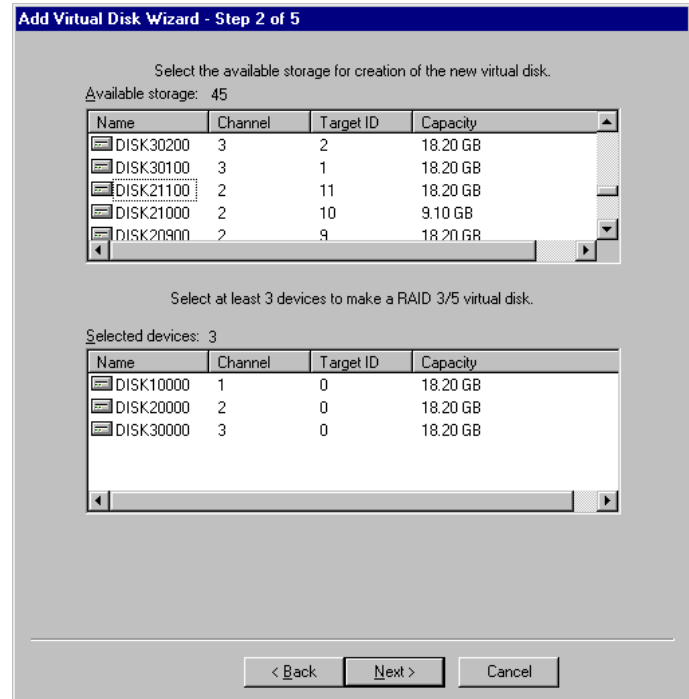
Configure a Storageset (Cont'd)

• Select the capacity for the virtual disk. You can select the maximum capacity or create partitions by selecting only a portion of the available maximum. If you create partitions, complete all steps for this partition; then access the Wizard again, make the same choices and create another partition.

•Click *Next>* for Step 4.

• Enter the *Virtual Dlsk Name*; D0 through D99 are accessed through controller Port 1, while D100 through D199 are accessed through controller Port 2.

NOTE

Refer to the release notes for more information on the number of units your system can support.

• Click on the box *Save controller configuraton to virtual disk.*

• Click *Next>* for Step 5.

8 *Configure a Storageset (Cont'd)*

• Step 5 recaps your choices; if you are not satisfied, you can return to the applicable Wizard step using the *Back* button. when you are satisfied with your choices click *Finish*.

• When you return to the Storage Window you see the virtual disk you created illustrated in the *Virtual disks* windowpane. The hourglass on the disk icon indicates the Storageset is being initialized. The drives you used to create the RAIDset are highlighted in the *Devices* windowpane.
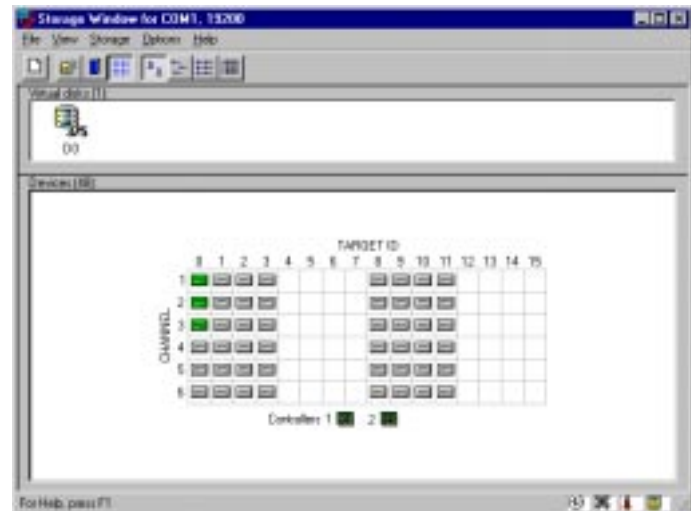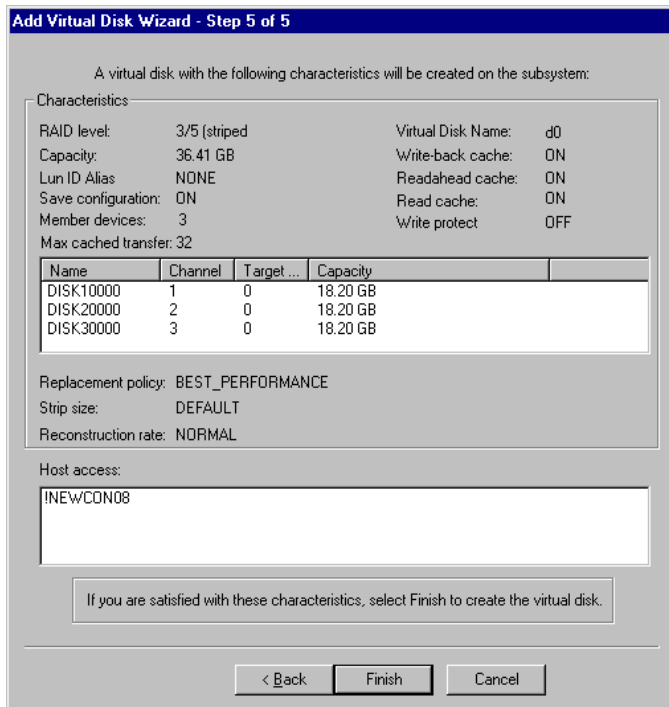
NOTE

You must shut down and `reboot -r` your **Compaq Tru64 UNIX** server before it recognizes the Storageset you have created.

Congratulations!

You have now completed all the steps required to create an initial hardware configuration for your controller. For more information about using the SWCC software on the ***Compaq Tru64 UNIX*** *host refer to the RA8000/ESA12000 HSG80 Solution Software V8.4 for **Compaq Tru64 UNIX** Installation Reference Guide.* For more information about using the SWCC software on the *Windows host refer to the Command Console User's Guide.*

COMPAQ recommends that you verify and record your configuration for future reference.