Upgrading the CPU on the Sun Fire V880 Server

Overview

Introduction

Recent features, such as switched digital video (SDV), that have been added to the Digital Broadband Delivery System (DBDS), as well as an increase in the use of third-party tools, have caused some system operators to request more processing power for their Sun Fire V880 servers. System operators can order additional central processing units (CPUs) for their Sun Fire V880 server from the representative who handles their DBDS account. These new CPUs come two per motherboard. We can provide either a 2-CPU (one board) or a 4-CPU (two board) kit. Installation of the new CPUs is easy, and should take no longer than 10 or 15 minutes.

Purpose

This document provides system operators and support engineers with instructions on removing an old CPU from the Sun Fire V880 server, and for replacing it with a new CPU.

Audience

This document is written for system operators of the DBDS. Support engineers who help system operators manage and troubleshoot their systems will also find this document useful.

Download Service Manual

Sun Microsystems has made available on the Internet the service manual for the Sun Fire V880 server. Download the *Sun Fire 880 Server Service Manual* (part number 806-6597-11, copyright April 2002) from the following website: http://docs.sun.com/app/docs/doc/806-6597-11

Several of the procedures used in this document are described in greater detail in the *Sun Fire 880 Server Service Manual* than they are in this document. Download the *Sun Fire 880 Server Service Manual* and follow along as you complete the procedures in this bulletin. Where applicable, this document specifically references the relevant procedure, including page numbers, from the *Sun Fire 880 Server Service Manual*. Should Sun Microsystems update the manual, however, you may find discrepancies in the page numbers or procedure titles.

What You Need

In addition to a new 2-CPU or 4-CPU kit, you need the following items in order to complete the procedures in this document:

- Test lead wire with grounding clips on both ends
- High-impedance grounding wrist strap
- Phillips screwdriver
- Small anti-static mat

Document Version

This is the second release of this document.

In This Document

Back Up the DNCS

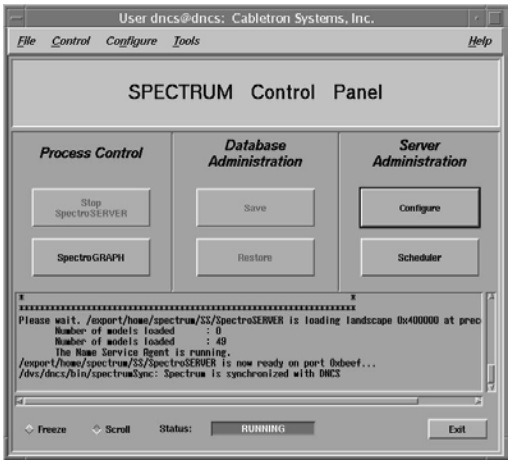
Refer to *DBDS Backup and Restore Procedures For SR 2.2 Through 4.2* (part number 4013779 Revision A). Follow the procedures in Chapters 3 and 4 to back up the Informix database, as well as the file system and key files of the Digital Network Control System (DNCS). You need a good backup of the DNCS before you begin to replace the CPU.

Stop the System Components

Before upgrading the CPU on the Sun Fire V880 server, follow the instructions in this section to stop the Spectrum Network Management Service (Spectrum), the Application Server, and the DNCS.

Stopping Spectrum

1. From the DNCS Administrative Console Status window, click **Control** in the NMS section of the window. The Select Host to run on window appears.
2. Select the appropriate **Host Machine** and then click **OK**. The Spectrum Control Panel appears.



3. Click **Stop SpectroSERVER**. A confirmation message appears.
4. Click **OK** at the confirmation message. The Status message on the Spectrum Control Panel shows **Inactive.**
5. Click **Exit** on the Spectrum Control Panel. A confirmation message appears.
6. Click **OK** at the confirmation message. The Spectrum Control Panel closes.

Stopping the Application Server

This section provides procedures for stopping either a SARA Server or a third-party server. Choose the procedure that pertains to your system.

Stopping the Application Server at SARA Sites

1. Press the middle mouse button on the Application Server and select **App Serv Stop**.
2. From an xterm window on the Application Server, type **appControl** and then press **Enter**. The Applications Control window appears.
3. Type **2** (for Startup/Shutdown Single Element Group), and then press **Enter**. The system displays all Application Server processes.

   Note: The system updates the display periodically, or you can press **Enter** to force an update.
4. When the **Curr Stt** (Current State) field of the Applications Control window indicates that all of the Application Server processes have stopped, follow the on-screen instructions to close the Applications Control window.

Stopping the Application Server at Aptiv Sites

1. Press the middle mouse button on the Application Server and select **Passport Stop**.
2. From an xterm window on the Application Server, type **CheckServices** and then press **Enter**. A list of drivers appears.

   Note: Each driver is associated with an Application Server process.
3. Wait until the word **No** appears next to each driver.

   Note: If the word **No** does not appear next to each driver within a minute or two, repeat steps 2 and 3 again.

Stopping the Time Warner Mystro Application Server

If the site you are upgrading uses the Time Warner Mystro Application Server (MDN), refer to the documents provided by Mystro to shut down the Mystro Application Server.

Stopping the DNCS

Complete these steps to stop the DNCS.

1. At the DNCS, press the middle mouse button and then select **DNCS Stop**.

   Note: If a confirmation message appears, click **OK**.

2. From an xterm window on the DNCS, type **dncsControl** and then press **Enter**.

   Result: The Dncs Control window appears.

3. Type **2** (for Startup/Shutdown Single Element Group), and then press **Enter**.

   Result: The system displays all DNCS processes.

   Note: The system updates the display periodically, or you can press Enter to force an update.

4. When the **Curr Stt** (Current State) field of the Dncs Control window indicates that all of the DNCS processes have stopped, follow the on-screen instructions to close the Dncs Control window.

Shut Down the Application Server and the DNCS

Shutting Down the Application Server

After stopping the system components, you need to shut down the Application Server next. The Application Server needs to be at the **ok** prompt before you begin upgrading the CPUs.

1. If necessary, open an xterm window on the Application Server.
2. Complete the following steps to log on to the xterm window as **root** user.
   a. Type **su -** and press **Enter**. The password prompt appears.
   b. Type the root password and press **Enter**.
3. Type **/usr/sbin/shutdown -y -g0 -i0** and then press **Enter**. The Application Server shuts down and the ok prompt appears.

Shutting Down the DNCS

After shutting down the Application Server, your next task will be to shut down, and then power-off, the DNCS.

1. If necessary, open an xterm window on the DNCS.
2. Complete the following steps to log on to the xterm window as **root** user.
   a. Type **su -** and press **Enter**. The password prompt appears.
   b. Type the root password and press **Enter**.
3. Type **/usr/sbin/shutdown -y -g0 -i0** and then press **Enter**. The DNCS shuts down and the ok prompt appears.
4. Type **setenv auto-boot? false** and then press **Enter**. This command will later force the system to boot to the **ok** prompt.
5. Press (for fewer than 5 seconds) and release the **Power** button on the front panel of the server. The system begins a graceful shutdown of system software.
6. When the LED on the front panel of the server is no longer illuminated, turn the key switch to the Forced Off position (extreme counter-clockwise).
7. Disconnect power to the server by pulling the power cord from the electrical socket.

Remove the Side Door of the Sun Fire V880 Server

In this procedure, you will remove the right side door of the Sun Fire V880 server. By removing the right side door, you gain access to the interior of the server, and can reach the CPU(s) that you will replace.

WARNING:

Electrical shock hazard. Be certain that you have turned off power to the Sun Fire V880 server and have disconnected the electrical connection before you install a new CPU.

Note: If you have downloaded the *Sun Fire 880 Server Service Manual* from Sun Microsystems, refer to the **How to Open and Remove a Side Door** procedure, on page 22, in the service manual.

1. Use the system key to unlock the right side door of the server.
2. Swing the right side door open.
3. Follow these instructions to remove the right side door.
   a. Swing the side door 90 degrees to the server.
   b. Pull the side door up until the mounting pins clear the brackets on the server chassis.
4. Attach one end of a lead wire to the chassis of the server and the other end to an available ground in order to prevent the build-up of static electricity.
5. Attach a high-impedance grounding wrist strap to your wrist and then to the chassis of the server in order to prevent static discharge to sensitive internal components.

Remove an Existing CPU

In this procedure, you will remove any CPU from the Sun Fire V880 server that you have identified for replacement. You need a Phillips screwdriver and an anti-static mat to complete this procedure.

Note: If you have downloaded the *Sun Fire 880 Server Service Manual* from Sun Microsystems, refer to the **How to Remove a CPU / Memory Board** procedure, on page 32, in the service manual.

CAUTION:

A CPU / Memory Board or an air baffle must be installed in each CPU / Memory slot at all times. After you remove a CPU / Memory Board, you must replace it with another CPU / Memory Board or an air baffle immediately to avoid an automatic thermal shutdown.

1. Identify the CPU(s) that you want to replace.
2. Use a Phillips screwdriver to loosen the two screws that secure the CPU.
3. Rotate the CPU ejection levers outward. The CPU board connectors disengage from the motherboard.
4. Pull the CPU from the chassis of the server.
5. Place the CPU that you have just removed onto an anti-static mat.
6. Repeat steps 2 through 5 for any additional CPUs that you want to remove.

Install the New CPU

In ***Remove an Existing CPU*** (on page 10), you removed the CPU(s) that you want to replace from the Sun Fire V880 server. In this procedure, you will install any new CPU(s) that you obtained from the representative who handles your DBDS account.

Note: If you have downloaded the *Sun Fire 880 Server Service Manual* from Sun Microsystems, refer to the **How to Install a CPU / Memory Board** procedure, on page 37, in the service manual.

1. Locate the CPU board slot(s) into which you want to install the new CPU(s).
2. Make sure that the ejection levers on the new CPU are rotated out 90 degrees.
3. Slide the new CPU into the guides of the chassis.

   Note: Slide until the connectors on the board begin to engage the sockets of the motherboard and the ejection levers begin to contact the mounting bracket.
4. Simultaneously, push in the two ejection levers until the new CPU is fully engaged in its slot.
5. Tighten, by hand, the two screws on the CPU.
6. Tighten the two screws with a Phillips screwdriver.
7. Repeat steps 2 through 6 for any additional CPU that you want to install.
8. After installing the new CPU(s), remove the ground wire and your wrist strap.

Re-attach the Side Door of the Sun Fire V880 Server

Now that you have installed the new CPUs into the Sun Fire V880 server, you are ready to re-attach and close the side door. Follow these directions to re-attach and close the side door.

Note: If you have downloaded the *Sun Fire 880 Server Service Manual* from Sun Microsystems, refer to the **How to Close a Side Door** procedure, on page 24, in the service manual.

1. Follow these directions to remount the side door to the chassis.
   a. Position the mounting pins of the side door over the corresponding holes of the rear panel of the chassis.
   b. Carefully lower the side door into place.
2. Close the side door.
3. Use the system key to lock the side door.
4. Reconnect power to the server by inserting the power cord back into the electrical socket.

Reboot the System

Rebooting the DNCS

Follow these instructions to restore power to the Sun Fire V880 server.

1. Turn the key of the front panel keyswitch to the Normal position (straight up and down).
2. Press the **Power** button to the left of the keyswitch. After about 2 minutes, the **ok** prompt appears.
3. Type **setenv auto-boot? true** and then press **Enter**.
4. Type **boot -r** and then press **Enter**. The Sun Fire V880 server boots.

Rebooting the Application Server

If you have properly followed the instructions in this document, the Application Server should be at the ok prompt. Now, type **boot** and then press **Enter** to reboot the Application Server.

Modify Informix Configuration Files

In this procedure, you will run the SetOnconfig.sh script. This script performs an automatic edit of the Informix configuration files so that they match the hardware.

1. If necessary, open an xterm window on the Sun Fire V880 server.
2. Complete the following steps to log on to the xterm window as **root** user.
   a. Type **su -** and press **Enter**. The password prompt appears.
   b. Type the root password and press **Enter**.
3. Type **./dvs/dncs/bin/dncsSetup** and then press **Enter**. The system establishes the correct user environment.
4. Type **SetOnconfig.sh** and then press **Enter**.
5. Complete these steps to activate the changes to the Informix configuration files.
   a. Type **/etc/init.d/informix stop** and then press **Enter**.
   b. Type **/etc/init.d/informix start** and then press **Enter**.

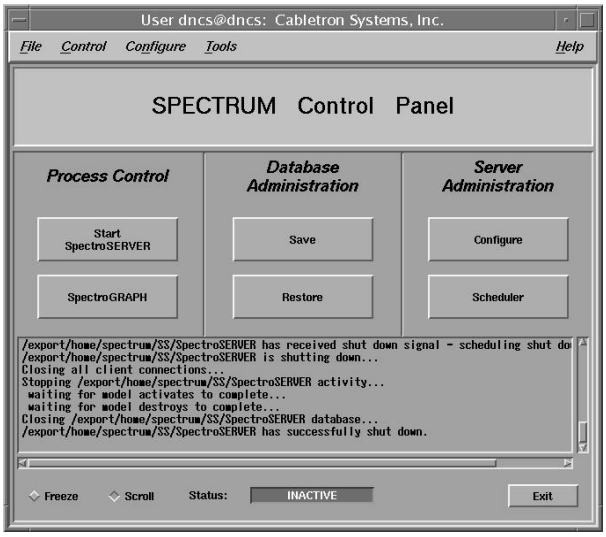
Restart the System Components

Restarting Spectrum

Important: Skip this procedure if you are using DBDS Alarm Manager instead of Spectrum.

1 From the DNCS Administrative Console Status window, click **Control** in the NMS section of the window. The Select Host to run on window opens.

2 Select the appropriate **Host Machine**, and then click **OK**. The Spectrum Control Panel window opens.



3 On the Spectrum Control Panel window, click **Start SpectroSERVER**. The Spectrum Network Management System starts.

4 On the Spectrum Control Panel window, click **Exit**. A confirmation message appears.

5 Click **OK** on the confirmation message. The Spectrum Control Panel window closes.

Restarting the DNCS

1 Click the middle mouse button on the DNCS and select **DNCS Start**. The DNCS processes start.

2 Click the middle mouse button on the DNCS and select **Administrative Console**. The DNCS Administrative Console opens.

3 From the DNCS Administrative Console Status window, click **DNCS Control**.

Results:

- The DNCS Control window opens.
- Green indicators begin to replace red indicators on the DNCS Control window.

4 From an xterm window on the DNCS, type **dncsControl** and then press **Enter**. The Dncs Control utility window opens.

5 Type **2** (for Startup / Shutdown Single Element Group) and then press **Enter**. The Dncs Control window updates to list the status of all of the processes and servers running on the DNCS.

6 Wait for the Dncs Control window to list the current status (Curr Stt) of all the processes and servers as **running**.

Notes:

- The Dncs Control window updates automatically every few seconds, or you can press **Enter** to force an update.
- The indicators on the DNCS Control window all become green when the processes and servers have restarted.

Restarting the Application Server

This section provides procedures for restarting either a SARA Server or a third-party server. Choose the procedure that pertains to your system.

Restarting the Application Server at SARA Sites

1 Press the middle mouse button on the Application Server and select **App Serv Start**.

2 From an xterm window on the Application Server, type **appControl** and then press **Enter**. The Applications Control window opens.

3 Select option **2** on the Applications Control window. The system displays a list of Application Server processes and their current status.

Note: The system updates the display periodically, or you can press **Enter** to force an update.

4 When the Application Control window indicates that the current state (**Curr Stt**) of each process is running, follow the on-screen instructions to close the Applications Control window.

Restarting the Application Server at Aptiv Sites

Complete the following steps to verify that the Passport resident application has started on the Application Server, and then to start it, if necessary.

1. Open an xterm window on the Application Server.
2. Type **CheckServices** and then press **Enter**. A list of drivers appears.

   Note: Each driver is associated with an Application Server process.
3. Does the word **Yes** appear next to each driver, indicating that the process has started?
   - If **yes**, you have completed this procedure.
   - If **no**, go to step 4.
4. Press the middle mouse button, and then select **Passport Start**.
5. When the word **Yes** appears next to each driver, go to step 6.
6. Follow the on-screen instructions to close the window containing the list of drivers associated with the Passport resident application.

Restarting the Time Warner Mystro Application Server

If necessary, refer to the documents supplied by Mystro to restart the MDN.

For Information

If You Have Questions

If you have technical questions, call Cisco® Services for assistance. Follow the menu options to speak with a service engineer.

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