CISCO™

January 2005

Solaris Ethernet Driver Patch Installation Instructions

Overview

Introduction

Cisco engineers have discovered that one of the Ethernet ports of the Sun Fire V880 server, the ce port, may fail periodically, causing an intermittent loss of communications between the port and any attached devices. Engineers with Sun Microsystems, the manufacturer of the Sun Fire V880 server, have developed a software patch for the device driver of the ce port. Cisco engineers have tested the software patch in their laboratories and have determined that installation of the patch resolves issues associated with the failure of the ce port.

Note: If you want to learn more about the ce port, type **man ce** and then press **Enter** from an xterm window on your Sun Fire V880 server. Furthermore, you can contact Sun Microsystems to learn more about the condition that causes communication failures on the ce port.

Purpose

These installation instructions provide procedures for the following tasks:

- Determining whether your Sun Fire V880 server uses the ce port
- Obtaining the patch file from Cisco's FTP server
- Preparing your system to load the patch file
- Installing the patch file
- Rolling back (if necessary) from the installed patch file

Audience

The procedures in this technical bulletin pertain to system operators of Cisco's Digital Broadband Delivery System (DBDS) who use the Sun Fire V880 server as their Digital Network Control System (DNCS). Cisco engineers who help system operators manage their system may also find these procedures useful.

Note: The terms *Sun Fire V880 server* and *Sun Fire V880 DNCS* are used interchangeably in this bulletin.

Document Version

This is the first release of this technical bulletin.

System Performance

The procedures in the first two sections of this technical bulletin, **Determine Whether the Sun Fire V880 Server Uses the ce Port** and **Obtain, Load, and Extract the Patch File**, prepare your system for installation of the patch. These procedures do not affect system performance and can be performed at any time.

To actually install the patch, however, you need to stop the system components. While the system components are stopped, subscribers will not have access to interactive services. Be certain to schedule the actual installation of the Solaris Ethernet driver patch during a maintenance window.

In This Technical Bulletin

This technical bulletin contains the following topics.

Determine Whether the Sun Fire V880 Server Uses the ce Port

Determining Whether the ce Port is in Use

In this procedure, you will use the UNIX command *ifconfig –a* to display the network interfaces of the Sun Fire V880 server. If the output from the command contains a line that begins with **ce**, your server uses the ce port. Run the following procedure to determine whether the ce port is in use on your system.

Note: You have no need to install the Solaris Ethernet driver patch if your Sun Fire V880 DNCS does not use the ce port.

1. From an xterm window on the Sun Fire V880 DNCS, type **ifconfig -a** and then press **Enter**.

    Result: The system displays the network interfaces of the Sun Fire V880 server.

    Example: Typical output looks similar to the following example:

    lo0: flags=1000849<UP,LOOPBACK,RUNNING,MULTICAST,IPv4> mtu 8232
          index 1 inet 127.0.0.1 netmask ff000000
    ce0: flags=1000843<UP,BROADCAST,RUNNING,MULTICAST,IPv4> mtu 1500
          index 2 inet 192.168.3.1 netmask ffffff00 broadcast 192.168.3.255
    ce1: flags=1000843<UP,BROADCAST,RUNNING,MULTICAST,IPv4> mtu 1500
          index 3 inet 10.253.0.1 netmask ffffc000 broadcast 10.253.63.255
    eri0: flags=1000843<UP,BROADCAST,RUNNING,MULTICAST,IPv4> mtu 1500
          index 4 inet 192.168.1.1 netmask ffffff00 broadcast 192.168.1.255

    Note: If the output includes a line that begins with **ce**, that server uses the ce port. The server used in this example uses the ce port to communicate with devices ce0 and ce1.

2. Does the Sun Fire V880 DNCS use the ce port?

    - If **yes**, go to **Obtain, Load, and Extract the Patch File**, next in this guide.

    - If **no**, you can stop reading. You have no need to install the Solaris Ethernet driver patch on your system.

Obtain, Load, and Extract the Patch File

Introduction

In these procedures, you will create a directory on the Sun Fire V880 server into which you will load the compressed Solaris Ethernet driver patch file. Then, you will use the FTP file transfer utility to obtain the file from Cisco's FTP server and load it into the newly created directory. Finally, you will decompress and extract the compressed patch file.

Creating the Directory

Follow this procedure to create a directory on the Sun Fire V880 server into which you will load the patch file.

1. Follow these instructions to log on to an xterm window on the Sun Fire V880 DNCS as root user.

    a) Type **su -** and then press **Enter**.

       Result: The **password** prompt appears.

    b) Type the root password and then press **Enter**.

2. Type **cd /export/home/dncs** and then press **Enter**.

    Result: The /export/home/dncs directory becomes the working directory.

3. Type **mkdir solaris_patch** and then press **Enter**.

    Result: The system creates a subdirectory called solaris_patch in the /export/home/dncs directory.

4. Type **cd solaris_patch** and then press **Enter**.

    Result: The /export/home/dncs/solaris_patch directory becomes the working directory.

5. Go to **Obtaining the Patch File**, next in this section.

Obtaining the Patch File

Follow these general guidelines in order to obtain the patch file from Cisco's FTP server.

1. Log on to Cisco's FTP server.

   Notes:
   - The address of the server is **ftp.sciatl.com** or **172.18.45.203**.
   - The username is **anonymous**.
   - The password is the email address of the person logging in.

2. Choose one of the following options to navigate to the directory in which the patch file is located:
   - If you are outside of Cisco's firewall, navigate to the following directory: **/pub/scicare/RELEASED/Solaris_Patch**
   - If you are inside of Cisco's firewall, navigate to the following directory: **/external_pub/scicare/RELEASED/Solaris_Patch**

3. Type **bin** and then press **Enter**.

   Result: The system sets the ftp transfer mode to binary.

4. Type **hash** and then press **Enter**.

   Result: The system configures itself to display hash marks that show file-transfer progress.

5. Download the file called **111883-25.tar.gz** into the /export/home/dncs/solaris_patch directory of your Sun Fire V880 DNCS.

6. Type **bye** and then press **Enter** to log out of Cisco's FTP server.

Decompressing and Extracting the Patch File

In this procedure, you will decompress and extract the patch file you just loaded onto your system.

1. Type **sum -r 111883-25.tar.gz** and then press **Enter**.

   Result: The system displays the checksum and the block count of the patch file.

   Example: The system should display the following results:
   18817 1645 111883-25.tar.gz

   Important: The file should have a checksum of **18817** and a block count of **1645**.

2. Does the patch file have a checksum of **18817** *and* a block count of **1645**?

   - If **yes**, go to step 3; the patch file transferred accurately.
   - If **no** (the checksum or block count differs from the example), repeat the previous procedure, **Obtaining the Patch File**.

   Note: If, after two unsuccessful attempts, the patch file fails to transfer accurately, contact Cisco Services for assistance.

3. Type **gzip -d 111883-25.tar.gz** and then press **Enter**.

   Result: The system decompresses the patch file.

4. Type **tar xvf 111883-25.tar** and then press **Enter**.

   Result: The system extracts the individual components of the patch file.

5. Go to **Stop System Components**, next in this guide.

Stop System Components

Introduction

You need to stop the system components before you install the Solaris Ethernet driver patch. Follow these instructions to stop Spectrum, the Application Server, and the DNCS.

Important: Be certain that you are within a maintenance window before you stop the system components.
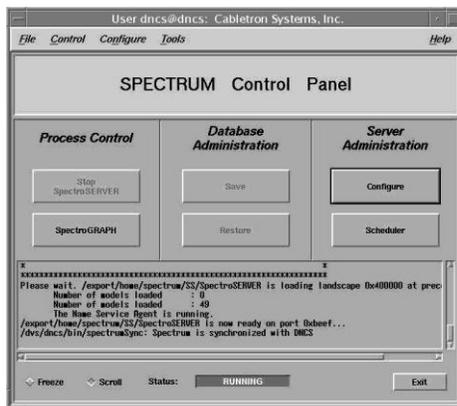
Stopping Spectrum

Complete these steps to stop Spectrum.

1. From the DNCS Administrative Console Status window, click **Control** in the NMS section of the window.

   Result: The Select Host to run on window appears.

2. From the **Select Host to run on** window, click **OK**.

   Result: The Spectrum Control Panel appears.

3. Click **Stop SpectroSERVER**.

   Result: A confirmation message appears.

4. Click **OK** at the confirmation message.

   Result: The **Status** message on the Spectrum Control Panel shows **Inactive.**

5. Click **Exit** on the Spectrum Control Panel.

   Result: A confirmation message appears.

6. Click **OK** at the confirmation message.

   Result: The Spectrum Control Panel closes.

7. Go to **Stopping the Application Server**, next in this section.

Stop System Components, Continued

Stopping the Application Server

Choose one of the following procedures based upon the resident application that runs on your system:

- For sites that support the Cisco SARA resident application, follow the instructions in **Stopping the Application Server at SARA Sites**.

- For sites that support the Pioneer resident application, follow the instructions in **Stopping the Application Server at Pioneer Sites**

Stopping the Application Server at SARA Sites

Complete these steps to stop the Application Server at sites that support the Cisco resident application.

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**.

   Result: The Applications Control window appears.

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

   Result: 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.

5. Go to **Stopping the DNCS**, later in this section.

Stopping the Application Server at Pioneer Sites

Complete these steps to stop the Application Server at sites that support the Pioneer resident application.

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**.

    Result: 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.

4. Log in to an xterm window as root user.

5. Type **init 0** and then press **Enter**.

    Result: The Application Server shuts down and an **ok** prompt appears.

6. Go to **Stopping the DNCS**, next in this section.

Stopping the DNCS

Complete these steps to stop the DNCS.

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

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.

5. Go to **Install the Solaris Ethernet Driver Patch**, next in this guide.

Install the Solaris Ethernet Driver Patch

Installing the Patch

Follow these instructions to install the Solaris Ethernet driver patch onto the Sun Fire V880 server.

Notes:

- You should still be logged on to an xterm window on the Sun Fire V880 server as root user.

- Installation of the patch should take no more than 10 minutes.

1. If necessary, type **cd /export/home/dncs/solaris_patch** and then press **Enter**.

    Result: The /export/home/dncs/solaris_patch directory becomes the working directory.

2. Type **patchadd 111883-25** and then press **Enter**.

    Results:

    - The system installs the Solaris patch.
    - The message **Patch number 111883-25 has been successfully installed** appears when the patch has successfully installed.

3. From an xterm window on the Application Server, type **shutdown -y -g0 -i0** and then press **Enter**.

    Result: The Application Server shuts down.

4. From an xterm window on the Sun Fire V880 server, type **/usr/sbin/shutdown -y -g0 -i6** and then press **Enter**.

    Result: The Sun Fire V880 server reboots.

5. Log on to the Sun Fire V880 server as **dncs** user.

6. On the Application Server, type **boot** and then press **Enter**.

    Result: The Application Server reboots.

7. Log on to the Application Server as **dncs** user.

8. Go to **Restart System Components**, next in this guide.

Restart System Components

Introduction

Follow these procedures to restart the DNCS, the Application Server, and Spectrum.
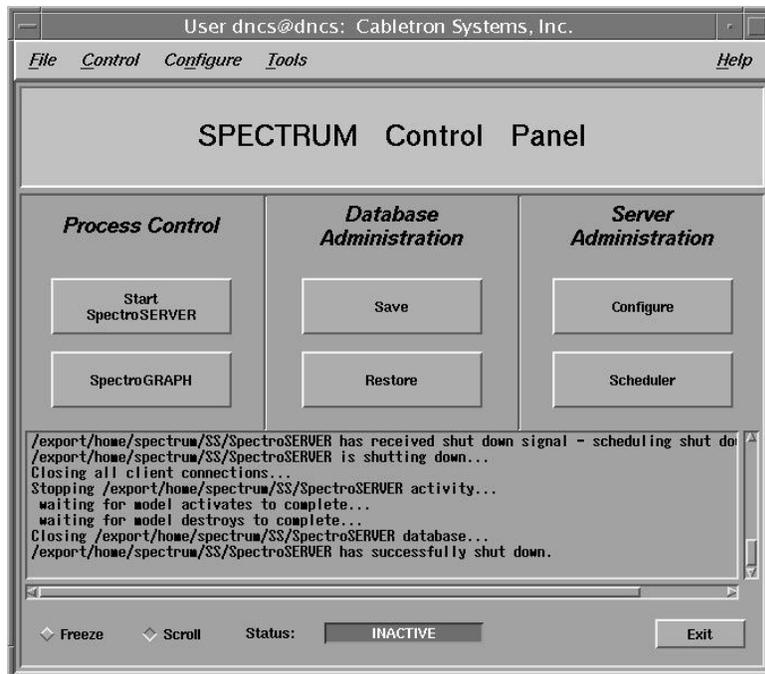
Restarting Spectrum

Follow these instructions to restart Spectrum.

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

   Result: The Select Host to run on window opens.

2. Select the Host Machine (usually DEFAULT), and then click **OK**.

   Result: The Spectrum Control Panel window opens.

3. On the Spectrum Control Panel window, click **Start SpectroSERVER**.

   Result: The Spectrum Network Management System starts.

4. On the Spectrum Control Panel window, click **Exit**.

   Result: A confirmation message appears.

5. Click **OK** on the confirmation message.

   Result: The Spectrum Control Panel window closes.

Restarting the DNCS

Follow these instructions to restart the DNCS.

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

    Result: The DNCS processes start.

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

    Result: The DNCS Administrative Console opens.

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

    Results:

    - The DNCS Monitor window opens.

    - Green indicators replace red indicators on the DNCS Monitor window.

4. When all of the red indicators on the DNCS Monitor window have been replaced by green indicators, go to **Restarting the Application Server**, next in this section.

Restarting the Application Server

Choose one of the following options:

- For sites on which the Cisco SARA resident application runs on the Application Server, go to **Restarting the Application Server on SARA Systems**.

- For sites on which the Pioneer resident application runs on the Application Server, go to **Restarting the Application Server on Pioneer Systems**.

Restarting the Application Server on SARA Systems

Follow these instructions to check if the Cisco SARA 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 **appControl** and then press **Enter**.

    Result: The Applications Control window opens.

3. Select option **2** on the Applications Control window.

    Result: The system displays a list of Application Server processes and their current status.

4. Does the word **running** appear next to the current state field (**Curr Stt**) of each process?

    *   If **yes**, skip the rest of this procedure and go to **Verify System Stability**, next in this guide.

    *   If **no**, go to step 5.

5. Press the middle mouse button, and then select **App Serv Start**.

6. When the Application Control window indicates that the current state (**Curr Stt**) of each process is **running**, go to step 7.

    Note: On some systems, the VOD Server process may remain at **Stopped**; this is normal.

7. Follow the on-screen instructions to close the Applications Control window.

Restarting the Application Server on Pioneer Systems

Follow these instructions to check if the Pioneer 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**.

    Result: 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?

    *   If **yes**, skip the rest of this procedure and go to **Verify System Stability**, next in this guide.

        Note: The word **Yes** next to a driver indicates that the process has started.

    *   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 Pioneer drivers.

Verify System Stability

Verifying System Stability

In this section, you will perform a few procedures that will help you assess the stability of the system after the installation of the Solaris Ethernet driver patch software.

Important: Contact Cisco Services if any of these tests indicate that the system is not performing to expectations. Cisco engineers will help you resolve any issues with the system, or they may instruct you to follow rollback procedures in the next section, **Roll Back the Patch Installation**.

1. On the Sun Fire V880 DNCS, type **cd /export/home/dncs/doctor** and press **Enter**.

2. Type **doctor -vn** and press **Enter**.

   Result: This command runs the Doctor Report. Review the Doctor Report to ensure that communications exists between all DBDS elements.

   Note: It is normal for Pioneer sites to report errors on Application Server checks.

3. Verify that the IPG displays accurate and valid data.

4. Tune each available channel on a test DHCT to confirm that a full channel lineup is present.

5. Verify that you can purchase and view IPPV, IPG, xOD, and VOD events.

6. Verify that all third-party applications load properly.

Roll Back the Patch Installation

Rolling Back the Patch Installation

If your system appears unstable after installing the patch, contact Cisco Services. Cisco engineers may try to work through some of the instability issues with you. In the event that they are unable to restore stability to your system, you may be instructed to roll back from the patch installation. Follow these procedures to roll back from the patch installation.

Important: Do not attempt this rollback procedure without first contacting Cisco Services.

1. Follow the procedures in the **Stop System Components** section of this bulletin to stop Spectrum, the Application Server, and the DNCS.

2. Follow these instructions to log on to an xterm window on the Sun Fire V880 server as root user.

    a) Type **su -** and then press **Enter**.

       Result: The **password** prompt appears.

    b) Type the root password and then press **Enter**.

3. Type **cd /export/home/dncs/solaris_patch** and then press **Enter**.

   Result: The /export/home/dncs/solaris_patch directory becomes the working directory.

4. Type **patchrm 111883-25** and then press **Enter**.

   Result: The system is restored to its condition prior to the installation of the Solaris patch.

   Note: The message **Patch 111883-25 has been backed out** indicates that the rollback was successful.

5. From an xterm window on the Application Server, type **shutdown -y -g0 -i0** and then press **Enter**.

   Result: The Application Server shuts down.

6. From an xterm window on the Sun Fire V880 server, type **/usr/sbin/shutdown -y -g0 -i6** and then press **Enter**.

   Result: The Sun Fire V880 server reboots.

7. Log on to the Sun Fire V880 server as **dncs** user.

8. On the Application Server, type **boot** and then press **Enter**.

   Result: The Application Server reboots.

9. Log on to the Application Server as **dncs** user.

10. Follow the procedures in **Restart System Components**, to restart the DNCS, the Application Server, and Spectrum.

11. Follow the procedures in **Verify System Stability**, earlier in this guide, to ensure that the system is stable after rolling back the patch software.

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.