



# Sun™ GigaSwift Ethernet Adapter Release Notes

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Sun Microsystems, Inc.  
4150 Network Circle  
Santa Clara, CA 95054 U.S.A.  
650-960-1300

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# Sun GigaSwift Ethernet Adapter Release Notes

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The *Sun GigaSwift Ethernet Adapter Release Notes* outline limitations and requirements discovered since the *Sun GigaSwift Ethernet Adapter Installation and User's Guide* was printed.

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**Note** – Half-duplex is not supported at 1 Gigabit on GigaSwift Ethernet adapters.

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## Required Patches

The software driver package provided on the CD ROM has the following patches preinstalled.

- Solaris™ 2.6 and 7 operating environments Patch-ID Number 112327-17
- Solaris 8 operating environments Patch-ID Number 111883-23
- Solaris 9 operating environments Patch-ID Number 112817-16

Following are the current driver patch versions (at the time this document was created):

- Patch-ID Number 112327-17 for Solaris 2.6 and 7 operating environments
- Patch-ID Number 111883-23 for Solaris 8 operating environments
- Patch-ID Number 112817-16 for Solaris 9 operating environments

Install the *latest* version of the Patch-ID Number for example, the dash number -23 becomes higher with each new version of the patch.

If you install Solaris 8 2/02 or any previous version of the Solaris operating environment after installing the Sun GigaSwift Ethernet driver software, you must install the latest version of the patch from the following web site:

<http://sunsolve.sun.com>

If the patch is not available on SunSolve, contact your local sales or service representative.

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## Verifying Patches

You need to verify whether your system has the needed patches for your version of the Solaris operating environment to ensure that you do not need to add patches.

- **To verify patches for Solaris 2.6 and 7 operating environments, type the following.**

```
# showrev -p | grep 112327
```

The patch version should be -17 or greater.

- **To verify patches for Solaris 8 operating environments, type the following.**

```
# showrev -p | grep 111883
```

The patch version should be -23 or greater.

- **To verify patches for Solaris 9 operating environments, type the following.**

```
# showrev -p | grep 112817
```

The patch version should be -16 or greater.

## ▼ To Install Driver Software for Solaris 2.6 Operating Environments

1. **Become superuser.**
2. **Insert the Sun GigaSwift Ethernet Driver 1.0 CD into a CD-ROM drive that is connected to your system.**
  - If your system is running Sun Enterprise Volume Manager™, it should automatically mount the CD-ROM to the /cdrom/cdrom0 directory.

- If your system is not running Volume Manager, mount the CD-ROM as follows:

```
# mkdir /cdrom
# mkdir /cdrom/cdrom0
# mount -F hsfs -o ro /dev/dsk/c0t6d0s2 /cdrom/cdrom0
```

3. Install the software packages by typing the following at the command line.

```
# cd /cdrom/cdrom0/GigaSwiftEthernet/Solaris_2.6
# /usr/sbin/pkgadd -d sparc_arch/Packages all
```

Where *sparc\_arch* is either `sparc.sun4u` or `sparc.sun4u1` for Sun Enterprise™ 10000 systems.

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**Note** – The `sparc.sun4u1` contains the Solaris 2.6 packages only for Enterprise 10000 systems.

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4. Refer the *Sun GigaSwift Ethernet Adapter Installation and User's Guide* to install the adapter.

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## Configuring Jumbo Frames

The variable `accept-jumbo` allows the driver to instruct the upper layers that the driver is operating in jumbo frames mode.

**TABLE 1** `accept-jumbo` Parameters

Parameter	Values	Description
<code>accept-jumbo</code>	1	Enables jumbo frames mode and sets MTU to greater than 1500.
	0	Jumbo frames is not enabled. MTU is at 1500.

# Jumbo Frames Support

Although Jumbo Frames is configurable in 10/100 mode, Jumbo Frames is only supported in the Gigabit (1000 Mbps) mode, and for Solaris 8 software and subsequent compatible releases. Configuring Jumbo Frames allows the GigaSwift interface to send/receive packets of up to 9216 bytes. However, the actual transfer size depends on the switch capability.

Refer to the documentation that came with your switch for exact commands to configure Jumbo Frames support.

## Jumbo Frames with Trunking 1.3

When using Jumbo Frames with Trunking 1.3, you must explicitly enable Jumbo Frames on each link participating in the Trunk.

### ▼ To Configure Jumbo Frames Using `ndd`

1. **Bring down and unplumb the interface before using `ndd` to set Jumbo Frame.**
2. **Set the instance number:**

```
% ndd -set /dev/ce instance 0
```

In this example, the instance number set is 0.

3. **Set the instance to accept jumbo frames:**

```
% ndd -set /dev/ce accept-jumbo 1
```

4. **Plumb the interface up:**

```
% ifconfig ce0 plumb xx.xx.xx.xx up
```

Where `xx.xx.xx.xx` = the IP address of the interface.

5. **Repeat steps 1 through 4 to set all the interfaces using jumbo frames.**

## ▼ To Configure Jumbo Frames Using `ce.conf`

### 1. Obtain the hardware path names for the `ce` devices in the device tree.

- a. Check the `/etc/driver_aliases` file to identify the name associated with a particular device:

```
# grep ce /etc/driver_aliases
ce "pci108e,abba"
ce "pci100b,35"
```

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**Note** – `ce "pci100b,35"` is used by the Sun GigaSwift Ethernet device.

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- b. Locate the path names and the associated instance numbers in the `/etc/path_to_inst` file.

```
# grep ce /etc/path_to_inst
"/pci@9,600000/pci@1/pci@0/network@0" 0 "ce"
"/pci@9,600000/pci@1/pci@0/network@1" 1 "ce"
"/pci@9,600000/pci@1/pci@4/network@2" 2 "ce"
"/pci@9,600000/pci@1/pci@4/network@3" 3 "ce"
```

- ### 2. Add the appropriate lines into the `ce.conf` file for the particular instances to be set to `accept-jumbo`:

```
# cd /platform/sun4u/kernel/drv
# vi ce.conf
name="pci100b,35" parent="/pci@9,600000/pci@1/pci@0"
unit-address="0" accept-jumbo=1;
name="pci100b,35" parent="/pci@9,600000/pci@1/pci@4"
unit-address="3" accept-jumbo=1;
```

In this example, jumbo frames is enabled on interfaces 0 and 3.

- ### 3. Save the `ce.conf` file.

## Managing MTU Using `ifconfig`

The `ifconfig` utility allows you to manage the MTU by lowering it from the maximum provided by DLPI driver.

The default setting of the MTU as seen by `ifconfig` is defined as the MTU advertised by the driver. For this example, the default setting for the MTU is 9194, and is limited by this value based on `ce` hardware limitation.

Once the `accept-jumbo` property is set to 1 any `ifconfig` on a stream will automatically be set for jumbo frames.

```
ifconfig ce0 plumb ip_address up
ifconfig ce0
ce0: flags=1000843<.....> mtu 9194
inet ip_address netmask ffffffff broadcast 10.4.127.255
ether 8:0:20:c4:51:df
```

You might want to individually configure the MTU down from the default setting to the regular MTU of Ethernet.

Use the `ifconfig mtu` property to lower the setting:

```
ifconfig ce0 mtu 1500
ifconfig ce0
ce0: flags=1000843<.....> mtu 1500
inet ip_address netmask ffffffff broadcast 10.4.127.255
ether 8:0:20:c4:51:df
```

The DLPI driver remains in jumbo frames mode, but the upper layer rejects packets greater than 1500.

The following examples illustrate this further.

### *Example 1*

The primary interface is the regular Ethernet MTU, but a network contained in a VLAN with VID 123 would work best with jumbo frames enabled. Set `accept-jumbo` globally.

```
ifconfig ce0 plumb ip_address mtu 1500 up
ifconfig ce123000 plumb ip_address-vlan-1 up
```



Check the configuration.

```
ifconfig ce0
ce0: flags=1000843<.....> mtu 1500
inet ip_address .....
ether 8:0:20:c4:51:df
ifconfig ce123000
ce123000: flags=1000843<.....> mtu 9194
inet ip_address-vlan-1 .....
ether 8:0:20:c4:51:df
```

### *Example 2*

This example is similar to Example 1 with one exception. A new VLAN with VID 124 does not support jumbo frames as part of the configuration. `accept-jumbo` is set globally.

```
ifconfig ce123000 plumb ip_address-vlan-2 mtu 1500 up
```

Check the configuration.

```
ifconfig ce0
ce0: flags=1000843<.....> mtu 1500
inet ip_address .....
ether 8:0:20:c4:51:df
ifconfig ce123000
ce123000: flags=1000843<.....> mtu 9194
inet ip_address-vlan-1 .....
ether 8:0:20:c4:51:df
ifconfig ce124000
ce0: flags=1000843<.....> mtu 1500
inet ip_address-vlan-2 .....
ether 8:0:20:c4:51:df
```

This example can be maintained through a reboot using the `hostname.ceinstance` file. To achieve that the following hostname files need to be created for the previous examples.

## Reboot Persistence

The following examples build on the preceding dynamic configuration to enable the final established configuration to persist through a reboot.

### *Example 1*

```
hostname.ce0
ip_address mtu 1500
hostname.ce123000
ip_address-vlan-1
```

### *Example 2*

Since this builds on the system configured in Example 1, only another hostname file is necessary. In this case, specify the MTU.

```
hostname.ce124000
ip_address-vlan-2 mtu 1500
```

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## Problem with DR Attach on Sun Enterprise Platforms

DR attach does not configure `ce` interfaces on Sun Enterprise™ 10000 platforms running the Solaris 2.6 operating environment. To add DR support for `ce` interfaces on such systems, make the following changes:

1. Add the following lines to the `/etc/system` file:

```
set dr:detach_safe_list1="ce"
set hswp:suspend_safe_list1="ce"
```

2. Reboot system.