

Sun™ GigabitEthernet/P 2.0 Adapter Release Note



THE NETWORK IS THE COMPUTER™

Sun Microsystems, Inc.
901 San Antonio Road
Palo Alto, CA 94303-4900 USA
650 960-1300 Fax 650 969-9131

Part No. 805-5938-11
May 2000, Revision A

Send comments about this document to: docfeedback@sun.com

Copyright 2000 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, California 94303-4900 U.S.A. All rights reserved.

This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any. Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd. For Netscape Communicator™, the following notice applies: (c) Copyright 1995 Netscape Communications Corporation. All rights reserved.

Sun, Sun Microsystems, the Sun logo, AnswerBook2, docs.sun.com, GigabitEthernet/P, OBP, OpenBoot, SunSwitch, and Solaris are trademarks, registered trademarks, or service marks of Sun Microsystems, Inc. in the U.S. and other countries. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

RESTRICTED RIGHTS: Use, duplication, or disclosure by the U.S. Government is subject to restrictions of FAR 52.227-14(g)(2)(6/87) and FAR 52.227-19(6/87), or DFAR 252.227-7015(b)(6/95) and DFAR 227.7202-3(a).

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2000 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, Californie 94303-4900 U.S.A. Tous droits réservés.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a. Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd. La notice suivante est applicable à Netscape Communicator™: (c) Copyright 1995 Netscape Communications Corporation. Tous droits réservés.

Sun, Sun Microsystems, le logo Sun, AnswerBook2, docs.sun.com, GigabitEthernet/P, OBP, OpenBoot, SunSwitch, et Solaris sont des marques de fabrique ou des marques déposées, ou marques de service, de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays. Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciés de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

CETTE PUBLICATION EST FOURNIE "EN L'ETAT" ET AUCUNE GARANTIE, EXPRESSE OU IMPLICITE, N'EST ACCORDEE, Y COMPRIS DES GARANTIES CONCERNANT LA VALEUR MARCHANDE, L'APTITUDE DE LA PUBLICATION A REPENDRE A UNE UTILISATION PARTICULIERE, OU LE FAIT QU'ELLE NE SOIT PAS CONTREFAISANTE DE PRODUIT DE TIERS. CE DENI DE GARANTIE NE S'APPLIQUERAIT PAS, DANS LA MESURE OU IL SERAIT TENU JURIDIQUEMENT NUL ET NON AVENU.



Adobe PostScript

Sun GigabitEthernet/P 2.0 Adapter Release Notes

This document contains important information about the Sun™ GigabitEthernet/P™ adapter and the Sun GigabitEthernet driver software.

Installing the Driver

Beginning with the Solaris 7 3/99 release, Sun GigabitEthernet device drivers were included on the Software Supplement for the Solaris Operating Environment CD. This inclusion ensures that the current driver is compatible with the current operating environment, allowing you to update drivers along with your operating environment. Therefore, if your system is running, or if you are installing Solaris 7 3/99 or a subsequent compatible release, install the Sun GigabitEthernet device driver from the Software Supplement CD. Refer to the Solaris Sun Hardware Platform Guide for more information.

If your system is running a Solaris release earlier than the Solaris 7 3/99 release, install the drivers included on the Sun GigabitEthernet product CD packaged with this card.

Errors During Installation Dependency Check

When you perform a package installation, the dependency check may report `SUNWvtsge` errors. If you do not expect to use SunVTS diagnostics, ignore these error messages. Failure to install `SUNWvtsge` doesn't affect the installation or operation of the Sun GigabitEthernet driver. If you do want to use SunVTS diagnostics, install the appropriate SunVTS packages.

Setting Driver Parameters on Sun Ultra 5 or Ultra 10

Setting the driver parameters through the `ge.conf` file will not work in the Solaris™ 2.5 or 2.6 operating environments. To make changes to the driver parameters on a Sun™ Ultra™ 5 or Ultra™ 10 with Solaris 2.5 or 2.6, you must:

Use the `ndd` to replace your parameter settings, after each reboot. See the “Setting Parameters Using the `ndd` Utility” section of the *Sun GigabitEthernet/P 2.0 Adapter Installation and User's Guide*.

or

Create the properties in the driver node, using `nvrामrc`. For information about using `nvrामrc`, see the appropriate *OpenBoot Command Reference Manual (Part Number: 802-5837-10)*.

Errors During Installation Dependency Check

When you perform a package installation, the dependency check may report `SUNWvtsge` errors. If you do not expect to use SunVTS diagnostics, ignore these error messages. Failure to install `SUNWvtsge` doesn't affect the installation or operation of the Sun GigabitEthernet driver. If you do want to use SunVTS diagnostics, install the appropriate SunVTS packages.

Using SunVTS `gemtest` Diagnostic

Following is additional information about using `gemtest`.

SUNWvtsge Package

The SUNWvtsge package is provided with the driver packages for Solaris 2.5.1 and Solaris 2.6. to be used with SunVTS 2.x. To use `gemtest` on Solaris 2.7, you must install SunVTS 3.0.

Loopback Connector

`gemtest` requires a loopback connector, therefore, can only be used when intervention mode is enabled. The default setting is disabled. If intervention mode is set to disabled, you can not run `gemtest`.

Loopback Cable

To run an internal or external loopback test, you must use the appropriate loopback cable. Using the adapter specifications in Appendix A of the *Sun GigabitEthernet/P 2.0 Adapter Installation and User's Guide*, you can make a loopback cable.

▼ To Attach A Loopback Cable

- 1. Split the two halves of a standard fiber optic cable into individual cables.**
- 2. Connect one end of a cable to the TX port on the GigabitEthernet adapter and connect the other end of the SAME cable to the RX port on the GigabitEthernet adapter.**

Attaching the same cable to the transmit and receive ports on the adapter creates the loop.

Running `gemtest` in TTY Mode

The display on your console may become littered with messages when you run `gemtest` in TTY mode. The messages, which are printed by the driver, indicate that the device has auto-negotiated and the link is up. To refresh your console display, type:

```
# Ctrl-L
```

Using `ifconfig` To Bring Down Network Interface

To avoid getting messages about duplicate hardware addresses during the `gemtest`, use `ifconfig` to bring down the network interface. See the `ifconfig(1M)` man page for more information.

```
# ifconfig <ge interface> down
```

Using a Sun Ultra 450

Following are some tips for getting maximum performance out of your Sun GigabitEthernet adapter when used with a Sun Ultra™ 450.

Installing the Required Kernel Patches

To achieve the best performance from the Sun GigabitEthernet driver software on a Sun Ultra 450, you must install one of the patches described in TABLE 0-1.

Install the patch, listed below, that is appropriate for the Solaris operating environment installed on your system. These patches correct panics that occur during high-traffic periods. Refer to the README files for more information.

TABLE 0-1 Required Patches

Operating Environment	Patch Identification Number
Solaris 2.5.1 Hardware: 11/97	105004-10
Solaris 2.6	105604-05

Conflicts With Sun GigabitEthernet 1.0

The Sun GigabitEthernet 1.0 adapter may have difficulty interoperating with the Sun GigabitEthernet 2.0 adapter, if they are connected back-to-back. If you notice incompatibility with these cards, disable auto-negotiation and operate in forced mode.

In addition, if you are using vge software Version 1.0, you must upgrade your driver to Version 1.1.

▼ To Find the Software Version of vge Driver

- **View the software version of the vge device with the `modinfo` or `pkginfo` commands.**

```
% modinfo | grep vge
v2.0.24
% pkginfo -x SUNWvge
1.1, REV=2.0.24
```

The output should display a Revision of 2.0.24 or higher. If your output displays a version that begins with 1.1, you must upgrade to 1.1. Contact your Field Service Representative for an upgrade to Revision 1.1.

Set Forced Mode

After upgrading your software to version 1.1, set forced mode on your Sun GigabitEthernet 1.0 adapter. Use the `-set` option to modify the auto-negotiation parameters.

```
# ndd -set /dev/vge instance <card#>
# ndd -set /dev/vge link_negotiation 0
```

Auto-negotiation for the Sun GigabitEthernet 2.0 adapter should also be set to off.

```
# ndd -set /dev/ge instance <card#>
# ndd -set /dev/ge adv_1000autoneg_cap 0
```

Conflicts With SunSwitch 1.0

The SunSwitch 1.0 may have difficulty interoperating with the Sun GigabitEthernet 2.0 adapter. If you notice incompatibility, set auto-negotiation to Forced Mode on both devices.

In addition, if you are using the software for SunSwitch 1.0, you must upgrade that software to Version 1.1.

Note – Due to this conflict, the FCode PROM 1.7 does not support booting or net-installing, over a gigabit Ethernet using an Alteon 110 or SunSwitch.

▼ To Find the SunSwitch Software Version

View the software version of the switch.

```
% telnet <sunswitch>
Password: admin
sunswitch> /info/sys
sunswitch> /boot/cur
```

The output should display a Revision of 2.0.22 or higher. If your output displays a version that begins with 1.0, you must upgrade to software version 1.1.

▼ Download The Version 1.1 Upgrade

1. **From an internet browser, go to:**
<http://www.sun.com/products-n-solutions/hw/networking/sunswitch>
2. **Scroll down to the Downloads section and click on: Rel. 1.1.0 Upgrade for SunSwitch.**

Set Forced Mode

After upgrading your software to version 1.1, set forced mode on the Sun GigabitEthernet adapter and on the SunSwitch. Refer to Chapter 1 of the *Sun GigabitEthernet/P Installation and User's Guide* for instructions.

