Sun™ Trunking™ 1.0 Product Notes

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Sun Trunking 1.0 Product Notes

This document contains late-breaking news and updates for the Sun™ Trunking™ product as well as corrections to the *Sun Trunking 1.0 Installation and User's Guide.*

Known Limitations

The following product constraints are not considered problems of Sun Trunking 1.0, but they place limitations on its capabilities.

Booting from the Network

Once you have installed `qfe` and connected the `qfe` interfaces to your switch, which is configured to do trunking, you cannot use the `qfe` interfaces to boot from the network.

Maximum Number of Network Interface Cards

The Solaris operating system supports a maximum of two Sun Quad FastEthernet Adapters.

If you have installed two Sun Quad FastEthernet Adapters, configuring for 100 percent usage on both cards will overload the system and may affect the overall system performance.

Accessing Trunk Members

Trunk members can be accessed only through the trunk head. Use the `ifconfig` command to determine your trunk head.

For example, you cannot do a DLPI attach on a non-head member. The following error message was returned for a `snoop` command for a non-head member:

```
# snoop -d qfe1
dlattachreq:  DL_ERROR_ACK:  dl_errno 8 unix_errno 0
```

In this example, `qfe1` is a member of a trunk. The trunk head for that trunk is `qfe0`. To use the `snoop` command, for example, in such a case, the following would be the correct usage:

```
# snoop -d qfe0
Using device /dev/qfe (promiscuous mode)
            ? -> (multicast)  ETHER Type=0C34 (Unknown), size = 52 bytes
            ? -> (multicast)  ETHER Type=0C34 (Unknown), size = 52 bytes
            ? -> (multicast)  ETHER Type=0C34 (Unknown), size = 52 bytes
            ? -> (multicast)  ETHER Type=0C34 (Unknown), size = 52 bytes
```

Checking for Link Mode

Always check to be sure the link mode is set to run full-duplex.

Use the `qfetr -debug` or the `ndd` command to verify link mode. If the information returned indicates that your trunking device is not running at full-duplex, refer to your *Sun Quad FastEthernet Adapter User's Guide* for information on setting forced mode.

Special Setting for Sun Quad FastEthernet PCI Adapter

The Sun Quad FastEthernet PCI adapter requires that you specify trunk members by instance numbers. When you use `qfetr -setup` to set up only two links, you must specify the members by instance number. If you allow the system to choose the members, it may not choose the next available port, as you would expect.

Performance Tuning

To increase the size of STREAMS synchronized queues, thereby increasing performance, add `sq_max_size` to the `/etc/system` file.

```
set sq_max_size=<xxx>
```

where *<xxx>* is the maximum number of messages that are allowed for each IP queue. A safe value to set is 25 for each 64mb of RAM in the system (that is, it would be 25 for 64mb, 50 for 128mb, 100 for 256mb, etc.).

You can be more aggressive if you choose, the only potential drawback is that you can overrun STREAMS resources.

Refer to the Solaris user documentation for more information.

Known Documentation Errors

The documentation errors are listed by the section title used in the *Sun Trunking 1.0 Installation and User's Guide.*

Hardware and Software Requirements

The section, "Hardware and Software Requirements," on page 1, lists as a hardware requirement the Cisco Catalyst 5000, 5002, or 5500. While a switch is required to use Sun Trunking 1.0, you can use any switch with trunking functionality. Those listed in TABLE 1 were available for testing prior to the release of Sun Trunking 1.0.

TABLE 1   Switches Tested to Interoperate with Sun Trunking 1.0

Name of Company	Switch
Cisco	Catalyst 5000 series equipped with trunking functionality
Foundry	FastIron

TABLE 1   Switches Tested to Interoperate with Sun Trunking 1.0

Name of Company	Switch
3Com	Corebuilder 6000 series with trunking functionality
Extreme	Summit1 and Summit2
Cabletron	SmartSwitch family with trunking functionality

To Install Trunking 1.0 Software

Under Step 4 on page 5 in the section "To Install Trunking 1.0 Software," the screen box listing the available packages shows only three packages. It should show four packages, as the following:

The following then appears indicating the available packages:

```
The following packages are available:
  1  SUNWqfed     Sun Quad FastEthernet Adapter Driver
                   (sparc) 3.0
  2  SUNWqfedu    Sun Quad FastEthernet Adapter Driver Headers
                   (sparc) 3.0
  3  SUNWqfetr    Sun Trunking Utility
                   (sparc) 1.0
  4  SUNWqfetx    Sun Trunking Man Pages
                   (sparc) 1.0

Select package(s) you wish to process (or 'all' to process
all packages). (default: all) [?,??,q]:
```

Step 8 on page 5, says to add /opt/SUNWqfetr/man to your $MANPATH variable. It should say **add** /opt/SUNWqfetx/man **to your $MANPATH variable**.

Sun Trunking Directories and Files

The diagram on page 6, should be corrected to the following:.

```
                                    /
          ┌─────────────────────────┼─────────────────────────┐
         etc                      kernel                      opt
          │                         │                          │
         opt                       drv                     SUNWqfetx
          │                         │                          │
      SUNWqfetr              ┌──────────────┐                 man
          │                  │ qfe driver: qfe │         ┌─────┼─────┐
         bin                 └──────────────┘          man1m  man4  man7d
    ┌─────┴─────┐                                        │      │      │
┌──────────────┐ ┌──────────────────────┐          ┌────────┐┌──────────┐┌────────┐
│ Trunking utility:│ │ Trunking configuration │          │ qfetr.1m ││ qfetr.sh.4 ││ qfe.7d │
│ qfetr         │ │ file: qfetr.sh         │          └────────┘└──────────┘└────────┘
└──────────────┘ └──────────────────────┘
```
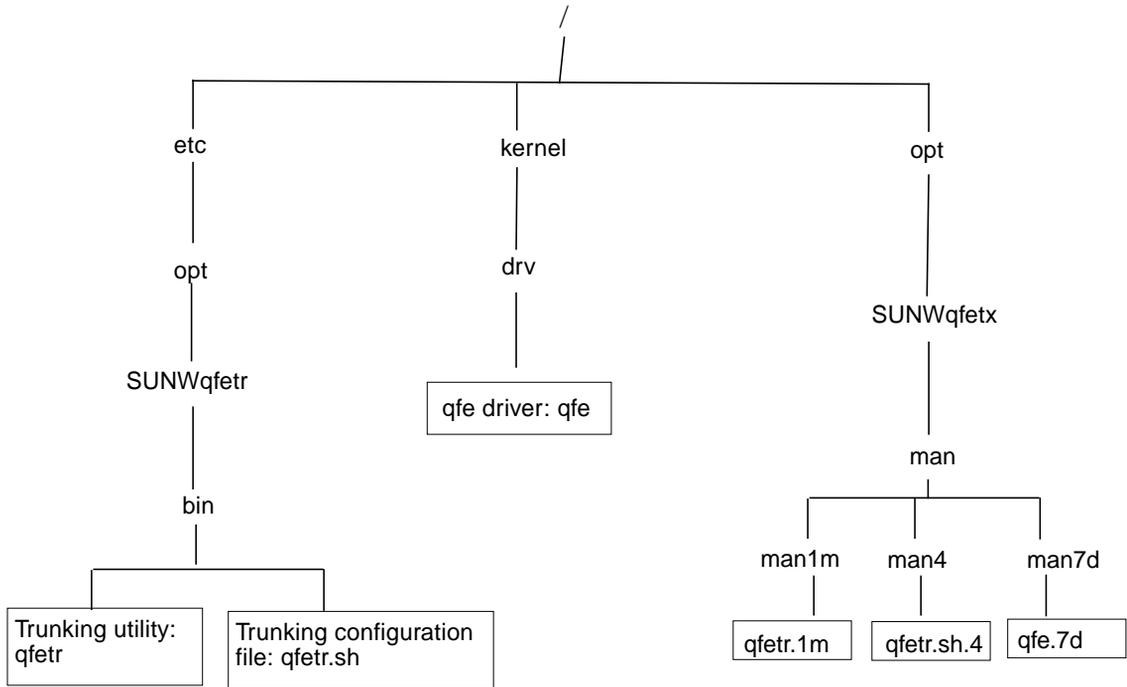
Configuring the Trunking Software

On page 6, a bullet in the section "Configuring the Trunking Software," shows that you can have 2 or 4 trunks per adapter. That is incorrect. You can have only one or two trunks per adapter.

To Edit the `qfetr.sh` File

The section on Round Robin Trunking Policy in Table 1-2 on page 10 should read as follows:

Trunking Policy	Definition
Round Robin	As the name suggests, each channel of the trunk is used in turn. This policy is useful when connecting two servers back-to-back. Since the temporal ordering of the packet is not observed, it may have a slight impact on performance.

On page 10, the instructions under the bullet, "Using a text editor, add commands to the `qfetr.sh` file to define your trunking network," the text includes dashes which should be eliminated. It should read as follows:

● **Using a text editor, add commands to the** `qfetr.sh` **file to define your trunking network.**

In the `qfetr.sh` file, you will need to add lines containing the `qfetr` command to define the trunked network. The format of this command is:

```
qfetr  -setup trunk head instance [links=<2|4>] [policy=<1|2>]
[members=<instance,  instance,  ...]
```