

Late-breaking News

For support and drivers:
<http://support.intel.com>

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Using ISL VLANs

ISL VLAN General Information

Teaming options and ISL VLANs are supported on NetWare® 4.1x and newer servers and Windows NT® 4.0 workstations and servers.

Servers with the PRO/100 Intelligent Server adapter installed are designed to support ISL VLANs with the Cisco Catalyst® series of switches. These switches have built-in ISL (inter-switch link) support. Your server must be connected to an ISL trunk port on one of these switches to use the VLAN feature.

Windows NT Notes

Make sure you're using Service Pack 4

Teaming and VLAN capability require Microsoft's Service Pack 4 or Service Pack 3 and the NDIS hotfix. *To use ISL VLANs or Teaming, you must have this software installed on your computer.* You can download and install the software from Microsoft's Web site, www.microsoft.com.

Number of ISL VLANs supported

Windows NT supports up to 55 ISL VLANs per server. Note that bindings are reset each time you reboot the server. Be aware that loading more ISL VLANs may increase server boot time.

In Windows NT, VLAN capability is disabled if adapters are set up in other teams (AFT, ALB, FEC). To enable VLANs, remove the adapter teams and set up the VLANs.

NetWare Notes

NetWare can simultaneously support adapters configured for ISL VLANs and Teaming.

Number of ISL VLANs supported

NetWare 4.1x and newer systems support up to 63 ISL VLANs per server, with one PRO/100 Intelligent Server adapter installed. For each PRO/100 Intelligent Server adapter you add to the server, the maximum number of ISL VLANs possible is reduced by one. For example, if you have four PRO/100 Intelligent Server adapters installed, the maximum number of ISL VLANs would be 60.

Using Adapter Teaming (AFT, ALB, FEC)

Adapter Teaming options include Adapter Fault Tolerance (AFT), Adaptive Load Balancing (ALB), and Fast EtherChannel (FEC). FEC requires an FEC-enabled switch. In Windows NT 4.0, AFT/ALB/FEC teaming options are not available on adapters that are set up in ISL VLANs.

Windows NT Notes

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Moving adapters out of a team

When you move adapters out of an AFT team, check the adapter bindings to make sure they're set properly. Bindings are displayed on the Network control panel's Bindings tab.

NetWare Notes

The NetWare AFT driver, when used with some switches, may fail to create the AFT group when the server is initially started. This is because the switch updates its MAC tables slowly when a new link is established. Clients won't be able to access the server until the MAC tables are updated and the switch begins receiving packets.

If you experience this problem, add the command:

```
AFT LINK TIMEOUT 40
```

to the server's AUTOEXEC.NCF file immediately after the LOAD AFT command. Forty is the number of seconds.

More Information on ISL VLANs and Teaming Options

For more information on ISL VLANs and Teaming options, see the white papers posted with the PRO/100 Intelligent Server adapter information on Intel's Networking Web site (www.intel.com/network). These papers discuss the benefits and implementation of ISL VLANs and adapter teaming.

For detailed setup instructions for these features, refer to the PRO/100 Intelligent Server adapter *Installation Guide*, the switch product documentation, and/or readme files.



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General Release Notes

Viewing the readme files

To view the readme files, insert the Intel CD in a CD-ROM drive, switch to that drive, and type:

```
SETUP /README 
```

Topics include:

- Installing adapter drivers
- Latest news and general adapter information
- Hardware specifications and cabling information
- Adapter installation and special configurations
- Running diagnostics
- Setting up ISL VLANs
- Setting up Teaming options: AFT, ALB, FEC.

External transceivers

MII connections

If you're using a fiber transceiver on the MII port, and are connecting to a full-duplex switch, you must force the speed and duplex mode when loading the driver.

Use PROSet to force speed and duplex in Windows NT. In NetWare, add these statements to the command line when loading the drivers:

```
SPEED=100 FORCEDUPLEX=2
```

For example:

```
load CE100SNW SPEED=100 FORCEDUPLEX=2
```

PHY address

Some external transceivers have a set of switches that let you set the PHY address. You must set the PHY address to 0 when using the PRO/100 Intelligent Server adapter. The PRO/100 Intelligent Server adapter is not compatible with external transceivers that have a fixed address of 1.

Hot-swapping transceivers (NetWare only)

If your transceiver supports hot-swapping, you can replace a failed or disconnected transceiver without shutting down the server. However, the board must be manually reset before AFT will reactivate it.

To manually reset the board, type the following command at the server console:

```
AFT RESET SLOT <slot number>
```

Where <slot number> is the slot of the adapter for which you replaced the transceiver. This reinitializes the transceiver, and within a few seconds AFT reports that the board has been reactivated.

NetWare driver name change

The NetWare driver on this release is a 1.11 C specification driver and has a different name than the previously released Assembly driver.

The new driver name is CE100SNW.LAN and is located in the NWSERVER directory. Support nlms from Novell's IWSP6 are also included in this directory.

System compatibility issues

In general, you obtain maximum compatibility when using the latest BIOS for your server. Most computer hardware manufacturers provide simple BIOS upgrades on their support Web sites.

64-bit slots

Some newer systems that have both 32 and 64-bit slots have been found to not allocate resources to the adapter in some slots. If the adapter doesn't work in a specific slot, install it in a different slot. Also, contact the system manufacturer to obtain the latest BIOS.

Make a Setup Floppy Disk

If you need to use a floppy disk to install the adapter drivers, use MAKEMS.BAT (for Microsoft operating systems) or MAKENW.BAT (for NetWare), located in the \MAKEDISK directory on the CD. The format for the command is:

```
D: \MAKEDISK\MAKEMS.BAT D: A:
```

In the example above, D: is your CD-ROM drive and A: is your floppy drive.

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