Sun Dual 10GbE PCIe 2.0 Fibre Channel Over Ethernet

Product Notes

Part No.: E25049-01
December 2012

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Important Information About FCoE

These product notes contain information about new features, known limitations, and documentation updates for Intel's Fibre Channel Over Ethernet (FCoE) from Oracle.

New issues are added to these product notes as needed. Ensure that you have the most recent version of these product notes at:

http://www.oracle.com/pls/topic/lookup?ctx=E25048-01

Intel 10-GbE Driver Support for Linux and Windows

Information on the Intel 10-GbE drivers for Linux and Windows, including tools and documentation, can be found at the following web site:

http://www.intel.com/support/network/adapter/10gbe/xfsrdualserver

You can obtain additional information about Intel's FCoE solution on the following web site:

http://www.intel.com/support/network/adapter/x520server/sb/CS-031630.htm?wapkw=fcoe

You can obtain additional information on the RHEL 6.1 FCoE solution that Intel 10-GbE drivers support in the *Red Hat 6.0 Storage Administration Guide* at:

http://docs.redhat.com/docs/en-US/Red_Hat_Enterprise_Linux/6/html/Storage_Administration_Guide/fcoeconfig.html

You can obtain additional information on the SLES 11 FCoE solution that the Intel 10-GbE drivers support in the *SLES 11 Storage Administration Guide* at:

`http://www.suse.com/documentation/sles11/stor_admin/?page=documentation/sles11/stor_admin/data/bookinfo.html`

Caution – If you are not using, at least, Windows Server 2008 R2 SP1, you must run `PROWinx64.exe` before you install the X520 option card *and* after you install the card in order to avoid a blue-screen condition.

Note – At the time of this release, FCoE is not supported in Oracle Solaris 10 or 11 OS.

Windows OS Issues

The following issues are known to exist with Intel's Fibre Channel Over Ethernet (FCoE) software. These issues were not fixed as of the release of this document. Ensure that you obtain the latest information about known issues at the Intel FCoE documentation site.

Adding or Removing an Adapter as a VNIC Does Not Load the Storage Miniport Driver

When the Windows Server 2008 OS is installed with Hyper-V, the storage miniport driver might not automatically load after adding or removing a DCB/FCoE adapter as a shared external virtual device.

Workaround: Reset the adapter to load the storage miniport driver.

Installing the FCoE Image After Installing ANS and Creating AFT Teams Does Not Install Storports

If you install ANS and create an AFT team before you install FCoE or DCB, DCB is turned off by default. If you then enable DCB on one port, the OS detects Storports, and you must manually click on the new hardware wizard prompts for each port. If you do not manually enable each port, the DCB status will be nonoperational, and the given reason will be the absence of a peer (that is, no peer).

Link Aggregation Teams Are Not Supported

The current release of the FCoE software does not support link aggregation teams.

Using the FCoE CTRL-D Utility Is Not Possible With the Windows Device Manager

The Windows Device Manager is not synched with the FCoE CTRL-D utility. When you disable FCoE by using the Control-D menu, the Intel PROSet for Windows Device Manager indicates that the flash memory contains an FCoE image and that the flash memory needs to be updated. If you update the flash memory with the FCoE image, FCoE is re-enabled, and the system returns to the state in which all of the FCoE settings are available.

If you use the Control-D menu to disable FCoE, then you should use the Control-D menu to enable FCoE, because the Intel PROSet for Windows Device Manager does not support enabling or disabling FCoE.

Displaying 82599-Based Adapter Is Not Possible in Windows MPIO Configurations

As of this release, 82599-based adapters do not display as SPC-3 compliant in Windows MPIO configurations. The FCoE initiator is a virtualized device, so the initiator does not have its own unique hardware ID. Thus, the initiator is not displayed as an SPC-3 compliant device in a Windows MPIO configuration.

Removing ALB Teaming Causes All FCoE Functions to Fail

When this issue occurs, all Windows Device Manager windows tabs are grayed out, and both adapter ports fail.

For ANS teaming to work with the Microsoft Network Load Balancer (NLB) in unicast mode, the team LAA must be set to cluster node IP. For the ALB mode, you must disable Receive Load Balancing. For further configuration details, refer to the following URL:

`http://support.microsoft.com/?id=278431`

ANS teaming also works when NLB is in multicast mode. For instructions on how to configure the adapter in the multicast mode, refer to:

`http://technet.microsoft.com/en-ca/library/cc726473(WS.10).aspx`

FCoE and TCP/IP Traffic

On some switches, FCoE and TCP/IP traffic might not work. This is a known switch design issue.

Ethernet Virtual Storage Miniport Driver Disappears From the Device Manager

The Ethernet virtual storage miniport driver might not appear in the device manager when the corresponding adapter is virtualized to create a new virtual network, delete an existing virtual network, or modify an existing virtual network.

Workaround: Remove all of the resource dependencies on the FCoE miniport driver before you make any changes to the Intel adapter for virtualization.

Boot-Option ROM and Windows Boot Issues

Discovering the Desired VLAN Might Fail

The FCoE Boot option ROM might not discover the desired VLAN when performing VLAN discovery from the Discover Targets function. If the Discover VLAN box is populated with the wrong VLAN, then enter the desired VLAN before executing Discover Targets.

Having an Installed Local Disk Causes FCoE to Fail in Windows OS

The Windows OS uses a paging file on the local disk. After imaging, if the local disk is not removed before booting from the FCoE disk, then the Windows OS might use the paging file from the local disk.

Using FCoE and Crash Dump

Crash dump to FCoE disks is supported only to the FCoE Boot LUN.

The following scenarios are not supported:

- Crash dump to an FCoE disk if the Windows OS directory is not on the FCoE Boot LUN.
- Use of the `DedicatedDumpFile` registry value to direct crash dump to another FCoE LUN.

Stopping the `IntelDCB` Service Might Cause the OS to Hang or Crash

Do not stop the `IntelDCB` service.

Uninstalling FCoE From a Local Disk Might Be Blocked

Uninstalling FCoE from a local disk might be blocked because the installer inaccurately reports that the system is booted from FCoE. When the FCoE Boot option ROM connects to an FCoE disk during the boot process, the Windows installer might be unable to determine if the system was booted from FCoE or not, so the installer might block the FCoE uninstall.

Workaround: To uninstall, configure the FCoE Boot option ROM so that it does not connect to an FCoE disk.

Creating VLAN Interfaces Fails With the FCoE Boot Option Enabled

If you boot the system with FCoE, you cannot create VLANs or teams for other traffic types. This situation prevents converged functionality for non-FCoE traffic.

Configuring an Adapter Port as the FCoE Boot Option Displays the Port as an Externally Shared VNIC

If you set a port as a boot port, install the Hyper-V role in the system, and then go into the Hyper-V Network Manager to select which port to virtualize externally, the boot port displays, which it should not.

When setting the port to a boot port in the Windows Device Manager, a displayed message states that you should restart the system for the changes to take effect, but the Windows Device Manager does not force a restart. As a result, the user level applications appear to be in the boot mode (that is, the Data Center Tab is grayed out), but the kernel level drivers have not been restarted to indicate to the OS that the port is a boot port. If you then add the Hyper-V service to the system, the OS takes a snap shot of the available ports, and this snap shot is used when the Hyper-V role is added. Thus, when you restart the system and go into the Hyper-V Virtual Network Manager to virtualize the ports, the boot port is also displayed.

Workarounds: If this issue occurs, try one of the following:

- Restart the system after you set the port to a boot port and before you add the Hyper-V role. The port should not appear in the list of virtualizable ports in the Hyper-V Virtual Network Manager.

- Disable or enable the port in the Windows Device Manager after you set the port to the boot port and before you add the Hyper-V role. The port should not appear in the list of virtualizable ports in the Hyper-V Virtual Network Manager.

Setting the FCoE Linkdown Timeout Value Fails Prematurely When the System Is Booted Remotely

If an FCoE-booted port loses its link for longer than the time specified in the linkdown timeout advanced setting in the Intel Ethernet Virtual Storage Miniport Driver, the system will crash. Linkdown timeout values greater than 30 seconds might not provide extra time before a system crash.

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