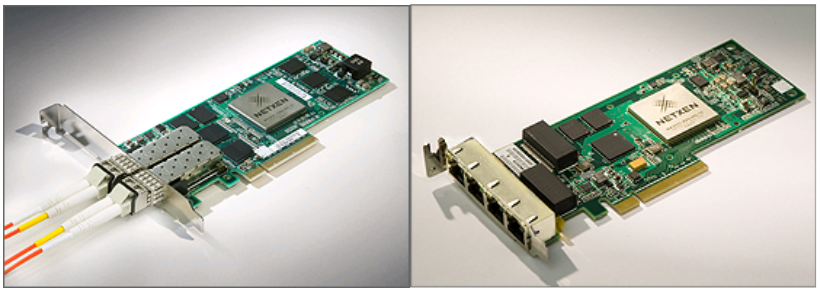
NETXEN

Intelligent NIC®



Dual Port SR Fiber 10GbE
Dual-Port Twin-ax Copper 10GbE
Quad port RJ45 1000BASE-T

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1 Release Overview

This document includes important notes applicable for this release version that must be read before using the software.

ASIC	NX3031
Products	NX3-4GBT -- Quad port RJ45 1000BASE-T NX3-20GCu -- Dual-Port Twin-ax Copper 10GbE NX3-20GSR -- Dual Port SR Fiber 10GbE
PCIe Interface	PCI Express 1.1 and 2.0 x8 (10Gbe), x4 or higher (Quad)
Software Release	NetXen Release Version 4.0.229
Product Support **Product Download**	support@netxen.com http://www.netxen.com/support/downloads/drivers_software.asp
NOTE	If the NIC was purchased from an OEM, contact your OEM for the latest driver, firmware and documentation.

2 Release Package Contents

	Content	Description
1	Documentation	Release Notes: This document NX3031 Intelligent NIC Users Guide: Installation, Configuration and Tuning
2	Driver	NIC: Win2k3, Win2k8 NIC: Linux
3	Firmware	Pre-flashed on NIC Updated by dynamic download
4	Tools	nxudiag – user diagnostics nxflash –- flash firmware update live CD –- self bootable flash update utility

3 Getting Started

- Read this Release Notes first
- Follow the requirements
- Complete the installation using the NetXen Users Guide

4 In this Release

- Driver Version: 4.0.229
- Firmware Version: 4.0.229
- ESX 3.5u2 Early Access Release Driver is available upon request

5 Limitations

- Windows Jumbo MTU is 9000
- Wake On LAN is not enabled for add-in cards in this release
- Some Linux OS versions may ignore blacklisting

6 Release Contents

Linux	
Package	**Content Description**
nx_tools .rpm	Flash utility, flash firmware images, diagnostics
nx_nic .rpm	NIC driver source code
	NIC firmware for dynamic download
	Linux man pages – nx_nic, nxflash, nxudiag

Windows	
Package	**Content Description**
driver	NIC Driver for x86, x64 bit OS
	<file>.sys Windows driver
	<file>.cat Microsoft WHQL certification
	<file>.inf Driver inf file
	<file>.bin Firmware binary for dynamic download
utils	Tools and utilities for NIC
	<file>_romimage Firmware image file for NIC flash update
	nxflash.exe NetXen flash utility for firmware update
	nxudiag.exe User level diagnostics
	nxlic NetXen license utility Not required for default installation

7 System Requirements

Host Memory	
NIC Mode	**Description**
Linux, Windows	Minimum 2GB RAM
NOTES	Additional memory maybe required depending on the server platform, number of devices on the bus, OS setup (32bit/64bit), and enabled application services.

Host OS	
Validated	**Description**
RHEL	RHEL5 u2 (2.6.18) RHEL4 u7 (2.6.9)
SLES	SLES10 SP2 (2.6.16) SLES9 SP4 (2.6.5)
Linux GPL Kernel Inbox (kernel.org)	From 2.6.28 kernel onwards for NX3031 based devices Driver Version: 4.0.11 Driver Name: netxen_nic
Windows	Win2k3 SP2 Win2k8
Others	Check with NetXen for -- VMware, Citrix Xen, FreeBSD etc.
NOTES	1. Linux distros such as Fedora Core, Centos etc. have been used successfully in the field. 2. Latest update/service pack for the OS is recommended, and in some cases required

Driver	
NIC Mode	**Description**
Linux NIC	Linux kernel header files must be installed for compilation of NIC kernel driver source distribution
Windows NIC	Install SP2 for RSS support and Windows OS bug fixes
Linux Kernel Inbox	NetXen Linux commercial driver when installed blacklists the Linux kernel inbox GPL driver (netxen_nic.ko)

Firmware Update	
OS	**Description**
Linux, Windows	Nxflash utility or dynamic firmware download from host
NetXen Live CD	Self bootable firmware/flash update utility

8 Important Notes for Installation

8.1 NIC Flash Update

Do not flash the NIC with the new firmware version unless it is specified in this flash update section of the Release Notes.

Flashing the NIC with new firmware version is NOT required if the firmware version flashed on the NIC is 4.0.228 or 4.0.229.

How to verify the firmware version flashed on the NIC:

- See the NetXen Users Guide

8.2 Firmware Update

The NIC is shipped with pre-flashed base firmware version. Subsequent firmware updates are dynamically downloaded into the NIC when the driver is loaded.

8.3 Performance Tuning

- Later Linux kernel versions (e.g. 2.6.18) support MSI-X interrupts
- Linux sysctl tunings *sysctl.conf.nx* is included in the download page
- Enable TCP/IP Scaling for Windows (See NetXen Users Guide)
- PCIe 2.0 x8 systems provides optimal performance

8.4 Linux Commercial and Kernel Inbox GPL Driver

The NetXen commercial driver RPM package blacklists the Linux kernel GPL inbox driver (netxen_nic.ko) using the following configuration files:

```
/etc/modprobe.d/blacklist
/etc/hotplug/blacklist
/etc/modprobe.conf.local
/etc/modprobe.conf
/etc/modules.conf
```

You can revert back to the GPL kernel inbox driver (i.e. remove the blacklist) when the commercial driver RPM is removed.

NOTE: If a Linux OS version ignores blacklisting of the inbox GPL driver, then the workaround is to rename netxen_nic.ko to netxen_nic.ko.orig