FAQ for iSCSI on NC532

The NC532m (mezzanine) and NC532i (integrated LOM) use a single Broadcom 57711 controller. The NC532m was launched in September 2008 as a Type-1 mezzanine card for c-class blades. The NC532i is the embedded, or LAN-On-Motherboard (LOM) version, used on the BL495c G5 server blade, and some (but not all) G6 server blades.

(1) **Do NC532m and NC532i support iSCSI?**
Yes. However, there are some limitations.

	NC532m (Mezzanine)	NC532i (LOM)
Windows 2003 (Software Initiator)	Yes; SP2 or later	Yes; SP2 or later
Windows 2008 (Software initiator)	Yes,	Yes,
RHEL (Software Initiator)	Yes	Yes
SUSE (Software Initiator)	Yes	Yes
Accelerated iSCSI (also called iSCSI offload)	Yes, with a 1Gb interconnect.	Yes, with a 1Gb interconnect. Requires additional license.
iSCSI boot	Yes. Not supported with Flex-10 at this time. Not supported by VMWare.	Yes. Not supported with Flex-10 at this time. Not supported by VMWare.

(2) **What version of Windows support iSCSI on the NC532?**
iSCSI capabilities are available on the following operating systems:
- Windows Server 2008
- Windows Server 2008 x64
- Windows Server 2003
- Windows Server 2003 x64

In Microsoft Windows Server 2008 there is a software iSCSI initiator which comes with the OS image.

For Windows Server 2003 and Windows Server 2003 x64 systems, the Microsoft® iSCSI Software Initiator version 2.0 or later software must be installed. This software is required to configure the iSCSI protocol, including discovery portals, iSCSI targets, authentication, and so on.

For systems running Windows Server 2003 (SP1) or Windows Server 2003 x64 (SP1), you must upgrade to Service Pack 2 or later.

(3) **Can the NC532 act as an iSCSI target on Windows?**
Not on ProLiant servers. Microsoft's iSCSI software target software only installs on HP storage server products. See http://h18006.www1.hp.com/products/storageworks/ms_iscsi/index.html.

(4) **What versions of Linux support iSCSI on the NC532?**
RHEL4, RHEL5, SLES9, SLES10.

(5) **Do I need the Accelerated iSCSI Pack to run iSCSI?**
No. The ProLiant Essentials Accelerated iSCSI pack enables iSCSI offloading capabilities. This feature is not required if you just want to enable basic software iSCSI functionality which is handled by the OS.

(6) How do you enable iSCSI on the NIC?
You can enable iSCSI from the NIC option ROM menu by hitting Ctrl-S when the ProLiant banner is displayed at POST. You need to enable iSCSI as the boot protocol and then hit Ctrl-K from the menu to configure iSCSI.

(7) Is iSCSI supported with Flex-10?
Normal iSCSI traffic is supported with Flex-10. See answers below for questions about using Accelerated iSCSI and iSCSI boot with Flex-10.

(8) For Accelerated iSCSI, do you need an additional license?
For NC532m (mezzanine), you do not need an additional license to use Accelerated iSCSI.
For NC532i (LOM), you need to purchase the ProLiant Essentials Accelerated iSCSI pack.

(9) Why do you need a license for Accelerated iSCSI with the LOM, but not with the mezzanine card?
As part of a negotiated agreement with Broadcom, the Accelerated iSCSI license is included with the mezzanine card, but not with the LOM.

(10) What versions of Linux support iSCSI offload?
HP has an Accelerated iSCSI driver that supports RHEL5 and SLES10.

(11) What's different between iSCSI capability on NC532 and older NICs?
Fundamentally there are no differences for HP Broadcom cards. Some of the 1gb cards do not support acceleration, some do. Some support PXE boot. We have Intel mezzanine cards & Rack/Tower stand up NICs that will support iSCSI boot in July (NC360T, NC364T, NC364m, and NC112T). Right now it only supports PXE and straight iSCSI.

(12) Is Accelerated iSCSI supported when connected to a Virtual Connect Flex-10 Interconnect?
Accelerated iSCSI is not currently supported when connected to a Virtual Connect interconnect. NC532 enumerates itself differently to the host depending on whether or not it is connected to a Flex-10 VC-Enet module. In Flex-10 mode, eight (8) FlexNICs are visible to the OS and both iSCSI offload and iSCSI boot are not supported.

For the NC532, each of the eight FlexNICs can be declared as either "Ethernet-only" (E) or "iSCSI" (I). If a FlexNIC is defined as "E", then accelerated iSCSI will not be turned on and the iSCSI boot option ROM will not run (because there are no iSCSI devices present). At this point, VC defines all eight FlexNICs as "E" and there are no provisions at this time to set any of them to "I".

(13) Is accelerated iSCSI supported when connected to a 1/10Gb Virtual Connect (non-Flex-10) module?
In non-Flex-10 mode (including connecting it to a 1/10Gb VC-Enet module), the NC532 appears like a dual-port 10Gb NIC and both accelerated iSCSI and iSCSI boot are supported.

(14) Is iSCSI boot supported when connected to a Virtual Connect Flex-10 Interconnect?
Flex-10 does not support iSCSI boot. A future version of Virtual Connect Flex-10 will enable iSCSI boot and accelerated iSCSI with the NC532.

(15) Does iSCSI with NC532 work on VMWare?
VMWare supports normal iSCSI traffic with NC532. However, iSCSI boot is not supported.

Any server supporting the NC532i (LOM) and/or NC532m (mezzanine) should be running VMware ESX 3.5 Update 3 with specific patches or later. Please visit VMware KB 1007982 (http://kb.vmware.com/kb/1007982) for these patches and the official support statement.

(16) Does iSCSI boot work with NC532 on VMWare?

No. iSCSI boot is not supported by VMWare on the NC532. This is not a limitation of the NC532; VMWare does not support iSCSI boot on any multifunction NICs. iSCSI boot is only supported on the Qlogic mezzanine card (Qlogic QMH4062 1Gb E iSCSI Adapter for HP BladeSystem c-Class)

(17) What limitations when using LeftHand software?
HP LeftHand VSA supports iSCSI with NC532m (mezzanine) and NC532i (LOM) and has been tested. It works whether Flex-10 is enabled or not.

(18) When using LeftHand software with NC532, what limitations are there with Virtual Connect Flex-10?
HP LeftHand SAN software works with Virtual Connect, and works with Virtual Connect Flex-10. HP LeftHand SAN software can utilize the NC532 at 10Gb speed. Note that you cannot iSCSI boot using Virtual Connect; see question (14).

(19) What is the MAC address for the iSCSI adapter?
- MAC address for the iSCSI adapter is:

Base	MAC Address
iSCSI	MAC Address + 1

Reference Documents:
HP ProLiant Accelerated iSCSI for Windows User Guide
http://bizsupport.austin.hp.com/bc/docs/support/SupportManual/c00577553/c00577553.pdf

HP ProLiant Accelerated iSCSI for Linux User Guide
http://h20000.www2.hp.com/bc/docs/support/SupportManual/c01309558/c01309558.pdf

HP ProLiant iSCSI Boot for Linux User Guide
http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00782461/c00782461.pdf

10 Gigabit Ethernet technology for industry-standard servers
http://h20000.www2.hp.com/bc/docs/support/SupportManual/c01608915/c01608915.pdf

HP Virtual Connect Flex-10 Technology brief
http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c01608922/c01608922.pdf

HP NC532m Dual Port Flex-10 10GbE Multifunction BL-c Adapter
http://h18004.www1.hp.com/products/servers/networking/nc532m/index.html

HP Virtual Connect Flex-10 10Gb Ethernet Module for BladeSystem c-Class
http://h18004.www1.hp.com/products/blades/components/ethernet/10-10gb-f/index.html

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