

# Software iSCSI Submission Report

## Submission Information

<b>Certification id</b>	qnp-0-59ca2-914b0
<b>Report Creation Date</b>	2010-05-05
<b>Type</b>	Software iSCSI
<b>Result</b>	passed
<b>ESX version</b>	VMware ESX 4.0.0 build-208167
<b>CVA version</b>	2.2.0.0 build-197792

## Partner and Test Lab Information

<b>Name</b>	QNAP Systems, Inc.
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## Storage

<b>Vendor</b>	QNAP Systems, Inc.
<b>Model</b>	TS-859 Pro
<b>Firmware Version</b>	3
<b>Storage Personality Profile</b>	The TS-859 Pro is the powerful 8-bay network attached storage (NAS) server, which is designed to provide an affordable and easy-to-management solution with iSCSI service for virtualized and clustered environment. The TS-859 Pro also offers versatile business applications to maximize the efficiency of the data center in the business environment.
<b>Storage Boot Device for ESX1</b>	iscsi
<b>Storage Root Device for ESX1</b>	Unknown
<b>Storage Boot Device for ESX2</b>	iscsi
<b>Storage Root Device for ESX2</b>	Unknown
<b>ALUA is Supported</b>	No
<b>Mode</b>	Active/Active
<b>Path policy</b>	VMW_PSP_FIXED
<b>Storage Array Type Policy</b>	VMW_SATP_DEFAULT_AA
<b>Model string</b>	TS-859 Pro

## Approved Exception Information

<b>Cert Id</b>	qnp-0-59ca2-914b0
<b>Cert Key</b>	47a-004-151-30c-22c
<b>Max Luns</b>	256

<b>Number of Paths</b>	2
<b>Storage Processor Tests</b>	Waived
<b>Max Lun Tests</b>	Not Waived
<b>Sparse Lun Tests</b>	Not Waived

## Primary Host Information

<b>Vendor</b>	Dell Inc.
<b>Model</b>	PowerEdge T410
<b>UUID</b>	44454c4c-5200-1054-8053-b1c04f323253
<b>BIOS vendor</b>	Dell Inc.
<b>BIOS version</b>	1.0.5
<b>BIOS release</b>	04/14/2009
<b>Processor model</b>	Intel(R) Xeon(R) CPU E5504 @ 2.00GHz
<b>Processors</b>	1 chip × 4 cores = 4 threads
<b>Memory</b>	8.0
<b>ESX version</b>	VMware ESX 4.0.0 build-208167

## PCI Devices

Type	Manufacturer	Model	Driver	Driver Version	PCI IDs
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3403 SDID 0x28d
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x3408 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x340a SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x340e SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x3410 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x3411 SDID 0x0
PIC	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x342e SDID 0x0

PIC	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x3422 SDID 0x0
PIC	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x3423 SDID 0x0
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3a37 SDID 0x28d
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3a38 SDID 0x28d
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3a3c SDID 0x28d
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x3a40 SDID 0x0
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3a34 SDID 0x28d
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3a35 SDID 0x28d
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3a36 SDID 0x28d
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3a39 SDID 0x28d
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3a3a SDID 0x28d
PCI/PCI bridge	Intel Corporation	82801BA/CA/ DB/EB PCI Bridge			VID 0x8086 SVID 0x0 DID 0x244e SDID 0x0

PCI/ISA bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1028 DID 0x3a16 SDID 0x28d
Floppy disk controller	Intel Corporation	ICH10 4 port SATA IDE Controller	ata_piix	Version 2.00ac6, Build: 208167, Interface: 9.0, Built on: Nov 8 2009	VID 0x8086 SVID 0x1028 DID 0x3a20 SDID 0x28d
Floppy disk controller	Intel Corporation	ICH10 2 port SATA IDE Controller	ata_piix	Version 2.00ac6, Build: 208167, Interface: 9.0, Built on: Nov 8 2009	VID 0x8086 SVID 0x1028 DID 0x3a26 SDID 0x28d
Ethernet controller	Broadcom Corporation	Broadcom NetXtreme II BCM5716 1000Base-T	bnx2	Version 1.6.9, Build: 171294, Interface: 9.0, Built on: Jun 11 2009	VID 0x14e4 SVID 0x1028 DID 0x163b SDID 0x28d
Ethernet controller	Broadcom Corporation	Broadcom NetXtreme II BCM5716 1000Base-T	bnx2	Version 1.6.9, Build: 171294, Interface: 9.0, Built on: Jun 11 2009	VID 0x14e4 SVID 0x1028 DID 0x163b SDID 0x28d
Ethernet controller	Intel Corporation	82574L Gigabit Network Connection	e1000e	Version 0.4.1.7-NAPI, Build: 208167, Interface: 9.0, Built on: Nov 8 2009	VID 0x8086 SVID 0x8086 DID 0x10d3 SDID 0xa01f
VGA controller	Matrox Graphics, Inc.	Unknown			VID 0x102b SVID 0x1028 DID 0x532 SDID 0x28d
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c40 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c01 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c10 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c11 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c14 SDID 0x8086

Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c15 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c18 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c19 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c1a SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c1c SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c20 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c21 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c22 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c23 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c28 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c29 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c2a SDID 0x8086

Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c2b SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c30 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c31 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c32 SDID 0x8086
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x2c33 SDID 0x8086

### Virtual Machines

Name	OS	CPUs	SCSI Controller
q1-vm4-sles10-bus-s1	Suse Linux Enterprise 10 (32-bit)	1	BusLogic
q1-vm3-rhel5-lsi-s1	Red Hat Enterprise Linux 5 (64-bit)	1	LSI Logic
q1-vm7-rhel5-lsi-s2	Red Hat Enterprise Linux 5 (32-bit)	1	LSI Logic
q1-vm2-w2k3-bus-s1	Microsoft Windows Server 2003, Standard Edition (32-bit)	1	BusLogic
q1-vm1-w2k8-lsi-s1	Microsoft Windows Server 2008 (32-bit)	1	
q1-vm6-w2k3-bus-s2	Microsoft Windows Server 2003, Standard Edition (32-bit)	1	BusLogic
q1-vm8-sles10-bus-s2	Suse Linux Enterprise 10 (32-bit)	1	BusLogic
q1-mi2-w2k8-lsi	Microsoft Windows Server 2008 (32-bit)	1	
q1-mi3-w2k3-bus	Microsoft Windows Server 2003, Standard Edition (32-bit)	1	BusLogic
q1-mi4-w2k3-bus	Microsoft Windows Server 2003, Standard Edition (32-bit)	1	BusLogic
q1-mi1-w2k8-lsi	Microsoft Windows Server 2008 (32-bit)	1	
q1-vm5-w2k8-lsi-s2	Microsoft Windows Server 2008 (32-bit)	1	
q1-mi7-sles10-bus	Suse Linux Enterprise 10 (32-bit)	1	BusLogic

q1-mi8-sles10-bus	Suse Linux Enterprise 10 (32-bit)	1	BusLogic
q1-mi5-rhel5-lsi	Red Hat Enterprise Linux 5 (64-bit)	1	LSI Logic
q1-mi6-rhel5-lsi	Red Hat Enterprise Linux 5 (64-bit)	1	LSI Logic

## Secondary Host Information

<b>Vendor</b>	IBM
<b>Model</b>	IBM eServer x3400-[7976J2V]-
<b>UUID</b>	c094f7bb-408b-b601-ddad-00215e4f27a6
<b>BIOS vendor</b>	IBM
<b>BIOS version</b>	IBM BIOS Version 1.68-[SPE168AUS-1.68]-
<b>BIOS release</b>	09/10/2008
<b>Processor model</b>	Intel(R) Xeon(R) CPU E5420 @ 2.50GHz
<b>Processors</b>	1 chip × 4 cores = 4 threads
<b>Memory</b>	8.0
<b>ESX version</b>	VMware ESX 4.0.0 build-208167

## PCI Devices

Type	Manufacturer	Model	Driver	Driver Version	PCI IDs
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x8086 DID 0x25d8 SDID 0x25d8
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x25f7 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x25e3 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x25f8 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x25e5 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x25f9 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x25e7 SDID 0x0

Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x25f0 SDID 0x332
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x25f0 SDID 0x332
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x25f0 SDID 0x332
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x25f1 SDID 0x332
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x25f3 SDID 0x332
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x25f5 SDID 0x332
Host/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x25f6 SDID 0x332
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x2690 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x2692 SDID 0x0
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x2688 SDID 0x332
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x2689 SDID 0x332
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x268a SDID 0x332



USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x268b SDID 0x332
USB controller	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x268c SDID 0x332
PCI/PCI bridge	Intel Corporation	82801BA/CA/ DB/EB PCI Bridge			VID 0x8086 SVID 0x0 DID 0x244e SDID 0x0
PCI/ISA bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x2670 SDID 0x332
Floppy disk controller	Intel Corporation	631xESB/632xESB IDE Controller	ata_piix	Version 2.00ac6, Build: 208167, Interface: 9.0, Built on: Nov 8 2009	VID 0x8086 SVID 0x1014 DID 0x269e SDID 0x332
	Intel Corporation	Unknown			VID 0x8086 SVID 0x1014 DID 0x269b SDID 0x332
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x3500 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x350c SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x3510 SDID 0x0
PCI/PCI bridge	Intel Corporation	Unknown			VID 0x8086 SVID 0x0 DID 0x3514 SDID 0x0
RAID controller	Adaptec	ServeRAID 8k/8k-18	aacraid	Version 1.1-5[2459].5vmw, Build: 171294, Interface: 9.0, Built on: Jun 11 2009	VID 0x9005 SVID 0x1014 DID 0x286 SDID 0x9580
Ethernet controller	Intel Corporation	82574L Gigabit Network Connection	e1000e	Version 0.4.1.7- NAPI, Build: 208167, Interface: 9.0, Built on: Nov 8 2009	VID 0x8086 SVID 0x8086 DID 0x10d3 SDID 0xa01f

Ethernet controller	Intel Corporation	82545GM Gigabit Ethernet Controller	e1000	Version 8.0.3.1-NAPI, Build: 208167, Interface: 9.0, Built on: Nov 8 2009	VID 0x8086 SVID 0x8086 DID 0x1026 SDID 0x1001
Ethernet controller	Broadcom Corporation	NetXtreme BCM5721 Gigabit Ethernet	tg3	Version 3.86, Build: 171294, Interface: 9.0, Built on: Jun 11 2009	VID 0x14e4 SVID 0x1014 DID 0x1659 SDID 0x2c6
VGA controller	ATI Technologies Inc	Unknown			VID 0x1002 SVID 0x1014 DID 0x515e SDID 0x305

### Virtual Machines

Name	OS	CPUs	SCSI Controller
q2-mi13-rhel5-lsi	Red Hat Enterprise Linux 5 (64-bit)	1	LSI Logic
q2-mi14-rhel5-lsi	Red Hat Enterprise Linux 5 (64-bit)	1	LSI Logic
q2-mi10-w2k8-lsi	Microsoft Windows Server 2008 (32-bit)	1	
q2-mi11-w2k3-bus	Microsoft Windows Server 2003, Standard Edition (32-bit)	1	BusLogic
q2-mi12-w2k3-bus	Microsoft Windows Server 2003, Standard Edition (32-bit)	1	BusLogic
q2-mi09-w2k8-lsi	Microsoft Windows Server 2008 (32-bit)	1	
q2-mi15-sles10-bus	Suse Linux Enterprise 10 (32-bit)	1	BusLogic
q2-mi16-sles10-bus	Suse Linux Enterprise 10 (32-bit)	1	BusLogic

### Tests

Name	Result
Reading the server configuration	passed
Software iSCSI CHAP Setup	passed
Software iSCSI Network Validation	passed
Software iSCSI MaxLUN	passed
Software iSCSI MaxTarget	passed
VM Validation	passed
Hot-Add LUN to VM	passed
Failover Validation	passed
Software iSCSI NIC Failover	passed
Software iSCSI SP Failover	passed
SP Reset Active	waived
SP Reset Inactive	waived
SP Reset Stress	waived
SP NDU	waived

ESX Data Integrity	passed
Virtual Machine Data Integrity	passed
Multi-Initiator Validation	passed
Volume Grow	waived
Multi-Initiator Software iSCSI NIC Failover	passed
Multi-Initiator Software iSCSI SP Failover	passed
Multi-Initiator PowerOff and PowerOn	passed
Dual-Initiator Reserve and Release LUNs	passed
Dual-Initiator Reserve and Reset LUNs	passed
Dual-Initiator LUN Reset	passed
VM Support	passed