

HP NetServer LC3 with HP Rack Storage/12 Cluster Configuration Guide

30 March 2000

(see Version History at the end of this document)

Introduction

This document defines the supported HP NetServer LC3 configurations with HP Rack Storage/12s and Microsoft Cluster Server. These configurations minimize single points of failure (SPOF), provide maximum availability, and have been certified by Hewlett-Packard and Microsoft. This guide is prescriptive; it describes the configurations supported by HP. Any deviance to these configurations can result in an inoperative cluster or an operating cluster with degraded performance, hidden SPOFs, etc., and therefore will not be supported by HP.

What's Defined



Cluster

SPUs

Local and Shared Storage

Intra-cluster and Client LANs

Shared Storage Cabling

Cluster

Type of SPUs	HP NetServer LC3 Each node must be the same model SPU, but may have different size main memory and cache.
Number of nodes	2
Shared Storage	HP Rack Storage/12 with HP NetRAID-3Si controller and HP disks. See Shared Storage below.
LANs:	
Client	Any NIC that is HP and Microsoft approved. See Client LAN below.
Intra-cluster	HP D5013A/B with crossover cable. See Intra-cluster LAN below.
Power source	Direct from power mains, power conditioner or uninterruptible power supply (UPS) using any power conditioner or UPS.
System software:	
Navigator version	L.16.05 or later
Operating System	Microsoft Windows NT Server 4.0, Enterprise Edition
Service pack	SP5 or later

SPU

Model	HP NetServer LC3
Clock speed	400, 450, 500, 550 MHz.
No. of CPUs	1 – 2, but must be the same number of CPUs in each server
BIOS version	4.06.23 PQ
CPU cache	Any size
RAM	64 MB minimum. Must be HP.
Local storage	Internal or external, using any controller. Must use HP disks. See Local Storage below.
I/O slots:	P5 - Shared storage controller P4 – Intra-cluster (Heartbeat) LAN P1 – Client LAN All others - Any other plug-in cards.

Local Storage

Physical drive location	SPU internal drive bays or HP external drive cabinet (e.g., HP Rack Storage/12)
Disk drives	Must be HP
Controller	May use SPU embedded controller, NetRAID-3Si, or any controller (any number, manufacturer or driver) in any available I/O slot. May not use NetRAID-1 or NetRAID-3.
SCSI bus	Any HP cables that meet SCSI specifications and any SCSI bus speed

Shared Storage

<u>Controller</u>	
Model	HP NetRAID-3Si Adapter D5955A
No. of controllers	1
Firmware	W.01.20
BIOS	B.01.10
Driver	2.22
NetRAID Assistant	A.01.15 or later
SPU I/O slot	P6
SCSI ID	6, 7
Channels	0, 1, 2
RAID level	1, 5, 10, 50
Logical disks	1 per RAID array
Configuration options:	Cluster mode on Cache write-policy to write-thru Set any other options as you prefer

Cabinet

RAID arrays	A RAID array (logical disk) must be composed of all the same disk model (i.e., part number and suffix). Different size or speed disks are not allowed in the same RAID array. Any combination of disk models is allowed on a SCSI channel. Any combination of disk models is allowed in a cluster. RAID arrays may not span NetRAID Adapters.
No. of cabinets	1 – 3
Model	Rack Storage/12 D5989B plus 1 D6205B for each Rack Storage/12
Status SCSI ID	5 (fixed)
Disk SCSI Ids	0 – 3, 8 – 15 (fixed)
Disk drives:	HP 9.1 GB Ultra SCSI Disk Module D6106A HP 9.1 GB Ultra SCSI Disk Module D6107A HP 18.2 GB Ultra SCSI Disk Module D6108A HP 18.2 GB (10k rpm) Ultra SCSI Disk Module D7031A HP 18.2 GB (7200 rpm) Low Profile Ultra SCSI Disk Module D7174A HP 36.4 GB (10k rpm) Ultra SCSI Disk Module D8210A
Cables	Any 2 HP LVD SCSI cables from the following list: 1 meter D7131A 2.5 meter D6020A 5 meter D6982A 10 meter D6983A

LANs

	<u>Intra-cluster (Heartbeat) LAN</u>	<u>Client LAN</u>
LAN connection	HP D5954A crossover cable or equivalent The intra-cluster LAN may only be used for cluster node communication via a crossover cable. It may not be used for client communication.	Any LAN
NIC:		
Model	HP D5013A/B (10/100TX PCI)	Any that is on both the HP Tested Products List and the Microsoft Hardware Compatibility List.
Driver	3.27.00.0001 or later	Any driver NOTE If the NIC used is the same as the Intra-cluster LAN, then the Client LAN must use the same driver as the Intra-cluster LAN.
No. of NICs	1	1 minimum
SPU I/O slot	P4	P1

Shared Storage Cabling

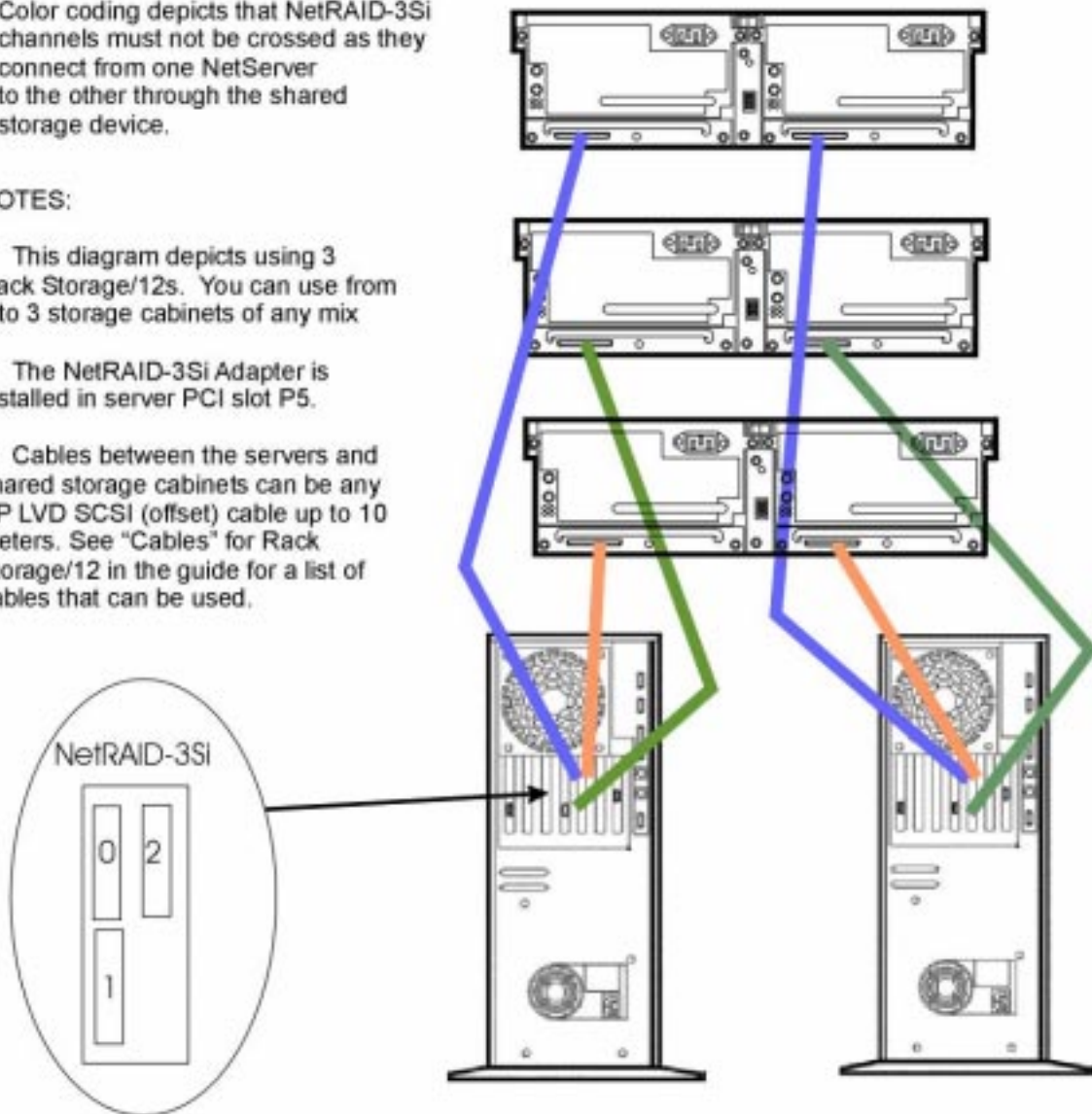
This part of the guide defines the allowable cabling configurations for clusters using the HP NetServer LC3 and HP Rack Storage/12s. Only these cabling configurations and cables are supported.

LEGEND

Color coding depicts that NetRAID-3Si channels must not be crossed as they connect from one NetServer to the other through the shared storage device.

NOTES:

1. This diagram depicts using 3 Rack Storage/12s. You can use from 1 to 3 storage cabinets of any mix
2. The NetRAID-3Si Adapter is installed in server PCI slot P5.
3. Cables between the servers and shared storage cabinets can be any HP LVD SCSI (offset) cable up to 10 meters. See "Cables" for Rack Storage/12 in the guide for a list of cables that can be used.



HP Microsoft Cluster using HP Rack Storage/12

Version History

20 March 2000	Corrected references to software versions “or later”.
20 January 2000	Initial release.

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