



Fabric Services Interoperability Matrix

This chapter lists Cisco fabric applications supported by the SSM module and tested by Cisco's Solution-Interoperability Engineering group (iLAB) to ensure seamless installation at the end-user data center.

- [Data Mobility Manager \(DMM\), on page 1](#)
- [Storage Media Encryption for Tape \(SME-Tape\), on page 23](#)
- [Storage Media Encryption for Disk, on page 32](#)
- [FC-IP SAN Extension, on page 34](#)
- [IOA/FCIP Write Acceleration, on page 34](#)

Data Mobility Manager (DMM)



Note

The following matrices includes configurations tested and certified by Cisco Quality Assurance labs. For more information on the configurations that are listed and that are not listed in this section including the NX-OS and SSI versions, contact your local Cisco representative. Method 3 configuration is not supported on MDS9222i.

Table 1: Data Mobility Manager

Software Partner	Storage Array
EMC	Table 2: Transferring Data Greater Than 2TB LUN from Existing EMC CX4 to New EMC VNX-5300
	Table 3: Transferring data from Existing CLARiiON 600 to New CLARiiON 700
	Table 4: Transferring data from Existing CLARiiON 600 to New DMX 3000
	Table 5: Transferring data from Existing Symmetrix-5 to New DMX 3000
	Table 6: Transferring Data from Existing Symmetrix 8430 to new HDS USPV
	Table 7: Transferring Data from Existing DMX-3 to new CLARiiON 600
	Table 8: Transferring Data from Existing DMX-3 to new CLARiiON 600, then from this CLARiiON 600 back to DMX-3
	Table 9: Under VCS control, transferring Data from Existing DMX-3 to new DMX-3
	Table 10: Under HACMP control, transferring Data from Existing DMX-3 to new DMX-3
	Table 11: Under MSCS control, transferring Data from Existing DMX-3 to new DMX-3
	Table 12: Transferring Data from Existing DMX-3 to new DMX-3
	Table 13: Transferring Data from Existing DMX-3 to IBM SVC
	Table 14: Under Sun Cluster control, transferring Data from Existing DMX-3 to new DMX-3
	Table 15: Transferring Data from Existing DMX-1000 to new DMX-3
	Table 16: Transferring Data from Existing EMC CX700 to new DMX-3
	Table 17: Transferring Data from Existing Oracle STK D280 to new DMX-3
	Table 18: Transferring Data from Existing DMX-1000 to new EMC CX4
	Table 19: Transferring Data from Existing DMX-3 to new EMC CX4
	Table 20: Transferring Data from Existing EMC CX700 to new EMC CX4
	Table 21: Transferring Data from Existing Oracle STK D280 to new EMC CX4
	Table 22: Transferring Data from Existing EMC DMX-3 to new EMC DMX-3
	Table 23: Transferring Data from Existing Compellent storage to new EMC DMX-3
	Table 24: Transferring Data from Existing DMX3 to new EMC DMX-3

Software Partner	Storage Array
IBM	Table 25: Transferring data from Existing FAStT to New DS4500
	Table 26: Transferring data from Existing ESS 2105 model 800 to New DS8000
	Table 27: Transferring data from Existing HP EVA 4000 to New IBM DS8100
	Table 28: Transferring data from Existing HP XP12000 to New IBM DS8100
	Table 29: Transferring data from Existing IBM 2105 800 (ESS Shark) to New NetApp FAS3050
	Table 30: Under VMware ESX environment, transferring data from Existing FAStT900 to New IBM DS4500
	Table 31: Under MSCS, transferring data from Existing HDS 9585v to New IBM DS8100
	Table 32: Transferring Data from Existing IBM N7900 to New NetApp Fas3050
	Table 33: Transferring Data from Existing IBM DS 8000 to New NetApp Fas3050
HP	Table 34: Transferring data from Existing EVA 5000 to New EVA 4000/ 8000
	Table 35: Transferring data from Existing EVA 5000 to New XP12000
	Table 36: Under Oracle RAC environment, transferring data from Existing HP EVA 4000 to New HP EVA 4000
	Table 37: Transferring data from Existing XP1024 to New XP12000
HDS	Table 38: Transferring data from Existing HDS9585 to New HDS9970v
	Table 39: Transferring data from Existing HDS9585 to New TagmaStore
	Table 40: Transferring data from Existing HDS9000 to New TagmaStore
	Table 41: Under MSCS and Veritas Volume Manager, transferring data from existing 9970V to new CLARiiON700
	Table 42: Transferring data from Existing HDS9200 to New HDS USPV
NetApp	Table 43: Transferring data from Existing FAS940C to New FAS940C
SUN	Table 44: Transferring data from Existing StorageTek 9985V to New Storage Tek 9990V
	Table 45: Transferring data from Existing Storage Tek 9900V to New Storage Tek 9990V
Compellent	Table 46: Transferring data from existing EMC DMX-3 to new Compellent storage

EMC



Note 2TB LUN support available after NX-OS Release 6.2(3).

Table 2: Transferring Data Greater Than 2TB LUN from Existing EMC CX4 to New EMC VNX-5300

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2008 Server R2	SP2	QLogic: QLE2562	MPIO	Windows Native	MDS 9222i MSM 18/4
Enterprise Linux	Red Hat 5 x86_64		Native		

Table 3: Transferring data from Existing CLARiiON 600 to New CLARiiON 700

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 R2	SP1	QLogic: QLE2462	PowerPath	Windows Native	SSM
		Emulex: LPe11002-M4			MDS 9222i
Linux RedHat	AS 3.0	QLogic: QLE2462	PowerPath	LVM	MSM 18/4
		Emulex: LPe11002			
	AS 4.0	QLogic: QLE2462	Device Mapper	LVM2	
		Emulex: LPe11002-M4	PowerPath	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			PowerPath		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			PowerPath		
AIX	5.3	IBM: 03N5014	PowerPath	LVM	

Table 4: Transferring data from Existing CLARiiON 600 to New DMX 3000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 R2	SP1, SP2	QLogic: QLE2462	PowerPath	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	PowerPath	LVM	
	AS 4.0	QLogic: QLE2462	PowerPath	LVM2	
		Emulex: LPe11002-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			PowerPath		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			PowerPath		
AIX	5.3	IBM: 03N5014	PowerPath	LVM	

Table 5: Transferring data from Existing Symmetrix-5 to New DMX 3000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	PowerPath	Windows Native	SSM
		Emulex: LPe11002-M4			MDS 9222i
Linux RedHat	AS 3.0	QLogic: QLE2462	PowerPath	LVM	MSM 18/4
		Emulex: LPe11002-M4			
	AS 4.0	QLogic: QLE2462	PowerPath	LVM2	
		Emulex: LPe11002-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			PowerPath		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			PowerPath		
AIX	5.3	IBM: 03N5014	PowerPath	LVM	

Table 6: Transferring Data from Existing Symmetrix 8430 to new HDS USPV

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 R2	SP2	QLogic: QLE2462	PowerPath	Windows Native	SSM MDS 9222i MSM 18/4
Linux RedHat	AS 4.0	Emulex: LPe11002-M4	PowerPath	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
AIX	5.3	IBM: 03N5014	PowerPath	LVM	

Table 7: Transferring Data from Existing DMX-3 to new CLARiiON 600

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Solaris	8	Emulex: LPe11002-M4 (Leadville)	Veritas DMP PowerPath	VxVm	SSM MDS 9222i MSM 18/4

Table 8: Transferring Data from Existing DMX-3 to new CLARiiON 600, then from this CLARiiON 600 back to DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 R2	SP2	QLogic: QLE2462	PowerPath	Windows Native	SSM MDS 9222i
AIX	5.3	IBM: 03N5014	MPIO	LVM	MSM 18/4

For VCS, the following cutover procedure need to be followed:

1. When ready for cutover first stop all application traffic from all cluster nodes
2. Wait for migration to reach 100% (This step can be eliminated once the issue is fixed in a future release)
3. Shutdown VCS
4. Click **Finish** in DMM GUI
5. After completing, change zoning and cutover to NS (Follow the general procedure from this step)

Table 9: Under VCS control, transferring Data from Existing DMX-3 to new DMX-3

Operating Systems	OS Version	VCS version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Solaris	10	5.0 w/IO fencing	Emulex: LPE11002-M4	Veritas DMP	VxVm	SSM
		5.0 w/out IO fencing				MDS 9222i
		4.1 w/ IO fencing		PowerPath 4.5.1		MSM 18/4
		4.1 w/out IO fencing				

Table 10: Under HACMP control, transferring Data from Existing DMX-3 to new DMX-3

Operating Systems	OS Version	HACMP version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
AIX	5.3	5.4	IBM: 03N5014	Power Path 5.1	LVM	SSM MDS 9222i MSM 18/4

Table 11: Under MSCS control, transferring Data from Existing DMX-3 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows2003 R2	SP2	Emulex: LPE11002-M4	PowerPath 5.1	native	SSM ¹ MDS 9222i MSM 18/4

¹ DMM Method 3 and DMM Storage Type Job are not supported with MSCS.

Table 12: Transferring Data from Existing DMX-3 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2000 Advanced Server	SP4	Emulex: LPE11002-M4	PowerPath 4.5.2	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2003 R2	SP2		PowerPath 5.1		
Windows 2000 Server	SP4	QLogic: QLE2462	Powerpath 5.1		
Windows 2000 Advanced Server Cluster			PowerPath 5.2		
Wndows 2003 Server	Powerpath 5.3				
Windows 2003 Advanced Server Cluster	PowerPath 5.2				
Windows 2008 Server R2	PowerPath 5.3				
Windows 2008 Failover Server					

Table 13: Transferring Data from Existing DMX-3 to IBM SVC

Operating Systems	OS Version	Host Bus Adapter	SVC Version	Multipath App.	Volume Manager	Switch H/W
AIX	5.3	IBM: 03N5014	4.1.0.566	MPIO	LVM	SSM
VMware ESX (sanboot)	4.1	QLogic : QLA2342 Emulex : LPe11002-M4	6.1.0.8	VMware native	VMware native	MDS 9222i MSM 18/4
VMware ESXi (sanboot)	5.0	QLogic : QLA2342 Emulex : LPe11002-M4	6.1.0.8	VMware native	VMware native	

Table 14: Under Sun Cluster control, transferring Data from Existing DMX-3 to new DMX-3

Operating Systems	OS Version	Sun Cluster Ver	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Solaris	10	3.2	Emulex: LPe11002-M4	MPXIO	SVM	SSM MDS 9222i MSM 18/4

Table 15: Transferring Data from Existing DMX-1000 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM
Windows 2000 Advanced Server Cluster			PowerPath 5.2		MDS 9222i
Windows 2003 Server	SP2		PowerPath 5.3		MSM 18/4
Windows 2008 Server R2			PowerPath 5.2		
Windows 2008 Failover Server			PowerPath 5.3		

Table 16: Transferring Data from Existing EMC CX700 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM
Windows 2000 Advanced Server Cluster			PowerPath 5.2		MDS 9222i
Windows 2003 Server	SP2		PowerPath 5.3		MSM 18/4
Windows 2003 Advanced Server Cluster			PowerPath 5.2		
Windows 2008 Server R2			PowerPath 5.3		
Windows 2008 Failover Server					

Table 17: Transferring Data from Existing Oracle STK D280 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2000 Server	SP4	QLogic: QLE 2462	RDAC 9.1.32.30	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2000 Advanced Server Cluster					
Windows 2003 Server	SP2				
Windows 2003 Advanced Server Cluster					

Table 18: Transferring Data from Existing DMX-1000 to new EMC CX4

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2000 Advanced Server Cluster			PowerPath 5.2		
Windows 2003 Server	SP2		PowerPath 5.3		
Windows 2003 Advanced Server Cluster			PowerPath 5.2		
Windows 2008 Failover Server			PowerPath 5.3		

Table 19: Transferring Data from Existing DMX-3 to new EMC CX4

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM
Windows 2000 Advanced Server Cluster			PowerPath 5.2		MDS 9222i
Windows 2003 Server	SP2		PowerPath 5.3		MSM 18/4
Windows 2003 Advanced Server Cluster			PowerPath 5.2		
Windows 2008 Server R2			PowerPath 5.3		
Windows 2008 Failover Server					

Table 20: Transferring Data from Existing EMC CX700 to new EMC CX4

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM
Windows 2000 Advanced Server Cluster			PowerPath 5.2		MDS 9222i
Windows 2003 Server	SP2		PowerPath 5.3		MSM 18/4
Windows 2003 Advanced Server Cluster			PowerPath 5.2		
Windows 2008 Server R2			PowerPath 5.3		
Windows 2008 Failover Server					

Table 21: Transferring Data from Existing Oracle STK D280 to new EMC CX4

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	RDAC 9.1.32.30	Windows Native	SSM
Windows 2000 Advanced Server Cluster					MDS 9222i
Windows 2003 Server	SP2				MSM 18/4
Windows 2003 Advanced Server Cluster					

Table 22: Transferring Data from Existing EMC DMX-3 to new EMC DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Tru64 Unix	5.1b	HP: KGPSA-CA	Native	LSM	SSM
Open VMS	7.3-1				MDS 9222i MSM 18/4

Table 23: Transferring Data from Existing Compellent storage to new EMC DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	Server SP2	QLogic: QLE 2462 Emulex: LPe11002	MPIO	Windows Native	MDS 9222i MSM 18/4

Table 24: Transferring Data from Existing DMX3 to new EMC DMX-3

Operating Systems	OS Version	Covergent Network Adapter	Multipath App.	Volume Manager	Switch H/W
UCS 1.1.1+ Windows 2008	Server	Cisco: M71KR-Q	PowerPath 5.3	Windows Native	MDS 9222i MSM 18/4

IBM

Operating Systems	OS Version	VCS version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Solaris	10	5.0 w/IO fencing	Emulex: LPE11002-M4	Veritas DMP	VxVm	SSM
		5.0 w/out IO fencing				MDS 9222i MSM 18/4

Table 25: Transferring data from Existing FASiT to New DS4500

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	RDAC	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLA2342	RDAC	LVM	
	AS 4.0	QLogic: QLA2342	Device Mapper	LVM2	
		Emulex: LPe11002-M4	RDAC	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			RDAC		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			RDAC		
AIX	5.3	IBM: 03N5014	RDAC	LVM	

Table 26: Transferring data from Existing ESS 2105 model 800 to New DS8000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLA2342	SDD	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	SDD	LVM	
	AS 4.0	Emulex: LPe11002-M4	Device Mapper	LVM2	
			SDD		
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			SDD		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			SDD		
AIX	5.3	IBM: 03N5014	SDD	LVM	

Table 27: Transferring data from Existing HP EVA 4000 to New IBM DS8100

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP2	QLogic: QLE2462	MPIO	Windows Native	SSM MDS 9222i MSM 18/4
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
AIX	5.3	IBM: 03N5014	HP MPIO / AIX MPIO	LVM	

Table 28: Transferring data from Existing HP XP12000 to New IBM DS8100

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP2	QLogic: QLE2462	MPIO	Windows Native	SSM
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	MDS 9222i MSM 18/4

Table 29: Transferring data from Existing IBM 2105 800 (ESS Shark) to New NetApp FAS3050

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
AIX	5.3	IBM: 10N9824	SDD PCM 2.2.0.0	LVM	SSM MDS 9222i MSM 18/4
		IBM: 10N9824	SDD 1.7.2.0		
		IBM: 03N5014	SDD PCM 2.2.0.0		
		QLogic: QLA234200P4295	SDD PCM 2.2.0.0		

Table 30: Under VMware ESX environment, transferring data from Existing FASi900 to New IBM DS4500

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
VMware ESX	ESX Server 3.0.1 Linux RH 4.0	QLogic: QLA2432	VMware Native	VMware Native	SSM MDS 9222i MSM 18/4
VMware ESX	ESX server 3.0.1 Windows 2003 Server	QLogic: QLA2432	VMware Native	VMware Native	

Table 31: Under MSCS, transferring data from Existing HDS 9585v to New IBM DS8100

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP2	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i MSM 18/4

Table 32: Transferring Data from Existing IBM N7900 to New NetApp Fas3050

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	N/A	Windows Native	SSM MDS 9222i MSM-18/4
Linux Red Hat	AS 3.0	QLogic: QLE2462	N/A	LVM2	

Table 33: Transferring Data from Existing IBM DS 8000 to New NetApp Fas3050

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
AIX	5.3	IBM : 03N5014	SDD PCM 2.2.2.0	LVM	
AIX	5.3	QLogic: QLA234200P4295	SDD PCM 2.2.2.0	LVM	

HP

Table 34: Transferring data from Existing EVA 5000 to New EVA 4000/ 8000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	SecurePath	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	SecurePath	LVM	
	AS 4.0	QLogic: QLE2462	QL Failover	LVM2	
		Emulex: LPe11002-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			MPXIO		
HPUX	11iv2	HP: AB378-60101	HP PVLinks	LVM	
			SecurePath		
AIX	5.3	IBM: 03N5014	SecurePath	LVM	

Table 35: Transferring data from Existing EVA 5000 to New XP12000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	MPIO	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	QL Failover	LVM	
	AS 4.0	QLogic: QLE2462	QL Failover	LVM2	
		Emulex: LPe1102-M4	Multipulse	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			MPXIO		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			SecurePath		
AIX	5.3	IBM: 03N5014	SecurePath	LVM	

Table 36: Under Oracle RAC environment, transferring data from Existing HP EVA 4000 to New HP EVA 4000

Operating Systems	OS Version	Oracle RAC/ Clusterware	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Linux RedHat	AS 4.0	Oracle DB 11g R1 Oracle Clusterware 11gR1	Emulex:LPe11002-M4	Emulex Multipulse HP Multipulse	LVM2	SSM MDS 9222i MSM 18/4

Table 37: Transferring data from Existing XP1024 to New XP12000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	MPIO	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	QL Failover	LVM	
	AS 4.0	QLogic: QLE2462	QL Failover	LVM2	
		Emulex: LPe1102-M4	Multipulse	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			MPXIO		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			SecurePath		
AIX	5.3	IBM: 03N5014	SecurePath	LVM	

HDS

Table 38: Transferring data from Existing HDS9585 to New HDS9970v

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	HDLM	LVM	
	AS 4.0	QLogic: QLE2462	HDLM	LVM2	
		Emulex: LPe1102-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			HDLM		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Table 39: Transferring data from Existing HDS9585 to New TagmaStore

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	HDLM	LVM	
	AS 4.0	QLogic: QLE2462	HDLM	LVM2	
		Emulex: LPe1102-M4	Device Mapper	LVM2	
	Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	
HDLM					
HPUX	11iv2	HP: AB378-60101	HP PVLinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Table 40: Transferring data from Existing HDS9000 to New TagmaStore

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	HDLM	LVM	
	AS 4.0	QLogic: QLE2462	HDLM	LVM2	
		Emulex: LPe1102-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			HDLM		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Table 41: Under MSCS and Veritas Volume Manager, transferring data from existing 9970V to new CLARiiON700

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 Cluster	SP2	Emulex	Veritas Volume Manager 4.3 M1 for MSCS	Veritas Volume Manager 4.3 M1 for MSCS ²	SSM MDS 9222i MSM 18/4

² The VFS for MSCS supports active/passive mode only, so the active path has to be selected as the only path for DMM to do migration. Any failover with this path requires the DMM job to be re-created.

Table 42: Transferring data from Existing HDS9200 to New HDS USPV

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i MSM 18/4
Linux RedHat	AS 4.0	QLogic: QLE2462	HDLM	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
AIX	5.3	IBM: 03N5014	HDLM	LVM	

NetApp

Table 43: Transferring data from Existing FAS940C to New FAS940C

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	—	Windows Native	SSM MDS 9222i
Linux RedHat	AS 3.0	QLogic: QLE2462	—	LVM2	MSM 18/4

SUN

Table 44: Transferring data from Existing StorageTek 9985V to New Storage Tek 9990V

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	HDLM	LVM	
	AS 4.0	QLogic: QLE2462	HDLM	LVM2	
		Emulex: LPe1102-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			HDLM		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Table 45: Transferring data from Existing Storage Tek 9900V to New Storage Tek 9990V

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	HDLM	LVM	
	AS 4.0	QLogic: QLE2462	HDLM	LVM2	
		Emulex: LPe1102-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			HDLM		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Compellent

Table 46: Transferring data from existing EMC DMX-3 to new Compellent storage

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	Server SP2	QLogic: QLE2462	PowerPath 5.2	Windows Native	MDS 9222i MSM 18/4
		Emulex: LPe11002-M4			

Storage Media Encryption for Tape (SME-Tape)

The following matrices include configurations tested and certified by Cisco Quality Assurance Labs. For configurations other than listed below, contact your local Cisco representative.

Table 47: Storage Media Encryption for Tape

Software Partner	Data Center Backup Application
Symantec	Table 48: Veritas NetBackup

Software Partner	Data Center Backup Application
EMC	Table 49: Legato Networker
HP	Table 50: HP Data Protector
BakBone Software	Table 51: NetVault
IBM	Table 52: Tivoli Storage Manager (TSM)

Symantec

Table 48: Veritas NetBackup

Operating Systems	NetBackup Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Windows 2000 (SP4) ³	5.1	Sun/STK L180	STK 9840C, IBM LTO-2	SSN-16, MDS 9222i
		HP Standalone Tape Drive	MSL 6060	
	6.0	Sun/STK L180	HP LTO-2	
		Sun/STK L700e	STK T10k, IBM LTO-3, IBM LTO-2, HP LTO-3	
		Sun/STK L8500	HP LTO-2, HP LTO-3, IBM LTO-2, IBM LTO-3	
		EMC CDL 4400	ADIC i2k SDLT320 Sun/STK SL500 IBM LTO-3	
		Quantum ADIC Scalar i2000	IBM LTO-3	
		IBM Standalone Tape Drive	IBM 3592	

Operating Systems	NetBackup Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Windows 2003 (SP1)	5.1	Sun/STK L180	IBM LTO-2, STK 9840C	SSN-16 MDS 9222i MSM-18/4
		Sun/STK L700e	STK T10k, HP LTO-3, IBM LTO-3	
		HP Stainable Tape Drive	HP MSL 6060	
	6.0	Sun/STK L180	HP LTO-2	
		Sun/STK L700e	STK T10k, HP LTO-3, IBM LTO-2, IBM LTO-3	
		Sun/STK L8500	HP LTO-2, HP LTO-3 IBM LTO-2	
		Quantum ADIC Scalar i2000	IBM LTO-3	
		EMC CDL 4400	ADIC i2k SDLT320, Sun/STK SL500 IBM LTO-3	
		IBM Standalone Tape Drive	IBM 3592	
Solaris 8	5.1	Sun/STK L180	HP LTO-2, STK 9840C, IBM LTO-2	SSN-16 MDS 9222i MSM-18/4
		Sun/STK L700e	HP LTO-3, STK T10k IBM LTO-3	
	6.0	Sun/STK L8500	HP LTO-2, HP LTO-3, IBM LTO-2, IBM LTO-3, SDLT 600	

Operating Systems	NetBackup Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Solaris 10	5.1	Sun/STK L180	HP LTO2, STK 9840C	SSN-16 MDS 9222i MSM-18/4
	6.0	Quantum ADIC Scalar i2000	IBM LTO-3	
		Sun/STK L700e	STK T10k, IBM LTO-2, IBM LTO-3, STK 9940B	
		Sun/STK SL500	HP LTO-4	
		Sun/STK L700	IBM LTO-4	
		Sun/STK L8500	HP LTO-3, HP LTO-2, STK T10k, IBM LTO-2, IBM LTO-3, SDLT 600	
		EMC CDL 4400	ADIC i2k SDLT 320 Sun/STK SL500 IBM LTO-3	
		IBM 3584	IBM LTO-2	
		IBM Stand Alone Tape	IBM 3592	
		SpectraLogic T120	IBM LTO-2, IBM LTO-3	
AIX 5.3	6.0	Sun/STK L700e	IBM LTO-2, IBM LTO-3, HP LTO-3, STK T10k	SSN-16 MDS 9222i MSM-18/4
		EMC CDL 4400	Sun/STK SL500 IBM LTO-3	

³ Windows 2000 operating system is supported on SAN-OS 3.3(1c) code version only.

EMC

Table 49: Legato Networker

Operating Systems	Networker Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Windows 2000 (SP4) ⁴	7.2.1	Sun/STK L180	HP LTO-3, IBM LTO-2, IBM LTO-3	SSN-16 MDS 9222i MSM-18/4
		Quantum ADIC Scalar i2000	IBM LTO-3	
		EMC CDL 4400	ADIC i2k SDLT320 Sun/STK SL500 IBM LTO-3	
	7.3.2	Sun/STK L180	HP LTO-2, IBM LTO-2	
		Sun/STK L700e	STK T10k	
		Sun/STK L8500	IBM LTO-2, IBM LTO-3	
		IBM Standalone Tape Drive	IBM 3592, HP MSL 6060	

Operating Systems	Networker Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Windows 2003 (SP1)	7.2.1	Sun/STK L700e	IBM LTO-2, STK 9840C	SSN-16 MDS 9222i MSM-18/4
		Quantum ADIC Scalar i2000	STK T10k, HP LTO-3, IBM LTO-3	
		EMC CDL 4400	ADIC i2k SDLT320 Sun/STK SL500 IBM LTO-3	
	7.3.2	Sun/STK L180	HP LTO-2	
		Sun/STK L700e	STK T10k, HP LTO-3, IBM LTO-2, IBM LTO-3	
		Sun/STK L8500	HP LTO-2, HP LTO-3 IBM LTO-2	
		IBM Standalone Tape Drive	IBM 3592, HP MSL 6060	
	7.4	Sun/STK SL500	HP LTO-4	
		Sun/STK L700	IBM LTO-4	
		Sun/STK L8500	HP LTO-2	
Solaris 8	7.2.1	Sun/STK L700e	IBM LTO-3	SSN-16 MDS 9222i MSM-18/4
	7.3.2	Sun/STK L700	IBM LTO-3	

Operating Systems	Networker Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Solaris 10	7.2.1	Sun/STK L700e	HP LTO-3, IBM LTO-2, IBM LTO-3	SSN-16 MDS 9222i
	7.3.2	Sun/STK L700e	STK T10k	MSM-18/4
		Sun/STK L180	HP LTO2, STK 9840C, IBM LTO-2	
		Quantum ADIC Scalar i2000	IBM LTO-3	
		Sun/STK L8500	IBM LTO-3, SDLT 600	
		EMC CDL 4400	ADIC i2k SDLT 320 Sun/STK SL500 IBM LTO-3	
		IBM Stand Alone Tape	IBM 3592	
AIX 5.3	7.2.1	Sun/STK L700e	IBM LTO-2, IBM LTO-3, HP LTO-3	SSN-16 MDS 9222i
	7.3.2	Sun/STK L700e	STK T10k	MSM-18/4
		EMC CDL 4400	Sun/STK SL500 IBM LTO-3	
		IBM Standalone Tape Drives	IBM 3592	
HP-UX 11i (ia64)	7.3.2	Sun/STK L700	IBM LTO-3	SSN-16, MDS 9222i MSM-18/4

⁴ Windows 2000 operating system is supported on SAN-OS 3.3(1c) code version only

HP

Table 50: HP Data Protector

Operating Systems	Data Protector	Tape Library Model	Tape Drives & Emu
Linux RedHat (version 4.0) Linux SUSE (SLES 9.0)	6.0	ESL 322e	HP LTO-2
		MSL 2024	HP LTO-3
		VLS 6105	HP LTO-2, HP LT
		ESL E-series	HP LTO-3
		MSL 6030	Quantum SDLT 60
		EML E-series	HP LTO-4
		MSL 8096	HP LTO-4
Windows 2003 (Enterprise)	6.0	ESL 322e	HP LTO-2
		MSL 2024	HP LTO-3
		VLS 6105	HP LTO-2, HP LT
		ESL E-series	HP LTO-3
		MSL 6030	Quantum SDLT 60
		EML E-series	HP LTO-4
		MSL 8096	HP LTO-4
HP-UX 11iv3	6.0	HP ESL 322e	HP LTO-2
	5.5	HP ESL 322e	HP LTO-2, HP LT
		SUN/STK 8500	HP LTO-2, HP LT
		EMC CDL 4400	SL500 HP LTO-3

BakBone Software

Table 51: NetVault

Operating Systems	NetVault	Tape Library Model	Tape Drives &
Linux RHEL V4	8.0	Sun/STK L180	HP LTO-2, IBM LTO-2
		Stand Alone drive	HP LTO-4
	8.2	Sun/STK L180	HP LTO-3, IBM LTO-3
Linux RHEL V5	8.2		
Linux RHEL V6	8.6.1	Sun SL3000	IBM LTO-5
		Sun SL500	IBM LTO5, HP LTO-5
NetApp FAS Series	8.0 (NDMP)	Sun/STK L180	HP LTO-2, IBM LTO-2
	8.2 (NDMP)		HP LTO-3, IBM LTO-3
	8.0 (NDMP)	Stand Alone drive	HP LTO-4
EMC CDL Series	8.2 (NDMP)	Sun/STK L180	IBM LTO-3, IBM LTO-3
		Sun/STK SL500	

IBM

Table 52: Tivoli Storage Manager (TSM)

Operating Systems	TSM Version	Tape Library Model	Tape Drives & Emu
Windows 200010 (SP4) ⁵	5.4.0	IBM Stand-Alone Tape	IBM LTO-2, IBM
Windows 2003 (SP2)	5.4.0	IBM Stand-Alone Tape	IBM LTO-2, IBM
Linux RH AS 4 U2 kernel 2.6.9.22	5.4.0	IBM Stand-Alone Tape	IBM LTO-2, IBM
AIX 5.3	5.4.0	SUN/STK 8500	HP LTO-2
		SUN/STK SL500	HP LTO-3, IBM L
		IBM Stand-Alone Tape	IBM TS1120, IBM
		EMC CDL SL500	IBM LTO-2, IBM
		SUN/STK L700	IBM LTO-2, IBM
		SUN/STK L180	IBM LTO-2
		IBM 3584	IBM LTO-2
		Quantum ADIC Scalar i2000	IBM LTO-3
		EMC CDL 4400	IBM LTO-3
		EMC CDL 4400	SL500-IBM LTO-
	5.4.2	SUN/STK SL500	HP LTO-4
	5.5.1	SUN/STK L700	IBM LTO-4
		SpectraLogic T120	IBM LTO-2, LTO-

⁵ Windows 2000 operating system is supported on SAN-OS 3.3(1c) code version only.

Storage Media Encryption for Disk



Note

Storage Media Encryption for Disk (SME-Disk) reached End of Life on March 10, 2013. For more information, see the EoL announcement (EOL9051) at this URL: http://www.cisco.com/en/US/prod/collateral/ps4159/ps6409/ps6028/eol__C51-727124.html

Cisco is no longer accepting requests to qualify new arrays.

EMC

Table 53: EMC CX4-480 (FLARE v04.30.000.5.511)

Operating System	OS Version	HBA	HBA Driver	Multipath Application	Failover Mode
Windows Server 2003	SP2	Qlogic QLE 2462	9.1.8.25	PowerPath 5.5	Failover Mode: 4
AIX	5300-12	IBM FC 1905, 5758, 5760, 5761 PN 03N5014	Native OS driver	PowerPath 5.1.0	Failover Mode: 1

Table 54: EMC Clarion CX700 (FLARE v02.16.700.5.010)

Operating System	OS Version	HBA	HBA/CNA Driver	Multipath Application	Failover Mode
Windows Server 2003	SP2	Qlogic QLE 2462	9.1.8.25	PowerPath 5.5	Failover Mode: 1
AIX	5300-12	IBM FC 1905, 5758, 5760, 5761 PN 03N5014	Native OS driver	PowerPath 5.1.0	Failover Mode: 1
Red Hat	5.5	Cisco M71KR-E	1.3(1n)	PowerPath 5.5	Failover Mode: 1

Table 55: EMC VNX-5300 (v05.31.000.5.008)

Operating System	OS Version	HBA	HBA/CNA Driver	Multipath Application	Failover Mode
Red Hat	5.5	Cisco M71KR-E	1.3(1n)	PowerPath 5.5	Failover Mode: 1

Table 56: NetApp FAS940(6.5.6)

Operating System	OS Version	HBA	HBA/CNA Driver	Multipath Application	Failover Mode
Red Hat	5.5	Cisco M71KR-E	1.3(1n)	Native	Load-balance

Table 57: HDS 9585v

Operating System	OS Version	HBA	HBA/CNA Driver	Multipath Application	Failover Mode
Windows Server 2008 Datacenter	SP2	Cisco M71KR-Q	1.3(1n)	MPIO	

FC-IP SAN Extension

The Cisco MDS 9250i switch, the 24/10 Port SAN Extension Module, the MSM-18/4, and SSN-16 modules support Auto, Mode1 and Mode2 compression modes. All of these modes internally use the hardware compression engine of the module. By default, Auto mode is enabled. Mode2 uses a larger batch size for compression than Auto mode, which results in higher compression throughput. However, Mode2 incurs a small latency because of the compression throughput. For the deployments where aggressive throughput is most important, Mode2 should be used. Mode1 gives the better compression ratio when compared to all other modes. For the deployments where compression ratio is most important, Mode1 should be used. Auto mode is similar to Mode2 with respect to the algorithm used for compression except that the batching is not done in Auto mode.



Note For more information on module and version support, see *Cisco MDS 9000 Series IP Services Configuration Guide*.

Table 58: SAN Extension InterOp Support Matrix

Cisco MDS Modules/Switches	PSEC	FCIP-WA	HW Compression —Auto	HW Compression —Mode1	HW Compression —Mode2	FCIP-TA
24/10 Port SAN Extension Module	Yes	Yes	Yes	Yes	Yes	Yes
9250i	Yes	Yes	Yes	Yes	Yes	Yes
SSN-16	Yes	Yes	Yes	Yes	Yes	Yes ⁶
9222i/18+4	Yes	Yes	Yes	Yes	Yes	Yes

⁶ Only Veritas NetBackup and IBM TSM backup applications are supported.

IOA/FCIP Write Acceleration

For information about Write Acceleration see the [Cisco MDS 9000 Series I/O Accelerator Configuration Guide](#).

The following table lists SCSI write initiators tested by Cisco with NX-OS IOA/FCIP Write Acceleration. This includes initiators in array to array replication.

Table 59: IOA/FCIP Write Acceleration Support

Vendor	Array	Replication Application
T10 Standard SCSI write(6)	All	All
T10 Standard SCSI write(10)	All	All

Vendor	Array	Replication Application
Hitachi	Virtual Storage Platform G1000/G1500/F1500 E570, E590, E990, 5100, 5100H, 5500, 5500H, G200, G350, G400, G600, G700, G800, G900 F350, F370, F400, F600, F700, F800, F900	TrueCopy
Dell EMC	VMAX All Flash VMAX 10K VMAX3 PowerMax 2000, 8000	SRDF

