

**SNIA Data Protection and
Capacity Optimization
Product Selection Guide**

SPRING 2015



SNIA
Data Protection and
Capacity Optimization
Committee



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Capacity Optimization
Product Selection Guide 2015**



The SNIA Data Protection and Capacity Optimization (DPCO) Committee Product Selection Guide

The rapidly evolving data protection market is a complex landscape for IT buyers to navigate. The SNIA Data Protection and Capacity Optimization Committee's Product Selection Guide (PSG) is a valuable resource for end users and the consultants who assist them to research and compare products that meet their selection criteria. The three product categories currently covered in the PSG are Backup and Recovery, Capacity Optimized Storage, and Replication. This guide highlights a wide range of products in each of these categories with an easy-to-use chart of key features. We encourage you to use this guide as a starting point and then go to the online PSG for far more detailed information. The online PSG is continuously being updated by vendors and can be found at: www.sniadataprotectionguide.org.

Organization of this Document

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Glossary of Terms

Participating SNIA Member Companies

Join the SNIA DPCO

The Storage Networking Industry Association (SNIA) is a not-for-profit global organization, made up of member companies spanning the global storage market. SNIA's mission is to lead the storage industry worldwide in developing and promoting standards, technologies, and educational services to empower organizations in the management of information. The Data Protection and Capacity Optimization (DPCO) Committee was created to foster the growth and success of the market for data protection and capacity optimization technologies, and membership is open to all SNIA members. We encourage vendors to join SNIA and the DPCO at www.snia.org/member_com/join.

Disclaimer

SNIA collects product information from vendors and combines the entries to produce the Product Selection Guide. This Guide is produced for the industry as a source of information about and comparison of the subject products. SNIA has no ownership interest in any of the products included in this Guide and had no involvement in their design, development or sale. As such, SNIA is not responsible for the truth or accuracy of any information in the Guide related to the products. Nor is SNIA liable or responsible for the sale, use or operation of the products or for any consequences that may arise from these activities.

Backup/Recovery Products

Vendor Name	Product/Series/Model	Product URL	Deployment Packaging	Client Platforms	Backup Target
EMC Corporation	NetWorker 8.0		Application	Windows, Unix, Linux, MacOS, Novell	Disk, Tape, Cloud
EMC Corporation	Avamar 6.1		Application, Virtual Appliance, Appliance	Windows, Unix, Linux, MacOS, Novell	Disk, Tape
NetApp, Inc.	SnapVault		Virtual Appliance	Other	Disk
Symantec	Netbackup		Application, Appliance	Windows, Unix, Linux, MacOS, Novell	Disk, Tape, Cloud
Symantec	Backup Exec 2012		Application	Windows, Linux	Disk, Tape, Cloud
Symantec	Backup Exec 3600 Appliance		Appliance	Windows, Linux	Disk, Tape, Cloud
Fujitsu	ETERNUS CS800	http://www.fujitsu.com/fts/products/computing/storage/solutions/eternus/cs800/	Appliance	Windows, Unix, Linux, Other	Disk, Tape, Cloud
FalconStor Software		Continuous Data Protector (CDP)	Application, Virtual Appliance, Appliance	Windows, Unix, Linux, Other	Disk, Tape
InMage Systems	InMage Scout		Application, Appliance	Windows, Unix, Linux, Other	Disk, Cloud
Hewlett Packard (HP)	HP Data Protector		Application	Windows, Unix, Linux, MacOS, Novell, Other	Disk, Tape, Optical, Cloud
InMage Systems	InMage ScoutCloud		Application, Appliance	Windows, Unix, Linux	Disk, Cloud
Fujitsu	ETERNUS CS High End	http://www.fujitsu.com/fts/products/computing/storage/solutions/eternus/high-end	Virtual Appliance, Appliance	Windows, Unix, Linux, MacOS, Other	Disk, Tape
IBM Corporation	Tivoli Storage Manager Suite for Unified Recovery	http://www.ibm.com/software/products/us/en/tivostormanasuitforunifreco	Application	Windows, Unix, Linux, MacOS, Novell, Other	Disk, Tape, Optical
IBM Corporation	Tivoli Storage Manager	http://www.ibm.com/software/products/us/en/tivostormana	Application	Windows, Unix, Linux, MacOS, Novell, Other	Disk, Tape, Optical
IBM Corporation	Tivoli Storage Manager FastBack	http://www.ibm.com/software/products/us/en/storagemanagerfastbackcenter	Application	Windows, Linux	Disk
Dell	Dell AppAssure Backup, Recovery, and Replication 5		Application	Windows	Disk
Hewlett Packard (HP)	Autonomy LiveVault		Application	Windows, Linux, Other	Cloud
Imation	DataGuard T5R		Appliance	Windows, Unix, Linux, MacOS	Disk, Cloud
Imation	DataGuard R4		Appliance	Windows, Unix, Linux, MacOS	Disk, Cloud
Spectra Logic	Spectra T50e		Windows, Unix, Linux, MacOS, Novell, Other	Tape	
Spectra Logic	Spectra T120		Windows, Unix, Linux, MacOS, Novell	Tape	
Spectra Logic	Spectra T200		Windows, Unix, Linux, MacOS, Novell	Tape	
Spectra Logic	Spectra T380		Windows, Unix, Linux, MacOS, Novell	Tape	
Spectra Logic	Spectra T680		Windows, Unix, Linux, MacOS, Novell	Tape	
Spectra Logic	Spectra T950		Windows, Unix, Linux, MacOS, Novell	Tape	
Spectra Logic	Spectra T-Finity		Windows, Unix, Linux, MacOS, Novell	Tape	
Hewlett Packard (HP)	HP ESL G3 Tape Library		Appliance	Windows, Unix, Linux, MacOS, Novell	Tape
Hewlett Packard (HP)	HP MSL2024/MSL4048/MSL8048/MSL8096 Tape Libraries		Appliance	Windows, Unix, Linux, MacOS, Novell	Tape
Hewlett Packard (HP)	HP 1/8 G2 Tape Autoloader		Appliance	Windows, Unix, Linux, MacOS, Novell	Tape
Hewlett Packard (HP)	HP LTO Ultrium Tape Drives		Appliance	Windows, Unix, Linux, MacOS, Novell	Tape
Hitachi Data Systems	Hitachi Data Protection Suite (HDPS)	http://www.hds.com/assets/pdf/hitachi-overview-data-protection-suite.pdf	Application, Appliance	Windows, Unix, Linux, MacOS, Other	Disk, Tape, Optical, Cloud
Hitachi Data Systems	Hitachi Data Instance Manager (HDIM)	http://www.hds.com/assets/pdf/hitachi-data-sheet-hdim-backup-window-elimination.pdf	Application	Windows, Unix, Linux, Other	Disk, Cloud
Huawei Technologies Co., Ltd.	OceanStor HDP3500E	http://enterprise.huawei.com/en/products/itapp/storage/vis-product/hw-195969.htm	Appliance	Windows, Unix, Linux, MacOS, Novell	Disk
Cleversafe, Inc.	dsNet Storage Platform	http://www.cleversafe.com/products/product-portfolio	Virtual Appliance, Appliance	Windows, Linux, MacOS	Disk
IBM Corporation	ProtectTIER Deduplication	http://www-03.ibm.com/systems/storage/solutions/deduplication/index.html	Appliance	Linux	Disk
NetApp, Inc.	SnapProtect	http://www.netapp.com/us/products/protection-software/snapprotect.aspx	Application	Windows, Unix, Linux	Disk, Tape, Cloud
Seagate Technology	EVault Cloud Backup and Recovery Services	http://www.seagate.com/services-software/cloud-services/cloud-backup-recovery-ar	Application, Virtual Appliance, Appliance	Windows, MacOS, Other	Disk, Cloud

Capacity Optimized Storage Products

Vendor Name	Product/Series/Model	Product URL	Deployment Packaging	Scalability Approach	Connectivity	Maximum Raw Capacity (GB)	VTL Support
EMC Corporation	Disk Library for mainframe		Storage System	Scale-up	Fibre Channel, ESCON	5700000	No
EMC Corporation	Data Domain deduplication storage systems		Storage System	Scale-up	Ethernet, Fibre Channel	1680000	Yes
NetApp, Inc.	FAS		Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	4300000	No
NetApp, Inc.	V-Series		Gateway, Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	4300000	No
Hitachi Data Systems	Hitachi Content Platform (HCP) Model 500	http://www.hds.com/assets/pdf/hitachi-data-sheet-content-platform.pdf	Storage System	Scale-up	Ethernet, Fibre Channel	5000000	No
Qsan Technology, Inc.	P600Q iSCSI SAN		Storage System	Scale-up	Ethernet	768000	Yes
Qsan Technology, Inc.	F600Q FC SAN		Storage System	Scale-up	Ethernet, Fibre Channel	768000	Yes
Qsan Technology, Inc.	U600Q Unified Storage		Storage System	Scale-up	Ethernet	768000	Yes
Fujitsu	ETERNUS CS800	http://www.fujitsu.com/fts/products/computing/storage/solutions/eternus/cs800/	Controller, Storage System	Scale-up	Ethernet, Fibre Channel	491520	Yes
Qsan Technology, Inc.	U400Q Unified Storage		Storage System	Scale-up	Ethernet	768000	Yes
Qsan Technology, Inc.	P400Q iSCSI SAN		Storage System	Scale-up	Ethernet	768000	Yes
Fujitsu	ETERNUS CS High End	http://www.fujitsu.com/fts/products/computing/storage/solutions/eternus/high-end	Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel, ESCON	3700000	Yes
Hewlett Packard (HP)	HP StoreOnce 6500 Backup	http://www.hp.com/go/storeonce	Storage System	Scale-out	Ethernet, Fibre Channel	1728000	Yes
Hewlett Packard (HP)	HP StoreOnce 2700 Backup	http://www.hp.com/go/storeonce	Storage System	Scale-up	Ethernet	5500	Yes
Microsoft Corporation	Windows Server 2012 - Data Deduplication		Controller, Gateway	Scale-up	Ethernet, Fibre Channel		No
FalconStor Software	Virtual Tape Library (VTL)		Gateway, Storage System	Scale-out	Ethernet, Fibre Channel		No
FalconStor Software	Network Storage Server (NSS)		Gateway, Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel		No
Hewlett Packard (HP)	HP IBRIX X9300 Storage		Gateway	Scale-out	Ethernet	0	No
Hewlett Packard (HP)	HP IBRIX X9320 Storage		Storage System	Scale-out	Ethernet	576000	No
IBM Corporation	Storwize V7000	http://www-03.ibm.com/systems/storage/disk/storwize_v7000/overview.html	Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	36000	No
Hewlett Packard (HP)	HP IBRIX X9730 Storage		Storage System	Scale-out	Ethernet	1700000	No
Hewlett Packard (HP)	HP X5000 Storage		Storage System	Scale-up	Ethernet	192000	No
Hewlett Packard (HP)	HP X3000 Storage		Gateway	Scale-up	Ethernet	0	No
Hewlett Packard (HP)	HP X1000 Storage		Storage System	Scale-up	Ethernet	9999999	No
Imation	InfiniVault M70		Storage System	Scale-out	Ethernet	270000	No
Huawei Technologies Co., Ltd.	OceanStor VTL6900	http://enterprise.huawei.com/en/products/itapp/storage/vis-product/hw-149294.htm	Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	2304000	Yes
Huawei Technologies Co., Ltd.	OceanStor N8500	http://enterprise.huawei.com/en/products/itapp/storage/fc-switch/hw-u_149107.htm	Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	1500000	No
NEC	HYDRAsTOR HS8-3000	http://www.necam.com/HYDRAsTOR	Storage System	Scale-out	Ethernet	1956000	No
NEC	HYDRAsTOR HS3-310	http://www.necam.com/HYDRAsTOR	Storage System	Scale-up	Ethernet	12000	No
Hitachi Data Systems	VSP G1000 (Virtual Storage Platform G1000)	http://www.hds.com/assets/pdf/vsp-g1000-datasheet.pdf	Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	5000000	No
Hitachi Data Systems	Hitachi Unified Storage (HUS) Model 110	http://www.hds.com/assets/pdf/hitachi-unified-storage-datasheet.pdf	Storage System	Scale-up	Ethernet, Fibre Channel	360000	No
Hitachi Data Systems	Hitachi Unified Storage (HUS) Model 130	http://www.hds.com/assets/pdf/hitachi-unified-storage-datasheet.pdf	Storage System	Scale-up	Ethernet, Fibre Channel	756000	No

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Capacity Optimized Storage Products - continued

Vendor Name	Product/Series/ Model	Product URL	Deployment Packaging	Scalability Approach	Connectivity	Maximum Raw Capacity (GB)	VTL Support
Hitachi Data Systems	Hitachi Unified Storage (HUS) Model 150	http://www.hds.com/assets/pdf/hitachi-unified-storage-datasheet.pdf	Storage System	Scale-up	Ethernet, Fibre Channel	2880000	No
Hitachi Data Systems	Hitachi Content Platform (HCP) Model 300	http://www.hds.com/assets/pdf/hitachi-data-sheet-content-platform.pdf	Storage System	Scale-up	Ethernet, Fibre Channel	140000	No
Hitachi Data Systems	Hitachi Content Platform (HCP) Model 500XL	http://www.hds.com/assets/pdf/hitachi-data-sheet-content-platform.pdf	Storage System	Scale-up	Ethernet, Fibre Channel	40000000	No
Hitachi Data Systems	Hitachi NAS (HNAS) Model 4060	http://www.hds.com/assets/pdf/datasheet-hus-and-hitachi-nas-platform-4000-series.pdf	Gateway	Scale-up, Scale-out	Ethernet, Fibre Channel	8000000	No
Hitachi Data Systems	Hitachi NAS (HNAS) Model 4080	http://www.hds.com/assets/pdf/datasheet-hus-and-hitachi-nas-platform-4000-series.pdf	Gateway	Scale-up, Scale-out	Ethernet, Fibre Channel	16000000	No
Hitachi Data Systems	Hitachi NAS (HNAS) Model 4100	http://www.hds.com/assets/pdf/datasheet-hus-and-hitachi-nas-platform-4000-series.pdf	Gateway	Scale-up, Scale-out	Ethernet, Fibre Channel	32000000	No
FalconStor Software	File-interface Deduplication System (FDS)		Controller, Gateway, Storage System	Scale-out	Ethernet, Fibre Channel	5000000	No
Imation	InfiniVault M35		Storage System	Scale-out	Ethernet	158000	No
Imation	InfiniVault 5		Storage System	Scale-out	Ethernet	10500	No
IBM Corporation	System Storage SAN Volume Controller	http://www-03.ibm.com/systems/storage/software/virtualization/svc/	Gateway	Scale-up, Scale-out	Ethernet, Fibre Channel	32000000	No
IBM Corporation	Real-time Compression Appliance STN7800	http://www-03.ibm.com/systems/storage/network/rtc/stn7800/index.html	Gateway	Scale-up	Ethernet		No
Dell	Dell Compellent SAN and NAS Storage Systems	http://www.dellstorage.com/compellent/	Storage System	Scale-out	Ethernet, Fibre Channel	1500000	No
Dell	Dell EqualLogic iSCSI SAN and NAS Storage	http://www.dellstorage.com/equallogic/	Storage System	Scale-out	Ethernet	2300000	No
Dell	PowerVault SAN and NAS Storage Systems	http://www.dellstorage.com/powervault/	Storage System	Scale-out	Ethernet, Fibre Channel	1000000	No
Huawei Technologies Co., Ltd.	OceanStor UDS	http://enterprise.huawei.com/en/products/itapp/storage/fc-switch/hw-259596.htm	Storage System	Scale-out	Ethernet	300000000	No
Huawei Technologies Co., Ltd.	OceanStor 18000	http://enterprise.huawei.com/en/products/itapp/storage/san-product/hw-194425.htm	Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	7680000	No
Huawei Technologies Co., Ltd.	OceanStor T series	http://enterprise.huawei.com/en/products/itapp/storage/san-product/hw-131886.htm	Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	5760000	No
NEC	HYDRAsstor HS8-4000	http://www.necam.com/HYDRAsstor	Storage System	Scale-out	Ethernet	7920000	No
NEC	HYDRAsstor HS3-410	http://www.necam.com/HYDRAsstor	Storage System	Scale-up	Ethernet	24000	No
Scality	RING	http://www.scality.com	Storage System	Scale-out	Ethernet	1000000000	No
Huawei Technologies Co., Ltd.	OceanStor VIS6600T	http://enterprise.huawei.com/en/products/itapp/storage/san-product/hw-258171.htm	Gateway	Scale-out	Ethernet, Fibre Channel	268435456	No
IBM Corporation	ProtecTIER Deduplication	http://www-03.ibm.com/systems/storage/solutions/deduplication/index.html	Gateway, Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	1000000	Yes
Huawei Technologies Co., Ltd.	OceanStor 9000	http://enterprise.huawei.com/en/products/itapp/storage/fc-switch/hw-310965.htm	Storage System	Scale-up, Scale-out	Ethernet	40000000	No
Huawei Technologies Co., Ltd.	OceanStor V3 Converged Storage	http://enterprise.huawei.com/en/products/itapp/storage/san-product/hw-394188.htm	Storage System	Scale-up, Scale-out	Ethernet, Fibre Channel	6144000	No

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Capacity Optimized Storage Products - continued

Vendor Name	Product/Series/Model	Product URL	Deployment Packaging	Scalability Approach	Connectivity	Maximum Raw Capacity (GB)	VTL Support
Huawei Technologies Co., Ltd.	OceanStor Dorado	http://enterprise.huawei.com/en/products/itapp/storage/san-product/hw-131860.htm	Storage System	Scale-up	Ethernet, Fibre Channel	40000	No
NEC	HYDRAStor HS6-4000A	http://www.necam.com/HYDRAStor	Storage System	Scale-out	Ethernet	7920000	No
Hewlett Packard (HP)	HP StoreOnce 4500 Backup	http://www.hp.com/go/storeonce	Storage System	Scale-up	Ethernet, Fibre Channel	168000	Yes
Hewlett Packard (HP)	HP StoreOnce 4700 Backup	http://www.hp.com/go/storeonce	Storage System	Scale-up	Ethernet, Fibre Channel	192000	Yes
Hewlett Packard (HP)	HP StoreOnce 4900 Backup	http://www.hp.com/go/storeonce	Storage System	Scale-up	Ethernet, Fibre Channel	560000	Yes
Hewlett Packard (HP)	HP StoreOnce VSA	http://www.hp.com/go/storeoncevsa	Software (for Software Defined Storage)	Scale-up	Ethernet	50000	Yes
Seagate Technology	Seagate Enterprise Backup & Recovery Appliances	http://seagate.com/dp-appliances	Storage System, Controller	Scale-up	Ethernet	100000	No
Seagate Technology	Plug-n-Protect Appliances	http://seagate.com/dp-appliances	Storage System, Controller	Scale-up	Ethernet	24000	No
Seagate Technology	Seagate EVault Backup Target Appliance	http://seagate.com/dp-appliances	Storage System, Controller	Scale-up	Ethernet	65000	No
Hitachi Data Systems	HUS-VM (Hitachi Unified Storage-Virtual Machine)	http://www.hds.com/assets/pdf/hitachi-data-sheet-unified-storage-vm-all-flash.pdf	Storage System	Scale-up	Ethernet, Fibre Channel	64000000	No
Hitachi Data Systems	Hitachi NAS (HNAS) Model 4040	http://www.hds.com/assets/pdf/datasheet-hus-and-hitachi-nas-platform-4000-series.pdf	Gateway	Scale-up, Scale-out	Ethernet, Fibre Channel	4000000	No

Replication Products

Vendor Name	Product/Series/Model	Product URL	Deployment Packaging	Supported Storage Targets for Replica	Replication Modes	Replication Distance	Topology
EMC Corporation	Data Domain Replicator		Storage Device	Homogeneous	Asynchronous	Wide Area	1:1, 1:Many, Many:1, Bi-directional, Multi-hop
NetApp, Inc.	SnapMirror		Storage Device	Homogeneous	Synchronous, Asynchronous, Periodic	Local Area, Metro Area, Wide Area	1:Many
Fujitsu	ETERNUS CS800	http://www.fujitsu.com/fts/products/computing/storage/solutions/eternus/cs800/	Storage Device	Homogeneous	Asynchronous, Periodic	Local Area, Metro Area, Wide Area	1:1, 1:Many, Many:1, Bi-directional, Multi-hop
Fujitsu	ETERNUS CS High End	http://www.fujitsu.com/fts/products/computing/storage/solutions/eternus/high-end	Storage Device	Homogeneous	Synchronous, Asynchronous	Local Area, Metro Area, Wide Area	1:1, 1:Many, Many:1, Many:Many, Bi-directional, Multi-hop
Hewlett Packard (HP)	HP StoreOnce Catalyst	http://www.hp.com/go/storeonce	Storage Device		Synchronous	Wide Area	1:1, 1:Many, Many:1, Many:Many, Bi-directional, Multi-hop
FalconStor Software	Network Storage Server (NSS)		Host, Storage Device	Heterogeneous	Synchronous, Periodic	Local Area, Metro Area, Wide Area	1:01
NEC	HYDRAStor RepliGrid		Storage Device	Heterogeneous	Asynchronous	Local Area, Metro Area, Wide Area	1:1, 1:Many, Many:1, Many:Many, Bi-directional
Hitachi Data Systems	Hitachi Content Platform (HCP) Model 300	http://www.hds.com/assets/pdf/hitachi-datasheet-content-platform.pdf	Storage Device		Asynchronous, Periodic	Local Area, Metro Area, Wide Area	1:1, Many:1, Bi-directional, Multi-hop
Hitachi Data Systems	Hitachi Content Platform (HCP) Model 500	http://www.hds.com/assets/pdf/hitachi-datasheet-content-platform.pdf	Storage Device		Asynchronous, Periodic	Local Area, Metro Area, Wide Area	1:1, Many:1, Bi-directional, Multi-hop
Hitachi Data Systems	Hitachi Content Platform (HCP) Model 500XL	http://www.hds.com/assets/pdf/hitachi-datasheet-content-platform.pdf	Storage Device		Asynchronous, Periodic	Local Area, Metro Area, Wide Area	1:1, Many:1, Bi-directional, Multi-hop
Seagate Technology	EVault Offsite Replication Service	http://www.evault.com/products/data-replication-service/	Storage Device	Any Private Cloud, Approved Public Clouds	Periodic	Local Area, Metro Area, Wide Area	1:Many
Hitachi Data Systems	Global Active Device (GAD)	http://www.hds.com/assets/pdf/hitachi-datasheet-global-active-device.pdf	Storage Device	Must be same as source	Synchronous	Local Area, Metro Area	Bi-directional
Hitachi Data Systems	TrueCopy	http://www.hds.com/assets/pdf/hitachi-datasheet-truecopy-remote-replication-enterprise-storage.pdf	Storage Device	Must be same as source	Synchronous, Asynchronous	Local Area, Metro Area	1:1, 1:Many, Many:1, Many:Many, Bi-directional
Hitachi Data Systems	Hitachi Universal Replicator (HUR)	http://www.hds.com/assets/pdf/hitachi-datasheet-universal-replicator-software.pdf	Storage Device	Must be same as source	Asynchronous	Local Area, Metro Area, Wide Area	1:1, 1:Many, Many:1
Hitachi Data Systems	Hitachi Thin Image (HTI)	http://www.hds.com/assets/pdf/hitachi-datasheet-thin-image-snapshot.pdf	Storage Device	Must be same as source	Asynchronous	Local Area	1:01
Hitachi Data Systems	ShadowImage	http://www.hds.com/assets/pdf/hitachi-datasheet-shadowimage-heterogeneous-replication-software.pdf	Storage Device	Must be same as source	Asynchronous, Periodic	Local Area	1:01
Hitachi Data Systems	Hitachi NAS (HNAS Model 4040)	http://www.hds.com/assets/pdf/datasheet-hus-and-hitachi-nas-platform-4000-series.pdf	Storage Device	Approved Private Clouds, Approved Public Clouds	Synchronous, Asynchronous, Periodic	Local Area, Metro Area, Wide Area	1:1, 1:Many, Many:1, Many:Many, Bi-directional, Multi-hop
Hitachi Data Systems	Hitachi NAS (HNAS Model 4060)	http://www.hds.com/assets/pdf/datasheet-hus-and-hitachi-nas-platform-4000-series.pdf	Storage Device	Approved Private Clouds, Approved Public Clouds	Synchronous, Asynchronous, Periodic	Local Area, Metro Area, Wide Area	1:1, 1:Many, Many:1, Many:Many, Bi-directional, Multi-hop
Hitachi Data Systems	Hitachi NAS (HNAS Model 4080)	http://www.hds.com/assets/pdf/datasheet-hus-and-hitachi-nas-platform-4000-series.pdf	Storage Device	Approved Private Clouds, Approved Public Clouds	Synchronous, Asynchronous, Periodic	Local Area, Metro Area, Wide Area	1:1, 1:Many, Many:1, Many:Many, Bi-directional
Hitachi Data Systems	Hitachi NAS (HNAS Model 4100)	http://www.hds.com/assets/pdf/datasheet-hus-and-hitachi-nas-platform-4000-series.pdf	Storage Device	Approved Private Clouds, Approved Public Clouds	Synchronous, Asynchronous, Periodic	Local Area, Metro Area, Wide Area	1:1, 1:Many, Many:1, Many:Many, Bi-directional

Backup/Recovery Products

Backup Target: The physical backup media may be **disk** (including VTL), or **removable media** (including tape and optical disc). **Cloud** indicates the backup target is a storage service accessed over the internet, or a private network.

Deployment Packaging: Backup **appliances** are deployed as hardware. Backup **applications** and **virtual appliances** are deployed as software.

Client Platforms: Computing platform/OS the backup client can execute on.

Backup Methodology: **Level 0** = backup all objects (aka **full**); **Level 1** = backup only objects changed since the last full backup (aka **differential or cumulative incremental**); **Level 2+** = backup only objects changed since the last backup [at the next lowest level] (aka **incremental**); **Incremental Forever** (after initial full backup); **Continuous** = backup all writes (aka **Continuous Data Protection**).

Deduplication –When: **Inline** indicates data deduplication is performed before writing the deduplicated data.

Post-process indicates data deduplication is performed after the data to be deduplicated has been initially stored. A vendor may specify **policy-based** data deduplication and provide further information as “Additional Features/Options.”

Capacity Optimized Storage Products

Deployment Packaging: A **storage system** includes the storage media with deduplication capabilities. A **gateway** is a dedicated data deduplication engine that must be combined with a storage system. A **component** is hardware such as a chip or a card which performs space reduction functions that may be integrated into a system.

Scalability Approach: **Scale-up** means capacity and performance growth of the system is bound to a single product unit boundary. **Scale-out** allows capacity and performance growth to span product unit boundaries.

Connectivity: This refers to cable connector type: **Ethernet**, **Fibre Channel**, or **ESCON**. Note that FICON is Fibre Channel.

Maximum Raw Capacity (GB): Gigabyte (GB) refers to 1 000 000 000 bytes.

VTL Support: Virtual Tape Libraries are virtual devices with the characteristics of a physical tape library; typically a VTL uses one or more disk devices as its storage medium, but responds to commands like a tape library. **Yes** if the number of virtual tape libraries supported is > 0; else **No**.

Replication Products

Deployment Packaging: Replication may be **host-**, **network-**, or **storage device-**based.

Supported Storage Systems: Indicates if the source and replica storage systems must be the same type (**homogeneous**) or not (**heterogeneous**).

Replication Modes: **Synchronous** and **Asynchronous** refer to methods of maintaining synchronization.

Periodic creates and transmits a replica (e.g., clones and delta snapshots) one or more times.

Replication Distance: Indicates the replication distance the solution was designed to support (**local area**, **metro area**, or **wide area**).

Topology: **1:1**, **1:Many**, **Many:1**, **Many:Many** indicate the number of source and replica storage systems that replication can be established between. **Bi-directional** indicates a storage system can act as a source and replica storage system simultaneously. **Multi-hop** indicates a storage system can act as a replica storage system and then as a source storage system.

SNIA Premier Member Companies Participating in the Product Selection Guide

NEC Corporation of America

NEC Corporation of America (NEC) is a leading technology integrator providing solutions that improve the way people work and communicate. We deliver one of the industry's broadest portfolios of technology solutions and services, including server and storage infrastructure, unified communications, big data analytics, optical network systems, microwave radio communications and biometric security.

NEC's HYDRAsstor scale-out grid storage delivers high performance, capacity-optimized, and highly available storage solutions, solving backup, long-term data archive, and DR challenges for business of all sizes. For more information about HYDRAsstor, visit www.necam.com/HYDRAsstor.

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