



DSA-N2B40 iSCSI Disk Array Series



- ▶ **Scale-out network storage solution: base unit with up to six disk shelf expansion units**
- ▶ **Configurable RAID-4 or RAID-DP (Double Parity) data protection**
- ▶ **Redundant hot-swappable power supplies and cooling fans**
- ▶ **Four Gigabit Ethernet ports for high speed iSCSI connectivity**
- ▶ **Modular design for ease of service**
- ▶ **Central management through Web-based GUI**

The DSDA iSCSI series represent the second generation of Bosch Digital Video Disk Arrays and are designed for the security industries most demanding digital video storage applications to manage the relentlessly growing digital video data.

The DSA-N2B40 provides the utmost scalability and performance within the Bosch iSCSI disk array portfolio.

Functions

The DSA-N2B40 is the co-branded FAS Series FAS 2040 from NetApp which provides a scale-out network storage solution that provides security, high “in-the-box” scalability, peace-of-mind data protection, and simplified management of all your video data. NetApp’s FAS Series are based on a 16-year enterprise proven and well tested OS—Data ONTAP. NetApp pioneered the iSCSI protocol years ago and remains the market leader.

Designed as a scale-out system, the DSA-N2B40 allows connecting up to six disk shelf expansion units to one base unit. The base unit provides a maximum of 12 x 1 TB SATA-II hard disk drives and each disk shelf expansion unit will provide a maximum of 14 x 1 TB hard disk drives.

The DSA-N2B40 is a fully featured RAID protected disk array which provides RAID-4 protection for capacity-oriented environments and RAID-DP protection for availability oriented environments. RAID-DP (Double Parity) is a form of RAID-6 without any performance penalty. RAID-DP is strongly recommended if the system will be used with disk shelf expansion units.

High Reliability and Availability

With redundant hot-swap power and cooling, four Gigabit Ethernet ports, NVRAM, and protection from double-disk failure and single bit errors during RAID rebuilds with RAID-DP, the DSA-N2B40 keeps your data safe and available.

Monitoring

Full SNMP support with agents compatible with SNMP version 1 as well as MIB-II and NetApp custom MIBs supported. In case of component failures SNMP, e-mails (Autosupport Mails) or HTTP (HTTPS) messages will be generated.

Features

The intelligent combination of battery backed up nonvolatile RAM (NVRAM), the NetApp RAID-DP technology and the Write Anywhere File Layout (WAFL) all contribute to data reliability and recoverability and provide superior system performance.

The RAID-4 or the RAID-DP protection allows for capacity expansion on the fly, with no RAID rebuilt or interruption to users. This is getting more and more important as HDD capacities are getting bigger and bigger.

Certifications and Approvals

Region	Certification	
Europe	CE	DSA-N2B40
Global	RoHS	DSA-N2B40
	CB	DSA-N2B40
Russia	GOST	DSA-N2B40
USA	UL	DSA-N2B40
Australia	CTICK	DSA-N2B40
Canada	CSA	DSA-N2B40
China	BSMI-DoC	DSA-N2B40
Japan	VCCI	DSA-N2B40
Argentina	IRAM	DSA-N2B40
South Africa	SABS	DSA-N2B40
Nigeria	SONCAP	DSA-N2B40
Korea	KCC	DSA-N2B40

Installation/Configuration Notes

Central management is provided by a Web GUI administration tool. There is no additional software necessary to be installed on peripheral devices.

In addition the system provides a powerful Command Line Interface (CLI) which is fully remote accessible either by telnet, ssh or rsh.

The DSA-N2B40 provides a maximum bandwidth of 400 Mbps with a maximum of 256 concurrent iSCSI connections.

The net capacity available is shown in the following table.

Configuration information	Net capacity (GB)
(RAID-4)	
1 x FAS 2040 base unit	6968
(RAID-DP)	
1 x FAS 2040 base unit	6334
1 x FAS 2040 base unit	
• plus 1 x extension shelf	13935
• plus 2 x extension shelf	21536
• plus 4 x extension shelf	36738
• plus 6 x extension shelf	51940
1 x extension shelf	7601

If a base unit plus a disk shelf expansion unit is ordered, the technical specifications given below simply add.



Technical Specifications

Base Unit—DSA-N2B40-12AT

Electrical requirements—one controller module

Input voltage: 100 to 120 V	Worst case, single PSU	System, two PSUs
• input current measured	3.62 A	3.53 A
• input power measured	357 W	345 W
• thermal dissipation	1217 BTU/h	1177 BTU/h
Input voltage: 200 to 240 V	Worst case, single PSU	System, two PSUs
• input current measured	1.81 A	1.8 A
• input power measured	347 W	337 W
• thermal dissipation	1183 BTU/h	1149 BTU/h
Input power frequency	50 to 60 Hz	50 to 60 Hz

System hardware specifications

Chassis	87.6 mm (3.45"), fits into 2U space, 19" IEC rack-compliant (449 mm, 17.6")
Power supplies	Dual redundant, hot pluggable
Max disk drives	12 x 1 TB SATA-II drives
Max net capacity	~7000 GB (RAID-4 configuration)
DDR2 memory (system RAM)	4096 MB
Nonvolatile SDRAM (NVRAM)	256 MB—protects "in flight" transactions for 3 days in the event of a power loss
Integrated I/O	4 x 10/100/1000 Gigabit Ethernet, copper
Remote management (via LAN)	Yes

Mechanical

Dimensions (H x W x D)	89 x 447 x 572 mm (3.5 x 17.6 x 22.5 in)
Weight	27.215 kg (60 lb), full

Space requirements

Front-cooling	152 mm (6 in)
Rear-cooling	305 mm (12 in)
Front of chassis-maintenance	762 mm (30 in)
Rear of chassis-maintenance	914 mm (36 in)

Environmental

Operating temperature	+10 °C to +40 °C (+50 °F to +104 °F)
Non-operating temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative humidity	20 to 80%, non-condensing
Acoustic level	N/A

Disk Shelf Expansion Unit—DSX-N2X00-14AT

Electrical requirements

Input voltage: 100 to 120 V	Worst case, single PSU	System, two PSUs
• input current measured	3.42 A	3.22 A
• input power measured	341 W	321 W
• thermal dissipation	1163 BTU/h	1095 BTU/h
Input voltage: 200 to 240 V	Worst case, single PSU	System, two PSUs
• input current measured	1.63 A	1.60 A
• input power measured	323 W	309 W
• thermal dissipation	1103 BTU/h	1054 BTU/h
Input power frequency	50 to 60 Hz	50 to 60 Hz

System hardware specifications

Chassis	3U, 19"-rack-mountable
Power supplies	Dual redundant, hot pluggable
Max disk drives	14 x 1 TB SATA-II drives
Max net capacity	~7600 GB
Shelf connectivity	Fibre Channel: <ul style="list-style-type: none"> • copper • fiber

Mechanical

Dimensions (H x W x D)	113 x 447 x 552 mm (5.25 x 17.6 x 22 in)
Weight	30.8 kg (68 lb), fully loaded

Space requirements

Front-cooling	153 mm (6 in)
Rear-cooling	305 mm (12 in)
Front of chassis-maintenance	559 mm (25 in)
Rear of chassis-maintenance	305 mm (12 in)

Environmental

Operating temperature	+5 °C to +40 °C (+41 °F to +104 °F)
Non-operating temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Relative humidity	20 to 80%, non-condensing
Acoustic level	58 dBA at +23 °C

Notes:

- General technical specifications for the RAID system are provided in the NetApp Site Requirements Guide (Part number 215-04823_A0, August 2009) and on <http://www.netapp.com/us/products/storage-systems/fas2000/fas2000-tech-specs.html> (last access September 17, 2009).

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Ordering Information

DSA-N2B40-12AT Base unit with 12 x 1 TB SATA hard disk	DSA-N2B40-12AT
DSX-N2X00-14AT Shelf expansion unit, 14 x 1 TB hard disk	DSX-N2X00-14AT
DSA-NDTK-100A 1 TB hard disk drive	DSA-NDTK-100A
DSA-N2B40-AUG Second controller upgrade	DSA-N2B40-AUG
DSA-N2B40-26AT Base unit + 1 x shelf expansion unit, 26 x 1 TB hard disk	DSA-N2B40-26AT
DSA-N2B40-40AT Base unit + 2 x shelf expansion unit, 40 x 1 TB hard disk	DSA-N2B40-40AT
DSA-N2B40-68AT Base unit + 4 x shelf expansion unit, 68 x 1 TB hard disk	DSA-N2B40-68AT
DSA-N2B40-96AT Base unit + 6 x shelf expansion unit, 96 x 1 TB hard disk	DSA-N2B40-96AT

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