



DSA-N2B20 iSCSI Disk Array Series



- ▶ **Scale-out network storage solution: base unit with up to four disk shelf expansion units**
- ▶ **Configurable RAID-4 or RAID-DP (Double Parity) data protection**
- ▶ **Redundant hot-swappable power supplies and cooling fans**
- ▶ **Two 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.

Functions

The DSA-N2B20 is the co-branded FAS Series FAS 2020 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 15-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-N2B20 allows connecting up to four 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-N2B20 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, dual Gigabit Ethernet ports, NVRAM, and protection from double-disk failure and single bit errors during RAID rebuilds with RAID-DP, the DSA-N2B20 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.

All Bosch NetApp systems come with a 3 years Next Business Day Parts Delivery warranty and with a 3 years software warranty.

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 co-branded Bosch NetApp DSA-N2B20 comes with the Data ONTAP 7.3.1P1D9 OS version.

The DSA-N2B20 provides a maximum bandwidth of 250 Mbps with a maximum of 128 concurrent iSCSI connections.

The net capacity available is shown in the following table.

Configuration information (RAID-4) Net capacity (GB)

- 1 x FAS 2020 base unit
- with 6 x 1 TB SATA-II HDD 3167
- with 12 x 1 TB SATA-II HDD 6968

Configuration information (RAID-DP) Net capacity (GB)

- 1 x FAS 2020 base unit 6334
- 1 x FAS 2020 base unit
- plus 1 x extension shelf 13935
- plus 2 x extension shelf 21536
- 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-N2B20-12AT

Electrical requirements—one controller module

Input voltage: 100 to 120 V	Worst case, single PSU	System, two PSUs
• input current measured	3.37 A	3.22 A
• input power measured	332 W	316 W
• thermal dissipation	1133 BTU/h	1077 BTU/h
Input voltage: 200 to 240 V	Worst case, single PSU	System, two PSUs
• input current measured	1.69 A	1.66 A
• input power measured	327 W	305 W
• thermal dissipation	1114 BTU/h	1039 BTU/h
Input power frequency	50 to 60 Hz	50 to 60 Hz

System hardware specifications

Chassis	2U, 19"-rack-mountable
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)	1024 MB
Nonvolatile SDRAM (NVRAM)	256 MB—protects "in flight" transactions for 3 days in the event of a power loss
Integrated I/O	2 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	915 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)	133 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).

NetApp is a registered trademark of NetApp; RAID-DP and Data ONTAP are trademarks of NetApp, all rights reserved. All data and dimensions are referenced from the NetApp Site Requirements Guide and from the NetApp Website and are subject to change without notice.

Ordering Information

DSA-N2B20-06AT iSCSI disk array, base unit with 6 x 1 TB SATA hard disk	DSA-N2B20-06AT
DSA-N2B20-12AT iSCSI disk array, base unit with 12 x 1 TB SATA hard disk	DSA-N2B20-12AT
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-NDTK-075A 750 GB hard disk drive	DSA-NDTK-075A
DSA-XTDK-100A 1 TB hard disk drive for shelf expansion unit (DSX-N2X00-14AT)	DSA-XTDK-100A
DSA-N2B20-AUG Second controller upgrade	DSA-N2B20-AUG

Americas:
Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
security.sales@us.bosch.com
www.boschsecurity.us

Europe, Middle East, Africa:
Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: + 31 40 2577 284
Fax: +31 40 2577 330
emea.securitysystems@bosch.com
www.boschsecurity.com

Asia-Pacific:
Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6258 5511
Fax: +65 6571 2698
apr.securitysystems@bosch.com
www.boschsecurity.com

Represented by