

## IBM System Storage N3700



### **The challenge: Support cost-effective, enterprise-class storage**

Corporate workgroups, distributed enterprises and small- to medium-sized companies are increasingly seeking to network and consolidate storage to improve availability, share information, reduce costs, and protect and secure information. These organizations require enterprise-class solutions capable of addressing immediate storage needs cost-effectively, while providing an upgrade path for future requirements. Ideally, IT managers would like a maximum degree of flexibility to design the architecture that best supports the requirements of multiple types of data and a broad range of applications.

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### Highlights

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- **High availability—leverages proven features including a high performing and scalable operating system, data management software and redundancy features**
- **Heterogeneous storage access—designed to provide networked storage capable of consolidating NAS and iSCSI storage requirements**
- **FCP support—designed for operation in Fibre Channel SAN environments**
- **Scalable and upgradeable—supports scalability and rapid upgrades with no required data migration**

**The solution: IBM System Storage N3700 storage system**

IBM® System Storage™ N3700 is designed to offer you fast data access with extremely low maintenance requirements for a highly capable data storage solution. The N3700 filer integrates storage and storage processing into a single unit, facilitating affordable network deployments. These advanced storage systems leverage a proven storage architecture and offer standard IBM System Storage N series elements, including integrated I/O, high availability via clustering, and Fibre Channel disk drives. IBM System Storage N3700 models are designed to integrate easily into existing IT environments to deliver unified storage for organizations with NAS, IP SAN via iSCSI protocols, FC SAN via FCP protocols, or combined environments, making enterprise-level storage a realistic goal for company sites regardless of size or staffing.

**Enterprise-class storage based on standard IBM System Storage N series architecture**

N3700 models use Fibre Channel disk drives as their storage media to support enterprise-class reliability. All N3700 systems are configured with Data ONTAP® software. Data ONTAP can facilitate greater efficiency and productivity within your organization, which can help reduce the total cost of ownership (TCO).

**Scalability to address evolving storage needs**

With a purchase price and a scalability model that can help you protect your storage investment, the IBM System Storage N3700 offers exceptional value for organizations of all sizes. The N3700 supports low-impact scalability. This is designed to allow you to scale your storage infrastructure to keep pace with growing storage needs without taking mission-critical applications and information offline. The N3700 supports up to 16.8TB of physical capacity, and as storage needs evolve, a simple upgrade process is designed to enable you to easily and quickly upgrade an installed N3700 system.

**Highly flexible, unified storage solution**

The IBM System Storage N3700 offers an excellent solution for a broad range of deployment scenarios. The N3700 supports Ethernet environments, enabling economical NAS and iSCSI deployments. The N3700 system functions as a “unification engine”, which is designed to allow you to simultaneously serve both file and block-level data across a single network—demanding procedures that for some solutions require multiple, separately managed systems. The flexibility of the N3700 allows it to address the storage needs of a wide range of organizations, including distributed enterprises and data centers for midrange enterprises. The N3700 also supports sites with computer and data-intensive enterprise applications such as database, data warehousing, workgroup collaboration and messaging.

**Affordable data protection for distributed enterprises**

N3700 storage systems can offer significant advantages for distributed enterprises with remote and branch office sites. These organizations and others can leverage the SnapVault® and SnapMirror® software functions to implement a cost-effective data protection strategy by mirroring data back to a corporate data center. N3700 systems can help improve data availability, and simplify backup and restore operations by implementing centralized backup via a single methodology, which helps reduce tape management

requirements and the need for remote systems administration. Recovering data backed up on IBM System Storage N3700 systems can be faster and more reliable than recovering from tape.

This solution helps reduce the requirement for sophisticated IT infrastructure and local, resident IT support resources at remote sites, and leverages the advantages of IBM System Storage N3700 systems installed at corporate headquarters.

**Helps reduce TCO and provide long-term investment protection**

N3700 systems support a low TCO with an affordable price point, easy installation and configuration, and ease of ongoing maintenance. Standardization on the IBM System Storage N3700 storage architecture can help your organization leverage staff IT skills and reduce complexity. The innovative design of the N3700 results in a smaller form-factor appliance that conserves scarce and valuable space in data centers or remote office locations. In addition, the ability to support unified storage networks allows you to leverage your current network investment while deploying a long-term, highly scalable and easily upgradeable storage solution.

## IBM System Storage N3700 at a glance

|   |  |
|---|--|
| <b>Operating system</b>                       | IBM System Storage N3700 with Data ONTAP 7.1 software  |
| <b>Standard software features</b>             | Integrated automatic RAID manager, Snapshot™, Fast Boot, telnet, e-mail alerts, NIS, DNS, SNMP, FilerView®, NDMP, SecureAdmin™, FlexVol™, AutoSupport  |
| <b>Network protocol support</b>               | NFS V2/V3/V4 over UDP or TCP, PCNFSD V1/V2 for (PC) NFS client authentication, Microsoft® CIFS, VLD, FTP, HTTP 1.0, HTTP 1.1 Virtual Hosts   |
| <b>SAN protocol support</b>                   | iSCSI  |
| <b>Licensed software products</b>             | FlexClone™, SnapMirror, SnapVault, SnapRestore®, SnapLock™, Clustered Failover, MultiStore®, LockVault™, SnapDrive™ for Windows®, SnapDrive for UNIX®, SnapManager® for Exchange, SnapManager for SQL, and Single Mailbox Recovery   |
| <b>Hardware features</b>                      | 3U Integrated filer and disk storage available in 19" rack-mount configurations, redundant hot-plug power supplies and cooling, 2 integrated full duplex 10/100/1000 Ethernet ports per NAS controller, 2 integrated FC ports per NAS controller, CompactFlash and diagnostic LEDs/OPS   |
| <b>Default/min./max. RAID group sizes</b>     | Default: All N3700 devices shipped with root volume using RAID-DP. Root consists of 3 disks (1 data and 2 parity). System Administrator can change the designated root volume and create any new volumes using:<br>RAID 4 or RAID-DP<br>RAID 4 minimum configuration: 1 data + 1 parity / Maximum: 13 data + 1 parity<br>RAID-DP minimum configuration: 1 data + 2 parity / Maximum: 26 data + 2 parity (FC) |
| <b>Disk storage expansion units supported</b> | EXN2000, (formerly EXP600) – Fibre Channel (FC) Disk Storage Expansion Unit<br>EXN1000 – Serial Advanced Technology Attachment (SATA) Disk Storage Expansion Unit  |
| <b>Disk drive capacities supported</b>        | EXN2000 – 10K RPM FC disk drives (72GB, 144GB, 300GB), 15K RPM FC disk drives (72GB, 144GB)<br>EXN1000 – 7200 RPM SATA disk drives (250GB, 320GB, 500GB)   |

| <b>Filer specifications</b>  | <b>N3700 A10</b> | <b>N3700 A20</b> |
|--|------------------|------------------|
| <b>Max. raw capacity</b>   | 16.8TB           | 16.8TB           |
| <b>Max. number of disk drives</b>  | 56               | 56               |
| <b>Volumes and RAID groups</b> (min./max. of 1 RAID group per volume)                                    | 1/7              | 1/7              |
| <b>Max. volume size</b> (physical capacity)  | 8TB              | 8TB              |
| <b>ECC memory</b>  | 1GB              | 2GB              |
| <b>Nonvolatile memory</b>  | 128MB            | 256MB            |
| <b>Ethernet 10/100/1000 copper</b>   | 2                | 4                |
| <b>Copper FC ports for EXN expansion unit attachment</b>   | 1                | 2                |
| <b>Optical FC ports for tape attachment</b>  | 1                | 2                |
| <b>Clustered failover-capable</b>  | No               | Yes              |
| <b>Rack Mount (in IBM 2101 Storage Solutions Rack Model 200 or other industry-standard 19-inch rack)</b> | Yes              | Yes              |

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## Environmental specifications

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|--|--|
| <b>AC power / max. current</b>                           | 100 to 120VAC, 4 A; 200 to 240VAC, 2 A   |
| <b>Thermal rating</b>                                    | 1,215 Btu/hr (fully loaded shelf)  |
| <b>Dimensions</b> (height/width/depth)                   | 3 EIA U (5.25", 13.3 cm) / 19" EIA rack compliant (17.6", 44.7 cm) / 20" (50.8 cm)               |
| <b>Weight</b> (max.)                                     | 78.8 lb (35.8 kg) fully loaded   |
| <b>Operating temperature &amp; relative humidity</b>     | 10°C to 40°C (50°F to 104°F); 10% to 90% relative humidity, non-condensing                       |
| <b>Non-operating temperature &amp; relative humidity</b> | -40°C to 65°C (-40°F to 149°F); 10% to 95% relative humidity, non-condensing                     |
| <b>Operating acoustic noise</b>                          | <49 dBA @ 1m at 23°C   |
| <b>Min. service clearances</b>                           | 9" (23 cm) front; 30" (76.2 cm) rear; 3" (7.6 cm) rear for cable radius                          |
| <b>Storage sub-system</b>                                |  |
| <b>Disk drive storage system</b>                         | Up to 3 EXN disk expansion units with 14 low-profile slots for FC and/or SATA disk drives (each) |
| <b>Disk drive storage interface</b>                      | Fibre-Channel Arbitrated Loop (FC-AL)  |
| <b>Power supply/cooling fans</b>                         | Dual, redundant, hot-pluggable, integrated power supply/fan assemblies (220V/110V)               |

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## Regulations

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|--------------------------|---|
| <b>Filer safety</b>      | EN 60950:2000, CE, UL60950-2000, CSA 60950-00, CB IEC 60950 Ed. 3 (all national deviations), EN60825-1:1994+A11, IRAM, GOST-R |
| <b>Disk shelf safety</b> | UL/C-UL; CE   |
| <b>Emissions</b>         | FCC Class A, EN 55022:1998, EN 61000-3-2, EN 61000-3-3, CE, BSMI, AS/NZ 3548, VCCI  |
| <b>Immunity</b>          | EN 55024:1998   |

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## N3700 Enterprise Filer supported backup methods

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|---|---|
| <b>Disk-based backup</b>                                    | SnapVault, SnapMirror   |
| <b>Host-based backup</b>                                    | NDMP/NFS/CIFS/iSCSI   |
| <b>GbE-attached tape support</b>                            | <b>ibm.com</b> /storage/nas, refer to System Storage N series interoperability matrix |
| <b>Direct-attached tape support</b>                         | <b>ibm.com</b> /storage/nas, refer to System Storage N series interoperability matrix |
| <b>SAN-attached tape support</b>                            | <b>ibm.com</b> /storage/nas, refer to System Storage N series interoperability matrix |
| <b>iSCSI initiator, IP fabric and host attached support</b> | <b>ibm.com</b> /storage/nas, refer to System Storage N series interoperability matrix |

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## For more information

Contact your IBM representative or IBM Business Partner or visit:

[ibm.com/storage/nas/](http://ibm.com/storage/nas/)



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MB, GB and TB equal 1,000,000, 1,000,000,000 and 1,000,000,000,000 bytes, respectively, where referring to storage capacity. Actual storage capacity will vary based upon many factors and may be less than stated. Some numbers given for storage capacities give capacity in native mode followed by capacity using data compression technology.

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