



NETRA™ st A1000 AND D1000 CARRIER-GRADE STORAGE ARRAYS

Reliable, flexible telecom storage for network service providers.

For network service providers, Sun's carrier-grade Netra™ st A1000 and D1000 storage arrays provide the flexibility, reliability, and performance you expect from Sun. The arrays support more than 100 GB of disk capacity and feature 10,000-rpm, low-profile drives for high performance. For high data availability, Sun offers Netra st A1000 with a hardware RAID controller. The Netra st D1000 provides high storage density and low cost per

megabyte in a JBOD array. Both arrays are Telcordia Technologies NEBS Level 3 Certified for reliable operation in extreme conditions, and their rugged metal enclosures reduce fire and electrical interference. Redundant, hot-swap components make it easy to service while online, and a choice of AC or DC power and rack-mount options lets you deploy the storage for telco and Internet applications.

HIGHLIGHTS

- Up to twelve 18 GB or 26 GB low-profile 10,000-rpm drives for high performance.
- Netra st A1000 adds a hardware RAID controller for reliable high performance.
- 18 GB or 36 GB disks provide 218 GB to 436 GB of storage in a single array.
- Ruggedized, carrier-grade packaging for severe conditions, including earthquake, temperature extremes, and corrosive gas.
- Telcordia Technologies NEBS Level 3 Certified in form, fit, and function for telco central offices, and wireless deployment.
- Hot-swap and redundant disk drives, AC or DC power supplies, and fans.
- Easy administration, with status of array and components, LEDs for every FRU.
- Rack mounting in 19-, 23-, 24-in., and 600-mm formats; front or center mounts.
- Standard UltraSCSI technologies for compatibility with Sun and other open technologies, for fast time to market.
- Earthquake zone 4 certified and open-door ESD and EMI certified.

Netra™ st A1000 and D1000 Storage Arrays

For Web and media content, e-mail and news delivery, e-commerce, database service for network controllers, voice mail and messaging, and much more, the Netra st A1000 and D1000 disk arrays deliver the reliability and high-performance telecommunications and network service providers require — in a tough, reliable, Telcordia Technologies NEBS Level 3 Certified package.

NETRA st A1000	Hardware RAID controller supports RAID level 0, 1, 0+1, 3, 5 Maximum of 16 LUNs per target Battery-backed cache memory (24 MB to 80 MB)
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NETRA st D1000	JBOD Additional storage for striping and mirroring applications Two SCSI chains, each with two external connectors (can connect into one chain)
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NETRA st A1000/D1000 CHASSIS	4 to 12 hot-plug UltraSCSI drives Redundant hot-swap power supplies (AC or DC) Redundant hot-swap fan trays Drive access in chassis front, cable access in back
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CARRIER FEATURES	19-in. rack-mountable standard, both front and center mounting; support 23-in., 24-in., and 600-mm rack options, front or center mount Right-angled SCSI cable available for 23-in. (depth) rack space Built-in air filter Flame resistant, fireproof metal enclosure Telcordia Technologies NEBS Level 3 Certified
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STATUS AND SENSORS	Temperature, fan-speed, and power-level sensors; sensor information accessible from host LED for system status and each field replaceable unit (drive, fan, power supply, RAID controller)
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ULTRASCSI DIFFERENTIAL INTERFACE TO HOST	Standard ANSI (X3.131-1944, X3.277-1996) Maximum length 25 m
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DISK DRIVES	Form factor 3.5-in., low-profile, high-voltage differential UltraSCSI Low profile 9.1 GB, 18.2 GB, or 36.4 GB, 10,000 rpm MTBF (per drive) Up to 1,200,000 hours
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SOFTWARE	RAID Manager graphical user interface, command line
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SUPPORTED PLATFORMS	Netra t1, t 1120, t 1125, t 1400, t 1405, ft 1800 (st D1000 only) Enterprise™ 220R, 420R, 4500
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ENVIRONMENT	Power Choice of AC or DC AC power 100–240 VAC (47–63 Hz) DC power –48/–60 VDC
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ENVIRONMENT (continued)	Input power 5 A at 100 VAC (500 W) Operating –5°C to 40°C (41°F to 104°F) 20% to 80% relative humidity, noncondensing, subject to a maximum absolute humidity of 0.024 kg water/kg of dry air Short-term 5°C to 50°C (23°F to 122°F) 5% to 90% relative humidity, noncondensing (96 consecutive hours) Altitude –300 m to +3000 m Nonoperating –40°C to 70°C (–40°F to 158°F) 10% to 95% relative humidity, noncondensing ETSI ETS 300-19-2-3, Table 3.1, Climatic Acoustic noise Less than 60 dBA (GR-63-Core Test Method) Seismic Meets GR-63-Core requirements for earthquake risk zone 4 Meets ETSI ETS 300-19-2-3, A1 operating requirements Heat output 1,540 BTUs/hr
REGULATIONS	Designed to meet the following test standards: Safety UL 1950/CSA C22.2 No. 950, EN 60950 (73/23/EEC), IEC 950 Emissions CFR Title 47 FCC Part 15, EN 55022 (89/336/EEC) Immunity EN50082-1 (89/336/EEC) Telco environment Telcordia: GR-63-CORE, GR-1089-CORE, TR-NWT-000295

CERTIFICATIONS	Telcordia SR 3580 NEBS Level 3 Safety cULus Mark, TUV GS Mark, CE Mark EMC CE Mark (93/68/EEC), FCC authorized Class A
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DIMENSIONS AND WEIGHTS	Height 177 mm (7.0 in.), 4U Width 450 mm (17.7 in.) Depth 532 mm (20.92 in.) Weight (without drives) 24.9 kg (55.0 lb.) Weight (with 12 drives) 32.1 kg (71.0 lb.) AC power cord (x2) 2 m (6.5 ft.)
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NETRA CARRIER-GRADE COMPUTER SYSTEMS

Netra t 1120/t 1125 	Netra t 1400/t 1405 	Netra ft 1800 	Netra st D130 
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