

# TrueNAS® Unified Storage X10/X20

Based on FreeNAS®, the world's #1 Open Source software-defined storage OS, hardened and tuned for enterprise storage applications.

Businesses today demand more powerful, reliable, and flexible storage than ever before. To keep pace, IT departments must implement solutions that tax their storage budgets in order to scale storage along with the demand. Traditional solutions can create massively-complex storage islands that are often expensive, inefficient, and difficult to manage. By contrast, TrueNAS offers a solution that combines the flexibility of unified storage, the performance and efficiency of solid state flash drives, the capacity of hard disks, the familiarity and simplified management of the FreeNAS user interface, and white glove enterprise support.

Every TrueNAS X10/X20 has a full range of file, block, and S3-compatible object protocols. Its unified architecture reduces deployment risks, conserves power, space, and cooling, and reduces possible failure points by an order of magnitude. Its hybrid storage pools and intelligent storage optimization allow you to maximize storage efficiency by accelerating ROI by achieving consolidation ratios of up to 2.5x. TrueNAS includes compression, deduplication, snapshots, and replication at no extra cost.

Whether it is a primary file store, offsite replication target for business continuity, databases, or media storage, the TrueNAS X10/X20 fits your application. TrueNAS X10/X20 provides scalability, data integrity, reliability, and ease-of-management for business that never sleeps.

## TRUECACHE™: HYBRID STORAGE POOLS

Solid-state performance at spinning-disk capacity and cost. TrueNAS leverages a technology called TrueCache that merges multi-layer non-volatile cache with high-density spinning disks. System RAM and SSDs are used to cache reads and writes while HDDs store the data. The performance of RAM and SSD are orders of magnitude faster than HDDs, while their power requirements are much lower. TrueNAS lets you increase performance and scale capacity while conserving power and saving money.



## SELF-HEALING FILE SYSTEM

Data integrity is the name of the game, and TrueNAS leaves nothing about your data to chance. In-flight data corruption is automatically detected and repaired before it ever reaches disk, and bit rot and data decay are identified and scrubbed clean, forever preserving data for posterity. Simply put, what you store on an iXsystems storage solution today will look the same tomorrow, a year from now, or even 10 years from now.

## INTELLIGENT STORAGE OPTIMIZATION

TrueNAS includes in-line compression and deduplication at no additional cost. The TrueNAS Adaptive Compression (TAC) algorithm is so efficient that it actually boosts storage performance while maximizing storage capacity. TAC intelligently adjusts its compression ratio without wasting system resources. Before data is stored, TrueNAS dynamically detects and compresses what it can and skips over any data too inefficient to be worthwhile.

## UNLIMITED SNAPSHOTS & REPLICATION

Most storage appliances require additional licenses for advanced features - not TrueNAS. Unlimited file version retention and restoration are at your fingertips. Data is automatically protected locally against unintentional alteration with minimal storage consumption and can be bi-directionally replicated remotely for backups or disaster recovery. With the power of TrueNAS, any data protection or disaster recovery policy is simple to implement and maintain.

## SOFTWARE SPECIFICATIONS

### FILE-BASED PROTOCOLS

- CIFSv1, SMBv2, SMBv3
- NFSv3, v4
- AFP
- FTP
- WebDAV

### BLOCK-BASED PROTOCOLS

- iSCSI
- OpenStack Cinder

### OBJECT-BASED PROTOCOLS

- S3-Compatible RESTap

### DIRECTORY SERVICES

- Active directory (AD)
- Kerberos
- Lightweight Directory Access Protocol (LDAP)
- Apple Open Directory
- Network Information Service (NIS)

### NETWORKING

- Port Trunking/NIC Teaming and IEEE 802.3ad Link Aggregation
- VLAN Support
- DHCP client, DHCP Server

### SUPPORTED BROWSERS

- Internet Explorer 7.x and later
- Firefox 3.x and later
- Safari 3.x and later
- Chrome 3.x and later

### BACKUP

- Bidirectional OpenZFS remote replication
- rsync
- Supports Acronis, Veeam, Nakivo, NetBackup, and other backup products

### FILE SYSTEM

- Self-healing file system
- Intelligent in-line compression
- Snapshots and clones
- Thin provisioning
- Online capacity expansion
- Virtual block devices
- In-line deduplication
- ZFS Stripe, ZFS Mirror, RAIDZ, RAIDZ2, RAIDZ3

### REMOTE ADMINISTRATION

- HTTP/HTTPS Web Interface
- Email Alerts
- Remote Syslog Client
- Backup & Restore System Settings and State
- Restore to Factory Default
- Resource Monitor
- Log and Event Collection
- Automatic Online Updates
- SNMP server/MIB
- Remote management via serial over LAN
- REST API

### SUPPORTED OPERATING SYSTEMS

- Microsoft Windows XP, Vista (32/64-bit), 7 (32/64-bit), 8/8.1, 10, Server 2003/2008 R2/2012 R2/2016
- Macintosh OS X (all versions)
- Linux
- UNIX
- BSD

Unified Storage. Hybrid Storage with Simple Management, Intelligent Compression, High Availability, and TrueCache acceleration.

Storage Without Compromise.

TrueNAS X10 offers storage flexibility, performance, reliability, management simplicity, and compatibility with the TrueNAS Z product line.

Call or Click Today!

855-GREP-4-IX (US) | 408-943-4100 (non-US) | [ixsystems.com/TrueNAS](http://ixsystems.com/TrueNAS)

2490 Kruse Drive | San Jose, CA 95131

*"Storage this powerful should have another zero in the price tag."*

Terry Rataiczak, CEO, Kinetic Networking

## HARDWARE SPECIFICATIONS

### AVAILABLE DRIVES

- 7.2k RPM: 2 TB, 4 TB, 6 TB 8 TB and 10 TB
- 10k RPM: 300 GB, 600 GB, 900 GB, 1.2 TB & 1.8 TB
- 15k RPM: 300 GB, 450 GB, and 600 GB
- SSD: 250GB/400GB/500GB/800GB/1TB/1.6TB/1.92TB/3.84TB eMLC SSD (X20 only), L2ARC/ZIL
- All drives are SAS

### POWER MANAGEMENT

- Dual redundant hot-swappable high-efficiency (90%+) power supplies
- Remote power-on/off
- UPS Signal Response and Alerts

### DISK MANAGEMENT

- Hot Spares
- Hot-swappable drives
- Bad Block Scan + HDD S.M.A.R.T.
- Enclosure Monitoring and Alert LEDs
- ISO Mounting Support
- Hard Drive Activity/Alert LEDs
- Hardware-Accelerated Disk Encryption

### PHYSICAL PARAMETERS

- Dimensions 20.9" x 17.6" x 3.5"
- Operating temperature: 0°C to 40°C
- Non-operating temperature: -30°C to 60°C
- Humidity: 8% to 80% non-condensing
- RoHS 6/6 compliant

## TRUENAS X10

- Hybrid Storage
- Supports single or redundant storage controllers
- Second storage controller can be added later to upgrade to HA
- Up to 360 TB capacity
- 32 GB RAM
- Up to 400 GB flash read cache
- Read and Write caches optional
- Up to 6x1GbE or 2x10GbE Interfaces per node
- Maximum power draw\*
  - Redundant controller: 198 Watts
  - Single controller: 138 Watts

## TRUENAS X20

- Hybrid or all-flash storage
- Support single or redundant storage controllers
- Second storage controller can be added later to upgrade to HA
- Up to 720 TB of capacity
- 64 GB of RAM
- Up to 800 GB flash read cache
- Read and Write caches optional
- Up to 6x1GbE, 2x10GbE, or 2x8Gb Fibre Channel Interfaces per node
- Maximum power draw\*
  - Redundant controller: 200 Watts
  - Single controller: 140 Watts



\* Power calculations are without hard drives populated. Hard drive calculations can be made using the following maximum guidelines (per drive): 3.5" 7200RPM - 13W; 3.5" 10K RPM - 14W; 3.5" 15K RPM - 15W; 2.5" 10K RPM - 10W, SSD - 15W

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