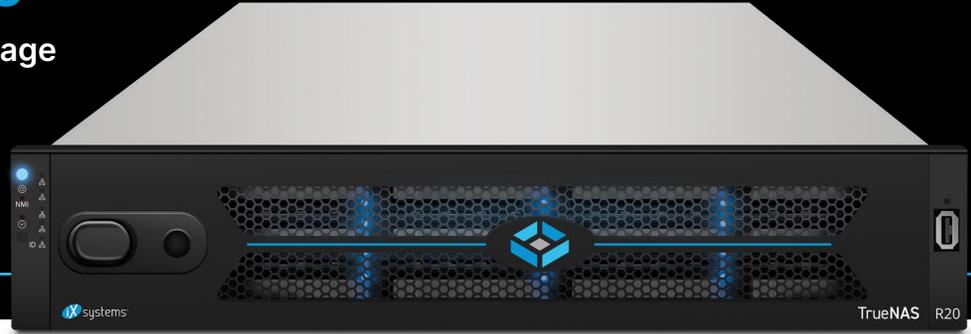


# TrueNAS R-Series

Powerful Single Controller Storage

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## Features



### High-Density Unified Storage

Combines the robust capabilities of OpenZFS with cost-effective, single-controller hardware, available in both all-flash and hybrid models.



### Scalable Architecture

Supports scale-up and scale-out S3 configurations, allowing seamless expansion from a single NAS/SAN/object target to clustered deployments, adapting to evolving storage requirements.



### Advanced Data Protection

Features self-healing OpenZFS file system with copy-on-write, automatic bit-rot detection, built-in RAID protection, unlimited snapshots, and resilient replication to safeguard data integrity.



### Flexible Integration

Compatible with major virtualization hypervisors, backup software, cloud storage services, and offers a fully-featured API for streamlined management, ensuring seamless integration into diverse IT infrastructures.

## Unmatched Value

The TrueNAS R-Series offers high-density unified storage solutions that combine the robust features of OpenZFS with cost-effective, single-controller hardware. Available in all-flash and hybrid models, these systems deliver exceptional density and price-performance, making them ideal for organizations seeking scalable and reliable storage without compromising on quality.

Designed to maximize your storage budget, the R-Series appliances cater to environments that prioritize performance and scalability per dollar. Whether deployed as a standalone NAS/SAN/object storage solution or as nodes within a scale-out S3 cluster, the R-Series provides versatile storage options that enhance value and adaptability.

## Benefits



### Cost-Effective Performance

Optimizes per-dollar performance and scalability, delivering enterprise-grade storage solutions without compromising on quality or breaking the budget.



### Simplified Data Management

Offers powerful features like data protection, snapshots, replication, scrubbing, data reduction, and security, simplifying data management tasks and reducing administrative overhead.



### Enhanced Data Integrity

Utilizes self-healing OpenZFS technology to automatically detect and repair data corruption, ensuring that stored data remains accurate and reliable over time.

Simplify data management with the R-Series' powerful features, including data protection, snapshots, replication, scrubbing, data reduction, and security. Integrated enclosure management capabilities streamline monitoring, allowing administrators to oversee drive statuses from a single interface, thereby reducing complexity and administrative overhead.



## TrueNAS R-Series Models

	TrueNAS R20	TrueNAS R30	TrueNAS R50
<b>Storage</b>	Hybrid	All NVMe	Hybrid
<b>Height</b>	2U - 10U	1U	4U - 12U
<b>Chassis Depth</b>	26", 660mm	33", 840mm	39", 990mm
<b>Controllers</b>	Single	Single	Single (field-replaceable)
<b>Drive Bays</b>	12 × 3.5", 2 × 2.5"	16 x NVMe	48 × 3.5", 4 × 2.5" (NVMe)
<b>CPU per Controller</b>	6 - 16 Cores	16 - 64 Cores	6 - 16 Cores
<b>DRAM per Controller</b>	32 GB - 192 GB	Up to 1024 GB	64 GB - 192 GB
<b>Read &amp; Write Cache</b>	2 × 960 GB SATA SSDs	N/A	4 × 3.2 TB NVMe SSD
<b>Networking</b>	2 × 10/25/40/100GbE 2 or 6 × 10GBaseT or SR	2 or 4 × 10/25/40/100 GbE 2 × 10GBase-T	2 × 10/25/40/100 GbE 2 or 6 × 10GBaseT or SR
<b>Fibre Channel (option)</b>	2 × 32Gb	Up to 4 × 32Gb	2 × 32Gb
<b>Expansion Shelves</b>	2	0	2
<b>Max Drives Supported</b>	132	16	252
<b>Max Throughput</b>	8 GB/s	20 GB/s	10 GB/s
<b>Max Raw Capacity</b>	2.9 PB	240 TB	5 PB
<b>Max Effective Capacity*</b>	6 PB	480 TB	10 PB

\* Maximum effective capacity assumes typical data reduction through compression and deduplication.

## TrueNAS Enterprise Specifications

File-Based Protocols	Block-Based Protocols	Object Protocols	Directory Services	
<ul style="list-style-type: none"> <li>SMB v1/2/3</li> <li>NFSv3, v4, RDMA</li> </ul>	<ul style="list-style-type: none"> <li>AFP, FTP, WebDAV</li> <li>iSCSI, iSER</li> <li>Fibre Channel</li> <li>OpenStack Cinder</li> </ul>	<ul style="list-style-type: none"> <li>S3-compliant using MinIO</li> <li>Single node, Clustered</li> </ul>	<ul style="list-style-type: none"> <li>Active Directory (AD)</li> <li>FreeIPA</li> </ul>	<ul style="list-style-type: none"> <li>Kerberos</li> <li>LDAP, NIS</li> </ul>
Networking	Virtualization	File System	High Availability	Data Mobility
<ul style="list-style-type: none"> <li>Port Trunking/NIC Teaming</li> <li>IEEE 802.3ad link aggregation</li> <li>IEEE 802.1q VLAN support</li> </ul>	<ul style="list-style-type: none"> <li>Supports VMware and VAAI, ESXi snapshot integration, VM Warn/Stun, vCenter</li> <li>Supports KVM, Citrix XenServer, Microsoft Hyper-V, and other common hypervisors</li> <li>Microsoft VSS, ODX, and CSV</li> <li>Integrated Apps</li> </ul>	<ul style="list-style-type: none"> <li>OpenZFS Self-healing file system</li> <li>Immutable Snapshots and clones</li> <li>Thin and thick provisioning</li> <li>Online capacity expansion</li> <li>Virtual block devices</li> <li>In-line compression and deduplication</li> <li>ZFS Stripe, Mirror, RAID-Z1/Z2/Z3, dRAID</li> </ul>	Upgrade to <a href="#">F-Series</a> , <a href="#">M-Series</a> , or <a href="#">H-Series</a> for HA Options	<ul style="list-style-type: none"> <li>Asynchronous file replication using Syncthing</li> <li>Data ingest and export to and from any SMB/NFS server</li> </ul>
Backup	Supported Public Cloud Providers	TrueSecure Security	Remote Administration	
<ul style="list-style-type: none"> <li>Snapshot-based OpenZFS local/remote replication</li> <li>Rsync and cloudsync</li> <li>Truecloud backup to Storj</li> <li>Supports Asigra, Acronis, Veeam, Nakivo, NetBackup, and more</li> </ul>	<ul style="list-style-type: none"> <li>iX-Storj</li> <li>Amazon S3</li> <li>BackBlaze B2 Cloud</li> <li>Google Cloud</li> <li>Microsoft Azure</li> </ul>	<ul style="list-style-type: none"> <li>FIPS 140 for Data-at-rest and data-in-flight</li> <li>Restricted Admins (Security, Storage, Monitor)</li> <li>Auditing of SMB &amp; Admin events (e.g. logins)</li> <li>Encrypted Drives and Datasets, KMIP</li> <li>NIST 800-209, GP-OS STIG</li> </ul>	<ul style="list-style-type: none"> <li>Alert notifications via email, AWS-SNS, Hipchat, InfluxDB, Slack, Mattermost, OpsGenie, PagerDuty, and VictorOps</li> <li>SSH, Syslog, Netdata</li> <li>Automated backup of REST APIs and SNMP system configuration and state</li> <li>Graphical reporting, enclosure management</li> <li>Signed updates with the ability to rollback</li> <li>Out-of-Band Management</li> <li>TrueCommand Management</li> </ul>	

