

Frequently Asked Questions

Oracle ZFS Storage Appliance Racked System

Introduction



Oracle ZFS Storage Appliance Racked System is a fully tested, assembled, and integrated racked storage system that delivers enhanced ROI while reducing risk. This preconfigured storage appliance dramatically shortens customers'

deployment time while providing a high-performance and highly available system. Oracle Platinum Services is included to ensure maximum uptime and rapid resolution.

Oracle ZFS Storage Appliance Racked System is designed to run applications fast and more efficiently, increase business and IT productivity, save valuable resources and reduce risk—lowering total cost of ownership. Further, codevelopment with Oracle Database maximizes the return on your Oracle software investment.

Oracle ZFS Storage Appliance Racked System is easily integrated with Oracle engineered systems. License-free data services, such as compression and analytics, drive down capital and operational costs.

With the Oracle ZFS Storage Appliance Racked System snapshot and cloning capabilities, database backups can be used for more value-added work and provide system administrators with additional recovery options. For example, snapshot deployment of database clones provides

development, quality assurance (QA), and other organizations with up-to-date copies of production data, and these additional copies add yet another safeguard in the unlikely event of an outage.

Software

Oracle ZFS Storage Appliance Racked System uses an operating system that provides simplified storage management, a comprehensive analytics environment, and a rich set of data services. Oracle ZFS Storage Appliance Racked System software consists of a storage-optimized distribution of Oracle Solaris and a web UI management application with specialized data services such as clustering. Data services such as ZFS analytics, replication, cloning, and encryption software are included in the base system.

Customer Benefits

High Availability and Scalability

Oracle ZFS Storage Appliance Racked System is configured in the factory in a high-performance and high availability configuration, which results in no single point of failure. The system is scalable and supports capacities up to 7.3 PB while maintaining balanced system performance.

Simplicity

Oracle ZFS Storage Appliance Racked System is easy to order and arrives assembled and tested, which enables for fast customer deployments.

In addition, thanks to the groundbreaking intuitive user interface provided by Oracle ZFS Storage Appliance Racked System, enterprises can reduce administration time by more than 30 percent, making it the preferred storage platform for Oracle engineered systems. Provisioning and management are dramatically simplified with an easy-to-use management interface that takes the guesswork out of system installation, configuration, and tuning.

Reduced Risk

Oracle ZFS Storage Appliance Racked System provides data integrity features that reduce the risk of lost or corrupt data. End-to-end checksumming constantly reads and checks data to ensure that it's correct. Predictive self-healing capabilities maximize system availability by automatically diagnosing, isolating, and recovering from faults. The system also provides concise diagnostic messages that link to Oracle's knowledgebase, guiding administrators through corrective tasks when human intervention is required. And industry leading triple-parity RAID further reduces the risk of data loss.

Frequently Asked Questions

- Q:** What configurations are available for Oracle ZFS Storage Appliance Racked System?
- A:** Oracle ZFS Storage Appliance Racked System is available in a dual-controller highly available base model that has 322 TB raw capacity and is expandable up to 1.47 PB in a single racked system. Additional expansion racks can be added to enable capacities up to 7.3 PB.
- Q:** What key applications can Oracle ZFS Storage Appliance Racked System used for?
- A:** Oracle ZFS Storage Appliance Racked System is ideal for Oracle engineered system storage expansion and backup. The system is also ideal for cloud-based applications.
- Q:** How fast is Oracle ZFS Storage Appliance Racked System?
- A:** Oracle ZFS Storage Appliance Racked System is capable of 50 TB/hour backup and 60 TB/hour restore throughput for full backup copies.
- Q:** How does the snapshot capability of Oracle ZFS Storage Appliance Racked System work?
- A:** A snapshot is a read-only copy of a file system or volume. Snapshots can be created almost instantly, and initially consume no additional disk space within the pool. However, as data within the active dataset changes, the snapshot consumes disk space by continuing to reference the old data, and this prevents space from being freed. ZFS snapshots have the following features and benefits:
- They persist across system reboots.
 - The theoretical maximum number of snapshots is 2⁶⁴.
 - Snapshots use no separate backing store.

- Snapshots consume disk space directly from the same storage pool as the file system from which they were created.
- Recursive snapshots are created quickly as one atomic operation. The snapshots are created together (all at once) or not created at all. The benefit of atomic snapshots operations is that the snapshot data is always taken at one consistent time, even across descendent file systems.
- Snapshots of volumes cannot be accessed directly, but they can be cloned, backed up, rolled back to, and so on.

Q: Is the cloning license an unlimited license?

A: Yes, there is no limit on the number of clones.

Q: Do I need to order separate licenses for replication, cloning, and encryption?

A: No. The base system includes replication, cloning and encryption software.

Q: Can I add additional capacity to Oracle ZFS Storage Appliance Racked System?

A: Yes. Oracle ZFS Storage Appliance Racked System supports up to an additional 38 disk enclosures and can scale up to 7.3 PB. The total system capacity can be expanded by utilizing the ZFS Storage Appliance expansion rack.

Q: Does adding additional disk arrays require downtime?

A: No downtime is required to add a disk array to an existing SAS HBA in the controller.

Q: What are some key benefits of Oracle ZFS Storage Appliance Racked System?

A: Fully Integrated and Tested System

Oracle ZFS Storage Appliance Racked System arrives fully tested and integrated in a rack, which results in enhanced ROI while reducing risk. The system radically simplifies the way storage is installed, deployed, and managed by providing the ability to support multiple workloads, including general-purpose storage expansion and backup. This significantly reduces production deployment time.

Scalable System Configurations

Oracle ZFS Storage Appliance Racked System provides two scalable, highly available, dual-controller configurations: Oracle ZFS Storage Appliance Racked System ZS5-2 and Oracle ZFS Storage Appliance Racked System ZS5-4. In addition, a full set of networking

connectivity options are available including 40 Gb InfiniBand, 10 Gb Ethernet, and 16 Gb Fiber Channel.

CPU Processing Resources

Oracle ZFS Storage Appliance Racked System can drive high-bandwidth data links to saturation, allowing advanced data services, such as compression, to be run at network speeds. By using parity-based disk protection and Oracle ZFS Storage Appliance Racked System compression, media also is used more efficiently.

Native InfiniBand Connectivity

Oracle is leading the way with native high-bandwidth InfiniBand interconnects. The QDR IB fabric provides high bandwidth between the Oracle Exadata database servers, Oracle Exadata Storage Servers (storage cells), and Oracle ZFS Storage Appliance Racked System. Overall system performance is enhanced by leveraging the InfiniBand networking connectivity.

DTrace Analytics

The DTrace Analytics feature provides real-time analysis of Oracle ZFS Storage Appliance Racked System and of the enterprise network, from the storage system to the clients accessing the data. This unprecedented tool permits administrators to quickly find and troubleshoot issues affecting system performance, minimizing impact to business productivity.

Q: What networking protocols are supported?

A: Protocols supported include Oracle Intelligent Storage Protocol, Fibre Channel, iSCSI, InfiniBand (NFS/RDMA, IPoB, iSER, SRP), NFSv3, NFSv4, SMB/CIFS, HTTP, WebDAV, FTP/SFTP/FTPS, and ZFS NDMP V4.

As with all product warranties, this warranty is designed to offer basic recourse in case a product defect is discovered. For more-complete support, the recommended support coverage should be purchased at point-of-product-purchase to gain access to the needed services and resources and to avoid potential reinstatement fees down the road.

Q: What is the recommended support for Oracle ZFS Storage Appliance Racked System?

A: Oracle recommends Oracle Premier Support for Systems for Oracle ZFS Storage Appliance Racked System. This service provides the support, firmware updates, and proactive support tools you need to work more efficiently to minimize business risk and get the most of your investment. Features include access to 24/7 support and online resources as well as 24/7 hardware service coverage with rapid onsite response. For more information on Oracle Premier Support for Systems, visit oracle.com/us/support/systems/premier/061681.pdf

Q: How do I purchase this product?

A: Contact your Oracle sales representative or Oracle authorized partner.

Q: Where can I find more information about Oracle ZFS Storage Appliance Racked System?

A: You can contact your Oracle sales representative directly or call 1-800-Oracle1. Or visit the following web page: oracle.com/storage/nas/index.html







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