



Scalable NAS for Oracle with HP StorageWorks Enterprise Virtual Array File Services

Simplified management. Scalable performance. High availability for the Adaptive Infrastructure.



Create a scalable infrastructure for Oracle consolidation and file serving

Increase performance of file serving

Oracle Database and the Oracle E-Business Suite are at the heart of most commercial data centers. These databases and applications have been compartmentalized, creating islands of servers and storage that drive up operational costs and lower server and storage utilization. It is an enormous ongoing administrative burden to safeguard these Oracle databases and applications from outages, apply updates to them, provision storage, and back up their data. Consolidation offers a solution to mitigating this administrative nightmare.

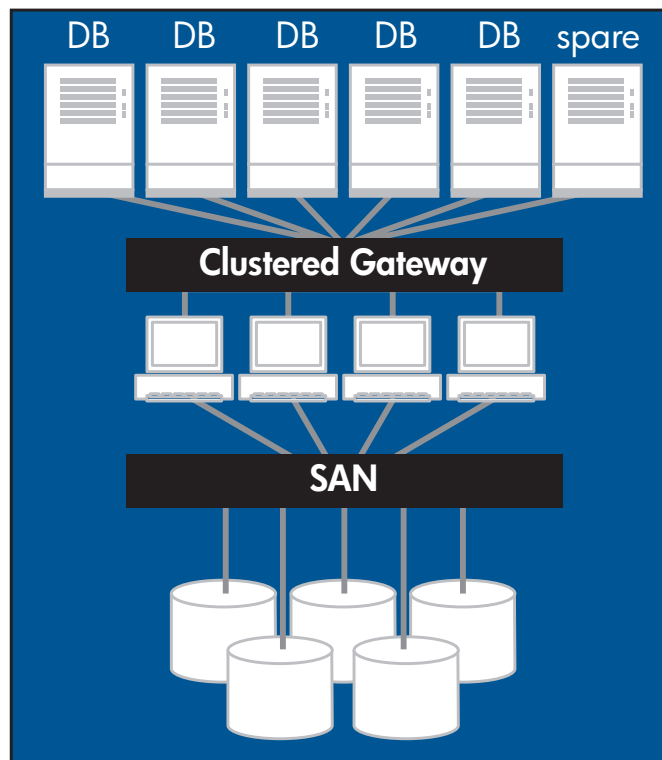
Single scalable, fault-tolerant storage infrastructure

An HP StorageWorks Clustered Gateway and an HP StorageWorks Enterprise Virtual Array (EVA) have been combined to create the EVA-File Services. The EVA-File Services enables large-scale consolidation of Oracle Database and E-Business Suite application onto

a single scalable, fault-tolerant storage backbone. This combination provides a single point of management across all Oracle databases and applications, modularly scalable data access beyond the capabilities of traditional network attached storage (NAS) filers and uninterrupted fault tolerance for Oracle data. Benefits of the HP Clustered Gateway and HP EVA Scalable NAS for Oracle file serving solution include:

- **Single point of management**—Use shared Oracle homes and APPL_TOP to reduce installation, patching and configuration errors.
- **Superior performance to NAS**—Modularly scale data access up to two Gigabytes per second throughput performance for demanding OLTP and DSS workloads.
- **Best practices for Oracle**—Host Oracle data with standard Oracle tools and with the best practices that Oracle uses to deploy its own databases and applications. Multiple NAS heads interface with NFS to transparently move client session from one server to another.
- **Always on availability**—Unlike traditional NAS filers, HP StorageWorks Clustered Gateway provides no single point of failure and provides transparent Oracle session migration on failover—averting three-minute failover outages from clustered NAS.

Figure 1. An example of a clustered gateway



Create a modular infrastructure to serve Oracle files over NFS

HP StorageWorks Enterprise Virtual Array File Services (EVA-File Services) is an integrated application (block) and file storage solution with Oracle over NFS capabilities. By combining state-of-the-art storage array and file serving technology, it can serve both Oracle files and data concurrently with high availability and scalable performance. This allows you to gain storage flexibility and reduce IT costs and complexity as compared to traditionally architected storage solutions.

The EVA-File Services Scalable NAS for Oracle solution enables large scale consolidation of Oracle databases and applications onto a single scalable, fault tolerant storage system. The EVA-File Services provides a single point of management across all Oracle databases and applications, modularly scalable data access beyond the capabilities of traditional NAS, and uninterrupted fault tolerance for Oracle data.

This solution allows customers to leverage the economies of industry standard server and storage components to build a high performance, fault-tolerant file services cluster.

Business values

Using the EVA-File Services with its File Serving Utility for Oracle, you can now consolidate database and file server storage and serve Oracle files over NFS gaining value that includes:

- **Integrated storage**—As a single solution for application (block) and file data, storage management is simplified.
- **Shared pool of storage**—Because the EVA-File Services has a single, shared pool of storage for application and file data, it can deliver high utilization and lower TCO, all the while simplifying backup and storage provisioning.
- **Efficient manageability**—The EVA-File Services uses a consistent set of management tools that can be invoked remotely anytime, and as a result it is more operationally efficient to manage.
- **Scalable performance**—EVA-File Services improves on the performance of traditional file servers and NAS appliances.
- **Seamless capacity expansion**—By combining HP Clustered Gateway, capacity can be added quickly and easily.

- **Shared data**—The Scalable NAS for Oracle solution makes it possible to aggregate the performance of multiple systems into a single virtualized file server. Shared data allows any server to serve all data from the storage pool.
- **High performance virtualization**—State-of-the-art virtualization improves performance, disk usage and allows for easy dynamic expansion. When new disks are added, data is automatically distributed to remove potential hot spots.
- **Availability**—With fully redundant components such as SAN switches, array controllers and file serving nodes built into every unit, the EVA-File Services is perfect for demanding mid-range and enterprise storage applications. As one of our Adaptive Infrastructure offerings, the HP EVA-File Services-based consolidation utility helps IT managers lower IT costs, offer a higher quality of service and provide uncompromising levels of availability.

High return on investment

The Clustered Gateway's File Serving Utility for Oracle allows customers to leverage the economics of industry standard server and storage components to build a high performance, fault-tolerant file services cluster. With HP StorageWorks EVA-File Services, customers can:

- Enjoy a price/performance advantage over popular NAS filers.
- Realize an 8:1 pure performance advantage over popular NAS filers.
- Reduce failure and upgrade related downtime by almost 100 percent.
- Leverage the existing SAN infrastructure to increase file serving utilization by up to 50 percent.

Next generation file serving for Oracle

HP StorageWorks EVA-File Services:

- Aggregates the performance of multiple systems into a single virtualized filer
- Provides a single storage pool to simplify backup and storage provisioning
- Allows any server to serve the same data
- Interfaces with NFS to transparently move client session from one server to another

As one of HP Adaptive Infrastructure offerings, the combination of EFS Clustered Gateway and EVA storage helps IT managers lower IT costs, offer a higher quality of service, and provide uncompromising levels of availability.

Typical bill of material and options

The following is a blueprint of the products and options typically purchased to create an EVA-File Services-based Scalable NAS for Oracle solution. For more detailed information or to create your own solution, contact your reseller/SI or your HP account manager.

EVA File Services

Quantity	Description
14	300 GB 10K rpm dual-port 2-Gb/sec FC-AL drive
1	HP EVA4K/6K/8K
1	HP EVA4K/6K/8K File Services option
1	HP EVA4K/6K/8K 5.0a Controller Media kit

HP Services

HP Services has end-to-end, industry-leading expertise in delivering solutions that help you improve your business agility. From initial assessment and design to technical integration and ongoing support, HP Services can be your single point of contact and accountability.

HP related services:

- **HP Enterprise File Services (EFS) Clustered Gateway Installation and Startup Service**—provides for the basic design, configuration, and verification of the Enterprise File Services Clustered Gateway. The service includes remotely delivered, pre-installation consulting, onsite activities including installing and configuring the EFS Clustered Gateway-specific hardware, and staff training on how to maintain and expand the installation. The engagement is concluded with a fully documented summary of the actual hardware and software configuration of your EFS Clustered Gateway.

Other HP Storage Services include:

- **HP Enterprise File Services (EFS) WAN Accelerator Installation Service**
- **HP ProLiant Storage Server (NAS) Installation and Startup Service**
- **HP Data Migration Service**
- **HP Care Pack Services**—a comprehensive portfolio of services for maintaining the highest levels of IT availability.
 - Critical Service
 - Proactive 24 Service
 - Support Plus 24 Service
- **Instant Support Enterprise Edition (ISEE)**—remote monitoring and support solution for your servers, storage and networks.
- **Business Continuity Services**—protect and minimize disruption to IT infrastructure and associated business processes against site outages, disasters and environmental events.

Across the globe, enterprise customers rely on HP Services to design, deploy, manage and support the IT systems that run their businesses. HP Services capabilities cover consulting and integration, outsourcing and support services. With more than 69,000 services professionals operating in 170 countries, acknowledged technology leadership, and a heritage of innovation in services, HP Services can point to an extensive track record of helping customers improve their ability to support their changing business needs.

For further details, contact your HP sales representative or visit www.hp.com/hps/storage.

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