VMware vFabric SQLFire

In-Memory Distributed SQL Database

AT A GLANCE

VMware® vFabric™ SQLFire is an in-memory distributed SQL database that delivers dynamic scalability and high performance for modern, data-intensive applications. The memory-optimized architecture of vFabric SQLFire minimizes time spent waiting for disk access, the main performance bottleneck in traditional databases. vFabric SQLFire achieves dramatic scaling by pooling memory, CPU and network bandwidth across a cluster of machines and can manage data across geographies. vFabric SQLFire provides developers with the well-known SQL interface and tools. By incorporating an efficient SQL query engine and supporting standards such as SQL, JDBC and ADO.NET, applications designed for traditional databases can easily migrate to vFabric SQLFire.

KEY BENEFITS

Reduced latency for SQL applications – Memory-based data management accelerates application performance, eliminating many disk and network latencies.

Standard SQL syntax and tools – Database application developers can easily incorporate a memory-oriented approach to data management with a familiar, standard SQL interface.

Easy scaling to meet the highest demands – Data easily scales out across servers to meet changes in loads or resource availability.

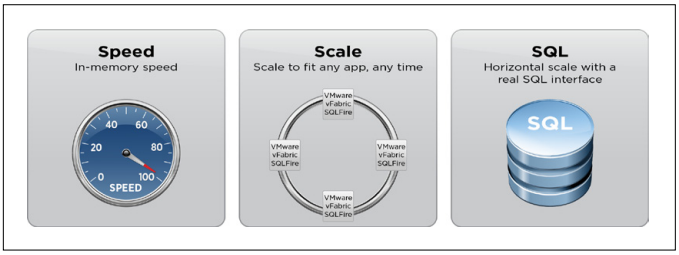
High availability and disaster recovery – Ensures continuous availability within or across datacenters and supports granular disaster recovery to the level of individual tables.

Ideal for high transaction rates – vFabric SQLFire is ideal for applications such as large transaction-oriented Web sites where disk and network overheads choke delivery of many small data items.

Memory-oriented and cloud-optimized – Use of nonproprietary hardware offers an economical way to achieve high database performance at extremely large scale.

What is VMware vFabric SQLFire?

VMware vFabric SQLFire enables dynamic horizontal scaling by creating a shared pool of memory across multiple standalone physical devices or x86 rack/blade hardware systems, and then expanding or shrinking the pool as demand changes.



Replicated or partitioned tables can be managed in memory alone, or in memory and on disk. Application logic can be routed to the data location for improved performance from parallel execution.

Used as either the primary datastore or a front-end data-management layer for one or more existing databases, vFabric SQLFire ensures continuous availability for data within and across datacenters. Any table can be configured to be replicated or partitioned into redundant copies.

vFabric SQLFire includes a sophisticated cost-based optimizer and a fast SQL query engine that compiles a query plan into byte codes. Anyone who has relational database experience will find the vFabric SQLFire configuration and deployment model simple and intuitive to use and adapt. Unlike many popular data grids, vFabric SQLFire offers native persistence and recovery capabilities and can be used as a distributed datastore.

Traditional database developers writing custom applications find vFabric SQLFire easy to adopt because it uses established standards such as SQL, JDBC and ADO.NET. Configuration and deployment is straightforward, and the product works effectively with a large ecosystem of compatible products and frameworks, such as object-relational mapping tools (Hibernate, NHibernate, etc.), schema-editing and database management tools, and Spring JDBC.

Applications that use the standard SQL syntax supported by vFabric SQLFire can easily migrate to and from other relational databases, for flexibility and future-proofing as well as unparalleled performance.

Key Features

- **Low latency** – Memory-based data management maintains consistently high application performance by eliminating lookup, read/write, and network round-trip latencies.
- **Extreme write performance** – Memory-speed write performance is ideal for large-scale databases with high transaction volumes and demanding service-level agreements.
- **Simplified scale-out and scale-back** – The product repartitions, replicates and balances data across independent nodes to accommodate shifting loads or new resources.
- **Standard SQL interface** – vFabric SQLFire enables skilled database application developers to easily incorporate a memory-oriented database into their application environment while leveraging their knowledge of SQL.
- **Flexible HA and DR options** – Continuous high availability (HA) is ensured within or across datacenters. Disk writes can be partial, full, synchronous or asynchronous to meet disaster recovery (DR) or regulatory requirements.
- **"Shared nothing" architecture** – Designed to prevent any single point of failure, vFabric SQLFire maintains data availability when servers go offline unexpectedly.
- **Support for geographically separated data** – Built-in, fault-tolerant, optimized wide area network (WAN) distribution capabilities can make a group of clusters behave like a single enterprise cluster. vFabric SQLFire can provide a single global, real-time, active-active data backbone.

Find Out More

For information or to purchase VMware products, call 877-4-VMWARE (outside North America, +1-650-427-5000), visit http://www.vmware.com, or search online for an authorized reseller. For detailed product specifications and system requirements, refer to the product documentation.

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