

# VMware vFabric GemFire

## Elastic In-Memory Data Management

### AT A GLANCE

VMware vFabric™ GemFire® provides fast, secure, reliable and scalable access to data in support of modern enterprise and cloud applications. A core component of the VMware vFabric Cloud Application Platform, GemFire enables the delivery of high performance applications that are data rich and continuously available regardless of the number of end-users being served.

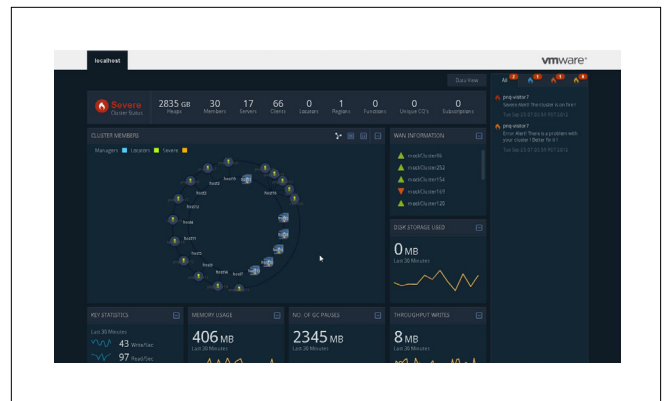
### KEY BENEFITS

- Lightning fast, highly available and scalable data access for modern applications—run your applications 4-40 times faster
- Parallel data execution for extremely high throughput
- Engineered for low latency
- Data replication across nodes and clusters for high availability
- Partitioning data across regions for horizontal scale
- Reliable event notifications—as data changes, applications automatically updated
- Continuous querying—updates results with predictably low latency
- “Shared nothing” disk persistence ensures disk failure on one node does not result in data loss
- Data sharing between Java, C++ and C# based applications
- WAN scaling while preserving performance, reliability and data consistency

## Overview

As modern applications have become increasingly Web-oriented, data-intensive and inherently more dynamic in nature, the need for modern approaches to data management has evolved. While first- generation Web applications could tolerate time-consuming round- trips to store and retrieve data from a database, newer applications require a different approach, one that is both ideally suited to this new generation of applications but also one that contemplates deployment on top of virtual infrastructure.

VMware vFabric GemFire provides the data management capabilities of a database with the performance that only in-memory can provide. It is ideally suited for the needs of modern applications that require real-time access to data and the ability to solve some of the most complex data challenges in the world.



GemFire HTML5 monitoring dashboard provides a view of the current status of your entire GemFire deployment.

## Key VMware vFabric Capabilities

Bypass high database transaction costs derived from spent CPU cycles, network traffic, database access latency and more by managing data in-memory with GemFire.

### Developer Productivity

- Re-engineered Modern APIs simplify development; quickstart programming examples included
- Declaratively configure GemFire data infrastructure from Spring with minimal effort, connecting secure, reliable and scalable data to enterprise applications
- Integration with the Spring Data GemFire project, including documentation and code samples, greatly simplifies development by separating business logic from system configuration.
- Built-in exception handling traverses GemFire to Spring for consistency and can be applied transparently

- Integration with the popular Spring Framework transaction management capabilities makes writing and supporting transactional enterprise applications fast, secure, reliable and scalable
- Hibernate Cache Module provides fast, scalable, distributed L2 caching for applications leveraging Hibernate object-relational mapping

#### Database-like Persistence for High performance and Reliability

- “Shared Nothing” parallel disk persistence combines high performance at scale with cluster-wide high availability and sophisticated failure handling
- Synchronous read-through, write-through, or asynchronous write-behind to backend data sources
- Continuous query support – automatically update applications with data from memory, no roundtrips to a database

#### Cloud Scale and Operational Efficiency

- GemFire’s Portable Data eXchange (PDX) is a cross-language data format that can help reduce the cost of distributing and serializing/deserializing data objects.
- GemCached embedded light-weight adapter supports memcached client protocol
- Dynamic data partitioning across the system evens out load to enable high scale
- Co-located transactions, deliver 2-3 times higher performance for thin clients
- Wide Area Networking (WAN) support scales across remote sites; achieve high performance and low latency by parallelizing data communication and choice of synchronous or asynchronous acknowledgment
- Several management options are available, including a command-line utility, a Java Management Extensions (JMX) Agent, and GFMOn, a graphical user interface monitoring tool
- HTTP Session Management Module offloads and manages HTTP session state for VMware vFabric tc Server or Tomcat servers. Pre-configured and automatically launching with tc Server, GemFire HTTP Session Management provides high performance and scalability for Web applications with high user loads or very large sessions.

#### Simplified Monitoring and Management

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GemFire Pulse – HTML5 dashboard provides view into running GemFire system

Visual Statistics Display (VSD) utility included with GemFire. Graphically monitor performance and view useful statistics.

Use the DataBrowser to connect to GemFire and browse data using ad-hoc OQL (SQL-like language) queries.

GemFire SHell (‘gfsh’) command line interface enables direct control of all aspects of running GemFire; start/stop servers, view cluster configuration, deploy and more

Simplified JMX model with federated MBeans provides a single-agent consolidated view of a GemFire distributed system. Integrated with gfsh and GemFire Pulse.

#### Deployment Options

- GemFire runs on a Java Runtime Environment (JRE) in 32-bit and 64-bit mode on Windows, Linux and Solaris.
- Client nodes running C++, C# .Net and Java are supported.
- GemFire supports peer-to-peer, client/server, and multi-site (WAN) architectures.
- Certified and performance tested on VMware vSphere®.

#### Find Out More

For information or to purchase VMware vFabric GemFire, call 855 TRY VFABRIC (879 8322) or +1 650 427 3100, visit [www.vmware.com/go/gemfire](http://www.vmware.com/go/gemfire), send email to [vfabric@vmware.com](mailto:vfabric@vmware.com), or search online for an authorized reseller. For detailed specifications and requirements, refer to the product documentation.

