

Reflex OS™ for CACHEfx Appliances

CACHEfx™ is a multi-terabyte, scalable caching appliance delivering high I/O operations per second and extremely low latency

The Reflex OS from Gear6 is a patent-pending operating system containing the performance and functionality powering CACHEfx appliances.

Highlights

- Real time performance
- Scale IOPS and cache capacity
- Low latency responses
- Effective and efficient cache management

Industries and Applications

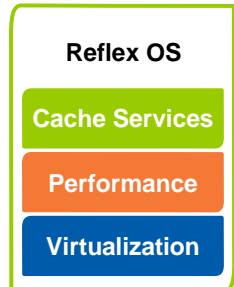
- Databases
- Electronic design
- Financial analytics
- Energy and exploration
- Web applications
- Media delivery
- Biotechnology
- Animation

Characteristic environments

- Large data sets
- Random access
- Concurrent clients
- Transaction intensive
- High peak loads
- Required SLAs

Powering Real Time Performance

The Reflex Operating System for Gear6 CACHEfx appliances delivers a robust set of features and functionality to enable real time performance. The Reflex OS comprises three primary functionality layers of virtualization, performance and cache services.



Virtualization

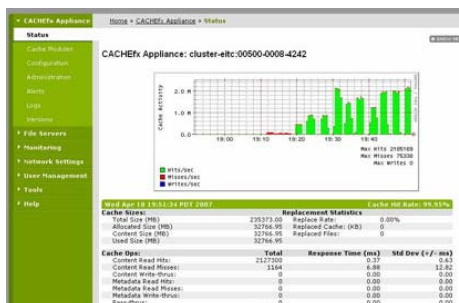
At the core of the Reflex OS is a virtualization capability to deliver a single, coherent caching namespace to any number of clients or application servers. This functionality enables the centralization of cache resources into a pool that can be shared as a network resource. Supported by a highly available clustered architecture, the virtualization capabilities allow on-the-fly scaling of multiple CACHEfx appliances to tailor resources appropriately to a given network storage environment.

Performance

In addition to CACHEfx performance gains from memory-based caching, the Reflex OS includes a SimulServe™ parallel I/O engine to automatically distribute I/O requests for simultaneous processing and response. This performance-driven functionality guarantees effective and efficient use of cache resources ensuring expedited response times and high levels of IOPS and throughput.

Cache Services

The Reflex OS includes intelligent caching algorithms, rapid “no-lookup” directories, and the intuitive CACHEboard™ web-based interface for manageability and real time statistics. These services offer user-defined policies to tailor specific CACHEfx behavior for specific applications and configurations.



Gear6 CACHEfx appliance
CACHEboard™
web-based interface



Reflex OS™ Software

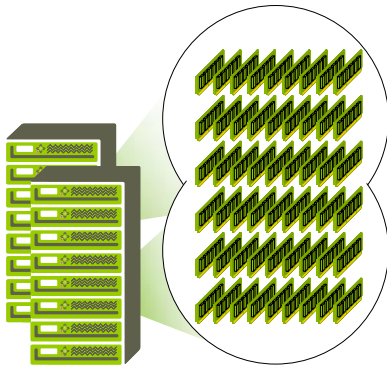
Refflex Operating System Software delivers unique value added features for CACHEfx appliances:

- Cache services
- Performance
- Virtualization

Feature Spotlight:

Coherent Memory Aggregation

The virtualization capabilities of the Reflex OS enable the creation of a single coherent pool of cache memory. The software allows additional appliances to be connected on-the-fly, scaling memory capacity seamlessly to support larger data sets.



Key features and benefits

Virtualization

Coherent Memory Aggregation	Seamlessly connects memory within and across appliances to maintain a consistent and coherent cache pool
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Single caching namespace	Creates a uniform addressable cache pool to maximize memory utilization across multiple NFS servers and clients
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Performance

SimulServe™ Parallel I/O Engine	Automatically load balances across mount points and processes multiple NFS requests in parallel
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Real time compressor	Maximizes efficiency of cache resources by compressing data within the cache. Virtual capacity can far exceed physical capacity
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Cache Services

Intelligent caching algorithms	Deterministically place and balance data within the cache to maximize cache effectiveness
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Global “no-lookup” directories	Minimize internal communications to guarantee rapid and efficient responses
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CACHEboard™ web interface	Provides easy access to appliance configuration and management tools
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Real time statistics	Offer granular visibility to appliance operation and caching effectiveness
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Cache policies	Automatically set appliance behavior to optimally cache specific workloads
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