

# Fujitsu releases high-performance file system

October 17 2011

---

Fujitsu today announced the launch of FEFS (Fujitsu Exabyte File System), a scalable file system software package for building file systems for x86 HPC clusters in Japan.

FEFS is software for x86 HPC [cluster](#) systems that enables high-speed parallel distributed processing of very large amounts of read/write transactions from the compute nodes. The software achieves the world's highest throughput speed of 1 TB/s from the compute nodes to the file system. In addition, it includes superior features for system scalability, high reliability for zero operational downtime, and actual operational convenience. It delivers high speeds and large-scale data processing performance increasingly demanded of file systems in accordance with performance improvements and increases in the scale of cluster systems. This in turn, contributes to improvements in overall system performance.

To meet the wide-ranging needs of customers, Fujitsu is offering file system solutions that combine its PRIMERGY x86 servers with its ETERNUS storage system and the new FEFS.

Computer-based analysis and simulation can be used to reduce costs and shorten development times. It is currently being actively used in manufacturing and many other industries. Increasingly, x86 HPC clusters, which use multiple x86 servers for parallel processing, are becoming the dominant platform used for such analyses and simulations.

With the improved performance of x86 HPC cluster systems in recent times, file systems have emerged as a source of performance

bottlenecks. There is an increasing need for file systems that can deliver higher speeds and large-scale data processing capabilities.

Fujitsu's newly-developed FEFS software enables high-speed parallel distributed processing of very large amounts of read/write transactions from the compute nodes, creating a large-scale file system with high performance and high reliability.

Fujitsu is committed to providing the best file system solutions for analysis and simulation applications and a variety of other fields.

FEFS was developed based on the Lustre open source software, with proprietary feature enhancements added by [Fujitsu](#). From x86 HPC cluster systems consisting of several dozen servers to massive systems comprised of up to a million servers, FEFS enables file systems with superior scalability, performance, reliability, and convenience to support a wide range of systems.

The main feature enhancements of FEFS are as follows.

### Scalability

It enables scalability of file systems from terabyte-scale systems to a maximum of 8 exabytes (1,000 petabytes), depending on data volume requirements.

It can be used as a file system offering superior price-performance for clusters consisting of several dozen nodes, and it can be used for large scale clusters comprised of up to a million servers.

### High performance

It enables the configuration of systems consisting of 10,000 storage systems with the world's highest throughput speed of 1 TB/s.

It achieves metadata management performance capable of creating several tens of thousands of files per second, approximately 1-3 times

the performance of Lustre.

### High reliability

Due to built-in redundancies at all levels of the file system (such as disk RAID configuration, InfiniBand network multipath configuration, and configurations of multiple servers and storage units), it enables failovers(3) while jobs are being executed.

### Convenience

Fair share features for allocating resources among users prevent a particular user from monopolizing I/O processing resources.

Priority control settings for the operation of each node guarantees I/O processing bandwidth for each node.

Directory level quota functions enable efficient use of disk capacity by monitoring and managing fine levels of file system activities.

Smallest configuration: four PRIMERGY RX300 S6 servers (with InfiniBand connection), three ETERNUS DX80 S2 storage units, and FEFS license

Source: Fujitsu

Citation: Fujitsu releases high-performance file system (2011, October 17) retrieved 13 June 2024 from <https://phys.org/news/2011-10-fujitsu-high-performance.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--