DELLTechnologies

HPC BeeGFS Storage

High performance and ease of use for I/O-intensive workloads

In the data-driven age, data-intensive workloads have become critical to success in a wide variety of industries. To gain a competitive advantage, many organizations are leveraging high performance computing (HPC) to handle increasingly large data sets in variable formats. When it comes to HPC, speed can make all the difference in getting insights, bringing products to market and making discoveries.

If I/O intensive workloads are slowing your HPC performance, BeeGFS® is the solution. BeeGFS is an open-source, parallel-cluster file system, designed specifically to manage I/O-intensive workloads in performance-critical environments. Hundreds of leading enterprises, universities and researchers worldwide choose BeeGFS for its ease of installation, massive scalability, robustness and exceptional flexibility, including converged systems where servers are used for storage and compute.

BeeGFS transparently spreads user data across multiple servers. File system performance and capacity can be scaled out to the desired level by simply increasing the number of servers and disks in the system. You can scale seamlessly from small clusters up to enterprise-class systems with thousands of nodes — on-premises or in the cloud.

The flexibility, robustness and outstanding performance of BeeGFS helps increase productivity by delivering results faster. BeeGFS also enables new data analysis methods that simply aren't possible without it. Running BeeGFS on a modern HPC infrastructure from Dell Technologies makes adoption faster, simpler and more collaborative.

Validated Designs for HPC Storage

Dell Technologies Validated Designs for HPC Storage are preconfigured, tested and validated solutions that allow you to deploy large-capacity storage systems more easily and with less risk, while preserving resources and budget for higher-value activities. They also give you the power to quickly and easily scale storage capacity as computing needs grow.

By collaborating with ThinkParQ®, Dell Technologies is able to offer tested and tuned systems for high performance, scalable HPC storage systems with simplified installation, configuration and management features.

Together, Dell Technologies and ThinkParQ help you run HPC workloads more efficiently by simplifying your infrastructure and streamlining technology. Dell Technologies HPC and AI experts are available to help you design a solution for your specific needs. Services — from consulting and education to deployment and support — are available when and where you need them.

Customer Results

3 quadrillion

operations/second[1]

38.7 petaFLOPS

peak performance capacity[2]

IO500 fast

CSIRO Bracewell is on the IO500 fastest storage systems in the world with Dell and BeeGFS,[3]

---

[1] Lonestar6, Texas Advanced Computing Center, October 2021.

[2] Dell Technologies Case Study, "Unlocking the Secrets of Earthquakes," April 2021.

[3] IO500, ISC22, accessed July 19, 2022.

Management server	Metadata and Storage servers	Software	Networking	Storage
• 1x PowerEdge R650	• 2x PowerEdge R750 metadata servers • 2x PowerEdge R750 storage servers	• BeeGFS • Red Hat Enterprise Linux • OpenManage • iDRAC	• PowerSwitch N3248TE-ON • NVIDIA® QM8700 HDR	• 1x PowerVault ME5024 • 1, 2 or 4x PowerVault ME5084

ThinkParQ and Dell Technologies

Together, engineers from Dell Technologies and ThinkParQ test and tune HPC storage solutions tailored for your high-I/O workload requirements.

ThinkParQ is the company behind the popular parallel cluster file system BeeGFS. Next to helping world-wide BeeGFS customers get the best out of their systems, ThinkParQ continuously drives the development and optimization of BeeGFS. With our partners, we work hard to create the fastest, most stable and most flexible turn-key solutions for every performance-oriented environment.

Dell Technologies enables organizations to modernize, automate and transform their data center using industry-leading converged infrastructure, servers, storage and data protection technologies. Businesses get a trusted foundation to transform their IT and develop new and better ways to work through hybrid cloud, big data solutions and the creation of cloud-native applications.

Resources
• See HPC High-Performance Storage Solution for BeeGFS Design Guide
• Learn about the Dell Technologies HPC & AI Innovation Lab.
• Join the Dell Technologies HPC Community at dellhpc.org.

Learn more

Dell Technologies InfoHub

delltechnologies.com/hpc

D∕ELL Technologies