

No Lock-In. No Limits. Just Performance.

HPC Solution Brief

BeeGFS is the industry-proven parallel file system, architected for large-scale HPC clusters, trusted by thousands of organizations worldwide. Built around five sovereign dimensions – Data, Technology, Hardware, Operations, and Compliance, BeeGFS gives you full control over your HPC infrastructure.

Designed to be hardware agnostic and vendor neutral, BeeGFS offers a low entry barrier for an enterprise grade parallel file system empowering research institutions, supercomputing centers, and industry innovators to accelerate scientific discovery, simulation, and analytics by unlocking the full potential of their compute infrastructure.









Key Benefits

For HPC environments that demand scalable, low-latency, and high-throughput I/O, BeeGFS is an ideal solution. Its modular architecture supports independent scaling of metadata and storage servers, allowing seamless expansion from small clusters to multi-petabyte systems.

BeeGFS delivers outstanding performance for both large and small files by striping data across multiple storage nodes, making it especially suited for data-intensive workloads such as EDA, weather forecasting, CFD, and life sciences.

Unlike traditional file systems, BeeGFS is easy to deploy and manage, enabling your team to unlock the full potential of your infrastructure, allowing them to focus on projects and not on your data management.

With state-of-the-art functionalities including high availability, real-time performance, and monitoring, our innovative ecosystem of features will provide an easy data management workflow, while giving you complete sovereignty over your HPC infrastructure.

 <p>It's Fast</p> <p>Throughput scales near-linearly with hardware - from GB/s on a single rack to TB/s at supercomputer scale.</p>	 <p>It's Proven</p> <p>Trusted in production AI & HPC clusters and Top 500 class supercomputers - for over a decade.</p>	 <p>It's Flexible</p> <p>Move cold data to cheap storage. Source your own hardware. Redeploy existing hardware.</p>
 <p>It's Simple</p> <p>Deployed in minutes. Zero-downtime upgrades, maintenance and scaling - no specialist team required.</p>	 <p>It's Current</p> <p>New Linux kernels and distributions supported in weeks, not quarters.</p>	 <p>It's Sovereign</p> <p>Software-defined. Your hardware, your network, your cloud, POSIX everywhere. No lock-in, no re-architecting, no external dependencies.</p>

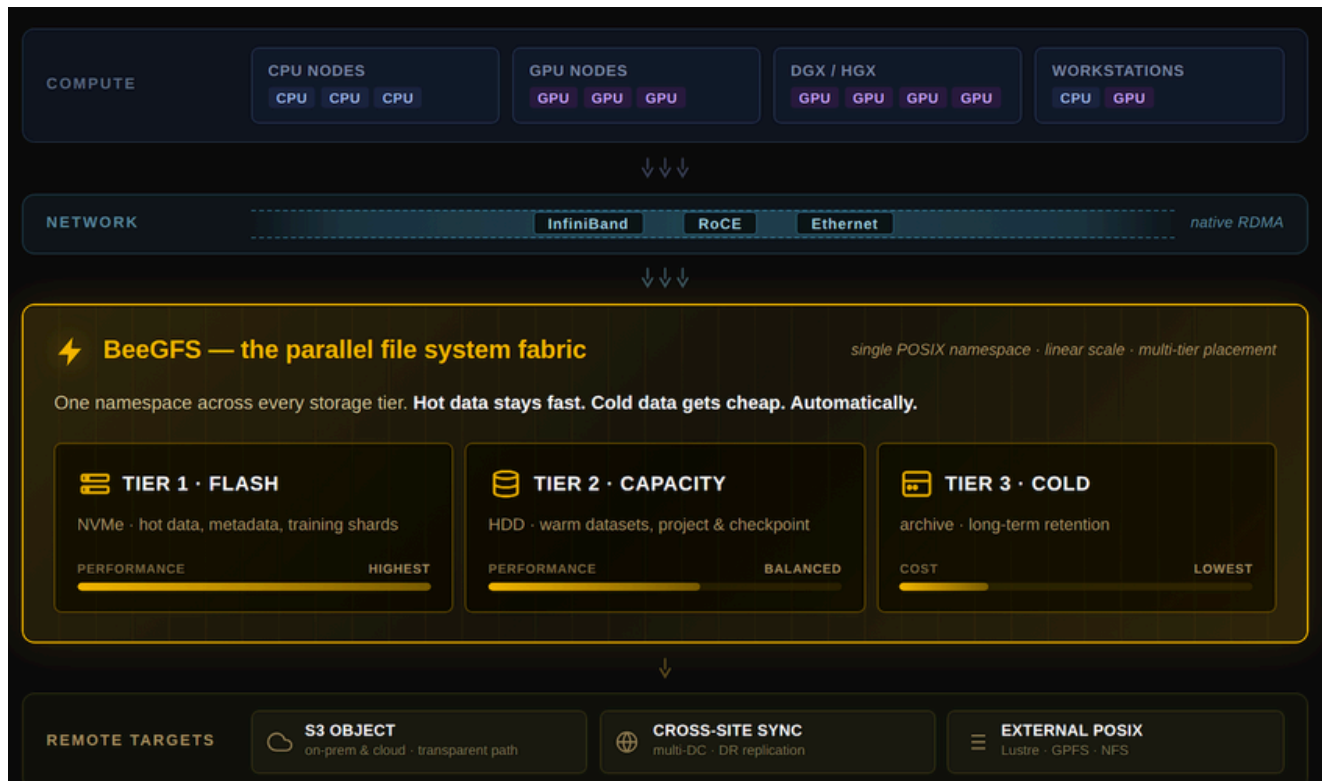
Eliminating I/O Bottlenecks in HPC/AI Workloads

<p>I/O Throughput & Bandwidth</p>	<p>Stripes data across multiple storage servers to boost throughput. Enables low-latency, high-speed transfers using RDMA and user-space I/O, minimizing CPU load.</p>
<p>Metadata Performance</p>	<p>Eliminates metadata bottlenecks by distributing operations across nodes—ideal for small file workloads.</p>
<p>Scalability</p>	<p>Add servers or disks to scale linearly. No downtime, No disruption.</p>
<p>Concurrency & Contention</p>	<p>Handles many clients accessing the same data simultaneously, with no single point of contention.</p>
<p>Latency</p>	<p>Bypasses kernel and enables direct memory transfers, reducing latency and CPU overhead.</p>
<p>Cost-Effectiveness & Management</p>	<p>Runs on standard Linux servers with HDDs, SSDs, or NVMe, flexible and cost-effective. BeeOND: Creates fast, temporary file systems on local storage for burst-buffering HPC jobs.</p>

Choose BeeGFS if you value:

- ✓ Fast, scalable storage that is simple to deploy and manage
- ✓ High-performance for both large and small I/O workloads
- ✓ A trusted technology used in leading HPC sites worldwide
- ✓ The ability to scale flexibly without vendor lock-in

The BeeGFS Architecture



Explore the BeeGFS Hive of Possibilities

ThinkParQ offers BeeGFS as a self-supported Community Edition and a fully supported Enterprise Edition with additional features and functionalities.

Features	BeeGFS Community	BeeGFS Hive Enterprise
Scratch File System	✓	✓
Access Control Lists	✓	✓
Monitoring Tool	✓	✓
Community Mailing List	✓	✓
Commercial License Key		✓
High Availability		✓
Mirroring		✓
Quota Enforcement		✓
Storage Pools		✓
Remote Storage Targets		✓
Copy		✓
Watch		✓
Index		✓
Background Data Rebalancing		✓



BeeGFS[®]

www.beegfs.io