DELL Technologies

Solution Brief

Dell PowerScale and Kalray pixstor™: a Modern Solution for High Performance Computing

New workloads are entering the enterprise storage space, powered by next-gen central processing units (CPUs), graphic processing units (GPUs) and distributed power units (DPUs): innovative artificial intelligence/machine learning (AI/ML), high performance computing (HPC), and video applications require Tier-0 storage with lower latency, higher input/output processors (IOPs) and throughput to maximize the processing cycles of their compute infrastructure. As a result, most enterprise data centers have a wide range of storage systems and storage teams are overburdened to meet all performance, capacity and efficiency requirements. Companies are seeking to adopt cloud storage efficiently and effectively allowing teams to collaborate globally, instantly access and share data across all storage tiers. Business users need a unified storage solution featuring automated, policy-based data movement, active archives, strong search capabilities and instant data access.

Solution Highlights

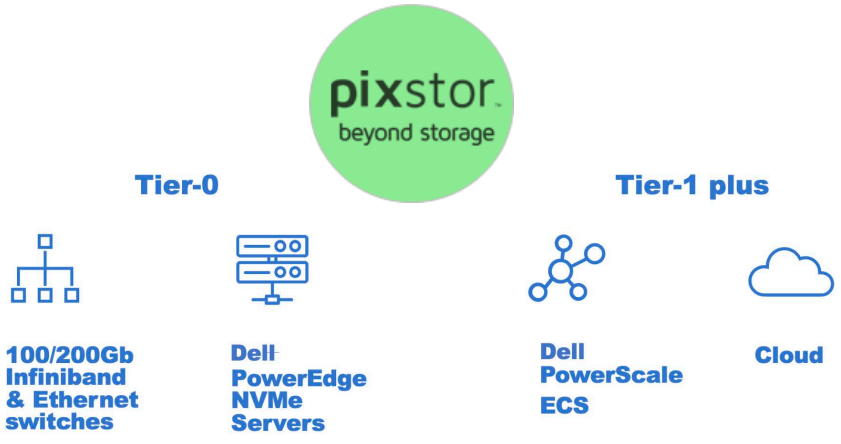
- Highest-performance scratch storage.
- Most powerful parallel file system, supports petabytes of data and billions of files.
- Software-defined storage supports Dell Technologies servers and storage.
- Rich tool set.
- Runs on Dell PowerEdge servers.

The Dell Technologies solution with Kalray combines Kalray's pixstor running on Dell PowerEdge servers with Dell PowerScale and ECS storage.

pixstor™ is a Tier-0 storage solution. Powered by a proven high-performance parallel file system trusted by thousands of organizations worldwide, pixstor can easily manage petabytes of data and billions of files, all under a single global namespace to power demanding, compute intensive workflows such as AI and ML.

pixstor is deployed by Dell Technologies customers as a high-performance scratch space for applications that require very high IOPs, high-throughput and the lowest possible latency, such as HPC, AI/ML and video applications. pixstor's parallel file system supports parallel data processing for HPC compute clusters.

When combined with ngenea, pixstor becomes the global namespace access point for all existing storage tiers including PowerScale and ECS. Leveraging ngenea, data can be moved automatically between tiers of storage at workload runtime, including the pixstor scratch storage.



Benefits

Performance and Scalability

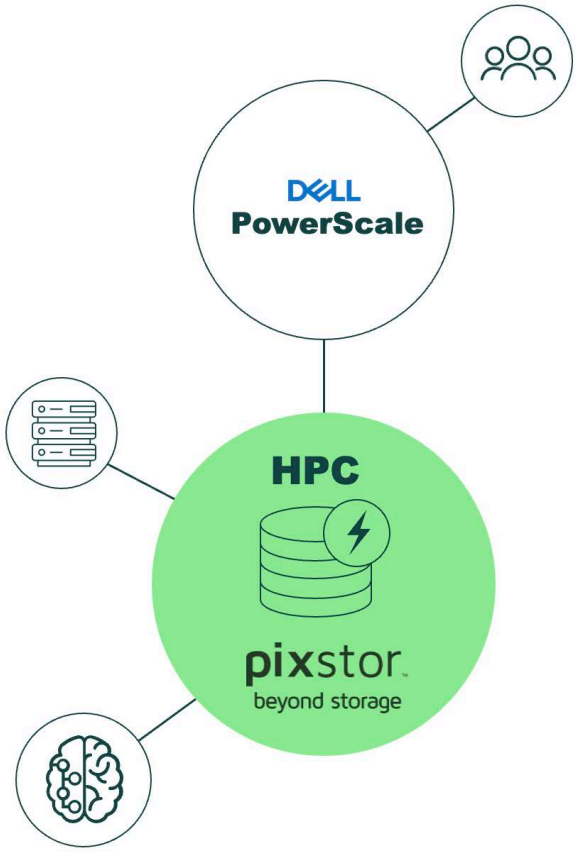
- Unmatched performance and scalability.
- Unrivaled flexibility to scale to meet business requirements.
- Leverages the fastest components (NVMe) to feed the most data-hungry compute.

Efficiency & Ease of use

- Low TCO: simple maintenance and administrative workflow.
- Unprecedented insights into data usage and trends.
- Minimize data transfer and maximize data locality.
- No hardware lock-in: leverage the latest Dell Technologies storage including Dell PowerScale and ECS.
- Reserve high-speed storage for work in progress, and move everything else to a low-cost archive, with a single view of all data.
- Find data fast and improve end-user productivity.
- Easy application integration.
- Data remains in its original form allowing access at any point in the data namespace without a license tax.

Reliability

- Ensure data integrity and protection to the highest industry standards.
- No need for complex third-party solutions.



About Dell Technologies

Dell Technologies has been a leader in the advanced computing space for over a decade, delivering proven products, solutions and expertise. Dell Technologies has a team of data analytics, high performance computing (HPC) and artificial intellgence (AI) experts dedicated to staying on the cutting edge, testing new technologies and tuning solutions for your applications to help you keep pace with this constantly evolving landscape. Solutions include workstations, servers, networking, storage and services that reduce complexity and enable you to capitalize on the promise of data analytics, HPC and AI. Click here to learn more about HPC Solutions.

About Kalray

Kalray (Euronext Growth Paris - ALKAL) is a leading provider of hardware and software technologies for high-performance, data-centric computing markets, from cloud to edge. Kalray provides a full range of products and solutions to enable smarter, more efficient, and energy-wise data-intensive applications and infrastructures. Kalray's offerings include its unique patented DPU (Data Processing Unit) processors and acceleration cards, as well as its leading-edge software-defined storage and data management solutions. Click here for more.

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