DELLTechnologies

Dell Storage and Arcitecta Mediaflux® Burst: A Hybrid Solution for Data-Intensive Burst Computing

Key Markets

Media and Entertainment
Burst optimizes data access for visual effects rendering, ensuring projects meet tight deadlines. Its scalable cache space combined with granular and scalable access to cloud compute lets you handle even the most demanding tasks efficiently.

Life Sciences
Burst enables seamless secondary analysis of vast genomic data in the cloud. It accelerates drug discovery by predicting drug-target interactions and analyzing research data, speeding up the development of new treatments.

Financial Services
Burst accelerates critical quantitative analysis, providing deeper insights and enabling swift responses to market changes enabling you to handle the surge of resources needed for month and year end operations.

Data compute services play a crucial role in today's workflows, whether hosted on-site or in the cloud. Since peak usage can vary greatly from everyday operations, it's important for organizations to stay flexible, meeting these demands without overspending on resources that often go underused. To make smarter investments and avoid wasting budget, businesses should evaluate the following key factors:

- How do you expand your access to compute resources when demand outpaces the resources available locally?
- How can you leverage the unique offerings of public cloud vendors while maintaining primary workflows on-premise?

Mediaflux Burst offers a smart solution to these challenges, enabling you to effortlessly scale your workflow by tapping into additional resources at another site or the cloud provider that best fits your needs. For enterprises with limited on-premises computing power, Mediaflux Burst makes it easy to extend into the cloud or access resources from a different location. It also streamlines the process of utilizing compute resources across various parts of the business by bringing data closer to where it's needed, ensuring smooth and efficient operations.

Traditionally, computing and data storage had to be co-located to minimize latency and ensure efficient processing, which often limited flexibility and increased costs. However, with the combined capabilities of Dell PowerScale and Mediaflux Burst, this model is being redefined. Now, organizations can separate where data is stored from where computing takes place, storing data in locations that maximize cost-effectiveness or enhance security while running compute tasks wherever performance and scalability are most critical. This decoupling not only boosts operational flexibility but also allows businesses to leverage cloud resources or remote data centers without compromising on efficiency or control.

What is Mediaflux Burst?

Mediaflux Burst is a filesystem caching solution designed for data-intensive high-performance computing (HPC) tasks. Leveraging the scalability of cloud computing, Mediaflux burst ensures your data is accessible exactly where and when you need it, even if it's stored on-premises.

Mediaflux Burst supports these common computing scenarios:

Hybrid Cloud Architecture

Mediaflux's cloud caching seamlessly integrates with PowerScale. This hybrid approach allows you to harness the power of cloud computing without moving your files, providing a perfect blend of on-premises and cloud capabilities.

Distributed Workloads

Utilize compute resources at another site when local resources are scarce, and additional resources are needed.

Cloud Bursting

Whether moving data to the cloud for a single project or permanently shifting your entire workflow, Mediaflux Burst optimizes cloud compute resources by utilizing data stored on-premises with cloud computing services.
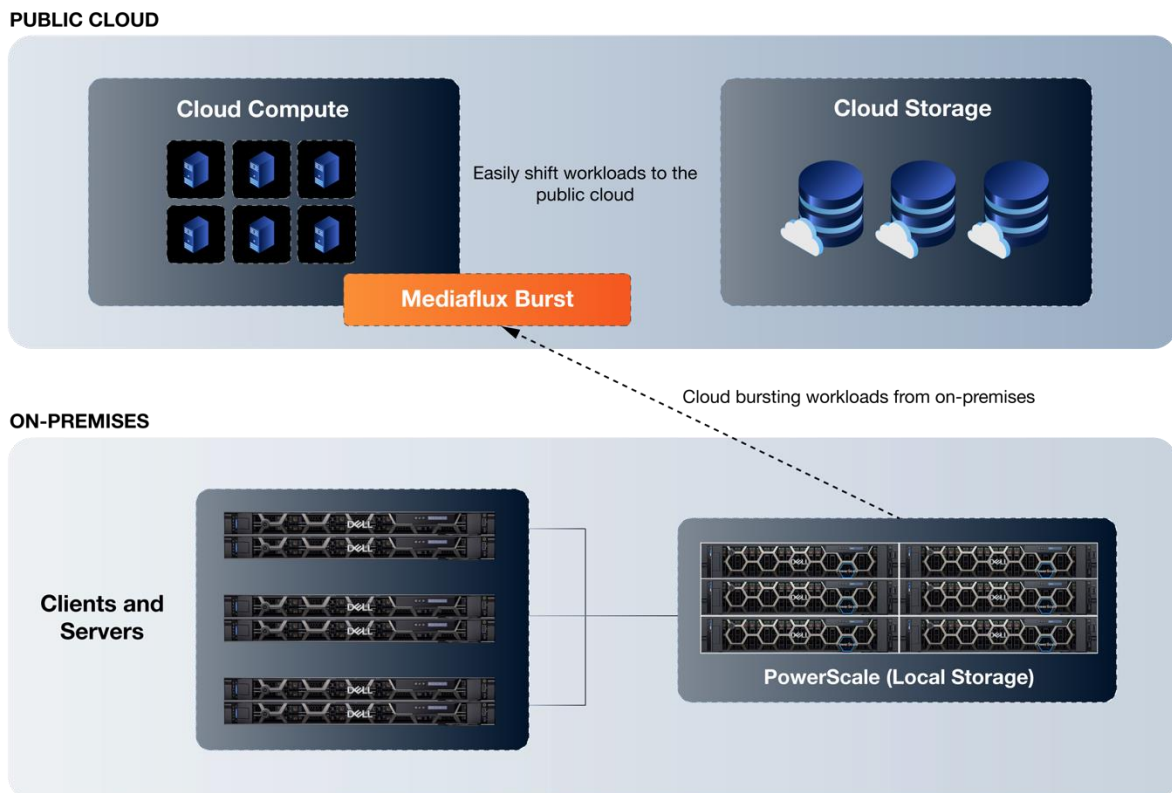

Figure 1 Burst data from on-premises to the cloud or remote environments

When to use Mediaflux Burst

Mediaflux Burst is ideal for workloads with a high read-to-write ratio. It offers enhanced performance, scalability, and seamless integration between on-premises and cloud or remote environments. This solution is particularly suited for any complex, data-intensive file-based workloads that benefit from parallelization, including analytics and other HPC workloads that span numerous systems, addressing the following conditions:

- Performance Challenges – Experiencing slow or inconsistent overall performance due to long file access times (ranging from tens of milliseconds to seconds), which is unacceptable to end-users.

- Data Accessibility – Data stored across long distances needs to be accessed, making permanent data movement impractical.

- High Demand – Facing significant latency issues due to concurrent client requests, especially in high-performance computing (HPC) clusters.

- Seamless Integration – Requiring a caching solution to scale existing pipelines into cloud virtual machines without rearchitecting workflows.

Key Benefits of Mediaflux Burst

These benefits highlight how Mediaflux Burst optimizes data access, supports existing workflows, simplifies management, accelerates computing, and enhances infrastructure performance.

- Boost Productivity with Faster Access – Improve application performance by scaling your cache dynamically based on workload needs, reducing latency, and enhancing productivity regardless of storage size. Benefit from low-latency hybrid storage support for both on-premises and cloud storage.

- Support Existing Workloads Seamlessly – Store data flexibly across traditional NAS storage and cloud platforms. Mediaflux burst seamlessly supports hybrid architectures, including NFSv3 via Dell PowerScale, Dell ECS, and public cloud storage.

- Simplify Storage Management – Mediaflux Burst simplifies resource management with an aggregated namespace, presenting critical data to applications in a unified directory structure and allows you to add compute resources to workflows that need them.

- Accelerate High-Performance Computing – Handle increasing computing demands effectively with Mediaflux Burst. Move excess capacity to the cloud without costly application rewrites. Minimize latency, ensuring high-speed data access and seamless scalability to meet peak demand.

- Optimize Infrastructure with Mediaflux and PowerScale – Enhance infrastructure efficiency with Mediaflux Burst and PowerScale. Scale NFS and SMB performance effortlessly and manage data more effectively. By adding a cluster of appliances to your on-premises setup, Mediaflux places your most critical data where it is needed most, accelerating access to cloud-stored data attached to your network.

Arcitecta + Dell Technologies: Better Together

Arcitecta and Dell Technologies form a powerful partnership, combining cutting-edge innovation with rock-solid infrastructure to meet the demands of today's data-driven enterprises. Arcitecta's advanced metadata management and data orchestration tools ensure that data is intelligently organized and accessible, while Dell's robust infrastructure provides the scalability, reliability, and performance needed to support even the most complex workflows. Together, they create a seamless global distributed edge solution that optimizes data flow across locations, allowing organizations to manage vast amounts of data with ease, regardless of scale or complexity.

About Arcitecta

Arcitecta has been building the world's best data management platforms since 1998. Today, Arcitecta is transforming data management and backup with Mediaflux, a rich end-to-end data fabric that simplifies data-intensive workflows in petabyte-scale environments to improve business and research outcomes. Mediaflux unifies data management processes into a single platform, simplifying the administration of big data and allowing world leading organizations to solve some of the most challenging problems on the planet.

About Dell Technologies

Dell Technologies has earned its reputation as a trusted leader in media and entertainment storage by consistently delivering solutions tailored to the unique needs of content creators, broadcasters, and delivery providers. With its storage solutions at the core, businesses can build a future-ready infrastructure that simplifies operations while allowing for rapid adaptation to evolving media workflows, such as 4K, 8K, and immersive experiences. By combining high-performance storage with cutting-edge services, Dell Technologies empowers media professionals to accelerate every stage of the content lifecycle—from production and management to distribution and monetization—ensuring their digital assets are secure, accessible, and ready for innovation.

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