DSP Storage: Transforming Datacenter Management

Efficient storage management is crucial for organizations of all sizes. DSP Storage is an industry-leading software-defined storage solution designed to meet the diverse needs of modern businesses.

Enhance Legacy Datacenter Management

DSP Storage modernizes legacy data centers by offering compatibility with older systems, modern storage capabilities, and enhanced management, ensuring improved performance, scalability, and reliability.

File Storage: Drut File System POSIX-compliant, supporting NFS for wide OS compatibility.

Block Storage (RBD): High performance and resiliency for frequent data updates.

Object Storage (S3-compatible): Bridges modern and legacy storage needs

iSCSI Gateway: Enables legacy systems to integrate with VMware and Windows servers without native modern storage protocol support.

Erasure Coding: Reduces storage space while enhancing performance.

Automated Deployment: Simplifies integration and scaling with automated disk detection and bare metal deployment.

Crush Algorithm: Enhances data distribution and access speed.

BlueStore: Ensures data integrity with efficient copy-on-write mechanisms.

Command the storage demands of the Modern AI Datacenter

DSP Storage is designed to meet the growing storage needs of modern data centers, particularly those driven by AI, with its advanced features and capabilities:

File Storage: Drut File System POSIX-compliant, NFS support.

Block Storage (RBD): High performance with replication and snapshots.

Object Storage (S3-compatible): Ideal for large, unstructured data.

iSCSI Gateway: Supports VMware and Windows.

Erasure Coding: Reduces storage space and enhances replication.

Automated Setup: Easy cluster creation and expansion.

CRUSH Algorithm: Efficient data distribution.

BlueStore Engine: Boosts data integrity and performance.

Full Feature Set and Benefits

Comprehensive Cluster Management

DSP Storage excels in cluster management with its versatile user interface, offering a graphical UI, command-line interface, and REST API access. It integrates Prometheus and Grafana for robust monitoring and alerting, providing detailed system health views, customizable alerts, and performance graphs. This allows administrators to monitor storage status and receive timely alerts.

Versatile Storage Methods

DSP Storage shines with its support for multiple storage methods, catering to various application requirements:

• File Storage: File System: POSIX-compliant, supporting NFS for wide OS compatibility. It features rollback and point-in-time copies.

• Block Storage: RBD block storage is optimized for high performance and resiliency, supporting replication, snapshots, and mirroring. It is native to Linux OS environments.

• Object Storage: DSP Storage provides an S3-compatible object store, ideal for managing large, unstructured data. This ensures compatibility with AWS, OpenStack, and other third-party products.

• iSCSI Gateway: The iSCSI Gateway facilitates seamless integration for devices lacking native RBD support, such as VMware and Windows, acting as a translator.

Advanced Replication and Fault Tolerance

DSP Storage ensures data reliability and availability using advanced techniques like Erasure Coding, which splits data into smaller chunks across multiple devices to optimize storage space and replication. Node redundancy and geographic disaster recovery enhance fault tolerance, with data replicated to remote clusters to protect against site outages. The monitor service oversees cluster health, enabling automatic rebalancing and self-healing during failures.

Simplified Cluster Creation and Expansion

Deploying and expanding storage clusters is streamlined with DSP Storage. The system supports fully automated bare metal deployment for creating clusters and adding nodes. Disks are automatically detected, allowing easy resource scaling. This level of automation simplifies management and reduces maintenance time and effort.

Optimized Performance

Performance optimization is a key strength of DSP Storage. The Crush algorithm efficiently distributes data across OSDs (Object Storage Daemons) without a central lookup table, enhancing data distribution and access speed. BlueStore, the underlying storage engine, implements an efficient copy-on-write mechanism for data updates, ensuring data integrity and boosting performance.

Enhanced Security and Troubleshooting

Security in DSP Storage includes data encryption and strong authentication and authorization, ensuring data is secure and access is restricted.

DSP Storage offers comprehensive logging and crash dump capabilities for troubleshooting, with daemons logging events and generating crash dumps for analysis. Integrated Grafana and Prometheus tools provide detailed event monitoring and system health insights.

Conclusion

DSP Storage redefines storage management with powerful, flexible features. It offers comprehensive cluster management, versatile storage methods, advanced replication, fault tolerance, and optimized performance. Designed for both small deployments and large-scale enterprises, DSP Storage ensures your data is secure, accessible, and performant.

About Drut Technologies

Founded in 2018 by a proven cloud development team, Drut Technologies, Inc. is a rapidly growing technology company leading the charge in enhancing modern data center efficiency through innovative photonics and software-defined solutions. Drut's industry-leading approach empowers clients to harness the power of AI computing by offering greater control, optimized performance, and significant cost savings. Drut Technologies operates globally with a strong presence in the United States, India, and Europe.

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