IBM

IBM Flex System V7000 Storage Node

Integrated, innovative storage for IBM PureSystems

Highlights

- Automate and speed deployment with integrated storage for IBM® PureFlex™ System or IBM Flex System™

- Simplify management with an integrated, intuitive user interface for faster system accessibility

- Reduce network complexity with FCoE and iSCSI connectivity

- Store up to five times more active data in the same disk space using IBM Real-time Compression™

- Virtualize third-party storage for investment protection of the current storage infrastructure

- Optimize costs for mixed workloads, with up to three times better performance with only 5 percent flash storage capacity using IBM System Storage® Easy Tier®[1]

More than 70 percent of IT budgets are spent on operations and maintenance.[2] System administrators face extraordinary demands as they plan IT infrastructures. But they also need to deploy assets to meet current needs and optimize them for maximum performance. More and more organizations are virtualizing their IT environments, and administrators face the daunting task of monitoring a complex infrastructure and fixing problems as they arise. These tasks may be complicated by multiple, non-integrated tools that offer limited automation and the explosion of data that is stressing limited resources—budget, people, power, storage capacity and floor space.

To meet today's complex and ever-changing business demands, you need a solid base of compute, storage, networking and software resources that is simple to deploy and can quickly and automatically adapt to changing conditions.

Providing a smarter approach to deploy and manage storage

IBM Flex System V7000 Storage Node is a powerful block storage system designed to enable exceptionally rapid storage deployment and breakthrough management simplicity through full integration with IBM compute, storage, networking, virtualization and management infrastructures.

IBM PureFlex System and IBM Flex System represent a new category of computing that integrates multiple server architectures, networking, storage and system management capabilities into a single system that is easy to deploy and manage. These next-generation integrated systems support open industry standards—such as operating systems, networking and storage fabrics, virtualization, and system management protocols—to easily fit within existing and future data center environments. IBM PureFlex System and IBM Flex System solutions are scalable and extendable with multi-generation upgrades to protect and maximize IT investments.

Flex System V7000 Storage Node is built on the industry-leading storage virtualization and efficiency capabilities of IBM Storwize® V7000 while being physically integrated into PureFlex System or Flex System solutions.

Flex System V7000 enables external virtualization, consolidation and tiering, and is designed to improve application availability and resource utilization for organizations of all sizes. Offering easy-to-use, efficient and cost-effective management capabilities for new and existing storage resources, this unique class of storage system delivers a no-compromise storage design combined with virtualization, efficiency and performance capabilities.

IBM Flex System V7000 Storage Node

Flex System V7000 helps simplify and speed PureFlex System and Flex System infrastructure deployment, with superior server and storage management integration to automate and streamline provisioning and to help organizations achieve greater responsiveness to business needs while reducing costs.

Integrating Storwize V7000 capabilities

Integrated into PureFlex System or Flex System solutions, the new Flex System V7000 can become part of a highly efficient, highly capable, next-generation information infrastructure.

Flex System V7000 is derived from the same base technology as the successful Storwize V7000. It supports unmatched performance and flexibility through internal virtualization and built-in flash storage optimization technologies. Nondisruptive migration of data from existing storage translates to simplified implementation, which minimizes user disruption. Sophisticated storage technologies, including Real-time Compression, thin provisioning, automated tiering, external storage virtualization, clustering, replication and a next-generation graphical user interface (GUI) are designed to help you obtain extraordinary efficiency from your PureFlex or Flex System infrastructure.

Fibre Channel over Ethernet (FCoE) helps enable highly efficient block storage over Ethernet for consolidating server network connectivity. You can deploy FCoE as a single server interface for multiple data types, which can simplify both deployment and management of server network connectivity, while maintaining the high availability and robustness required for storage transactions. This support enables you to connect Flex System V7000 to servers and to other storage systems for clustering or mirroring using FCoE. The same ports may also be used for iSCSI server connections.

Simplified management with automated deployment

PureFlex System and Flex System have been designed to solve such major IT challenges as storage and network deployment and integrated management, systems security management, virtual systems monitoring and management, and performance tracking.

The new Flex System V7000 Storage Node automatically configures into the PureFlex System or Flex System infrastructure. When placed into IBM Flex System Enterprise Chassis, Flex System V7000 is immediately recognized and added to IBM Flex System Manager™ and its Chassis Map, helping reduce the time required for setup and configuration management.

Flex System Manager provides physical and logical storage topology views and shows relationships between storage and server resources, enabling you to track key resources based on business use. Provisioning capabilities include image management for simple virtual machine creation, deployment and cloning. You can manage storage system pools for data lifecycle management and storage placement based on business policies.

Virtualization

Flex System V7000 virtualizes third-party storage for rapid, flexible provisioning and investment protection. Combining storage and server virtualization can build a more powerful virtualized infrastructure than either virtualization solution deployed alone. By integrating and virtualizing all of your storage, you get a single user interface with a management console that is integrated into the comprehensive management system.

Flex System V7000 is a virtualized storage system that enables rapid third-party external storage virtualization to manage capacity in other disk systems. When Flex System V7000 virtualizes a disk system, capacity in the external system inherits the functional richness and ease of use of Flex System V7000, including advanced replication, thin provisioning, Real-time Compression and System Storage Easy Tier.

Performance optimization

Storage tiering helps optimize storage use with data location to improve system performance, reduce costs and simplify management. System Storage Easy Tier technology built into Flex System V7000 automatically and dynamically moves only the appropriate data to flash storage in the system, so you get high performance without manually creating and managing storage tier policies.

A hybrid storage pool is created containing two tiers, flash storage and hard disk drives (HDDs). The busiest volume portions are identified and automatically relocated to high-performance flash storage, and the remaining data can take advantage of higher capacity HDDs, for the best value.

Compression for enterprise-class storage efficiency

Real-time Compression can improve efficiency by compressing data as much as 80 percent, enabling you to store up to five times as much data in the same physical disk space. It is designed for use with active primary data such as production databases and email applications, dramatically expanding the range of data that can benefit from compression.

Real-time Compression, together with other efficiency technologies, can reduce acquisition costs, reduce rack space, and lower power and cooling costs. When combined with external storage virtualization, it can significantly enhance the usable capacity of your system.

Why IBM?

The performance and availability of your storage environment can either enhance or hamper your business processes. That's where IBM comes in. As a market leader in the storage industry, we can help you handle the challenges, whether you are a small to midsize company or a large enterprise.

Innovative technology, open standards, excellent performance, and a broad portfolio of proven storage software, hardware and solutions offerings are just a few of the reasons you should consider storage solutions from IBM, including IBM Flex System V7000 Storage Node.

IBM Flex System V7000 Storage Node at a glance

Host interface	SAN-attached 8 Gbps Fibre Channel, 10 Gigabit Ethernet (GbE) FCoE and iSCSI host connectivity
Cache per controller/control enclosure/clustered system	8 GB/16 GB/64 GB
Supported drives	2.5-inch disk drives • 500 GB and 1 TB 7.2k nearline SAS • 146 GB and 300 GB 15k SAS • 300 GB, 600 GB, 900 GB and 1.2 TB 10k SAS • 200 GB and 400 GB enterprise multi-level cell (E-MLC) SSD
Maximum drives supported	240 per control enclosure; 960 per clustered system
Chassis support	IBM Flex System Enterprise Chassis
Management software	IBM Flex System Manager
Advanced features included with each system	System Storage Easy Tier, IBM FlashCopy®, internal virtualization and thin provisioning, data migration, system clustering
Optional features	Remote mirroring, Real-time Compression, external virtualization

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