

Sun StorageTek™ 9900V Series Dynamic Provisioning Software

Improve Storage Economics



Sun StorageTek™ Dynamic Provisioning software enables thin provisioning capability providing virtual storage capacity. Thin Provisioning allows you to allocate storage from a virtual pool which reduces administration costs by cutting the time to provision new storage, improves storage utilization, and reduces power and cooling requirements. This greatly improves storage economics while allowing for just-in-time storage additions when the application needs it.

Advanced Thin Provisioning Dynamic Provisioning for the Sun StorageTek 9900V Series

For companies faced with ongoing rapid growth of their data storage requirements and escalating storage and storage management expense, Dynamic Provisioning software greatly simplifies the application-storage-provisioning process and saves money on storage purchases.

Dynamic Provisioning allows for storage over-provisioning with less physical disk required and enables ease of non-disruptive future capacity upgrades. Dynamic Provisioning software allows storage to be allocated to an application without it actually being physically mapped until it is used. This just-in-time method means storage allocations can exceed the amount of storage that is physically installed. It also decouples the provisioning of storage to an application from the physical addition of storage capacity to the storage system. Both significantly simplify the storage-provisioning process.

As physical storage is non-disruptively added to the storage system, it is placed in a central pool that is available to all thin provisioned volumes. When an application requires additional capacity, the storage system automatically allocates the additional physical storage needed to the volume. Behind the scenes, Dynamic Provisioning software monitors storage resources and proactively alerts you before more physical storage is required.

Dynamic Provisioning software also simplifies performance optimization by transparently spreading many individual application data sets across many physical disks, thereby reducing performance management concerns and optimizing performance/throughput. With use of Dynamic Provisioning software, overall storage utilization rates improve and the entire storage system is tuned for maximum performance and efficiency.

Coupled with the advanced features and reliability of the Sun StorageTek 9900V Series, Dynamic Provisioning software helps reduce capital and management expenses and improve the return on your storage investment.

Ease Storage Additions; Reduce Cost and Complexity

With Dynamic Provisioning software, application storage provisioning is much simpler, faster, and less demanding on the administrator than the extensive orchestration required by traditional provisioning. The administrator can draw from the Dynamic Provisioning pool without immediately adding physical disks.

When more physical storage is needed, the administrator can simply and non-disruptively install additional physical disks by adding them into the Dynamic Provisioning disk pool. This decoupling of physical resource provisioning from application provisioning simplifies storage management, reduces application outages, saves time, and keeps costs down.

Highlights

- StorageTek 9900 Dynamic Provisioning Software provides thin provisioning for Sun StorageTek 9900V series storage systems
- Improves utilization by reducing the need for capacity overhead
- Reduces power and cooling requirements
- Simplifies storage provisioning and administration
- Eliminates application service interruptions when adding storage capacity
- Enhances performance for diversified workloads

Reduce Application Outages When Adding Capacity

Since virtual volumes of maximum anticipated capacity can be defined in the beginning, the volume capacity does not have to be increased and the application and system configurations do not have to be changed as often, thus improving application availability. With Dynamic Provisioning, physical disk needs are pulled from a shared dynamic storage pool on a write-only basis, thus overallocation of storage is possible with less physical disk required.

Simplify Storage Performance Optimization

Dynamic Provisioning software effectively combines many application I/O patterns and spreads the I/O activity across all available physical resources. This optimization eliminates the challenges of manually spreading an application over many spindles and predicting I/O patterns that will cause contention and performance bottlenecks.

Dynamic Provisioning software optimizes aggregate throughput and generally delivers the best performance - automatically.

Reduce Storage Acquisition Costs: Minimize Overprovisioning

A volume larger than the physical disk can be defined. This allows all anticipated storage to be configured initially, while only the required physical disk capacity is purchased at the start and incrementally, over time, keeping costs down.

Additional physical disks can be purchased later and installed transparently without an application service interruption.

The reduction in physical disk requirement also provides savings in space, power, and cooling requirements. Over-provisioning capacity reduction benefits may vary by different file systems and applications.

Simplify Replication Provisioning and Save

Since the desired capacity of a volume can be defined regardless of the physical disk capacity, using LUN Expansion Manager (LUSE) for volume expansion is no longer necessary. This simplifies creation of replication pairs.

Cost benefits are further enhanced in replication environments because the savings from thin provisioning are also replicated.

The largest overall benefits from Dynamic Provisioning software will be realized by organizations with stable environments and large, consistently growing files or volumes.

Specifications and Characteristics

- Dynamic Provisioning software supports all StorageTek 9900V Series RAID levels
- Supports up to 32 dynamic pool volumes
- 1 to 4096 thin-provisioned LUNs (volumes) per pool
- Open Systems support (OPEN-V emulation type)
- Supports dynamic pool usage threshold settings
- Supports CIM, SNMP, and StorageTek 9900 device manager software alerts

Supported Systems

Sun StorageTek 9900V Series Dynamic Provisioning software is currently available only on the StorageTek 9990V Series supporting open systems environments. Dynamic Provisioning capacity reduction benefits are file system and application dependent.

Since the design of some applications (and file systems) causes them to “touch” what they see as available storage (either immediately or over a short period of time), the benefits of Dynamic Provisioning software may in some cases be file system and/or application dependent.

Learn More

visit: sun.com/storagetek/disk_systems/disk_software/9900/

Engage the Storage Experts

Sun StorageTek service professionals help you address storage challenges by delivering services and solutions that optimize and manage storage performance over the life of your data. Our implementation services address utilization, availability, capability planning and management efficiency, helping you quickly realize the benefits from your investment so you can continue to access the information you need, when you need it. Our consulting and managed services offer clear and simple choices in solutions that address your regulatory concerns, complex storage growth, resource management, and scalability challenges.

StorageTek Custom Implementation Services

Achieve the full benefits of your storage solution investment, right from the start, with Sun's StorageTek Enterprise Disk Software Integration Services. These services can be custom tailored to maximize interoperability, functionality and availability of your Enterprise disk system and Dynamic Provisioning Software.

i-Runbook

Empower your team with Sun's i-Runbook Service. This service creates a knowledge power-base for your organization, allowing your entire IT team to find the vital information they need to manage the data center using the latest Sun preferred practice advice including troubleshooting tips, reference documentation and technical manual pages from a central source – accessed within seconds via a simple Web interface.

Training, support and other services are also available worldwide. Covering over 125 countries, Sun service professionals can help you gain and sustain measurable results with the reliability and flexibility you require.