

Symantec Delivers Thin Aware Veritas File System

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Abstract: Symantec released new functionality for its Veritas Storage Foundation product line in October. Enhancements include a Thin Aware file system, the ability to dynamically migrate data to thin arrays, and an automated storage reclamation API. Combined, this trio provides significant enhancements and optimization capabilities for thin provisioned storage arrays.

Symantec Enhances Support for Thinly Provisioned Storage

On October 13th, 2008, Symantec announced several upgrades to Veritas Storage Foundation that provide support for thin provisioned storage environments. The enhancements include:

- **Thin Provisioning Awareness** – Delivers insight into thin provisioned storage and integrates it with the Veritas File System (VxFS) to deliver a cross-platform (Unix and Linux) thin provisioning aware file system. This is not host-based thin provisioning; it provides visibility from the file system into thin provisioned storage systems (e.g., EMC, HDS, 3Par). Its goal is to allow physical storage capacity to be reserved only when needed, extracting the full value of thin provisioned arrays.
- **SmartMove** – Enables host-based data migration for Unix, Linux, and Windows platforms across heterogeneous storage arrays. Additionally, this software is capable of performing online data migrations from traditional (fat) arrays to traditional or thinly provisioned arrays because it understands which blocks of the volume are being used by VxFS or NTFS. It provides the capability to reclaim unused space on the old array and enhance the optimization and efficiency of a new thin provisioned array.
- **Veritas Thin Reclamation API** – Enables users to conduct automated, granular, online reclamation of unused storage so thin storage can remain thin over time. The key is integration and coordination between the file system and storage array. The software continually evaluates and optimizes a thin storage environment, delivers transparent storage reclamation, and returns all reclaimed storage to the overall pool. 3Par has announced support with HDS, HP, and others expected to follow suit.

These enhancements will be available to all Veritas Storage Foundation 5.0 customers with maintenance contracts free of charge. Vendor certifications for the Veritas Thin Reclamation API are ongoing.

Why These Enhancements are Important

Virtualization efforts like thin provisioning can help organizations optimize their storage environments. Specifically, the reduction in required storage enabled by thin provisioning furthers efforts to reduce capital costs for additional storage and greater power, cooling, and space efficiencies (PCSE).

When deployed effectively, thin provisioning can help remove the traditional storage provisioning bottleneck, but many storage administrators are reluctant to deploy technology without adequate management tools. The new enhancements from Symantec help enterprises by:

- **Eliminating low storage utilization rates.** Specifically, the enhancements help to eliminate the inefficiencies surrounding over provisioning that lead to very low utilization rates. Despite having SRM tools available to identify poor utilization, it is still usually too difficult and, as such, a seldom executed task. As a result, underutilized arrays are identified, but not optimized. If users had an easy way to reclaim this data—similar to the way one might defrag a hard drive, for example—additional storage purchases could be delayed or even completely avoided. The Veritas Thin Reclamation API enables this functionality for thin provisioned environments.
- **Delivering quick and efficient data movement between heterogeneous storage arrays.** Whether due to a technology refresh, data center consolidation or just the need to move application data from one array

to another, migrations need to be accomplished with little or no downtime. Additionally, they present an opportunity to eliminate inefficiently provisioned storage arrays. Symantec's offering not only enables data to be moved non-disruptively, but also enables migration from traditional arrays to other traditional arrays and for moves from traditional arrays to thin provisioned arrays. More importantly, by understanding which blocks are being used, only the data that needs to be moved is actually moved. If only 40% of the array is being used, why move the other 60%? The result is much faster data migrations and more efficient use of CPU resources.

- **Providing a very quick return on investment.** ROI for these enhancements is rapid, especially since they will be offered free of charge to all existing customers with a maintenance contract. The return can be easily calculated based on the amount of reclaimed storage that has been reallocated into the production environment, time saved migrating data from one array to another, and IT organization's ability to be able to react more quickly.

What's Next

These enhancements are a great first step toward helping end-users make the most of thin provisioned environments, but there is still more to do. Specifically, Symantec must:

- **Expand coverage for both storage arrays and Windows.** Symantec would do well to leverage its customer relationships in order to pressure some of the other major storage vendors to accelerate its support for reclamation API. Additionally, delivering the Thin Reclamation API support for Windows environments would also be welcomed and is slated to be out in 2009.
- **Consider alternate ways to leverage the value of this software.** Symantec has established channels and a significant web presence to help customers secure the software for their own use. However, Symantec should also consider leveraging this technology for both its services group and any channel partners that have services. It could provide significant value in data migration engagements with time and performance benefits for migrating both thick to thick and thick to thin arrays. This also could potentially provide an opportunity for non-customers to experience the value of Veritas Storage Foundation and SmartMove firsthand.
- **Educate its existing customer base on the benefits of thin "aware" software.** Symantec is not delivering thin-provisioning software itself, but rather is helping to enhance those environments. It is providing greater visibility, as well as the ability to migrate and optimize these environments. This educational effort could also include working with the Veritas Thin Reclamation API storage partners to demonstrate how Veritas Storage Foundation provides valuable and previously unavailable functionality (like reclaiming deleted files) for thin provisioned arrays.

The Bottom Line

IT professionals are leveraging thin provisioning to maintain high storage utilization rates and reduce costly capital purchases. Anything that helps achieve higher levels of utilization, delivers new functionality, and eliminates difficult, time consuming tasks—like reclaiming deleted or unused storage—should prove to be very valuable to an enterprise. The new features will help users get the most out of their thin provisioning technologies and provide a clear benefit for existing Storage Foundation customers.

New features from Symantec help you really get the most out of your thin provisioning virtualization techniques. Symantec has a track record of providing value added features at no cost to existing customers. These aren't just minor tweaks; they provide significant enhancements—consider Veritas Storage Foundation Manager, which enabled users to manage all instances of Storage Foundation through a single interface. So why wouldn't you try these new features? The only effort involved is downloading the software and installing it. While this does increase your dependence on Symantec solutions, it also increases the value of those solutions to your business—and think of the ROI you can achieve when you start with free software!