University of Illinois Chooses Sanbolic® Melio™ to Simplify Desktop Image Management and Enhance Citrix® PVS™ SQL database high availability.

"The best part of the system now is that I can do PVS and OS updates without any down-time. This is critically important for my operation that needs to run 24-7."

- Robert Ferrer, University of Illinois

The Challenge

The University of Illinois Grainger Engineering Library deployed DELL On-Demand Desktop System (ODDS) via Citrix Provisioning Services™ (PVS) to provide faculty members and students with virtual desktops. Availability was a key requirement for the deployment, which required ensuring that both the Citrix PVS servers and the PVS SQL database were protected from server failure.

The Solution

The University of Illinois chose to use Sanbolic Melio software to manage access to the data on their SAN storage hardware for their Citrix deployment. Melio provided shared access to the virtual desktop images from multiple PVS servers, enabling centralized desktop image management and high availability. Melio also provided high availability for the PVS database running on SQL server. Storage management was simplified and storage utilization was increased by eliminating the need for redundant copies of virtual desktop images.

The Benefits of Melio VDI

- Guaranteed availability of the Citrix virtual desktops by providing highly available infrastructure for the Citrix PVS servers and the PVS database
- Simple, centralized management of desktop images reduced management cost
- Elimination of redundant copied of desktop images reduced storage use by 50% or more
- Seamless scalability—the VDI environment can be expanded to support thousands of users without disruption

Customer Requirements

The IT department at the University of Illinois is responsible for providing IT services and resources to thousands of students and hundreds of faculty members around the clock. Providing continuous system uptime and constant access to desktops requires the department run their Dell On-Demand Desktop System for virtual desktops system in a highly-available configuration, ensuring no single points of failure exist within their provisioning infrastructure. The ability to manage and maintain all of their desktop images quickly and easily is also important to the department due to limited staffing.

To achieve availability requirements for virtual desktops, the IT department at Grainger Engineering Library (University of Illinois Urbana-Champaign) needed to have multiple Citrix Provisioning Services servers deployed in high-availability mode, and ensure that the SQL database used by PVS remained available in the event of server failure.

Key Challenges

Deploying Citrix Provisioning Services servers in high-availability mode required all servers to have access to all of the desktop images, user cache files, and PVS database on a high-performance SAN storage volume. Since SAN storage does not typically enable a volume to be shared, this would require extensive replication, adding complexity and increasing storage requirements. In addition, maintaining a highly available PVS database would typically require introduction of SQL failover clustering, adding additional complexity into the deployment.

Solution Details

The University of Illinois chose to use Sanbolic's Melio software in conjunction with their SAN storage hardware to enable a highly-available virtual desktop deployment and simplify the management of the virtual desktop images.

With Melio, all Citrix Provisioning Services severs share concurrent access to three volumes on block-based SAN storage that maintains all image files (vDisks), user cache files, and PVS database files, respectively. This configuration enables simplified maintenance and high availability for desktop images, while allowing the University to maintain complete and uninterrupted visibility and manageability of the ODDS system during PVS or SQL Server failures.

Melio provides active/active disk access to the PVS servers, enabling the University of Illinois to store all of desktop images on a single volume, greatly simplifying image file maintenance. Using Sanbolic AppCluster™ (included with the Melio software), the IT department introduced a cost-effective solution for SQL Server HA, ensuring the PVS database can be quickly and automatically reassigned to another SQL Server in the event of a SQL Server failure.

Conclusion

Using Sanbolic Melio, the University of Illinois achieved their goals of simplifying desktop image management and enabling both image and PVS database high availability. The University can now offer the campus-wide user community continuous access to desktops, provisioned on demand via its ODDS-PVS farm, maintaining complete visibility and manageability of PVS servers during PVS or SQL Server failures. Melio also improved storage utilization by eliminating redundant copies of the desktop images.

About Sanbolic

Sanbolic is a pioneer in distributed data management. With more than 600 customers globally, the company's host-based data management software delivers enhanced application availability and scale to critical enterprise workloads including virtualization, VDI and mission-critical Windows applications. Melio VDI is a software suite targeted specifically at Citrix virtual desktop customers running Citrix Provisioning Services for XenApp and XenDesktop.

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