Microsoft

Hosting Provider Migrates from VMware to Hyper-V, Trims Licensing Significantly

Overview

Country or Region: Norway and Sweden
Industry: IT services

Customer Profile

TeleComputing provides hosting, system integration, development, and IT consulting services to small and midsize businesses in the Nordic countries.

Business Situation

To embrace hosted private cloud computing, TeleComputing decided to switch from VMware to Hyper-V. However, it needed to migrate several thousand servers with minimal downtime.

Solution

TeleComputing used Windows Server 2012 and Microsoft System Center 2012 to build a hosted private cloud and Vision Solutions Double-Take Move to migrate VMware virtual machines to Hyper-V.

Benefits

- Significantly trim virtualization costs
- Reduce IT operations costs and deliver solutions sooner
- Spend one-third less engineering time on migration
- Avoid up to 20,000 hours of downtime during migration

"By switching from VMware to Hyper-V, we will reduce our virtualization licensing costs significantly while gaining a more predictable and scalable cost model."

Kjell Tore Espeseth, Chief Technology Officer, TeleComputing

TeleComputing is a leading hosting provider in Norway and Sweden. To speed its move to cloud computing, lower costs, and improve IT staff efficiency, it decided to switch from VMware virtualization software to Hyper-V in the Windows Server 2012 operating system. By switching to Hyper-V, TeleComputing will significantly reduce virtualization licensing costs and be able to deliver solutions to customers faster using cloud efficiencies. To execute the smooth migration of several thousand servers from VMware to Hyper-V, TeleComputing is using Vision Solutions Double-Take Move, a powerful migration tool that can be used with Microsoft System Center 2012 to systematically migrate servers with fewer than 15 minutes of downtime. TeleComputing will reduce migration-related work by one-third versus alternative migration techniques and avoid between 5,000 and 20,000 hours of server downtime.

> "The Microsoft cloud operating system was more than good enough for what we needed, and we saw a lot more potential in the System Center tools than in VMware tools."
>
> Kjell Tore Espeseth, Chief Technology Officer, TeleComputing

Situation

Since 1997, TeleComputing has been a leading provider of IT operation services and web-based software distribution in the Nordic countries. From data centers in Norway and Sweden, TeleComputing delivers more than 2,400 hosted applications to approximately 75,000 end users every day at more than 800 small and midsize businesses. TeleComputing also offers system integration, application development, and IT consultancy services. The Oslo-based company has 800 employees.

Because its customers run their business-critical applications from TeleComputing data centers, TeleComputing servers cannot experience downtime outside of agreed-upon service windows. In fact, the company signs service level agreements (SLAs) with customers guaranteeing to pay penalties if customers experience service disruptions. Thus, server outages would be unacceptable and very costly for TeleComputing, particularly if they affect multiple customers.

TeleComputing had virtualized its data centers by using VMware software. By early 2013, it had 10,000 virtual machines and 3,500 physical servers. However, even with the consolidation efficiencies provided by virtualization, TeleComputing was running out of data center space and wanted to expand its use of virtualization to reduce its physical-server count. Increasing use of VMware licenses on a service provider agreement would be hugely expensive. "We wanted to move away from VMware because of the high licensing costs but also because we wanted to focus on fewer partners and tools to reduce data center complexity," says Kjell Tore Espeseth, Chief Technology Officer for TeleComputing.

TeleComputing was also under increasing customer pressure to speed the delivery of hosted IT services. With more cloud providers appearing in the market, TeleComputing wanted to reconfigure its data centers into a hosted private cloud model whereby virtualized resources were configured and managed in a highly automated fashion. It already used Microsoft System Center data center solutions to manage its data centers and wanted to use these tools to implement more automated processes.

TeleComputing had watched the evolution of the Hyper-V technology in the Windows Server operating system for a while. With the advent of the Microsoft cloud operating system vision based on Windows Server 2012 R2, Microsoft System Center 2012 R2, and Windows Azure Pack, TeleComputing believed that Microsoft equaled or surpassed VMware in many areas—and at a far lower cost. "The Microsoft cloud operating system was more than good enough for what we needed, and we saw a lot more potential in the System Center tools than in VMware tools," Espeseth says.

TeleComputing made the decision to switch from VMware to Hyper-V, but the challenge was finding a way to perform the migration within the small maintenance windows that the hosting provider's SLAs allowed. Further, the critical nature of some customer workloads meant that traditional migration approaches would make the migration impossible because of the excessive downtime involved.

Solution

TeleComputing engaged Microsoft Services Consulting for help in upgrading to Windows Server 2012 and Microsoft System Center 2012, migrating its enormous VMware environment to Hyper-V, and creating a hosted private cloud environment based on a cloud operating system.

Microsoft Services Consulting brought in Vision Solutions for help with the migration. A member of the Microsoft Partner Network with multiple Gold competencies, Vision Solutions makes a

migration tool called Double-Take Move that can be used to migrate physical, virtual, and cloud server workloads. Double-Take Move begins by copying all data, applications, and registry settings from a source server to another physical, virtual, or cloud server. This happens in the background so that users can continue working without being aware that the migration is in progress.

Double-Take Move captures data changes made during the migration and copies them as they happen, in real time, to the target server. In addition, Double-Take Move remains active until a customer is ready to finalize the switchover, thereby keeping the source and target servers synchronized in real time until the target server assumes the production role.

Double-Take Move can be controlled through a robust application programming interface (API) set, and the whole migration process can be managed through System Center. For example, TeleComputing configured all the migration information through the Service Manager component of System Center, automated the migration process using automated runbooks (which contain instructions for an automated task) created in the Orchestrator component, and monitored the migration through the Operations Manager component. It used the Virtual Machine Manager component to provision virtual machines on the target host servers.

Every night during the migration process, TeleComputing generated a list of servers that were ready to migrate. As soon as the new server was synchronized with the old server, it required just 12 to 15 minutes of switchover time to migrate a VMware server to a Hyper-V server with new networking adapters and IP addresses. Finally, TeleComputing ran tests to ensure that the new virtual server was functioning properly. If not, it used Double-Take Move to perform an automated rollback to the old server.

"We really liked Double-Take Move because it allowed us to perform most of the migrations during business hours and then finalize the switchover during normal maintenance windows covered in our SLAs," Espeseth says. "We could also schedule the migrations, which we couldn't do with other solutions, and use Double-Take Move to migrate both physical and virtual servers."

Microsoft Services Consulting provided strategic project oversight, set up a proof of concept, developed the migration procedures, and wrote scripts to create automation runbooks using Orchestrator. The consultants also documented the solution and worked closely with TeleComputing to ensure that its IT staff knew how to manage the Hyper-V environment. Microsoft Services Consulting and Vision Solutions helped TeleComputing migrate the first 1,000 servers from VMware to Hyper-V, and TeleComputing will complete the migration. The company plans to migrate 4,000 additional VMware virtual machines and 1,500 physical servers to Hyper-V by 2014.

TeleComputing is using Windows Server 2012 and System Center 2012 to create a hosted private cloud environment. It is also looking at the Windows Azure Pack for Windows Server, a collection of technologies that hosting providers can use to deploy Windows Azure–consistent services from their own data centers. Further, TeleComputing is beginning to use Windows Azure services, helping some customers integrate Windows Azure Active Directory with their on-premises Active Directory environments and also helping customers get up and running on Microsoft Office 365, a suite of enterprise-grade email, conferencing, document-sharing, and productivity capabilities delivered as cloud services from Microsoft data centers.

Benefits
By switching from VMware to Hyper-V, TeleComputing will reduce its virtualization

licensing costs significantly. By using System Center 2012 to manage its Hyper-V environment, the TeleComputing IT staff can be extremely efficient, to the point where the business can continue to grow and add more IT services while avoiding the addition of as many new IT staffers.

Using Double-Take Move, TeleComputing is performing a significant VMware migration with one-third less engineering work than would be required with traditional migration technologies. And it will accomplish the migration without incurring customer-harming downtime.

Significantly Reduce Virtualization Licensing Costs
Because Hyper-V is included in the Windows Server 2012 license, and System Center can be added for just a few more dollars per processor, TeleComputing can achieve cost-effective scalability as it adds virtual guests, whereas VMware required separate and very expensive licenses for each new guest added. "By switching from VMware to Hyper-V, we will reduce our virtualization licensing costs significantly while gaining a more predictable and scalable cost model," says Espeseth.

Reduce IT Operations Costs and Deliver Solutions Sooner
TeleComputing expects to see additional IT staff savings by employing System Center 2012. "The real benefits from System Center 2012 will come when we implement all of its automation capabilities, such as those in Orchestrator," says Jon Espen Carlsen, Solution Architect at TeleComputing. "The labor cost avoidance from using System Center 2012 will be the equivalent of one full-time staff person per year, even while our business and server count are growing."

TeleComputing will be able to construct a hosted private cloud environment much faster by using Microsoft cloud operating system offerings than it could have using another vendor. "By moving to a cloud

operating system and Hyper-V, we will be able to adopt a cloud strategy much sooner," Espeseth says. "It's easier to find talent trained in Microsoft technologies and to train our own staff. Many customers are requiring us to have services available sooner, so it's a strategic advantage for us to deliver services through a cloud infrastructure."

Trim Migration Work by One-Third, Avoid Up to 20,000 Hours of Migration-Related Downtime
By using Double-Take Move, TeleComputing is saving a significant amount of engineering time on the VMware-to-Hyper-V migration. "We estimate that, by using Double-Take Move, we used well under a third of the engineering time typically required in these migrations," Carlsen says. "We have a lean IT staff as it is, so it's critical that our staff not be bogged down with a project like this. Having software that automates the whole process was really valuable."

Additionally, TeleComputing will be able to migrate an additional 4,000 VMware virtual machines and 1,500 host servers to Hyper-V, including 1,000 virtual machines that could not have tolerated the downtimes incurred using traditional migration methods. The entire switchover takes no more than 30 minutes per server, typically including less than 15 minutes of server downtime, which is within the maintenance windows allowed in TeleComputing SLAs. This compares with two to three hours—and sometimes more than a day—of downtime for migrations of large servers with a significant amount of persistent data when using traditional migration techniques. The cost of the resulting SLA penalties in that scenario, not to mention customer dissatisfaction, is incalculable.

"For a VMware migration project of this size, we estimate that we avoided 5,000 to 20,000 hours of user downtime," Espeseth says. "That's one to six hours of downtime per server depending on the workload.

For More Information

For more information about Microsoft products and services, call the Microsoft Sales Information Center at (800) 426-9400. In Canada, call the Microsoft Canada Information Centre at (877) 568-2495. Customers in the United States and Canada who are deaf or hard-of-hearing can reach Microsoft text telephone (TTY/TDD) services at (800) 892-5234. Outside the 50 United States and Canada, please contact your local Microsoft subsidiary. To access information using the World Wide Web, go to:
www.microsoft.com

For more information about Vision Solutions products and services, visit the website at:
www.visionsolutions.com

For more information about TeleComputing products and services, visit the website at:
www.telecomputing.com

Double-Take Move allowed us to minimize downtime and fit migrations into our regular maintenance windows. And the migrations were completely transparent to our customers."

Transform the data center

The hybrid cloud from Microsoft transforms the data center by extending existing investments in skills and technology with public cloud services and a common set of management tools. With an on-premises infrastructure connected to the Windows Azure platform, you can deliver services faster and scale up or down quickly to meet changing needs.

For more information about transforming the data center, go to:
www.microsoft.com/en-us/server-cloud/cloud-os/modern-data-center.aspx

Software and Services
- Microsoft Server Product Portfolio
  - Windows Server 2012 Datacenter
  - Microsoft System Center 2012
- Microsoft Services
  - Microsoft Services Consulting

- Technologies
  - Hyper-V
  - Windows Azure Pack

Partners
- Vision Solutions

Error! Reference source not found.