

Service Provider Increases Performance and Reliability, Not Headcount, with the Microsoft Solution for Windows-based Hosting

NTT/VERIO

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Verio's Windows-based hosting service, built on the Microsoft Solution for Windows-based Hosting, was expanding rapidly, and Verio needed additional monitoring tools to keep pace as the service scaled. It also needed to keep internal costs low. To accomplish this, Verio deployed the monitoring solution designed to work with the Microsoft Solution for Windows-based Hosting: Microsoft Operations Manager 2000. In doing so, Verio has doubled the number of servers each administrator can monitor, saved more than U.S.\$150,000 per year in new staffing costs, and reduced trouble tickets by 50 percent—even as it has doubled the number of servers in the data center. As for availability? Verio's shared hosting Web service offering now exceeds 99.9 percent.

Situation

Verio Inc. is one of the world's largest operators of Web sites for businesses, and a leading provider of global IP solutions. With world-class products, the largest active reseller program in small-to-medium enterprise (SME) hosting, and a financially stable position, Verio offers a broad range of Web hosting services—some based on UNIX solutions, others based upon the Microsoft Solution for Windows-based Hosting. While many service providers were having problems staying in business over the past two years, Verio was facing a different problem: the popularity of its Windows-based Web service offerings was growing; and while the hosting solution was proving to be highly scalable, the monitoring tools that Verio was using were not as scalable as the company now required.

Over the course of the four years that Verio had offered Windows-based Web hosting services as part of its shared hosting business, its developers had written a range of server, operating system, and application monitoring tools. While these tools were very good at what they had been originally designed to do, they needed to scale to support a large number of servers, as well as manage the presentation of notifications arising from a large number of servers. With more and more sites running on Windows-based servers, the monitoring tools were detecting more and more hardware, operating system, and application alerts. This created an environment in which it was difficult to distinguish informational notices from alerts indicating a serious problem.

The availability of Microsoft Operations Manager 2000—the monitoring component of the Microsoft Solution for Windows-based Hosting—prompted Verio's IT managers to review their

Solution Overview

Customer Profile

Verio Inc. is a wholly owned subsidiary of NTT Communications. It does businesses in more than 170 countries, offering a broad range of Internet services, including Web hosting, network access, virtual private networks, and managed service offerings, among other enhanced services.

Business Situation

Verio needed a monitoring solution that it could maintain cost-effectively and that would scale to support its expanding Windows® operating system-based hosted Web service infrastructure.

Solution

Verio built on its Microsoft® Solution for Windows-based Hosting foundation by adding proactive monitoring services using Microsoft Operations Manager 2000.

Benefits

- Doubled the number of servers each administrator can monitor.
- Halved the number of trouble tickets, even as it doubled the number of servers in the data center—without adding any new administrators.
- Increased availability beyond 99.9 percent.
- Increased customer satisfaction through proactive system maintenance.

Software and Services

Microsoft Windows Server 2000
Microsoft SQL Server™ 2000
Microsoft Operations Manager 2000

situation and make some decisions. “When we looked at Microsoft Operations Manager 2000,” says William Toll, Product Manager, Windows Shared Web Hosting for Verio SME Hosting, “we saw capabilities to scale without any limitations. To do the same thing with the components we’d developed in-house, we’d have had to allocate a lot of our development talent in that direction.”

Given a pressing need to deploy a monitoring solution that could support a rapidly scaling environment—without requiring additional administrative personnel and without requiring the redeployment of developers—Verio’s IT managers decided that it was time to add Microsoft Operations Manager 2000 to its SME business arsenal.

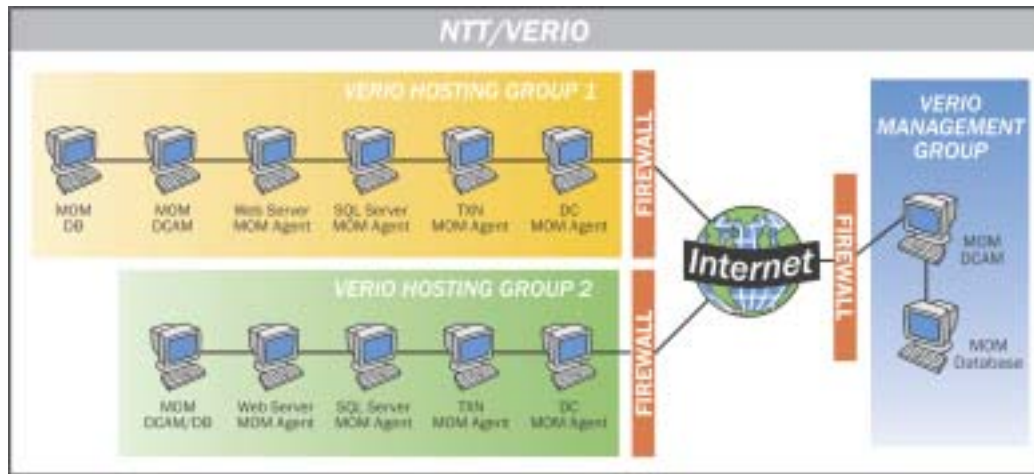
Solution

Verio started deployment of Microsoft Operations Manager 2000 in its Sterling, Virginia data center. Initially, the service provider deployed Microsoft Operations Manager to monitor a group of 40 servers running the Microsoft Solution for Windows-based Hosting to support shared hosting retail customers.

Microsoft Operations Manager itself runs from two Hewlett-Packard LP200R servers with dual 1.26-gigahertz processors. One of these LP200R servers acts as the Microsoft Operations Manager application server and data consolidator, and has 1 gigabyte (GB) of random access memory (RAM) and local storage in a RAID 1 configuration. The other LP200R maintains the Microsoft Operations Manager database, running on Microsoft SQL Server 2000, and has 2 GB of RAM and local storage in a RAID 1+0 configuration.

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William Toll
Product Manager, Windows Shared
Web Hosting
Verio



The Architecture of Microsoft Operations Manager 2000 at Verio.

As Verio has refined its use of Microsoft Operations Manager 2000 service packs and rule sets, it has deployed Microsoft Operations Manager 2000 to support other groups within its data centers. All alerts and notifications from Microsoft Operations Manager are passed from Verio’s data centers to its primary systems management group, based in Boca Raton, Florida.

Benefits

Microsoft Operations Manager 2000 has not only enabled Verio’s SME business to scale its monitoring solution in step with its rapidly growing service, but also has helped Verio to increase the availability and uptime of the service offering it has built with the Microsoft Solution for Windows-based Hosting. At the same time, Microsoft Operations Manager has made it possible for Verio to avoid having to hire additional employees to maintain its growing environment, and it

has enabled Verio to keep its developers focused on strategic projects rather than refocusing them on a lengthy rewrite of the existing monitoring tools.

A Scalable Solution

Verio's internally built monitoring tools posed two particular problems in the area of scalability. As Verio deployed more Windows-based servers, the old monitoring tools sent more e-mail messages to administrators about events in the environment. The administrators had no easy way to consolidate or filter messages coming in from the various pieces of hardware, the operating system deployments, or the applications. Nor did they have an easy way to discriminate alerts that represented real problems from alerts that did not, which made it increasingly difficult for Verio's IT personnel to focus on the issues that truly required their attention.

"Before, we might have had one e-mail out of 100 that signified a real problem," says Eric Carsrud, Manager, Windows Systems Administration for Verio SME Hosting. "The rest was just noise. With Microsoft Operations Manager, events get priority over other notifications. That increases our ability to respond to real problems because we don't get false alarms or have all this noise to sift through. Instead of getting a notification every five minutes about the same thing, we can use the rules in Microsoft Operations Manager to alert us only once. The kind of communications we get from Microsoft Operations Manager 2000 makes it so much easier to manage our environment."

Verio has installed the Microsoft Operations Manager management packs and uses more than 3,800 rules to monitor the activities throughout each server group. That in itself has been an eye-opening experience. "It used to be that we only could only look for the things we knew to look for," says Toll. "Microsoft Operations Manager 2000 is actually looking for a lot of things we never even knew to look for. When we first started running Microsoft Operations Manager, we got several error messages that we'd never seen before. It turns out that those problems had always been there, but we'd never known about them. Microsoft Operations Manager helped us identify and fix those quickly."

Microsoft Operations Manager 2000 also provides Verio with features that enable the monitoring solution to respond to many conditions without operator intervention. If an instance of Internet Information Services needs to be restarted, for example, Microsoft Operations Manager can actually restart the server without asking an operator to do anything. Instead of sending a message indicating that the server needs to be restarted, Microsoft Operations Manager might send a message indicating that it did restart the server in response to a specific problem.

The consequence of these improvements was soon evident in the number of trouble tickets administrators for Verio's SME hosting were seeing. In the first quarter of 2002, they saw 1,000 trouble tickets per month—generated from more than 100 servers supporting more than 12,000 clients. By November of 2002, without having increased their administrative headcount, they saw half as many trouble tickets—even though their data center had grown to more than 250 servers supporting more than 21,000 clients.

"With Microsoft Operations Manager, we can often catch errors before the customers see them," Carsrud continues, "and that's a real benefit."

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Administration
Verio

Increasing System Uptime Without Increasing Headcount

Verio monitors its deployment of the Microsoft Solution for Windows-based Hosting with a modest-sized operations team, requiring a minimum percentage of this team to be onboard during any of the three shift periods. Yet even with this relatively small team monitoring more than 250 Windows-based servers, Microsoft Operations Manager 2000 has helped the service provider increase the availability and uptime of its servers from 99.7 percent to upwards of 99.9 percent.

“Our service level agreements [SLAs] were instrumental in getting us to change over to Microsoft Operations Manager 2000,” says Toll. “We’ve doubled the size of our Windows-based offering in the past year—adding more than 100 servers in the past six months alone—yet now we have a smaller staff than last year. We found ourselves wondering where we’d be next year at this rate. We run 24 by 7 by 365, and it would have been much harder for two people to manage the servers to meet the new 99.9 percent uptime guarantee that’s in the SLA using our old monitoring tools. Microsoft Operations Manager, and the kinds of communication we get from the servers, makes it easier to do that. Because of Microsoft Operations Manager 2000, we met and exceeded that uptime goal with the staff we had in place.”

Containing Costs

By empowering its existing staff to support its infrastructure more effectively, Verio has saved the \$150,000 or so that it would have spent paying another full-time operator’s salary and funding full-time employee benefits. At the same time, it has been able to keep its development personnel and development funds focused on projects that it expects will have a greater long-term return for the company.

“We might have been able to get the development resources to update our monitoring applications,” says Toll, “but other projects would have suffered. Moreover, we would not have been able to develop applications that have the breadth of features that Microsoft Operations Manager 2000 has right out of the box. And that’s just today. We would have had to do more development work to prepare our monitoring tools for Microsoft Windows Server 2003. With Microsoft Operations Manager 2000, however, there will be a management pack for Windows Server 2003 that we can just plug in. We’ll make some minor configuration changes and that’s it.

“Microsoft Operations Manager 2000 keeps us on top of what’s taking place on our Windows-based servers,” Toll goes on to say. “It frees up our operations people to spend more time working on other projects, and that’s great because we’re constantly trying to find ways to do things better. Most of our operations people were too busy reviewing false alarms before. With Microsoft Operations Manager 2000, we have a system we can trust.”

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The Microsoft Solution for Windows-based Hosting helps solution providers reduce operational costs and increase average revenue per user—resulting in a faster path to profitability.

Microsoft Operations Manager 2000 delivers enterprise-class solutions for operations management of the Windows 2000 operating system, the Active Directory® service, and other component services in Windows 2000, as well as .NET Enterprise Server applications such as Exchange Server and SQL Server. For mixed IT environments, extensions are available from third-party software vendors.

For more information about the Microsoft Solution for Windows-based Hosting, go to:
<http://www.microsoft.com/hosting/>

For More Information

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For more information about Verio, visit the Verio Web site at:
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