

MAXIMUM HYPER-V

MaximumASP offers highly available virtual servers at 70 percent less cost than comparable physical servers, using Microsoft and Dell solutions



SOLUTIONS

- VIRTUALIZATION
- SYSTEMS MANAGEMENT



MaximumASP

CUSTOMER PROFILE

COUNTRY: Louisville, KY (USA)

INDUSTRY: Technology
(Web hosting provider)

FOUNDED: 2000

NUMBER OF EMPLOYEES: 30+

WEB ADDRESS:

www.maximumasp.com

CHALLENGE

MaximumASP wanted to offer highly available virtualized servers in order to increase service levels and efficiency and lower costs.

SOLUTION

The company deployed Microsoft® Windows Server® 2008 Data Center Edition with Microsoft Hyper-V™ technology to run on Dell™ PowerEdge™ servers. The Microsoft System Center Management Suite streamlines administration, integrated with the Dell Management Pack for System Center Operations Manager and Server Update Catalog developed for System Center Configuration Manager.

BENEFITS

RUN IT BETTER

- Fourfold increase in CPU utilization, from 10 to 40%
- Automatic failover in case of hardware failure
- Fourfold faster disk replacement
- Backup and recovery for customers at no additional charge
- Testing complete in hours instead of weeks
- 15-minute server deployment vs. 2-3 days

GROW IT SMARTER

- 70% less expensive than comparable dedicated physical servers



If a business can get outsourced hosting for its Web-based applications, it has more IT resources available for more valuable tasks.

Kentucky-based MaximumASP not only makes outsourced hosting possible, it makes it so attractive that it has grown from just 6 Dell servers a few years ago to more than 2,700 Dell servers, hosting more than 50,000 domains for customers in over 60 countries.

“WITH MICROSOFT HYPER-V ON DELL POWEREDGE SERVERS, WE CAN OFFER HIGHLY AVAILABLE VIRTUAL SERVERS FOR 70 PERCENT LESS THAN COMPARABLE DEDICATED PHYSICAL SERVERS.”

Ryan Jones, MaxV product manager, MaximumASP

GOING VIRTUAL ON HYPER-V

From the start, MaximumASP standardized on Dell hardware and Microsoft software. But as the company grew, a new opportunity became visible: customer servers were underutilized.

“The average CPU utilization on our boxes was just 5 to 10 percent, and we saw that as a glaring problem of inefficiency,” says Dominic Foster, chief technology officer. “Every server we spin up consumes power. We pay for the server, its power, and the engineers who watch, maintain and patch it. We wanted a way to enable customers to use our resources more efficiently.”

To achieve that goal, MaximumASP is making virtual servers available on Microsoft Hyper-V, a technology included with Microsoft Windows Server 2008 Datacenter Edition, hosted on Dell PowerEdge 1950 servers. The new service offering is called MaxV. “From the customer’s perspective, these virtualized servers look and feel just like dedicated physical servers,” Foster notes. But as virtual servers, they have a number of advantages.

FASTER UP, LESS DOWN

“When a customer requests a MaxV server, we can have it up and running within 15 minutes compared to 2 to 3 days if it was a physical server,” says Ryan Jones, MaxV product manager.

MaxV servers are also highly available.

“We’re using failover clustering along with Hyper-V to ensure that in the case of hardware failure, the customer experiences minimum downtime,” Jones comments. “During planned maintenance on host servers, customers experience a maximum of 30 seconds of interruption.”

That downtime will be even shorter with the upcoming R2 release of Hyper-V, Jones adds. “With R2, 30 seconds will be cut to 1 or 2 seconds,” he says. “We expect R2 soon, and we’ll be able to migrate to it seamlessly.”

EASIER MANAGEMENT

In the Hyper-V environment, management is streamlined using Microsoft System Center Virtual Machine Manager 2008 (VMM).

“VMM offers a quick overview of how our Hyper-V clusters are doing,” Jones

HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ 1950 servers with two Intel® Xeon® processors

SOFTWARE

- Dell OpenManage™ Server Administrator and IT Assistant
- Microsoft® Hyper-V™
- Microsoft Windows Server® 2008 Datacenter Edition
- Microsoft System Center Virtual Machine Manager 2008
- Microsoft System Center Configuration Manager
- Microsoft System Center Operations Manager
- Microsoft System Center Data Protection Manager 2007 SP1
- Dell Management Pack for System Center Operations Manager
- Dell Hardware Update Catalog for System Center Configuration Manager

SERVICES

- Dell Warranty Parts Direct

“DELL OPENMANAGE WORKS WITH MICROSOFT SYSTEM CENTER TO SPOT PROBLEMS BEFORE THEY OCCUR. WE RESTORE SERVICE FOUR TIMES FASTER.”

Dominic Foster, CTO, MaximumASP

notes. “If we want to see where virtual machines are physically located, we can do that. We have 200 virtual machines on 14 physical hosts with more than 400 storage volumes mapped to them, so simplified management—and health monitoring at a glance—is important. An environment our size would be unmanageable without a tool like VMM.”

FOURFOLD FASTER DISK REPLACEMENT

The Microsoft System Center Management Suite and Virtual Machine Manager integrate with Dell OpenManage tools. “We’ll be using this integration to manage BIOS and driver updates for our servers,” says Foster. “It eliminates different silos for management. And Dell OpenManage works with Microsoft System Center to enable proactive notification—we can spot problems before they occur. Instead of coming in at 3 a.m. on a Saturday when something fails, you can get the alert on the Tuesday before about early signs of the problem. You can actually fix it and talk to the customer before having to be in a panic.”

Service levels are higher, Foster adds. “If we know about a drive failure or a backplane failure ahead of time, we can perform a planned failover and have that drive replaced within an hour,” he observes. “If we experience an unplanned failover, then rebuilding the array and failing back over to that server would probably take about four

hours. With our current solution, we restore service four times faster.”

INTEGRATED BACKUP

Another feature of the Microsoft System Center Management Suite is Microsoft System Center Data Protection Manager. This component enables MaxV customers to receive a backup at no additional charge. “Because we’re leveraging System Center, it’s easy for us to manage and provision those backups,” says Jones. “And because of the tight integration that exists between System Center Data Protection Manager and Hyper-V, our environment is streamlined.”

TEST IN HOURS, NOT WEEKS

In a Hyper-V environment, testing is faster and easier, making MaximumASP more agile. “If we had a test project we wanted to spin up before, it took weeks to find servers and some data center space and rack them up,” says Chris Morrow, chief information officer. “Now we can spin up 10 different MaxV accounts, test something and tear it down in a matter of a few hours.”

NIMBLE AS A CLOUD—NO REBUILDING

Cloud computing is getting much attention these days, Jones points out. “What customers like about cloud computing is elasticity, dynamic scalability and high availability,” he observes. “What they hate is that most cloud offerings require them to rebuild their applications.”

The MaximumASP team took these factors into account when designing MaxV. “We’re delivering cloud benefits without the pain,” says Jones. “MaxV lets you add resources dynamically and gain high availability—without rebuilding or re-architecting applications. It’s just like having the dedicated servers that our customers know and love, but with failover clustering and dynamic capacity.”

MORE VALUE, 70% LESS COST

All these features can be offered at a lower cost. MaximumASP has gained the higher utilization it was looking for, discovering it can host between 8 and 32 virtual machines on a single Dell PowerEdge 1950 server.

“We’re seeing a fourfold increase in CPU utilization, from 10 to 40 percent,” Jones says. “Responsible utilization enables us to keep a certain amount of resources reserved for each customer. This allows the customer to burst and use more of the box if their site traffic spikes due to a promotion or extra publicity, while maximizing our hardware and software ROI.”

Greater efficiency drives greater value. “With the Microsoft System Center Suite and Microsoft Hyper-V on Dell PowerEdge servers, we can offer highly available virtual servers that are backed up and monitored for a price point 70 percent less than on comparable dedicated physical servers,” says Jones.

CUSTOMERS LOVE IT

MaxV is very popular. "In the few months since we launched MaxV, we've signed up 200 customers," Jones adds. "In addition, we've seen that the platform has performed well enough that we migrated a number of our customer-facing internal systems over to it."

The service is also breaking ground. "To the best of our knowledge, MaximumASP is the first company to bring Hyper-V based virtual dedicated servers to market in a highly available configuration," reports Jones. "For less than \$100 a month, the features we could offer with a dedicated physical server would be pretty slim. There would be no redundancy on the power supply, a single processor and hard disk, and limited RAM."

But that same \$100 a month now goes further. "Virtualization enables us to use much higher-quality hardware like the Dell PowerEdge 1950 to provide redundancy all the way from the server through the storage network down to the SAN," Jones sums up. "And Microsoft and Dell management features let us monitor this highly available, fully redundant architecture remotely and efficiently. For our customers and for us, it's a win-win situation."

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