ADVANTAGES OF DELL SERVER SOLUTIONS POWERED BY THE NEW INTEL XEON PROCESSOR E5-2600V2 SERIES

The new Intel Ivy Bridge processors, known as the Intel Xeon processor E5-2600v2 series, offer the latest advances in processing power, including up to 12 cores, support for up to 1,866MHz and up to 64GB DIMMs, and added security features including Intel Secure Key and Intel OS Guard. Dell engineering and software unleash the power of this new processor series with 12G PowerEdge server solutions. In the Principled Technologies labs, we tested some of the new capabilities of these processors in Dell solutions through two real-world scenarios. First, using blade servers, we demonstrated the performance benefit of an Intel Xeon processor E5-2600v2 series-powered Dell PowerEdge™ M620 server and storage solution compared to a previous-generation Intel Xeon processor E5-2600 series-powered HP solution. Additional memory slots in the Dell PowerEdge M620 server and Dell-patented Fault Resilient Memory (FRM) technology work with the new Reliable Memory Technology feature in VMware vSphere 5.5 virtualized environments to deliver additional protection for the workload while still providing more memory that the HP solution. In the second scenario, we demonstrated how a Dell solution can take advantage of the additional compute power from the new Intel Xeon processor E5-2600v2 series to perform source-based deduplication and reduce added stress on network and storage systems.

AUGUST 2013
A PRINCIPLED TECHNOLOGIES TEST SUMMARY
Commissioned by Dell Inc.

More memory, more performance, and better protection with Dell and Intel

Larger amounts of memory often contribute to greater application performance. In our blade server scenario, the Dell PowerEdge M620 provided 50 percent more memory slots than the HP ProLiant BL460c Gen8 – 24 slots compared to 16. In addition, Dell Fault Resilient Memory technology provides memory error protection when coupled with Reliable Memory Technology of VMware vSphere 5.5 and creates a hypervisor-enabled fail-safe platform for your virtualized critical applications. With the Dell solution, you can enable FRM and still have 12.5 percent more memory, including enhanced memory protection for the hypervisor, than the HP solution.

In our testing, the Intel Xeon processor E5-2660v2-based Dell solution, consisting of a Dell PowerEdge M620 with memory error protection as enabled by FRM technology and a Dell EqualLogic™ PS-M4110 storage array, delivered 182.2 percent better virtualized database performance than the HP solution, consisting of the previous-generation Intel Xeon processor E5-2640-based HP ProLiant BL460c Gen8 without memory protection and an HP D2200sb Storage Blade (see Figure 1).

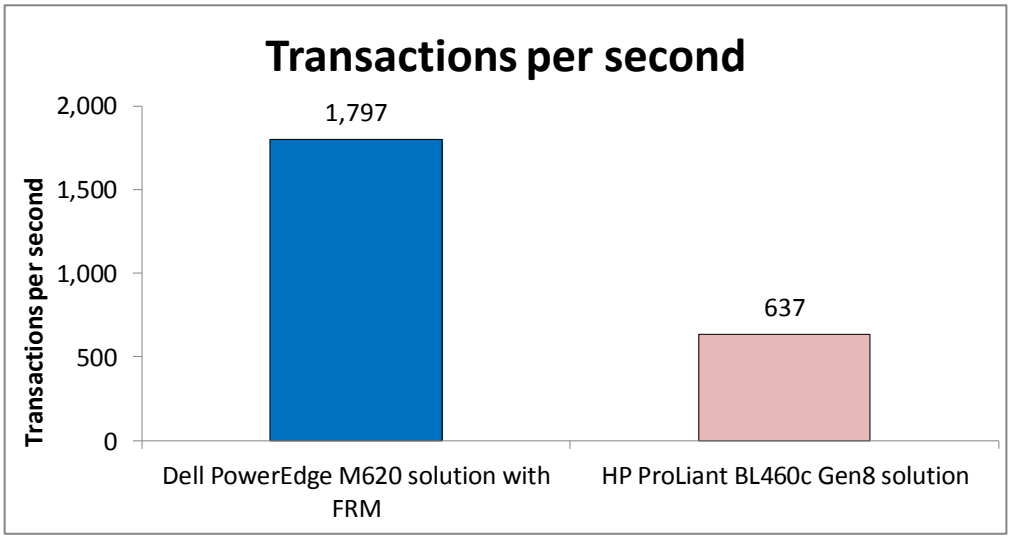

Figure 1: The Dell PowerEdge M620 solution delivered 182.2 percent more transactions per second than the HP solution did.

For more information about our memory study, read the full report at www.principledtechnologies.com/Dell/PowerEdge_E5-2600v2_FRM_0813.pdf.

Dell and Intel combine to provide quick backups with no performance hit

In the past, companies may have been reticent to use source-based deduplication as part of their backup strategy as deduplication overhead could put additional load on the processor and other resources. The high-performance Intel Xeon processor E5-2697v2 easily handled the deduplication load with the Dell backup solution we tested. We were able to run source-based deduplication backups with minimal impact on application performance. In our scenario, the Dell PowerEdge R720xd running NetVault Backup software with Rapid Data Access (RDA) plug-in, working with the Dell DR4100 Disk Backup Appliance, provided 69.5 percent faster backups than a traditional backup method. What's more, the Intel Xeon processor E5-2600v2 series-powered Dell backup solution reduced network utilization on the PowerEdge R720xd application server by 70.5 percent using NetVault Backup software's source-based deduplication and DR4100 Disk Backup Appliance-enabled RDA feature compared to a traditional backup without source-based deduplication (see Figure 2).

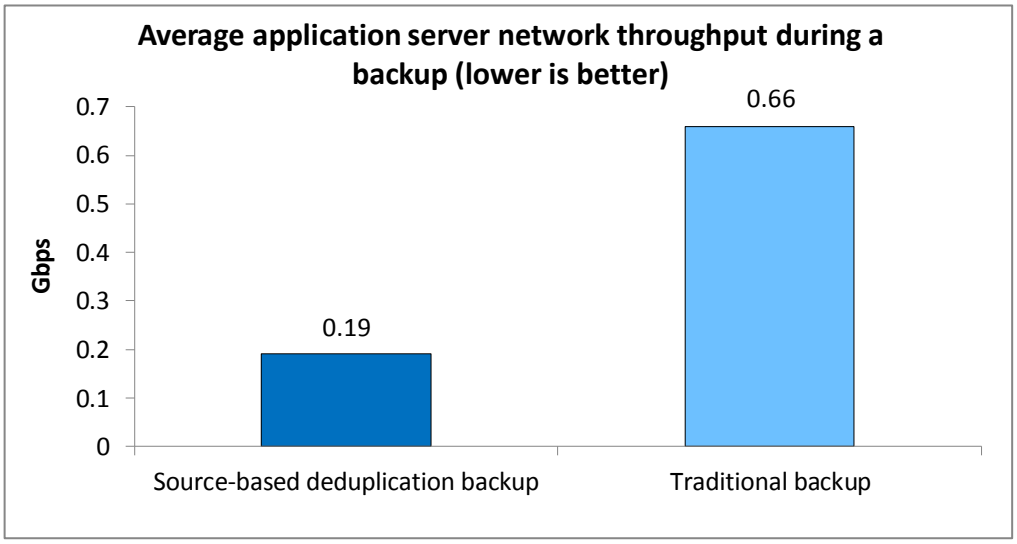

Figure 2: The Intel Xeon processor E5-2600v2 Series-powered Dell PowerEdge R720xd backup solution reduced network traffic.

For more information about our deduplication study, read the full report at www.principledtechnologies.com/Dell/PowerEdge_E5-2600v2_Deduplication_0813.pdf.

IN CONCLUSION

When considering your server upgrade strategy, it is important to consider everything you expect your server to do. Your server should deliver maximum performance for your critical applications, safeguard your hardware to reduce the chance of failure, and provide the power to back up data while running your workloads. In our tests, we found that the Intel Xeon processor E5-2600v2 series-powered Dell PowerEdge servers did just that through a combination of new processor technology and hardware optimizations built into the Dell servers. We found that the Intel Xeon processor E5-2660v2-based Dell PowerEdge M620 server and storage solution had more memory slots compared to the Intel Xeon E5-2640-based HP ProLiant BL460c Gen8 server and storage solution we tested. The Dell solution delivered greater database performance while simultaneously protecting the server memory from error with Dell Fault Resilient Memory and VMware Reliable Memory Technology in a vSphere 5.5 virtualized environment. In our backup tests, the new Intel Xeon E5-2697v2 processors were easily able to power NetVault Backup source-based deduplication and RDA plug-in on a Dell PowerEdge R720xd, relieving the load on the network and storage subsystems, without any noticeable effect on the workloads we ran.

As these results show, Dell 12G PowerEdge servers and the various Dell hardware and software technologies we tested can enable you to harness the full power of the new Intel Xeon processor E5-2600v2.

ABOUT PRINCIPLED TECHNOLOGIES

Principled Technologies, Inc.
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We provide industry-leading technology assessment and fact-based marketing services. We bring to every assignment extensive experience with and expertise in all aspects of technology testing and analysis, from researching new technologies, to developing new methodologies, to testing with existing and new tools.

When the assessment is complete, we know how to present the results to a broad range of target audiences. We provide our clients with the materials they need, from market-focused data to use in their own collateral to custom sales aids, such as test reports, performance assessments, and white papers. Every document reflects the results of our trusted independent analysis.

We provide customized services that focus on our clients' individual requirements. Whether the technology involves hardware, software, Web sites, or services, we offer the experience, expertise, and tools to help our clients assess how it will fare against its competition, its performance, its market readiness, and its quality and reliability.

Our founders, Mark L. Van Name and Bill Catchings, have worked together in technology assessment for over 20 years. As journalists, they published over a thousand articles on a wide array of technology subjects. They created and led the Ziff-Davis Benchmark Operation, which developed such industry-standard benchmarks as Ziff Davis Media's Winstone and WebBench. They founded and led eTesting Labs, and after the acquisition of that company by Lionbridge Technologies were the head and CTO of VeriTest.