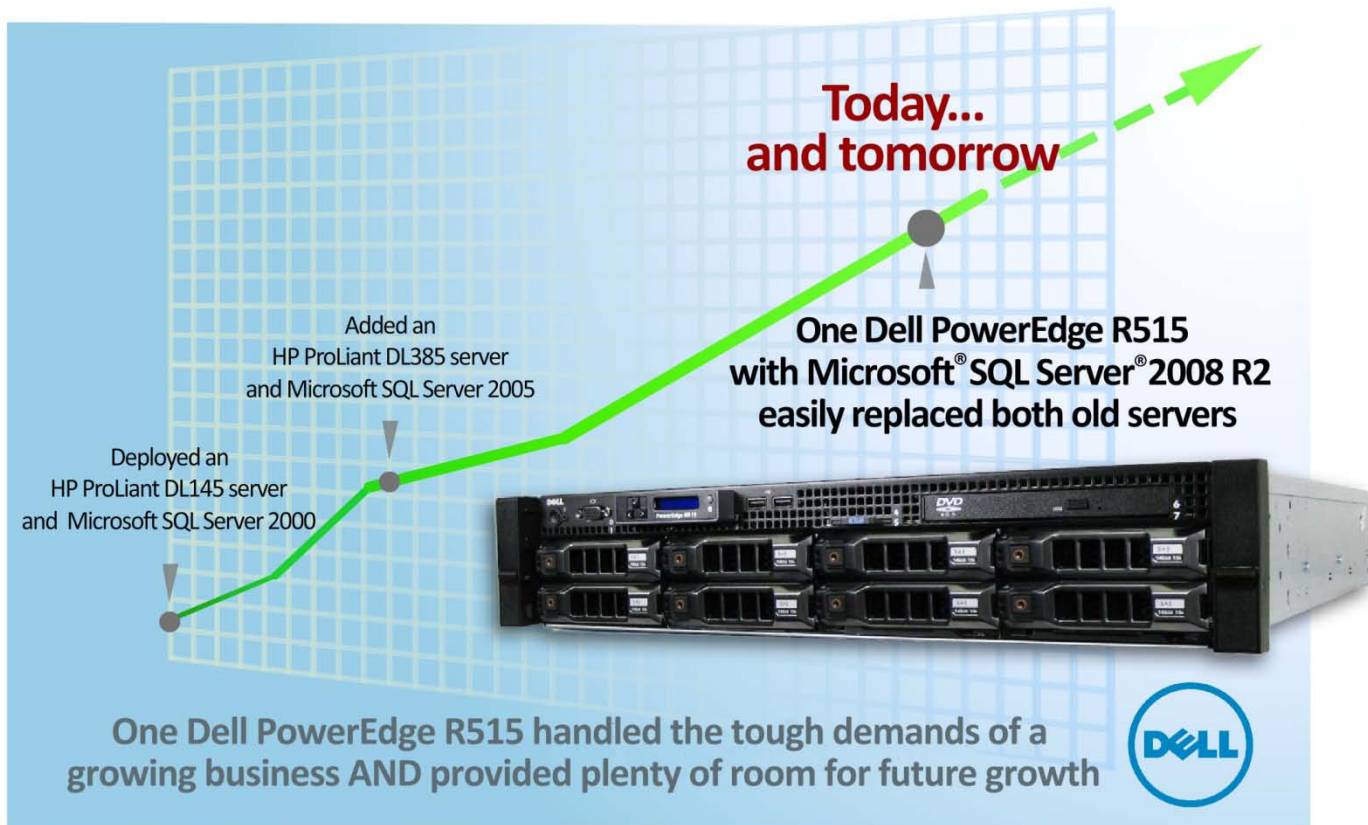


# Dell™ PowerEdge™ R515 offers consolidation advantages over two legacy database servers



Small to medium businesses (SMBs) with legacy servers, such as older HP ProLiant systems, can find themselves running out of server capacity and at a crossroads. Do they continue with the status quo, almost guaranteeing increased hardware failures, lost revenue, and time, or do they migrate to newer and more powerful servers? With the release of the Dell PowerEdge R515 and the power of Microsoft Windows Server® 2008 R2 Hyper-V™ and SQL Server 2008 R2 technologies, the choice is easy: upgrading to the Dell PowerEdge R515 is simple, cost-effective, and results in better performance with room for growth.

Dell commissioned Principled Technologies to conduct a study about consolidating an existing two-server legacy installation onto a single Dell PowerEdge R515 and upgrading a legacy heterogeneous SQL Server 2000 and SQL Server 2005 environment running Microsoft Windows Server 2003 to a unified SQL Server 2008 R2 platform using virtual machines running Windows Server 2008 R2 Hyper-V. The study has generated four documents, which we present on the following page.

- this Executive Summary, which outlines the study scenario and summarizes our findings
- a performance report,<sup>1</sup> which details the performance gains and room for growth the Dell PowerEdge R515 solution offers
- a TCO/ROI report,<sup>2</sup> which details the total cost of ownership of the two solutions and the time it takes to achieve a return on investment when replacing the legacy solution with the Dell PowerEdge R515 solution
- a migration guide,<sup>3</sup> which provides concepts and step-by-step instructions for consolidating two legacy servers onto on Dell PowerEdge R515

## THE STUDY SCENARIO

In consultation with Dell, we developed the scenario of a hypothetical SMB: a 500-person, online seller of accessories for electronic devices. In 2004, this company created a homegrown customer application with a SQL Server 2000 database on its HP ProLiant DL145 server. A year later, after the company and its requirements had grown, it purchased a second server to host its order-fulfillment database: an HP ProLiant DL385 server with MSA30 storage and SQL Server 2005. As in most organizations, the IT department is now dealing with a shrinking budget and fewer resources. At the same time, the existing hardware and software are reaching their end-of-life stages, and the failures of older equipment are causing outages and greater costs. The business is weighing the costs and benefits of investing in newer technologies.

## OUR FINDINGS

### Performance

In Principled Technologies' tests in our labs, a Dell PowerEdge R515 server with the latest AMD Opteron™ 4100 series processors running two Microsoft Windows Server 2008 R2 Hyper-V virtual machines with Microsoft SQL Server 2008 R2 achieved 4.5 times the database performance of two legacy HP servers. It did so while using roughly one-third the power and leaving two-thirds of its virtual processors and plenty of RAM available to meet the SMB's growing needs. For more information on the performance testing we conducted and greater details on our findings, see our performance report.

---

<sup>1</sup> "Dell PowerEdge R515 outperformed two legacy database servers"

[http://principledtechnologies.com/clients/reports/Dell/R515\\_performance.pdf](http://principledtechnologies.com/clients/reports/Dell/R515_performance.pdf)

<sup>2</sup> "Dell PowerEdge R515 offers savings over two legacy database servers"

[http://principledtechnologies.com/clients/reports/Dell/R515\\_TCO\\_ROI.pdf](http://principledtechnologies.com/clients/reports/Dell/R515_TCO_ROI.pdf)

<sup>3</sup> "Migrating to a Dell PowerEdge R515 from two legacy database servers"

[http://principledtechnologies.com/clients/reports/Dell/R515\\_migration\\_guide.pdf](http://principledtechnologies.com/clients/reports/Dell/R515_migration_guide.pdf)

## TCO/ROI

Our total cost of ownership (TCO) analysis shows that the new Dell PowerEdge R515, featuring a large internal storage capacity and AMD Opteron 4100 Series processors, can provide up to a 28.0 percent 3-year TCO advantage over continued operation of two legacy HP servers running older AMD processors and older versions of SQL Server, a savings of up to \$13,868 over 3 years, and can deliver a return on investment (ROI) payback in 19 months. For more information on the TCO/ROI analysis we conducted and greater detail on our findings, see our TCO/ROI report.

## Migration

In our labs, we performed the migration of the custom databases from the two legacy HP servers to the Dell PowerEdge R515 server. With careful planning, simple backup and restore procedures, and post-migration verifications, the migration process was quite simple. Following our recommendations, you can execute migrations with little difficulty and with little interruption of service to users. For detailed, step-by-step information on how to perform the migration, along with a discussion of some of the new features of the server and software, see our migration guide.



Principled Technologies, Inc.  
1007 Slater Road, Suite 300  
Durham, NC, 27703  
[www.principledtechnologies.com](http://www.principledtechnologies.com)

---

Principled Technologies is a registered trademark of Principled Technologies, Inc.  
All other product names are the trademarks of their respective owners.

---

**Disclaimer of Warranties; Limitation of Liability:**

PRINCIPLED TECHNOLOGIES, INC. HAS MADE REASONABLE EFFORTS TO ENSURE THE ACCURACY AND VALIDITY OF ITS TESTING, HOWEVER, PRINCIPLED TECHNOLOGIES, INC. SPECIFICALLY DISCLAIMS ANY WARRANTY, EXPRESSED OR IMPLIED, RELATING TO THE TEST RESULTS AND ANALYSIS, THEIR ACCURACY, COMPLETENESS OR QUALITY, INCLUDING ANY IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE. ALL PERSONS OR ENTITIES RELYING ON THE RESULTS OF ANY TESTING DO SO AT THEIR OWN RISK, AND AGREE THAT PRINCIPLED TECHNOLOGIES, INC., ITS EMPLOYEES AND ITS SUBCONTRACTORS SHALL HAVE NO LIABILITY WHATSOEVER FROM ANY CLAIM OF LOSS OR DAMAGE ON ACCOUNT OF ANY ALLEGED ERROR OR DEFECT IN ANY TESTING PROCEDURE OR RESULT.

IN NO EVENT SHALL PRINCIPLED TECHNOLOGIES, INC. BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH ITS TESTING, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL PRINCIPLED TECHNOLOGIES, INC.'S LIABILITY, INCLUDING FOR DIRECT DAMAGES, EXCEED THE AMOUNTS PAID IN CONNECTION WITH PRINCIPLED TECHNOLOGIES, INC.'S TESTING. CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES ARE AS SET FORTH HEREIN.

---