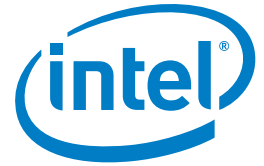


CASE STUDY

Intel® Xeon® processor 5600 series Enterprise Server

Automation and Cost Savings in the Cloud



Expanding the cloud

Savvis expands its cloud offerings with new Intel® processors, increasing server density by 50 percent to support growth while controlling costs

Leading cloud computing provider Savvis needed to build an infrastructure for a new cloud computing offering while expanding existing environments to support continued customer growth. By selecting new servers based on the Intel® Xeon® processor 5600 series, Savvis is providing customers with improved application performance for all cloud offerings while increasing server density up to 50 percent compared with previous deployments. That density helps Savvis manage power, cooling, and real estate costs and retain a competitive edge by keeping customer pricing low.



CHALLENGES

- **Launch new offerings, support growth.** Build the infrastructure for a new infrastructure-as-a-service (IaaS) cloud computing offering while accommodating 100 percent year-over-year customer growth by expanding existing cloud environments.
- **Deliver exceptional performance.** Enable customers to enhance server utilization for test and development while achieving outstanding performance for enterprise applications in production.
- **Control costs.** Create dense, energy-efficient server environments that help manage power, cooling, and real estate expenses and enable the company to keep customer pricing low.

SOLUTION

- **New servers based on the Intel® Xeon® processor 5600 series.** Savvis built the new infrastructure and expanded existing environments using HP ProLiant* DL380 G6 servers and Cisco Unified Computing System* (UCS*) B200 M2 blade servers, all equipped with the Intel Xeon processor 5600 series.

IMPACT

- **New and expanded cloud environments.** Savvis launched one of the industry's first enterprise-class virtual private data center solutions while preparing for continued growth of its other cloud offerings.
- **Outstanding performance.** The Intel processors enable customers to run multiple applications on each test and development server, and achieve outstanding performance on production systems.
- **Controlled costs.** With dense, energy-efficient servers based on Intel processors, Savvis is managing operating expenses and keeping customer prices low.



"With larger core counts and support for greater memory capacity than previous processors, the Intel® Xeon® processor 5600 series lets us double the number of virtual machines on each physical server....We can support continued customer growth while conserving data center power, cooling, and real estate."

*Reed Smith
Director of Product Management,
Cloud Computing
Savvis*

As businesses search for new ways to increase agility and reduce costs, many today are turning to cloud computing services. Over the last few years, Savvis, a leader in IT infrastructure outsourcing, has introduced multiple solutions to help businesses tap into the benefits of the cloud. For example, the Savvis Symphony Open* solution enables companies to enjoy the cost-saving advantages of a multi-tenant public cloud, while Symphony Dedicated* provides dedicated servers for an outsourced private cloud.

With an impressive 100 percent year-over-year customer growth rate for its cloud

offerings, Savvis was ready to expand its existing cloud environments and build an infrastructure for a new offering—Symphony Virtual Private Data Center* (VPDC). "Symphony VPDC offers businesses a complete set of enterprise data center services in one or multiple virtual private data centers," explains Reed Smith, director of product management, cloud computing, at Savvis. "Organizations have full control over those virtual private data centers. Through a simple Web interface, administrators can control provisioning, firewall settings, load balancing capabilities, and more."



Increasing cloud density with Intel® Xeon® processors

To expand existing infrastructures and build the new one, Savvis needed a processing architecture that could combine strong performance, processing density, and energy efficiency. "The processors we choose must deliver exceptional performance, whether customers are running multiple applications on each test and development server or a single compute-intensive application on a production system," says Smith. "At the same time, we always need to take costs into account. By enhancing processing density, we can reduce our expenses and keep pricing low for our customers."

Building and extending cloud environments with Intel® processors

The Savvis team considered servers from a variety of vendors for the new infrastructure, but they decided early on to standardize on Intel® Xeon® processors. "The Intel Xeon processor 5600 series offered the best price/performance ratio of all the processors we evaluated," says Smith. "We also know that many of our customers prefer Intel processors. For our existing dedicated cloud offerings, we give our clients a choice of processor, and the vast majority select Intel."

For the current environments and the new one, Savvis chose HP ProLiant DL380 G6 servers and Cisco Unified Computing System (UCS) B200 M2 blade servers, all equipped with the Intel Xeon processor 5600 series. So far, the new infrastructure includes 500 servers located in four facilities around the world. In the existing cloud environments, the new servers complement hundreds of previously acquired systems based on the Intel Xeon processor 5500 and 7500 series. Savvis virtualizes servers with VMware vSphere* software.

Customers then run applications on the Microsoft Windows Server* 2008 R2 or Red Hat Enterprise Linux* operating systems. VMware, Microsoft, and Red Hat have all contributed to reference architectures for the Intel® Cloud Builders initiative, which strives to make it easier to build, enhance, and operate cloud infrastructures.

Delivering exceptional performance while retaining low pricing

For both the new infrastructure and existing environments, the new Intel processor-based servers are helping Savvis provide the performance customers have come to expect. "Performance is one of our company's key differentiators, and the Intel processors play an essential role in delivering that performance for our customers," says Smith. "The Intel Xeon processor 5600 series helps us provide the high-end performance customers needed for production systems while also enabling them to enhance utilization of test and development environments without running up costs."

Accommodating three times the capacity in the same server footprint

The new processors help Savvis deliver that performance with a dense infrastructure. "With larger core counts and support for greater memory capacity than previous processors, the Intel Xeon processor 5600 series lets us double the number of virtual machines on each physical server in our Symphony Open environment," says Smith. "As a result, we can effectively accommodate twice as many customers on each server. We can support continued customer growth while conserving data center power, cooling, and real estate."

Providing capacity on demand and controlling energy consumption

Intelligent power-saving capabilities built into the Intel processors allow Savvis to provide capacity on demand while reducing power consumption. "We need to have servers ready at all times so our customers

SPOTLIGHT ON SAVVIS

Savvis, Inc., (NASDAQ: SVVS) is a global leader in cloud infrastructure and hosted IT solutions for enterprises. Nearly 2,500 unique clients, including more than 30 of the top 100 companies in the Fortune 500, use Savvis to reduce capital expenses, improve service levels, and harness the latest advances in cloud computing.

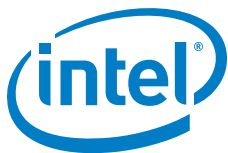
can access the capacity they need, when they need it," says Tim Beerman, vice president of hosting product management, and engineering at Savvis. "The Intel Xeon processors let us keep servers in a low-power mode when they are idle so we can minimize power consumption and reduce energy costs."

Planning high-performance offerings

The Savvis team is now evaluating high-performance computing (HPC) offerings for organizations that need to analyze tremendous data volumes or solve complex problems without buying and operating large infrastructures themselves. "We have seen growing demand for HPC from businesses in financial services and other fields," says Beerman. "The price/performance ratio of the Intel processors will let us provide those services economically, without requiring us to expand our footprint significantly."

At the same time, Savvis will likely adopt next-generation Intel processors to expand its cloud infrastructures further. "Intel has a very strong technology roadmap," says Beerman. "We are particularly impressed with new Intel security capabilities provided through Intel® Trusted Execution Technology as well as the work Intel is doing to optimize interaction between the hypervisor and the processor with Intel® Virtualization Technology. As we expand our cloud infrastructures, we plan to keep integrating the latest Intel processors so we can deliver the best possible experience for our growing customer base."

Find a business solution that is right for your company. Contact your Intel representative or visit the Reference Room at www.intel.com/references.



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