



CENTURYLINK TRANSFORMS SAP DEPLOYMENT MODEL WITH VMWARE VIRTUALIZATION



INDUSTRY
TELECOMMUNICATIONS

LOCATION
MONROE, LOUISIANA

KEY CHALLENGES

- Handling the complexity of managing and migrating virtualized SAP business apps, especially SAP HANA
- Reducing the cost of deploying and managing SAP landscapes in a virtualized environment
- Acquiring the powerful virtualized infrastructure needed to run SAP HANA

SOLUTION

CenturyLink uses the VMware vSphere® platform and other VMware tools to provide the management and resources required for cost-effective, simplified SAP HANA deployments.

BUSINESS BENEFITS

- Reduced physical footprint and power usage required to support SAP HANA
- Enabled deployment of SAP applications in a customized private cloud in less than 28 days
- Improved customer business decisions with queries that are 100 times faster, even in a virtualized environment

As one of the largest telecommunications companies in the United States, CenturyLink is often called upon to help its customers manage and migrate critical SAP business applications, including SAP HANA, from physical, nonvirtualized environments to virtualized ones in the cloud. To offer its Managed SAP Solutions service in a scalable, efficient, and cost-effective manner, CenturyLink turned to VMware. Using its existing VMware platforms, CenturyLink fundamentally changed the traditional SAP deployment model. The company is now able to provide a customized private cloud for SAP applications in less than 28 days.

With 75,000 virtual machines (VMs) in more than 60 data centers, CenturyLink offers a variety of services, including dedicated hosting, private and public clouds, and a complete managed offering for SAP applications that is powered by VMware solutions.

The Challenge

CenturyLink customers rely on SAP applications to run their businesses, but managing these critical applications, including SAP HANA, can be a challenge. Whether it's ERP, CRM, or BW applications, or their supporting databases, every application has its own detailed technical requirements and needs a specific SAP-certified infrastructure and experts to deploy and manage it. Because these are often vital transactional systems under heavy workloads, there is no room for error. The stakes only increase when you add SAP HANA to the equation. The deployment of this in-memory database application, which processes massive amounts of data in real time, requires specialized infrastructure and its own expertise, which companies rarely have in-house.

Facing these challenges, more and more companies are turning to service providers, such as CenturyLink, to manage these apps and migrate them from a physical environment to the cloud.

“We fundamentally have evolved the traditional deployment model for legacy SAP applications. By utilizing VMware technology, we can deploy a customized private cloud along with SAP application and HANA landscapes for customers in less than 28 days.”

MARSHAL WHATLEY
SENIOR DIRECTOR OF PRODUCT MANAGEMENT
CENTURYLINK

VMWARE FOOTPRINT

- VMware vSphere
- VMware vCenter
- VMware ESXi
- VMware vRealize Operations
- VMware vSphere High Availability
- VMware Site Recovery Manager
- VMware vSphere vMotion

APPLICATIONS VIRTUALIZED

- SAP HANA
- SQL Server
- Oracle Database
- SAP Hybris
- SAP ERP, CRM, BW ASO
- IBM DB2

To deliver this service, CenturyLink needed an infrastructure-as-a-service (IaaS) solution. It wanted to deliver SAP capabilities in a virtualized environment so it could realize some of the most important benefits of virtualization, which include the ability to

- Automate fault tolerance to deliver exceptional uptime and business continuity for mission-critical environments.
- Migrate live running workloads from one certified host to another with zero downtime or data loss.
- Deploy applications in minutes with automated provisioning and template cloning to ensure consistency and scalability across SAP environments.
- Reduce deployment costs, CapEx, and OpEx via better utilization of existing infrastructure and resources and automated provisioning and management.

The Solution

CenturyLink turned to VMware for the underlying technology to power its Managed SAP Solutions service, which includes certified hosting. The company was able to develop the new offering by using its existing VMware platforms. The fully managed VMware IaaS solution includes networking, security, storage, and compute resources.

As one of the largest VMware cloud providers, CenturyLink manages hundreds of SAP applications that sit on top of its VMware platform, the foundation for its dedicated cloud and virtualization capabilities (most of its SAP-certified infrastructure is VMware vSphere virtualized). CenturyLink also uses the VMware vCenter Server® to manage the VMware ESXi™ hypervisors; VMware vRealize® Operations™ software to optimize performance; the VMware vSphere High Availability solution for continuous, reliable operations of all critical applications including SAP HANA; and VMware Site Recovery Manager™ technology for disaster recovery.

For its HANA offerings, CenturyLink customers often need as many as four separate 10Gb networks with specially configured and certified storage, along with very powerful servers integrated and configured to SAP's Tailored Datacenter Integration (TDI) standard. It's not uncommon to need to move 1TB or larger SAP HANA VMs from point A to point B. The VMware VMs that handle SAP HANA are 64 times larger than CenturyLink's typical SAP or database VMs. VMware hypervisors can support 4TB of memory, with plans to increase to 6TB and beyond. VMware provides the only hypervisor that supports SAP HANA applications with memory of 4TB using the x86 platform. SAP and VMware support all advanced vSphere features such as vSphere HA and VMware vSphere vMotion®, which allows the online migration of running SAP HANA VMs. No other hypervisor has comparable features for supporting SAP HANA, both off-premises and on-premises.

Business Results & Benefits

For CenturyLink, cost-effective, reliable, and high-performance VMware virtualization delivers much-needed flexibility and standardization. “I can operate the environment much more economically,” says Marshal Whatley, a senior director of product management at CenturyLink. Intermixing SAP and non-SAP workloads in the same cluster allows CenturyLink to optimize its physical footprint and power usage. For example, some of CenturyLink's deployments have 20 instances of

HANA running in a single cluster of 8 servers, rather than the 20 that would be required without virtualization. Each physical server costs about \$50,000 upfront and \$2,000 per month in use space and power, according to Whatley's estimates.

Plus, VMware operation and automation capabilities mean CenturyLink can utilize templates and repeatable processes, which helps it easily standardize and scale its offering while managing costs, complexity, and risks. This all leads to CapEx savings of up to 60 percent and OpEx savings in a similar range for CenturyLink customers.

"We fundamentally have evolved the traditional deployment model for legacy SAP applications," says Whatley. "By utilizing VMware technology, we can deploy a customized private cloud along with SAP application and HANA landscapes in less than 28 days."

Quicker time to market means CenturyLink can sharpen its competitive edge by delivering benefits to customers sooner. It can deploy new SAP workloads up to four times faster than if customers implemented them in-house. Based on a cost study by HP on the virtualization of Microsoft Windows-based SAP systems, CenturyLink customers that invest \$1.3 million could generate savings of more than \$2.8 million in the first three years of operation. The investment would pay for itself in only 10 months, freeing up funds for other strategic projects.

With SAP HANA successfully implemented and managed, CenturyLink and its customers can also make smarter decisions faster, with real-time insights. For companies that don't have the resources to move to SAP HANA and instead rely on a traditional SAP data warehouse, they could wait hours or days to find the answer to a query. With SAP HANA, "you get reports within seconds and minutes, and you get the information you're looking for," says Whatley. In fact, query times can be 100 times faster, and data loads and calculations can be 10 times faster than a traditional database system. And "speed is never an issue with a VMware virtualized SAP HANA system," says Whatley. Improved utilization of existing infrastructure, along with simplified operations management, drives CapEx reduction for SAP HANA by up to 70 percent, according to Taneja Group research.

Looking Ahead

In the immediate future, CenturyLink plans to implement a VMware Virtual SAN™ hyper-converged infrastructure that is a core building block to the Software-Defined Data Center. "We are waiting for vSAN, VMware's software-defined storage solution to get SAP HANA certified," explains Whatley. This simplified storage will make it even easier and faster for CenturyLink to deploy SAP HANA applications. "VMware makes this possible," says Whatley, "and that's why it's such an invaluable relationship."

¹"SAP system virtualization with HP ProLiant servers – total cost of ownership and return on investment with VMware vSphere," HP, 2010

²"Transforming the Datacenter with VMware's Software-Defined Data Center and vCloud Suite," Taneja Group, 2014.