



Centurylink

Supports strategic transformation with SAP HANA, IBM Power and SUSE. As Telecommunications companies face increasing pressure to compete in the new mobile economy, Centurylink is transforming its business and making acquisitions to diversify and broaden its revenue stream. SAP HANA is a key enabler for these business transformations and Centurylink needed a rock solid platform to drive its migration to SAP HANA. IBM Power Systems and SUSE Linux Enterprise Server for SAP Application was chosen as the platform of choice for Centurylink's SAP efforts.

Overview

CenturyLink is a global communications and IT services company focused on connecting its customers to the power of the digital world. CenturyLink offers network and data systems management, big data analytics, managed security services, hosting, cloud, and IT consulting services. The company provides broadband, voice, video, advanced data and managed network services over a robust 265,000-route-mile U.S. fiber network and a 360,000-route-mile international transport network.

Business Need

Historically, large telecommunication companies enjoyed a steady stream of high-margin income from consumer and business subscriptions to fixed-line services. Once those telcos had made the required long-term investments in the network, profitability was relatively easy to maintain, not least because practically every consumer household and business location had at least one fixed line.

“With IBM Power as our platform for SAP HANA, we can adapt to unexpected developments or new requirements and keep moving forward to deliver added value to Business”

CONNIE WALDEN

Director
IT Development & Support Centurylink

The telco marketplace picture is now markedly different. Widespread deregulation in the fixed-line business opened up the market to new competitors, and the boom in mobile telecommunication accelerated the erosion of margins. For telcos such as CenturyLink, the reality is that the fixed-line business is withering away as consumers and businesses abandon conventional telephony services in favor of mobile, wireless and voice-over-IP.

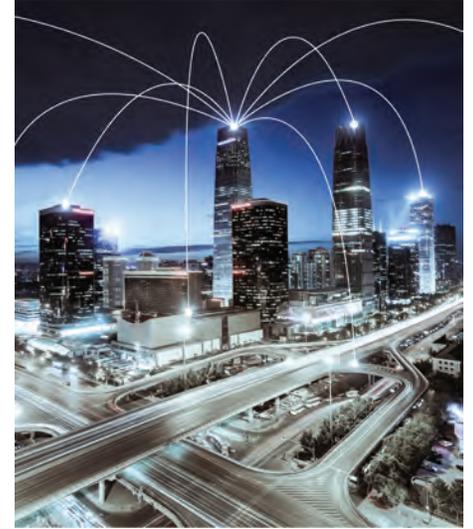
Connie Walden, Director, IT Development & Support at CenturyLink, comments: “New competitors and emerging technologies are continuing to dramatically change our industry. CenturyLink is on a multi-year transformation journey from legacy telco to technology services provider, and we have already achieved a significant diversification of our business.

“As the regulated consumer market fades away, we face the ongoing challenge of replacing that high-margin revenue stream. And because intensified competition depresses margins, to maintain our net income we typically need to double that revenue as we replace it.”

As Connie Walden explains, larger telcos are typically seeking greater scale as they adapt to deregulation and increased competition, and this is often achieved through mergers and acquisitions. The volume growth produced by scale naturally puts

Success Story

SUSE Linux Enterprise Server for SAP Applications on IBM Power Systems



Centurylink at a Glance:

Centurylink is the second largest U.S. communications provider to global enterprise customers. With customers in more than 60 countries

■ Industry and Location

Telecommunications, United States of America

■ Products and Services

IBM Power E880
IBM Power Systems
SUSE Linux Enterprise Server for SAP Applications

■ SAP HANA Applications

SAP® Business Suite powered by SAP HANA®
SAP HANA
SAP Hybris® Billing

■ Benefits

- + 64 times quicker completion of some financial transactions
- + 1.57 times faster cost allocation during month-end close
- + 13.78 times quicker extraction of data for financial consolidations
- + 12 times faster reporting on retiree wages
- + 3.6 times quicker transfer of personnel data from SAP application to third-party identity management system
- + 5.14 times faster production of reconciliation reports for net pay

pressure on the information systems that underpin the enterprise, and CenturyLink found that it needed more capacity and performance for its SAP applications. The company also wanted to ensure that its systems and migration processes were flexible enough to enable the rapid onboarding of corporate acquisitions.

Solution

To address its immediate challenges around performance and capacity, CenturyLink proposed to upgrade the server hardware running its SAP environment. At the same time, the company was looking with interest at SAP's in-memory solution: SAP Business Suite powered by SAP HANA.

"We were wary about making any new investment before we had made a decision about our future direction, because of the risk of potentially having to go down a different route on the hardware front," recalls Connie Walden. "IBM showed us that the latest Power Systems servers could handle both our traditional relational databases for SAP and future SAP HANA databases – even simultaneously on the same physical machine – enabling us to invest with confidence."

CenturyLink deployed an IBM Power System E880 running both IBM AIX® and SUSE Linux Enterprise Server for SAP Applications as a migration target for its existing SAP ECC landscape, initially as a test environment with 20 cores and 8 TB of memory, and later expanded to 192 cores and 32 TB.

During the deployment of the Power E880, CenturyLink reached a firm decision on its future direction around SAP software. The verdict was to immediately migrate its existing SAP applications from relational databases to the SAP HANA in-memory technology. This migration of the database layer would be the first step on CenturyLink's future roadmap to adopt SAP S/4HANA®.

To support the initial migration of the database layer to SAP HANA, the company added a second Power E880 server with 192 cores, and several months later deployed a Power E880C with 192 cores and 32 TB of main memory to provide both additional capacity and a disaster-recovery

option. To minimize potential bottlenecks in feeding this higher-performance SAP environment with data, CenturyLink upgraded from conventional disk storage to IBM FlashSystem® V9000 enterprise flash storage, working with IBM Systems Lab Services throughout the deployment.

"The immediate benefit of choosing IBM Power was that it enabled us to move to SAP Business Suite powered by SAP HANA without changing the hardware," says Connie Walden. "We also found that the pricing of the IBM solution was competitive with SAP HANA-capable solutions from other major vendors, and our past experience of the exceptional stability of SAP solutions on the platform clinched the deal. The stability of IBM Power is a major point of differentiation against distributed systems, and we have 15 years of experience internally to back that up."

CenturyLink has migrated almost all of the functionality within its SAP Business Suite environment – including financials, supply chain, project systems and assets, HR and payroll – to the SAP HANA database on IBM Power Systems. The company is also deploying revenue accounting and recognition functionality on its own SAP HANA instance. There is also a third native SAP HANA instance for data staging – and this ability to run multiple production SAP HANA environments on the same physical hardware is a significant commercial and operational benefit of the IBM Power platform.

CenturyLink's move to SAP HANA on IBM Power Systems has also achieved its second objective: enabling faster and lower-cost integration projects, boosting its ability to drive value out of corporate mergers and acquisitions.

At the time of writing, CenturyLink is undergoing a major merger with Level 3 Communications Inc., one of Colorado's largest technology companies, and the incoming business is being integrated into CenturyLink's SAP software environment.

"Level 3 is focused on wholesale and enterprise business, with no regulated consumer component, and represents an excellent opportunity for CenturyLink to gain scale in a growing area

of the market," says Connie Walden. "Of course, synergies are the major reason you undertake M&A: as a combined company you are stronger, and you can reduce your cost base by merging back-office activities. This means that successful growth becomes strongly linked to your ability to on-board acquisitions quickly and efficiently."

The move to IBM POWER8® processors and the adoption of SAP HANA technology is proving a major benefit to the Level 3 acquisition process. Above and beyond its performance advantages over x86 – including higher per-core performance, larger memory caches and eight-way simultaneous multithreading – the IBM Power platform enables businesses to deploy up to eight production SAP HANA virtual machines on a single physical server. This enables exceptional efficiency in workload consolidation, lowers total cost of ownership and offers incredible flexibility by comparison with commodity x86 servers. With 32 TB of memory on each of its Power E880 servers, CenturyLink has ample capacity to securely combine both production and non-production environments for SAP HANA on the same system. This gives the company the flexibility to run QA environments alongside production systems, and then bring those QA environments into production without needing to procure and install additional hardware.

"The unique advantages of Power Systems in terms of the virtualization of SAP HANA environments gives us the ability to spin up new environments as we need them," says Connie Walden. "This means we can accelerate IT projects, cutting costs and risk. As we have built out our revenue recognition solution and executed the Level 3 integration, all we have needed to do is buy some additional storage capacity. If we had chosen a distributed-server solution based on x86 servers rather than IBM Power Systems, we would have lost weeks of project time in the procurement and installation of hardware – there's no way we would have been able to hit the go-live targets. With IBM Power, we can quickly and easily adapt to major changes in projects without needing to make substantial hardware investments."

She adds: “Our ongoing strategic transformation is all about achieving greater speed to market and greater process efficiency, and running SAP Business Suite powered by SAP HANA on Power Systems definitely supports those outcomes. The business is seeing how quickly we can integrate this major acquisition of Level 3, and I think this gives confidence that the transformation program will continue to deliver the expected financial benefits.”

As a further example of the flexibility and scalability of the IBM Power platform, CenturyLink is now also using the same hardware to deploy SAP Hybris® Billing for Level 3, to fill a functional gap as it migrates away from another vendor’s suite of enterprise software. At a later stage, the solution will also be used to replace some legacy Qwest A/R systems that are reaching end-of-life.

Benefits

Migrating to SAP HANA on IBM Power delivered substantial performance gains for CenturyLink, enabling the company to run both financial transactions and financial analysis faster than ever before. Overall, increasing the speed of reporting gives faster insight to business leaders at CenturyLink, enabling them to identify and convert revenue opportunities ahead of their competitors.

“We benchmarked our performance before and after the move to the Power E880 servers and SAP HANA,” comments Connie Walden. “The improvement was very clear: some transactions run 64 times faster, and we have been able to significantly condense the timeframe for important month-end closing processes such as cost allocation.”

The cost-allocation process now runs 1.57 times faster on average, and the extraction of data from SAP Business Planning and Consolidation is 13.78 times faster, taking just 30 minutes instead of the six hours previously required. The time taken to generate updates on moving average price has been reduced by a factor of 18.65, and reporting from the personnel systems has also been significantly accelerated: retiree wage reports run 12 times faster, net-pay reconciliation reports run 5.14 times faster, and transferring data from the SAP systems to a

third-party identity management system can be completed in 50 minutes, instead of the three hours it took before the adoption of SAP HANA – 3.6 times faster. Updating 12 months’ worth of Family and Medical Leave Act (FMLA) data takes just one hour instead of the 14 previously required. Finally, displaying vendor payments is 3.16 times faster with SAP HANA – and CenturyLink has seen similar performance increases right across the board.

Connie Walden adds: “One of the original drivers for investing in new hardware was performance issues in our SAP landscape. We had acquired Qwest in 2011, and they were historically set up as a single company in our systems, whereas CenturyLink is represented under perhaps 300 different company codes. When we tried to run financial reports – for example, variance analysis during a financial close – the huge number of transactions associated with the single company code representing Qwest would often cause them to time-out. We would have to break the report manually into two or three pieces just to get it to run. With SAP HANA on IBM Power, we have completely eliminated this problem. Our users in the financial teams are extremely happy with the performance boost.”

The move to SAP HANA compressed CenturyLink’s SAP database from 20 TB to 8 TB, enabling much faster backup and recovery. As the company expands, adding both new solutions and new businesses into the mix, having a smaller database also saves time every time the IT team needs to fire up additional test, development, QA or production environments.

The availability of the IBM Power platform has long been valued by CenturyLink, and this quality is growing in importance as the integration of the Level 3 business progresses.

Connie Walden explains: “CenturyLink has historically mostly focused on the US market, while Level 3 has very significant activities also in Latin America, EMEA and the Asia-Pacific region. This complicates our SAP environment, requiring us to add further languages and currencies. It also puts greater emphasis on availability, since we are now covering so

many more time zones. Based on more than 15 years of experience, we’re very confident that our IBM Power Systems servers will rise to the challenge.

The ability of the IBM Power platform to host multiple production instances of SAP HANA is already proving invaluable to CenturyLink, enabling the company to keep its physical footprint small and avoid unnecessary costs. The advanced IBM PowerVM® virtualization seamlessly allocates and re-allocates system resources to different virtual servers as requirements change, helping ensure optimal performance at all times. And because new requirements in the SAP environment can easily be addressed by simply firing up another set of virtual resources on the Power Systems servers, CenturyLink is saving time and money on migration and integration projects.

Connie Walden concludes: “With Power, we avoid not only the cost and delay of deploying additional hardware, but also avoid the hidden cost of project delays and overruns. For a major IT project involving a large cross-functional team, every day you add to the total cycle represents a huge drain on the company’s resources. It also puts you behind the curve on delivering value from corporate acquisitions. With IBM Power as our platform for SAP HANA, we can adapt to unexpected developments or new requirements and keep moving forward to deliver added value to the business.”

SUSE Linux Enterprise Server for SAP Applications

SUSE Linux Enterprise Server for SAP Applications - the #1 recommended OS for SAP and SAP HANA is designed and optimized for SAP applications, with built-in high performance that suited the needs of Centurylink’s SAP projects perfectly. As the preferred Linux platform of SAP and more than 10,000 customers worldwide, SUSE Linux Enterprise Server for SAP Applications boosts performance for mission-critical applications, reduces downtime of critical operations and reduces the time and effort to deploy and maintain SAP landscapes.

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