Ctac

As a managed services provider, Ctac needs to find the optimal combination of hardware and operating systems to run its clients’ applications as efficiently and cost-effectively as possible. To make its managed SAP HANA service stand out from the competition in terms of performance and availability, Ctac chose IBM Power Systems servers running SUSE Linux Enterprise Server for SAP Applications.

Overview
Headquartered in ’s-Hertogenbosch in the Netherlands, Ctac is a Total Solution Provider that offers industry-focused consultancy and cloud solutions for SAP and Microsoft applications for clients in the retail, wholesale, manufacturing, real estate and professional services sectors. The company employs 471 people and operates in the Netherlands, Belgium and France.

Challenge
As a long-time Gold partner of SAP, Ctac has a deep understanding of ERP solutions and their practical applications across multiple industries. When SAP introduced its HANA in-memory database technology—initially for accelerating SAP Business Warehouse (BW) analytical workloads, but subsequently also to act as the main database for all ERP data—Ctac realized that SAP HANA would ultimately change the way companies run their businesses forever.

“We still have a few SAP clients who aren’t yet interested in SAP HANA—but we are certain that they will be once they feel the requirement in their own industry!” said Rob van Acquoy, Operations Manager at Ctac. “The pace of business is always accelerating, and the introduction of SAP HANA in-memory technology provides a huge boost in speed and responsiveness, helping companies to handle both analytics and transactions faster. As the requirement for real-time information spreads across industries, and in particular, as leading companies in each industry embrace new technology, all other companies will ultimately need the same capabilities in order to stay competitive.”

He continued: “For companies that already use or are planning to deploy SAP ERP, we think that SAP HANA is the obvious answer for enabling real-time information and operations. Knowing that our customers would—sooner or later—come under pressure to take the next step forward in terms of performance, we wanted to build

Case Study

SUSE Linux Enterprise Server for SAP Applications is the best solution for SAP HANA, giving us the flexibility to support Intel, IBM Power Systems and VMware architectures with a single operating system.”

ROB VAN ACQUOY
Operations Manager
Ctac

Ctac at a Glance:
Ctac is a Total Solution Provider that offers end-to-end cloud application hosting and services. It is an SAP Gold Partner and a Microsoft Gold Partner for hosting, datacenter, ERP and CRM.

- Industry and Location
  Software & Technology, Netherlands

- Product and Services
  SUSE Linux Enterprise Server for SAP Applications
  SUSE Manager

- Results
  + Increased flexibility with a single operating system on multiple hardware platforms
  + Automated patch management across multiple environments and Linux distributions
  + Accelerated deployment of new Linux instances to just 10 minutes
a managed SAP HANA service that would differentiate us from our competitors by making it incredibly easy for existing or new customers to make the switch to in-memory technology.”

Initially, Ctac implemented its SAP HANA service on Intel-based hardware, using appliances from Lenovo to handle SAP BW workloads. To extend the service, and to support customers looking to run their SAP ERP workloads on SAP HANA, Ctac recognized that it would require a more powerful platform.

“Looking at the available options on the market, we concluded that the combination of SUSE Linux Enterprise Server and the IBM POWER architecture would give us the best performance and availability for SAP HANA,” said van Acquoy. “IBM Power Systems offered great flexibility around running virtualized instances of SAP HANA, which suited our requirements as a provider of hosted SAP landscapes. And with SUSE Linux Enterprise Server for SAP Applications specifically tuned to the demands of SAP HANA, and able to take advantage of all of the hardware features of IBM Power Systems, this was the ideal combination for our requirements.”

**Solution**

Ctac selected SUSE Linux Enterprise Server for SAP Applications as its preferred operating system for SAP HANA (including the SAP S/4HANA business suite).

“Although IBM AIX is the ‘standard’ operating system for IBM Power Systems servers, we felt that SUSE Linux Enterprise Server offered compelling advantages for SAP HANA,” said Rob van Acquoy. “We made our decision for SUSE Linux Enterprise Server for SAP Applications primarily because of the close relationship between SAP and SUSE, which means that they offer the best and easiest support path. Better support means that we can keep our customers’ SAP landscapes in optimum condition at all times, and also minimize our own support costs, passing on the savings in the form of extremely competitive pricing for our services. In addition, SAP develops its Linux builds on SUSE Linux Enterprise Server, so new functionalities are available sooner and the quality and stability are generally better on this distribution of Linux.”

SUSE Linux Enterprise Server for SAP Applications is a tailor-made distribution of Linux specifically tuned for SAP software. SUSE runs a completely separate update channel for this distribution, pre-testing new and updated packages to ensure that they will work without any hitches in customers’ production SAP landscapes.

“In the context of SAP, we believe that SUSE Linux Enterprise Server is now just as good as any commercial UNIX platform in terms of functionality and resilience,” said Guy Schwartzmans, Senior Technical Consultant at Ctac. “And in the context of SAP HANA on Power, it is the most suitable operating system that SAP currently supports.”

Using the SAP-certified SUSE Linux Enterprise High Availability Extension helps Ctac to achieve extremely high availability for its clients, at much lower cost than competing solutions. This is because it incorporates clustering technologies for application servers, storage and network components in a single solution. By contrast, the other leading distribution of Linux requires companies to license and deploy three separate products to achieve equivalent results.

Furthermore, using SUSE Linux Enterprise Server for SAP Applications enables Ctac to take advantage of a page cache limit option that optimizes performance for SAP workloads. Conventionally, the Linux kernel will swap out any infrequently accessed application memory pages, and use these as a cache to accelerate standard file system operations. In an SAP landscape, this can have a negative impact on performance, because certain SAP applications need large amounts of memory—some of which is only rarely accessed. The page cache limit option in SUSE Linux Enterprise Server for SAP Applications instructs the kernel to give priority to application memory when the page-cache is filled to the configured limit, rather than paging it out. By removing the potential contention between application memory and system page-cache, this eliminates the possibility of degraded performance.

On the hardware side, SUSE Linux Enterprise Server is able to take full advantage of the unique capabilities of the IBM Power architecture, including those enabled by the PowerVM hypervisor. SAP HANA workloads are designed to work best on systems that can maximize memory bandwidth, multithreaded instructions and CPU caching—which is precisely what IBM Power offers.

For SAP HANA systems, SUSE Linux Enterprise Server is the only operating system able to take advantage of the latest IBM POWER8 processors. This means that Ctac’s clients can access features such as simultaneous multithreading with eight threads per core (SMT-8). This enables more instructions to be executed at the
same time than on Intel-architecture systems, where the CPU is limited to two hardware threads per core. Critically, the Power architecture also supports more memory per system and offers significantly larger L2 and L3 caches. With much lower memory latency, the Power architecture running SUSE Linux Enterprise Server minimizes the time CPUs spend waiting for data.

“SUSE Linux Enterprise Server for SAP Applications enables us to take advantage of the hardware and virtualization benefits for the IBM POWER architecture, giving us what we believe is currently the best platform for running SAP ERP and SAP HANA workloads,” said Guy Schwartzmans.

Ctac has also deployed SUSE Manager to help manage software licenses and deploy patches across its 80 SUSE Linux Enterprise Server instances.

“In addition to the SUSE Linux Enterprise Server instances that are running on Power, we also have a number running on Intel hardware, and some running in VMware virtual machines,” said Rob van Acquoy. “The unique advantage of SUSE Manager is that it can manage all of these instances regardless of their hardware platform. In fact, it can even manage other Linux distributions too—including a Red Hat Enterprise Linux environment that we inherited from one of our customers.”

Results

With SUSE Linux Enterprise Server for SAP Applications on IBM Power supporting its customers’ SAP landscapes—including conventional SAP ERP, SAP ERP on HANA and SAP BW on HANA—Ctac has the optimal combination of performance, availability, flexibility, scalability and easy management. The latter two advantages translate into lower costs for Ctac, helping it to provide exceptional service levels at a lower price than its customers could achieve if they were running their SAP landscapes in-house.

“With integrated high-availability features and the ability to use all of the hardware features of IBM Power Systems, SUSE Linux Enterprise Server for SAP Applications helps us to achieve a world-class platform for our customers at competitive pricing,” said Rob van Acquoy. “As a managed services provider, we need to take advantage of our expertise and economies of scale to perform better and more reliably than our customers could do with an in-house solution. Working with SUSE technologies helps us to achieve this by minimizing the time we need to spend tuning and managing the operating system, so that we can focus instead on delivering exceptional customer service.”

Choosing the SUSE Linux Enterprise platform rather than AIX for its Power Systems environment has given Ctac more flexibility, because it can also run the same platform on its Intel servers, as Rob van Acquoy explained: “One of the best things about SUSE Linux Enterprise Server is that it gives us a great deal of flexibility for our SAP HANA service. For example, there are some SAP features that are supported on Intel architectures, but have not yet been released for Power. If one of our customers wishes to use these features, we can support them on SUSE Linux Enterprise Server on VMware until they become available on IBM Power Systems. And because the operating system is the same on both platforms, it’s much easier to manage, not least because we have SUSE Manager controlling the whole infrastructure.”

The combination of SUSE Linux Enterprise Server for SAP Applications and SUSE Manager makes it easy for Ctac to keep track of all its Linux instances, no matter what platform they run on. SUSE Manager automatically fetches the patches and updates the patching journal for each system, minimizing the risk of security or stability problems.

“We have had zero security problems, and even though we chose the SUSE operating system in large part because of the superior technical support for SAP landscapes, we have hardly needed to make any support requests so far,” said Rob van Acquoy. “Certainly, what we have seen so far has lived up to our expectations, and it gives us confidence to know that our customers’ SAP landscapes are ultimately supported by an integrated service from both SAP and SUSE.”

Finally, tight integration between SUSE Linux Enterprise Server and the IBM Power Systems hardware also makes it easy to spin up a new Linux instance whenever an existing or new customer requires it: using IBM PowerVC, Ctac can get a new instance up and running within just 10 minutes.

“As a managed services provider, we need to be able to respond rapidly to set up a new customer or expand an existing customer’s capacity,” said Guy Schwartzmans. “The combination of IBM Power Systems and SUSE Linux Enterprise Server for SAP Applications makes it easy to do just this, which is why this has become our platform of choice for deploying new SAP HANA systems.”
“Today, we prefer to deploy new SAP HANA systems on SUSE Linux Enterprise Server on IBM Power Systems—it has become our platform of choice.”

GUY SCHWARTZMANS
Senior Technical Consultant
Ctac

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