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Product(s) and Service(s)
SUSE Linux Enterprise Server for SAP Applications

| **100%** | **90%** | **100%** |
| uptime | less time to build, test, deploy | virtualization in three weeks |

The University of Haifa partners with SUSE to drive efficiencies and ensure uninterrupted operations during the global pandemic

Success Story

At-a-Glance

The University of Haifa embarked on a journey of digital transformation to improve its student experience and reduce costs, but it would achieve much more with its SUSE-based, modern data center. When the COVID-19 pandemic hit, the IT team would transform the entire University, accelerating the pace toward an agile, innovative and resilient future.

Introducing the University of Haifa

Looking out from its setting on top of Mount Carmel, the University of Haifa is a familiar sight on the skyline of Israel's coastal city, Haifa. Visitors to the University have views of Lebanon, Tel Aviv, the Mediterranean Sea and the mountain border of Syria. The culture of the University is as open as its vista. Over 18,000 students are supported by 5,500 faculty and staff, creating a microcity population with stunning diversity of culture and thought, grounded in peace and mutual respect. The University is celebrated for its contributions to cancer research, neurosciences, marine sciences and epigenetics, among other fields.

Staffed by a team of innovators, the IT department at the University is incredibly forward-thinking, particularly when compared to other Israeli universities. In keeping with the institution's culture, the IT department's open approach to technology has modernized the infrastructure to the point where not even a pandemic could interrupt

the University's mission to foster academic excellence.

The journey to digital transformation

The University of Haifa's journey of transformation began in 2015 when its IBM Power Systems architecture was nearing end of life. Aiming to reduce costs and improve analytics, the IT team built a modernization strategy that would position the team as a lean, strategic arm of the University. At the heart of this strategy was the migration to commodity x86 servers, in conjunction with EMC and NetApp storage arrays.

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> CIO
> University of Haifa

The transformation project focused on migrating an SAP applications portfolio covering several core processes—admissions, student lifecycle management, educational performance management and business intelligence. Financial processes were also migrated to SAP, and analytics capabilities were extended by deploying SAP BusinessObjects. The data layer was based on Oracle databases running on the SUSE Linux Enterprise Server for SAP Applications (SLES for SAP Applications) operating system. Added to this, environments were also virtualized

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Shlomy Shalom
SAP Infrastructure Manager
XacTech

with VMware vSphere to reduce the time required to build, test and deploy new services and substantially improve agility.

The move improved analytics capabilities while significantly reducing operational costs without compromising performance, as a first step. With limited resources refocused on improving the student experience, the IT team laid plans for pioneering an innovative approach to digital transformation.

Pioneering a new approach

After the success of the initial project, the University of Haifa embarked on the next phase of the transformation strategy—and achieved something no other Israeli organization has achieved before. In 2017, working with SUSE, the University became the first to migrate its standard SAP ERP applications to SAP S/4HANA, keeping SLES for SAP Applications as the backbone. A novel approach, migrating SAP applications to SAP S/4HANA, as opposed to building from the ground up, required specialist help. To ensure the transition would be a success, XacTech, a leading SAP technology integrator in Israel was brought in to assist.

During the project, VMware announced its ability to run SAP S/4HANA on VMware so-

lutions. Less than 24 hours after hearing this, the team jumped on the opportunity—again becoming the first organization in the world to run SAP S/4HANA on VMware with SLES for SAP Applications. Simultaneously, SAP CRM and SAP BI solutions were also migrated from Oracle database onto SAP HANA.

By embarking on wholesale digital transformation, the IT team wanted to achieve several key goals. Reducing costs was a key focus, along with increasing agility. Crucially, this would lay the groundwork for the introduction of automation with artificial intelligence (AI) and robotic process automation (RPA), aiming to improve the student experience.

The technology choices made by the IT team reveal a commitment to building a future-proofed infrastructure. Investing in the latest SAP technology, SAP S/4HANA, would result in optimizing business processes while minimizing the need to rein-

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vest later. Virtual machines (VMs) would be instrumental in allowing teams to create and decommission environments on demand, whether it be to build and test new applications or to run new services. SLES for SAP Applications would also provide rock-solid reliability with next-to-zero downtime and seamless interoperability. In the old methodology, University of Haifa would need to invest in five additional servers with over three terabytes in memory, costing over $80,000 each—representing a cumulative saving of half a million dollars.

As if saving nearly half a million dollars wasn't enough, Muli Zafrir, the University's CIO, makes clear he had no other way of building a data center to fit the University's needs. "It would have been impossible to do this project in another way, in a traditional way," he says. "We can now create environments in a matter of hours, over 90% faster than it took us before. We wouldn't be able to do that without VMs underpinned by SUSE."

From beginning to end, the project was delivered in just six months. "What we did is really unique—the first migration of its kind to be done in Israel," says Zafrir. "It was frightening because we didn't have any problems whatsoever after the migration—it took a few days before we stopped looking for bugs or issues. It was a big success."

When asked why they think the migration ran so smoothly, Zafrir credits XacTech's expertise and the close partnership between SUSE, SAP and VMware. "Everything we're talking about is placed on SUSE," he says. "SUSE has a relationship with VMware, with the server's manufacturers and with SAP. It's all certified."

Noting that many companies around the world use SAP, Zafrir points out that most don't necessarily use SAP for their core lines of business. "We are using SAP for our main line of business," he explains. "For education, for research, and we cannot allow ourselves to get into a problem that is too niche. We are implementing a solution where the pieces are all certified to work together. If there's a problem, we let our partners solve it. SUSE is part of this group of partners, and we know it works."

XacTech's integrator who worked on the project, Shlomy Shalom, SAP infrastructure manager, comments on SUSE's reliability: "I have done several migrations to SAP HANA throughout Israel, and in all of them, there was no question which platform to choose. I think everyone on SAP HANA in Israel is running on SUSE."

Zafrir adds, "When you ask, 'Why did you choose SUSE,' it's like asking, 'Why did you

use electricity to power your data center?'"

Two and a half years after launch, the team has yet to experience any unplanned downtime—a major feat of continuity given the challenges they faced when the pandemic hit.

Results

Enriching the student experience during a Pandemic

Realizing it would only be a matter of time before COVID-19 crossed Israeli borders in early 2020, the IT team began working on a plan to keep University courses and resources available for its students and researchers. Thanks to future-proofing the data center with SUSE and XacTech, the University of Haifa could go completely virtual.

Zafrir reflects, "If the president of the University had asked me a year before to virtualize every one of our courses, I would have asked for five to six years to complete the project. We did it in three weeks, and not one of our students missed an hour of coursework. We didn't lose one day."

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In addition to virtualizing classrooms, University of Haifa also virtualized computer lab desktops, allowing students to use expensive, proprietary software that would otherwise be unavailable to them. Running virtualized computer lab desktops also ex-pands availability to students. Traditionally, the number of computers in a lab was limited by the size of the room, but these virtual desktops are available to as many students as need them, any time, day or night.

When the pandemic hit, Zafrir was confident that the infrastructure would provide the increased flexibility and responsiveness needed. From the outside looking in, one may think it was mere chance that the University of Haifa's new, modern infrastructure would be ready for this new world, but this kind of adaptability was the aim all along.

"From our point of view, the pandemic was an opportunity to accelerate our transformation into a new, digital world," says Zafrir. "Something like 50% of classes will return to campus after the pandemic—the rest will be from home. A lot of our staff will continue working from home, too."

Having completely digitized the University in a matter of weeks, and because of the innovative approach in doing so, the IT team received a special award from the Israeli government for its unique digitization strategy.

Harnessing the power of AI

With an eye always on the future, the University of Haifa is using this modern data center to develop innovative BI and AI solutions to improve day-to-day operations.

For example, AI will analyze data to pinpoint which students are most at risk for not graduating on time. Identified long before the students themselves are aware of the risk, this early detection would help at-risk students and the University take proactive

steps toward graduation, improving the student experience and the University's top line.

"If we help less than 10 students to graduate in a year, we will have broken even on the cost of the implementation," says Zafrir. "Every year after that will be a direct return on investment for the project—pure profit. And we are talking about an increase in revenue of millions of Shekels a year."

Saving millions through automation and efficiency

In a similar vein, the team is also working on implementing RPAs to streamline a number of time-consuming processes. In what would normally take days, a student filing for graduation will receive their paperwork within an hour. When an employee leaves the University, these "robots" will compile and complete the needed paperwork.

Ultimately, reducing overheads is the long-term intent, and these RPA systems will replace employees as they retire, not a moment earlier. "The University has a very special relationship with its employees," says Mark Snir, Head of Computing Infrastructure, who has worked there for 37 years. "We will continue to employ our staff, only replacing their function with RPA processes at retirement."

"In time, 10% of our workforce will eventually be replaced by robotics, saving the University dozens of millions a year," adds Zafrir.

Looking ahead, Zafrir believes the partnership between SUSE, XacTech and the University will continue to be a critical part of ongoing ambitious plans. "Everything we are talking about runs on SUSE. And we wouldn't change because no one would replace a winning horse during a race." Commenting on the partnership, SUSE's country manager for Israel, Yaniv Leibovitch, says, "What we are seeing at the University of Haifa is the kind of innovation SUSE is made to support. We're very proud to be part of a solution that will make a difference to students, researchers, and University staff for years to come."

Benefits

- First in Israel to migrate SAP Applications to SAP S/4HANA on VMware with SUSE under the hood
- 100% uptime
- Nearly half a million saved by digitizing instead of investing in hardware
- 90% faster creation of testing and service environments
- 100% virtualization in three weeks
- Zero interrupted hours of course work and University operations

Find out how SUSE can help you become an innovation hero!

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- Sales-Inquiries-LATAM@suse.com
- Sales-Inquiries-NA@suse.com

SUSE

SUSE
Maxfeldstrasse
90409 Nuremberg
www.suse.com

For more information, contact SUSE at:
+1 800 796 3700 (U.S./Canada)
+49 (0)911-740 53-0 (Worldwide)

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