RUSSIA'S LARGEST UNIVERSITY VIRTUALIZES ITS CRITICAL IT SERVICES

St Petersburg University

CUSTOMER
SAINT PETERSBURG STATE UNIVERSITY

WEBSITE
HTTPS://ENGLISH.SPBU.RU/

SECTOR
EDUCATION

LOCATION
RUSSIA, SAINT PETERSBURG

MAIN OBJECTIVES AND CHALLENGES
- Obsolete IT infrastructure
- The need for a flexible and scalable solution
- Provide students modern, secure, flexible spaces for research

SOLUTION
The migration from a legacy server infrastructure to hyper-converged environment, powered by VMware vSAN, allowed SPSU to dramatically reduce operating costs by 25% and lay the foundation for further growth and innovation.

BUSINESS ADVANTAGES
- Easily scalable IT architecture able to keep pace with the rapid growth of the university
- Reduction of operating costs by 25%

Saint Petersburg State University makes it a priority to provide students and professors with innovative tools. Legacy storage systems and servers no longer support the current and strategic goals of the university — providing a modern and flexible environment for innovation and research. With the implementation of VMware vSAN, the University's IT specialists managed to build a secure modern Hyperconverged Infrastructure, which resulted in the performance increase of the University IT systems and significantly reduced operating costs by 25%.

Saint Petersburg State University (SPSU) is one of the oldest educational centres in Russia. SPSU is currently home to more than 20 thousand students and above 12 thousand research scholars, including members of the Russian Academy of Sciences and Russian Academy of Education, as well as Nobel Prize and Fields Medal winners. The University has more than 20 large laboratories and 26 resource centres included in the leading Scientific Park of Russia. SPSU is regularly included in international rankings of the best scientific institutions: THE, ARWU, QS and Financial Times rankings.

Business Challenges

Today, the idea of information technologies acting as drivers of competitiveness is relevant not only for business but also for educational institutions. This is especially true for large Universities and research centres. According to EDUCASE, the increasing complexity of technology, architecture, and data, as well as the growing impact of IT on the success of educational activities are most prominent among the five major trends affecting the development of higher education institutions around the world.

As one of the leading universities both in Russia and on an international scale, SPSU also acknowledges strategic advantages provided by technological superiority such as speed and flexibility of innovation, encouraging collaborative culture, distance learning and international cooperation.

"We strive to provide modern and flexible spaces for experimentation and science. The University has more than 20 large research laboratories and over 26 resource centres. The role of IT in ensuring the stability of research is obvious to us," says Sergey Sevryukov, Head of IT service, Saint Petersburg State University.

At the end of 2015, the Systems Engineering Team came to the conclusion that the present IT systems no longer met the requirements of the University. The service life of the legacy storage and servers had expired, and the institution faced the task of updating the infrastructure completely.

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"A 25% reduction of operating costs is a result that we could never achieve using the traditional approach to building a Hyperconverged Infrastructure"

SERGEY SEVRYUKOV
HEAD OF IT SERVICE
SPSU

SOLUTIONS
• VMware vSAN

PARTNER

Solution

The University's IT department considered two options for modernization — increase the hardware number or follow the Hyperconverged Infrastructure (HCI) route. The first option was to preserve the "legacy" architecture by acquiring new server hardware. According to LWCOM, the VMware Partner that supervised the project as a systems integrator, this course of action quickly and effectively fulfilled the current needs of the University — providing students with modern, secure, flexible spaces for experimentation and research.

The second option offered by LWCOM was to migrate to a Hyperconverged Infrastructure. Grigory Nikonorov, Data Center Engineer, LWCOM states: "In addition to updating the server equipment, it was important for us to offer the customer a strategically sound solution. SPSU is developing dynamically, so the infrastructure must ensure the consistency of all processes and be ready for a Hybrid Cloud and futureproof."

At that time, the University already used VMware solutions for a hypervisor. This positive experience and leveraging existing skillsets influenced the decision to deploy VMware vSAN.

The University began building its Hyperconverged Infrastructure in 2016 by deploying vSAN. The implementation was delivered in two stages – infrastructure preparation and load migration, and was completed within six months. During this period, all University storage was virtualized, and vSAN allowed the technical team of SPSU to successfully migrate general University information systems, from IBM-based solutions to Huawei servers with Intel processors assembled in the vSAN cluster, thus boosting performance and availability of business-critical applications.

Results and Business Advantages

The customer noted that the transfer of virtual machines did not cause any transmission interruptions and was absolutely seamless for end-users of services mainly students and University staff. At present, all of the infrastructure services at the university are powered by vSAN, which enables high performance and ensure a more efficient and timely allocation of resources.

"Our Hyperconverged Infrastructure flexibility is significantly higher with VMware vSAN. It easily scales allowing us to quickly increase the operating capacity, whenever necessary," says Sergey Sevryukov.

According to the customer, the cluster built on the basis of VMware technology has a better fault tolerance than the legacy architecture.

Since 2016 the University purchased more licenses, and the cluster has been expanding as rapidly and seamlessly as possible. The project started with 4 VMware nodes connected to two 10 Gbit brand CORE switches with DAC-cables. Over 3 years the number of nodes in the cluster has grown to 8. In addition to agility and reliability of the solution, the customer stressed that the transition from the legacy architecture resulted in a 25% reduction of operating costs. That made it possible to direct these released resources to further improvement of the University technological base.

"VMware vSAN was a perfect match for our Hyperconverged Infrastructure needs. Choosing VMware vSAN, we chose the development of University services in accordance with the best IT practices," noted Sergey Sevryukov.

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SERGEY SEVRYUKOV
HEAD OF IT SERVICE
SPSU

According to Sergey Sevryukov, with VMware vSAN the University needs fewer physical servers and less effort for administration which positively reduces costs. "A 25% reduction of operating costs is a result that we could never achieve using the traditional approach to building infrastructure."

Future Plans

As the project brings greater results in optimizing the operating cost and flexibility, the University plans to continue to pursue virtualization in the future. A Hyperconverged Infrastructure is fully compatible with all the requirements and challenges facing the IT department of this major educational and research centre. As a result, SPSU plans to increase the vSAN infrastructure across it's campuses.

About LWCOM

LWCOM, founded in 2005, is one of the leading system integrators of the Northwestern Region of the Russian Federation. LWCOM collaborates with world-leading hardware and software vendors, possessing many prestigious statuses and competencies.

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