

Case Study

Hasso-Plattner-Institut für Softwaresystemtechnik GmbH

“Fujitsu ManageNow® impressed us as soon as we started testing. This solution provides a much clearer and easier approach to managing our state-of-the-art, heterogeneous infrastructure.”

Bernhard Rabe, Operating Systems and Middleware Group, Hasso-Plattner-Institut für Softwaresystemtechnik GmbH



The customer

Country: Germany
Industry: Research and education
Founded: 1998, under a public/private partnership
Employees: 11 professors and over 70 lecturers
Website: www.hpi.de



The challenge

Replacement of the existing in-house monitoring solution for the highly advanced data center infrastructure of HPI Future SOC Labs, which had been developed on the basis of an open source system – with the aim of significantly reducing the amount of monitoring and administration required.

The solution

Implementation of the pre-configured software solution Fujitsu ManageNow® for Data Center Monitoring. Based on the Nagios and Icinga open source systems, this solution supports the integration of existing Icinga scripts.

The customer

The Hasso-Plattner-Institut für Softwaresystemtechnik GmbH (HPI) at Potsdam University is the only university institution in Germany to offer bachelor and masters programs in “IT Systems Engineering”. This IT course, which places a strong focus on practical experience and engineering, is currently attended by 480 students. The institute employs a total of eleven professors, and hosts over 70 further guest professors, lecturers, and associate lecturers. At HPI, the research and education programs focus on the underlying principles and applications for large, highly complex, and networked IT systems. The institute is largely financed by Founding Professor Hasso Plattner, Joint Founder and Chairman of the Supervisory Board at the software company SAP.

The Future SOC (Service-Oriented Computing) Lab is a collaborative initiative between the Hasso Plattner Institute and its industrial partners EMC, FUJITSU, Hewlett Packard Enterprise, and SAP. The Lab provides interested scientists and academics with a state-of-the-art hardware and software infrastructure for research purposes free of charge. This includes technologies that are not yet available on the market and that traditional universities would struggle to finance, such as servers with up to 64 cores and 2 TB main memory. Such offerings are intended particularly for researchers in the fields of information technology and business informatics. Focus areas include cloud computing, parallelization, and in-memory technologies.

The challenge

At the Future SOC Lab, the Hasso-Plattner-Institut für Softwaresystemtechnik operates one of the most advanced IT infrastructures in Germany. It is available to researchers from throughout the entire country for selected research projects sponsored by EMC, FUJITSU, Hewlett Packard Enterprise, and SAP. The system landscape in the lab is therefore highly heterogeneous. To monitor the systems, the team at HPI used an in-house solution based on the Icinga open source system. Although this was suitable for the required tasks in principle, the monitoring and administration of resources took up a large amount of time. The lab wanted a new management system that would provide a clearer and more user-friendly overview, and thus save time.

The benefit

- Convenient management solution with a large number of “out-of-the-box” management functions
- Reduction in customizing effort through ready-made solutions
- Well-structured web interface provides a quick overview of the systems being monitored, including existing dependencies
- Visualization of the impact of infrastructure problems on the services affected
- Flexible grouping of services and resources, with corresponding definition of responsibilities and notifications
- Continued use of Icinga plug-ins developed in-house
- Reduced time and personnel effort for IT monitoring and reporting

The solution

Traditionally, scientific institutes at universities use open source software for a wide range of tasks. Following its foundation in 2010, the team in the Future SOC Lab at the Hasso-Plattner-Institut in Potsdam also decided on an open source solution to manage the system landscape. “We set up an Icinga structure that enabled us to administer the infrastructure very well in principle,” said Bernhard Rabe, responsible for the Future SOC Lab within the Operating Systems and Middleware Group. However, this was difficult to use – it did not offer a user-friendly web interface, for example – and resource monitoring became increasingly time consuming. The system environment was also in a state of constant flux and the number of resources to be monitored continued to grow. In 2012, for example, the institute acquired a high-performance cluster with 1,000 processor cores. This was joined in 2013 by a FUJITSU Server PRIMERGY RX900 and the latest network technology for use in research such as the in-memory solution HANA® of SAP SE. Summer 2013 also saw the deployment of a private cloud solution that enables researchers to assume and analyze different roles (cloud provider and cloud user) for specific purposes.

Due to the massive increase in time required to meet the associated monitoring requirements, the HPI team looked for an alternative to the Icinga scripts that had been written in house. During this search, it heard about the ManageNow® solution offered by Future SOC Lab industry partner Fujitsu. “It was great that ManageNow® understood our Icinga scripts,” said Rabe, naming one of the system benefits that immediately caught his attention. After an initial look at the solution in action at Fujitsu, HPI deployed a test installation to monitor around 20 percent of systems directly alongside its own solution.

Products and services

- Fujitsu ManageNow® for Data Center Monitoring
- Deployment Services
- Solution Support

“We were soon convinced that this solution was exactly what we needed, and quickly decided on a full installation,” said Rabe. The ManageNow® solution at HPI is currently designed for up to 100 systems and can support future expansions without problems. “The solution is highly scalable, from 25 or fewer systems to over 1,000,” explained Fritz Brenker, responsible for data center monitoring and automation at Fujitsu Professional Services.

FUJITSU Deployment Services ensured that installation at HPI proceeded quickly and without incident. Fujitsu assumed responsibility for system implementation and adaptation, as well as integrating the existing administration solutions based on Icinga and importing the systems to be monitored. It also defined services for task-oriented views in line with the requirements of the Future SOC Lab team. “The Fujitsu team provided all the necessary services and nodes. The management solution was handed over ready for use, and we could get going straight away,” summarized Rabe. The Fujitsu ManageNow® solution package also includes solution support in the form of a telephone and email hotline, ManageNow® software patches, and further versions of the ManageNow® software.

The benefit

“With the ManageNow® solution, we benefit from a large number of function modules that Fujitsu has already developed for customers with similar requirements. These are available out of the box, which saves us a great deal of time,” said Rabe, identifying one key benefit of Fujitsu ManageNow® for Data Center Monitoring. The web-based user interface and varied options for defining views and grouping services and nodes has made it much easier to administer and gain a clear overview of the modern IT infrastructure with over 1,500 processor cores. New systems and services can be integrated with ease, while continuing to use the existing Icinga plug-ins.

Conclusion

“The system is significantly more effective than our previous management environment. It offers a broad spectrum of pre-configured management functions that enable us to save both time and resources.”

Bernhard Rabe, Operating Systems and Middleware Group, HPI

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2015-12-23

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