



Success Story

SUSE Enterprise Storage
SUSE Linux Enterprise Server
SUSE OpenStack Cloud

ZF Friedrichshafen AG

The race is on for automotive manufacturers to bring to market first-of-a-kind products, such as self-driving cars. To spur rapid development of these innovative offerings, ZF has deployed SUSE® OpenStack Cloud, enabling developers to spin up new test environments in minutes rather than days. By introducing automated provisioning and granting developers self-service capabilities, ZF has freed up its highly-qualified IT team to focus on driving real business value.



Overview

ZF is a global leader in driveline and chassis technology as well as active and passive safety technology. The company has a global workforce of around 137,000 with approximately 230 locations in some 40 countries. In 2016, ZF achieved sales of €35.2 billion. ZF annually invests about six percent of its sales in research & development—ensuring continued success through the design and engineering of innovative technologies. ZF is one of the largest automotive suppliers worldwide.

Challenge

Competition in the automotive sector is revving up. The race is on to hit the market

“With SUSE OpenStack Cloud, we are able to provide a self-service-driven offering for infrastructure as a service out of the on-premise data centers. This gives our customers more agility and flexibility building up infrastructure as they need in their own small virtual data center, reducing shadow IT while retaining governance.”

MARKUS FORSTER

Project Lead ZF Cloud
ZF Friedrichshafen AG

with innovative new products, such as self-driving cars that rely on cutting-edge Internet of Things technology. ZF is no exception; it has partnered with graphics specialist NVIDIA to develop intelligent autonomous driving systems. The systems will enable passenger cars and commercial trucks to understand their environments by using deep learning to process sensor data.

To design, build and test state-of-the-art components for these first-of-a-kind offerings, ZF relies on computer-aided engineering (CAE) tools using high-performance computing. As the company often creates multiple iterations of a single component, the ability to rapidly spin up new development environments for the CAE software is critical. ZF set out to find a platform that could help it make development as fast and cost-effective as possible.

Solution

ZF decided early on to take advantage of efficient OpenStack technology, then began its search for the right OpenStack distribution.

Harald Holder, Director of IT Server Services at ZF, said: “We wanted to give our developers maximum flexibility in terms of the tools and APIs they use, so it was imperative to avoid them being locked into using proprietary applications. With that in mind, we decided to go for an open-source solution.



ZF Friedrichshafen AG at a Glance:

ZF is a global leader in driveline and chassis technology as well as active and passive safety technology.

■ Industry and Location

Automotive, Germany

■ Products and Services

SUSE Enterprise Storage
SUSE Linux Enterprise Server
SUSE OpenStack Cloud

■ Results

- + Slashes time to provision virtual data center infrastructure from days to minutes.
- + Unlocks massive time savings for IT thanks to self-service capabilities and automated provisioning.
- + Extends a static on-premise infrastructure for engineering simulations with the capability of dynamic resource allocation in the data centers to handle workload peaks.

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“We evaluated all major distributions in detail, to get a clear and comprehensive knowledge of what is available on the market. We opted for SUSE OpenStack Cloud because it delivers the latest innovations in enterprise quality in a cost-effective manner and because SUSE is a trusted brand in the open-source realm. In addition, we already had a strong relationship with SUSE from running our mission-critical enterprise applications on SUSE Linux Enterprise Server.”

Using SUSE OpenStack Cloud, ZF established a cloud environment, providing a flexible platform to support its software developers. When developers require a new environment—for example, to test some freshly written code—they can set one up on a self-service basis using automated provisioning.

ZF now also runs resource-intensive engineering simulations on OpenStack, partially replacing dedicated pools of hardware.

To store data in its OpenStack environment, ZF relies amongst others on SUSE Enterprise Storage™, a software-defined storage solution that provides unified object, file and block storage.

Results

Just a few months after deployment, SUSE OpenStack Cloud is already delivering impressive benefits to ZF.

Markus Forster, Project Lead ZF Cloud, said: “In the past, developers had to wait a few days for a new test environment—now, they have the resources they need

available within a few minutes of making the request.”

The improvement is particularly marked in CAE simulations, for which the company’s previous infrastructure was costly to maintain, sometimes sat idle, and often had a long queue of jobs at peak times. Now, ZF benefits from a more agile infrastructure with faster performance and a reduced need for hardware investment, because in idle times the hardware can be used by other applications. Applications can scale up and down, when scaling down resources become freed on compute nodes for other applications.

Deploying OpenStack has transformed the manner in which IT serves the business.

Markus Forster said: “Self-service capabilities empower developers to work much



more independently. Developers are responsible for the instances they set up, reducing the burden on IT and indicating a paradigm shift in the way we provide services.

“Additionally, we can charge operational departments for computing resources in a fairer and more flexible manner. For example, we can invoice developers per hour of CPU use on a pay-as-you-go basis, so they pay only for the resources they have used.

“Furthermore, with SUSE OpenStack Cloud and SUSE Enterprise Storage, we have automated many routine tasks such as provisioning new test environments and managing storage, freeing up highly skilled IT staff to focus on value-add activities.”

Harald Holder said: “We believe that the future lies in infrastructure-as-a-service offerings, enabled by OpenStack and other forward-thinking solutions. As a next step, we plan to run big-data workloads on Hadoop using our OpenStack environment to ramp up our analytics capabilities.

“We have made a strategic decision to continue expanding our OpenStack environment. In particular, we plan to establish a cloud spanning many locations to enable developers across our global business to select and deploy compute resources in an efficient, automated manner.”



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HARALD HOLDER

Director of IT Server Services
ZF Friedrichshafen AG

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