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How WOBCOM Built the Digital Backbone for Wolfsburg's Smart City

The Challenge
Building Wolfsburg's Smart City Infrastructure

As the internet service provider for the City of Wolfsburg, WOBCOM is responsible to build and manage the infrastructure required to centrally deliver the Smart City services being developed by the #WolfsburgDigital initiative. At the same time, the WOBCOM team wanted to maintain the focus of their own resources on the development of new digital offerings without having to allocate their time and effort on keeping things up and running.

The Solution
Migrate to One Centralized, Hands-Off Platform

WOBCOM was able to deliver a highly automated centralized platform by leveraging Kubermatic Kubernetes Platform (KKP) to create a true abstraction layer between their VMware vSphere powered data center and their containerized services. By opting for the Managed Service, their team did not have to invest in upfront knowledge building and migrated all of their existing services from zero to production in only three weeks.

The Impact
Time to Focus on Value Creation

By adding Kubermatic Kubernetes Platform as an abstraction layer, WOBCOM has turned their data center into a high performance cloud platform to deploy and roll out new Smart City services instantly. Thanks to the high adaptability of KKP, WOBCOM easily integrated a customized all flash Pure Storage system that allows them to consume and deliver real-time data in the highly distributed Smart City system. The WOBCOM team was and remains hands-off during and after this deployment, to focus on value creation through new innovative services.

Empowering Smart City Services

In 2016, the City of Wolfsburg and Volkswagen launched the #WolfsburgDigital initiative, a public/private endeavour to develop a digital city model which supports its citizens and guests quickly and easily with the latest in goods and services. Milestone projects of this initiative include intelligent traffic lights, an expanded stationary and mobile fast-charging infrastructure and an app through which the city can provide centralized services to its citizens.

As the primary ISP for the City of Wolfsburg, WOBCOM plays a crucial role in the successful realization of these projects: On the one hand, WOBCOM was commissioned to expand the fiber optic network to connect 71,000 residential units, 2,600 commercial enterprises and 200 public locations, as well as 150 suppliers. On the other hand, they were tasked to build and operate the infrastructure required to deliver the Smart City services developed by the initiative's partners.

When defining their strategy to deliver this infrastructure, it was clear to WOBCOM that it would only be successful if the partners found it as easy to order and roll out their services as it would be to order a pizza from next door; one call and almost immediate delivery. Moreover, they knew that only a central platform would allow for continuous process optimization and prevent knowledge silos between the different actors. Finally, as with all digital transformation projects, data security was an imperative for WOBCOM, as well as for its public and private partners. To address the latter, WOBCOM opened their own data center in 2017 to save all data in-house and ensure the highest security standards.

Seeking for the Most Adaptable Solution to Scale

As more and more smart services went into production, it became clear that an orchestration and automation layer between WOBCOM's physical infrastructure and their services was needed in order to scale and deliver on demanding SLAs, without expanding their operational staff. Fortunately, WOBCOM had been running their services on a Managed Kubernetes platform before they moved to their own data center, so they were well aware that cloud native technologies were superior to traditional infrastructure in terms of scalability, availability and flexibility.

The new arrangement dictated a new solution, so five major competitive solutions including Rancher Labs, Red Hat OpenShift and Kubermatic Kubernetes Platform were tested, with the team defining these primary requirements:

- Solution needed to be fully compatible with the existing VMware vSphere environment

- Solution had to integrate with a customized all flash Pure Storage system, to allow for real time data consumption and output throughout the city

- Operational effort had to be kept to a minimum since the WOBCOM developer team had no in-depth Kubernetes expertise

From Zero to Production in Three Weeks

After evaluating all of the options, WOBCOM decided to move forward with the Kubermatic Kubernetes Platform (KKP) since it offered the best flexibility and adaptability: By easily integrating all Kubernetes conformant open source tooling, KKP would allow them to continuously evolve and expand the platform with the best solutions from anywhere.

Moreover, WOBCOM felt that the Kubermatic staff really connected with their technical team, by focussing on their challenges and the results they needed to achieve. Giovanni Coppa, Head of Data Center and Cloud Innovation at Wobcom commented:

> Other vendors would just present their options and how much they cost. But the Kubermatic team would come with their technical staff and ask us: 'What do you need the software for? What project do you want to realize?' This is something I appreciated very much.

After conducting a POC together with Pure Storage and Kubermatic, WOBCOM was certain that the Kubermatic Kubernetes Platform was the right choice for their use case. To save their team from having to allocate resources and ensure the high quality and reliability of the operations, WOBCOM decided to move forward with Managed KKP Services.

The subsequent implementation process turned out to be very smooth and trouble-free. In fact, the compatibility of KKP with both the all flash Pure Storage System and WOBCOM's existing VMware vSphere environment allowed them to migrate all of their services from zero to production in only 3 weeks!

Three Weeks

from zero to production

Ready to Deliver!

The implementation of the Kubermatic Kubernetes Platform elegantly and transparently integrates with all of the tooling required for WOBCOM's use case and is flexible enough to adjust as those requirements change.

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> The beauty of Kubermatic Kubernetes Platform is that my team can easily test new tooling and just take it out again if it does not deliver what we wanted to achieve.
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> Giovanni Coppa

Moreover, with Kubermatic providing the Managed Service, Giovanni is now confident that WOBCOM will deliver on the #WolfsburgDigital initiative. "I can always rely on the expertise of the Kubermatic team. I only have developers in my team and I am really glad that I do not have to build up a lot of in-house expertise. That is a big relief to me."

From an operational perspective, WOBCOM remains completely hands off and focused on their primary objective, the development of new services. The team now rolls out new clusters within minutes and time required for troubleshooting has significantly decreased as well. The heart of #WolfsburgDigital is in good hands.

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Kubermatic empowers organizations worldwide to fully automate their Kubernetes and cloud native operations across multi-cloud, edge and on-prem. As the Top 6 committer to the Kubernetes project for over 3 years, Kubermatic develops enterprise-grade software solutions and provides professional services and support to safely navigate and accelerate the cloud native transformation. Leading enterprises including Lufthansa, Bosch, Siemens, and T-Systems trust Kubermatic on their cloud native journey.

WOBCOM

WOBCOM GmbH is an ISP, based in Wolfsburg, Germany. Since 1996, WOBCOM has been providing internet and telephony services for residential and business customers in Wolfsburg, as well as IP-Transit services at all DC locations. WOBCOM's data center offers highly robust, secure and monitored colocation services with a backbone of comprehensive national and international connectivity.

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