

By using Microsoft Dev Box, the Schaeffler Group is able to provide cloud-based virtual workplaces tailored for developers, streamlining the setup process and providing quick access to necessary engineering tools. It's about efficiency and collaboration, making it possible to get started on development tasks within a single day. In addition, Microsoft Dev Box supports cybersecurity and compliance in operational projects.

Driving Innovation: Schaeffler Revolutionizes Engineering with Microsoft Dev Box

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Introduction

The Schaeffler Group has been driving forward groundbreaking inventions and developments in the field of motion technology for over 75 years. With innovative technologies, products, and services for electric mobility, CO₂-efficient drives, chassis solutions, Industry 4.0, digitalization, and renewable energies, the company is a reliable partner for making motion more efficient, intelligent, and sustainable — over the entire life cycle. The motion technology company manufactures high-precision components and systems for drivetrain and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications.

The Engineering IT and Digitalization — Embedded Software Solutions department within Schaeffler AG takes responsibility for empowering embedded software engineers to develop software for mechatronic systems. This department provides cloud-based virtual workstations for developers that streamline developer technical onboarding and provide expedient access to the requisite portfolio of development tools and development resources. Schaeffler's use of cloud-based workstations makes it possible for developers to get started on development tasks within one day.

Schaeffler began implementing Microsoft Dev Box in October 2023 to address operational challenges specific to rendering preconfigured embedded software development toolchains available to internal and third-party developers. The decision to adopt Microsoft Dev Box was driven by the challenge of expediently providing these toolchains to the company's third-party developers who are remotely employed at ISVs in various locations globally. As the needs of the department grew, Schaeffler rapidly faced the task of technical onboarding and managing hundreds of remote developers,

SOLUTION SNAPSHOT

ORGANIZATION:

Schaeffler is a global manufacturer known for its high-precision components and systems for drivetrain and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications.

ORGANIZATIONAL CHALLENGE:

Optimize the setup, delivery, and management of and compute resources for developers:

- » Schaeffler was challenged to scale the global delivery of developer machines and grant internal and offshore developers access to development resources.

SOLUTION:

- » Microsoft Dev Box

BENEFITS:

- » Accelerated onboarding, improved security, and augmented developer agility
- » The delivery of developer workstations and machines accelerated significantly
- » Enhanced security and compliance with respect to the management of developer workstations and machines
- » Augmented developer agility, as demonstrated by the ability to access developer resources from any web-enabled device

each of whom needs access to a preconfigured development toolchain that varies with respect to their role, responsibilities, and the project on which they are working. The rapid growth of Schaeffler's embedded software developer population drove the company to seek more efficient ways of delivering development machines to engineers.

The urgency to adopt a more operationally efficient modality of delivering compute resources to its developer population was compounded by the technical complexity of the toolchains required by Schaeffler's embedded software developers. This population of developers required laptops that featured at least 30 discrete, specialized applications, which collectively took developers weeks to install and configure. Meanwhile, select subpopulations of developers required high-performance laptops as well as the capability for compute resources to scale with the technical requirements of the use cases on which they were working. The conjunction of the technical complexity of the toolchain and the need to rapidly onboard a growing number of developers meant that Schaeffler needed to identify and adopt a solution that could support rapid onboarding at scale as well as the heterogeneity of the compute resources required by its developers.

Implementation

Starting in October 2023, Schaeffler began working with Microsoft's Industry Solutions Delivery (ISD) team to set up Microsoft Dev Box. Implementation involved creating an image gallery for preconfigured project development toolchains for embedded software development and managing on-premises connectivity to Dev Boxes to ensure that Dev Boxes behaved like regular workstations. In addition, Schaeffler created self-service capabilities to empower developers to create project-based development machines and computing resources as needed.

The availability of preconfigured toolchain galleries simplified the provisioning of machines for developers as they could select the requisite toolchain to execute their development-related needs. Developers also have an opportunity to further customize preconfigured development environments to reflect the specificity of their own working styles, preferences, and projects. Furthermore, Microsoft Dev Box empowers enterprise IT to manage the security and safety of development environments by retaining control over permissions, access control, and audit trails while concurrently having access to centralized monitoring capabilities for each development environment.

"Dev Box empowers us to provide project-specific and role-tailored virtual developer machines to our globally distributed engineering teams." — Marc Spörlein, product owner, Embedded Software Solutions, Engineering IT & Digitalization, Schaeffler Technologies AG

Benefits

Accelerated Developer Technical Onboarding

Schaeffler reported that the primary benefit of using Microsoft Dev Box was the accelerated technical onboarding of developers. Whereas Schaeffler previously required several weeks to complete the onboarding and setup of developer machines, Microsoft Dev Box enabled them to complete setup within one day. The acceleration in onboarding reduces administrative expenses associated with managing the technical onboarding process. Microsoft Dev Box's ability to accelerate onboarding has helped Schaeffler scale development projects more quickly and thus drastically increased the company's ability to react in a dynamic market environment as its developer population increased.

Faster Time to Market

Another important consequence of Microsoft Dev Box is its ability to accelerate the time to market in which Schaeffler can create mechatronic products and complex systems. The expedited technical onboarding enabled by Microsoft Dev Box positions developers to start work faster and contribute to development-related initiatives earlier. As a result, Schaeffler can ship mechatronic products even faster without compromising quality or security. The reduction in the time to market strengthens Schaeffler's positioning in a competitive landscape that prioritizes faster time-to-market cycles and the accelerated delivery of innovation.

Long-Term Archiving and Storage Capabilities

Microsoft Dev Box empowers Schaeffler to archive development environments and thereby obtain centralized control and governance over different project-specific development configurations including its operating system. Long-term archiving of development environments is important for the automotive industry because it ensures compliance with legal and regulatory requirements, allowing businesses to meet data retention standards. Manufacturers can demonstrate compliance with industrywide regulations by means of long-term digital archiving capabilities. Moreover, long-term archiving of development environments ensures historical context, compliance, bug tracking, legacy system maintenance, collaboration, and security.

Enhanced Security and Compliance

Security and compliance considerations constituted another important benefit of Microsoft Dev Box. In the era prior to the use of Microsoft Dev Box, developers had the opportunity to inadvertently misinterpret directions specific to configuring and installing software on their machines during the onboarding process.

Moreover, Microsoft Dev Box enabled Schaeffler to cease granting developers administrative rights that empowered them to install and configure software on their machines. The company now localizes administrative rights to a few individuals on demand who are directly responsible for managing technical onboarding processes, thereby reducing the pool of actors with expansive rights and privileges.

Another modality by which Microsoft Dev Box improved security and compliance involved preventing developers from having direct access to datacenter infrastructures. Given that Microsoft Dev Box is a virtual environment running within Microsoft's IT infrastructure, developers had access to a highly circumscribed and preconfigured environment of IT infrastructure and software. As a result, the potential for developers to breach security and compliance regulations was vastly diminished because they only had access to standardized and carefully vetted infrastructures. Moreover, Microsoft Dev Box enhances Schaeffler's ability to streamline the management of the monitoring of machines and their concomitant consumption of development-related resources at scale.

In addition, Microsoft Dev Box provides developers with access to purposefully provisioned development and compute resources in ways that ensure they have the most appropriate resources for their professional work. This delivery of preconfigured development resources absolves developers of the responsibility of identifying and operationalizing the correct technologies that are required for specific projects.

Augmented Developer Agility

Another benefit of Microsoft Dev Box is its enhancement of developer agility. Developers can access the compute resources required to complete their work either by means of their designated computing devices or any web-enabled device. This enhancement of the operational agility of developers amplified their productivity by streamlining their ability to access compute resources regardless of their physical location and hardware equipment. As a result, Schaeffler noted increased developer productivity and contributions to development-related projects and initiatives for which they were responsible.

Improved Access to High-Performance Computing

Improvements in the performance of the compute resources required for computationally intensive development constituted another key benefit of implementing Microsoft Dev Box. This improvement in performance is derived from the ability of Microsoft Dev Box to enable developers to reduce latency and compute times for computationally intensive workloads and use cases. Streamlined access to computational resources that accelerated the development of computationally intensive projects led to faster and higher-quality work outputs from software engineers that required high-performance laptops for their professional work.

Improved Operational Efficiency

Another important benefit of Microsoft Dev Box is its enhancement of the ability to rapidly provision and access machines that correspond to the changing needs of the projects and use cases on which they are working. For example, developers working on computationally intensive projects may need both a high-performance machine and a regular machine. This ability to expediently access two discrete sets of development environments underscores the value of Microsoft Dev Box. For example, when a developer completes their work on a project that requires high-performance compute resources, they can deprovision that development environment without experiencing the operational hassle of returning a laptop.

Enhanced Standardization

Schaeffler observed that enhanced operational standardization was one of the benefits of using Microsoft Dev Box to deliver compute resources to employees. For example, Microsoft Dev Box empowered Schaeffler to standardize the assembly and delivery of compute resources to employees by delivering consistent developer workspaces to employees on a role-based access basis. Schaeffler noted that a lack of standardization with respect to the configuration of developer machines can lead to diminished development performance, a lack of adherence to regulatory and compliance requirements, and delayed IT troubleshooting due to aberrant and inconsistent implementations.

"Microsoft Dev Box allows us to rapidly scale our engineering environments and streamline our development cycles, resulting in greater efficiency and reduced time to market."
— Daniel Batz, manager, ALM Solutions, Engineering IT & Digitalization, Schaeffler Technologies AG

Conclusion

Schaeffler AG noted that its adoption of Microsoft Dev Box delivered a multitude of business benefits that included accelerated developer technical onboarding, faster time to market, long-term archiving and storage capabilities, augmented security and compliance, enhanced developer agility, improved operational efficiency, and enhanced standardization. In particular, Microsoft Dev Box enabled the reduction of technical onboarding for developers from several weeks to one day. This reduction in the time required for technical onboarding enabled developers to get to work faster and accelerate the time to market with which commercial solutions can be developed and released. Other notable benefits include Microsoft Dev Box's ability to enable the long-term archiving of digital solutions as a means of enabling the demonstration of Schaeffler AG's compliance with regulatory protocols. In addition, long-term archiving capability empowers Schaeffler AG to more effectively innovate by analyzing the historical evolution of a product's design in conjunction with its delivery of business benefits. Schaeffler AG also noted that Microsoft Dev Box increases security and compliance by ensuring that developers use preconfigured development resources that have been vetted against the company's regulatory posture and considerations.

Methodology

Microsoft identified Schaeffler AG as a suitable candidate for an IDC Customer Case Study. IDC obtained the company and background information in this document through an extensive interview with the Schaeffler AG team based in Germany. Microsoft was not involved in the interview process. All the questions were posed directly to the Schaeffler team by IDC analysts, and Schaeffler has reviewed this document to ensure its accuracy.

About the Analyst



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Dr. Arnal Dayaratna is research vice president, Software Development, at IDC. Arnal focuses on software developer demographics, trends in programming languages and other application development tools, and the intersection of these development environments and the many emerging technologies that are enabling and driving digital transformation. Arnal's research examines how the changing nature of software development relates to broader trends in the technology landscape.

MESSAGE FROM THE SPONSOR

Learn more about Microsoft Dev Box, cloud-based workstations optimized for developers: <https://aka.ms/DevBox>.

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