Diagrid Conductor is life insurance for ZEISS' microservice-based order fulfilment app

Conductor reduces ZEISS' cost and effort running Dapr applications on Kubernetes while also improving reliability and security

ZEISS Vision Care is one of the world's leading manufacturers of eyeglass lenses and ophthalmic instruments, developing and producing offerings for global distribution under the ZEISS brand. ZEISS recognized that their monolithic order fulfilment application was slow processing orders and required long development cycles to make improvements.

So, in 2020 they embarked on a transformative architecture journey to revolutionize the system with multiple goals: fulfill orders faster for ZEISS customers, speed up development, and deliver greater scalability and reliability, delivering improved business continuity. To meet these goals, the clear path forward was to build a cloud-native microservices solution with Dapr at its core. ZEISS' commitment to delivering orders on time, even amidst a globally distributed production network and a complex supply chain, required swift problem-solving and an agile mindset.

As with any architectural transformation, ZEISS encountered some challenges along the way. They found that operating a microservices application with Dapr on Kubernetes requires unique tools and capabilities outside the standard set already used by the team, and broadly known in the industry.

> *"We really consider Conductor as life insurance for our continuously growing microservices environment."*
>
> **Fabian Steinbach,**
> **Software Architect,**
> **Carl Zeiss Vision International GmbH**

Launched in 2022, **Diagrid Conductor** changed this situation - offering specific capabilities for operating Dapr applications on Kubernetes. The team at ZEISS realized they should take a closer look and began evaluating Conductor. Fast forward to today, where Conductor has become a cornerstone in the management and operation of ZEISS' innovative order processing solution.

Reduced Issue Discovery Time

Conductor's built-in alerts, coupled with ZEISS' customized alerts (based on logs and metrics), help identify issues at inception, ensuring timely responses and preserving the integrity of operations. Conductor has cut the time it takes to detect and resolve a Dapr issue, often **saving up to an hour of impacted time**.

Conductor effortlessly integrates into ZEISS' infrastructure, thanks to its delivery as a cloud-service, also ensuring it's always up to date with the latest feature upgrades and security patches. SaaS delivery eliminates the tedious process of setting up an operational solution, allowing ZEISS engineers to redirect their efforts towards continuous improvement of the order processing system and delivering new features.

Conductor

Production Readiness & Cost Reduction

Dapr continues to innovate, releasing new versions every few months and patches more frequently. This could present an ongoing challenge for ZEISS to stay up to date and secure, however that's where Conductor's **Advisor** capability steps in. This is an invaluable companion, ensuring ZEISS remains in sync with the fast-moving Dapr project. With its wealth of production best-practice suggestions, Advisor not only optimizes performance, security, stability, and reliability, but also helps ZEISS to focus on feature engineering rather than staying up to date with a dynamic open-source project.

For ZEISS, Advisor's performance recommendations realized **up to 80% reduction in memory usage** by the application containers and Dapr sidecar. This enabled ZEISS to run applications at higher densities, ultimately leading to a substantial reduction in overall cloud expenditure. By leveraging more of Advisor's suggestions, ZEISS was able to optimize resource allocation, increase efficiency, and effectively manage costs while maintaining optimal production readiness.

Enhanced Observability

Conductor also delivers Dapr-specific insights to users, presenting Dapr metrics in visually engaging and easily digestible dashboards. ZEISS engineers can gain a deep understanding of their application's state and the overall solution at-a-glance, enabling them to respond quickly to any issues.

Conductor's **App Visualiser** is a game-changer for ZEISS product managers responsible for the order fulfilment application. Through App Visualiser, they can easily see the intricate dependencies between applications and infrastructure components, helping them to predict the potential impacts of planned changes and making those changes with confidence.

> *"Looking at the wide range of functionality, Diagrid Conductor allows us to run Dapr on AKS with confidence."*
>
> Marvin Zielke,
> Head of Business IT,
> Carl Zeiss Vision International GmbH

Automate Routine Tasks

Conductor simplifies one of the most important routine Dapr management tasks through its automated certificate renewal feature, ensuring uninterrupted cluster uptime. This eliminates the need for manual intervention (and the human errors introduced) as well as eliminating the need for scheduled down-time. Once again, Conductor frees up valuable engineering resources and reduces system downtime, both planned and unplanned.

Furthermore, Conductor automates the process of upgrading and patching Dapr, keeping applications up to date with the latest open-source versions with updates scheduled during low traffic periods. ZEISS estimates that performing Dapr upgrades through **Conductor has eliminated 90% of the effort of upgrading** compared to native Dapr OSS upgrades. Conductor also offers the capability to update the Dapr control plane configuration through Helm arguments. This ensures a consistent and reliable environment, preventing accidental overrides of desired cluster configurations. With these automated features, Conductor enhances operational efficiency and provides a reliable foundation for smooth system maintenance and upgrades.

Operate Dapr in Production With Confidence

At ZEISS, Conductor significantly reduces the effort required to maintain a cutting-edge Dapr application on Kubernetes environment and improves their experience running Dapr at scale in production.