

DEVOPS: THE UNION OF PEOPLE, PROCESS, AND PRODUCTS

ENABLING CONTINUOUS DELIVERY OF VALUE TO OUR END USERS.

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INTRODUCTION

Time optimization, process automation, standard frameworks, decreased lead time, premium software quality. These are the everyday buzzwords in the DevOps Center of Excellence. Launched in 2016, the Center aims to create a common DevOps framework to speed up the software deployment process, cutback lead times, and increase software quality. It is a people, process, and products combination that targets the ambitious and bold EDP commitment: fully operational agile software development by 2021. A full agile paradigm demands a full DevOps mindset.

MAIN CHALLENGES

Doing “agile” means to embrace and practice a set of principles that promotes faster and regular software delivery. It is a new paradigm that traditional development and operations cannot address, and brings with it a few additional challenges:

- **Low effectiveness.** Having several teams involved in the deployment of a simple package was leading to increased losses of productivity and to high time-to-market;
- **Silo's mentality.** Teams separated by silos often do unnecessary, misaligned or duplicated work, which all prevent agility and adaptability and slow down the product's deployment;
- **EDP's systems architecture.** Multiple application sharing the same infrastructure make it difficult to provide autonomy and accountability. To mitigate this risk, access to the shared environment is done exclusively by a central team which can create bottlenecks.

SOLUTION

An agile transformation is about more than adopting agile software development methodologies. It is about undergoing a complete transformation of the entire organization by creating an environment that embraces creativity and innovation, empowering people and reducing unnecessary layers of repetitive work.

By adopting a DevOps culture, EDP is enabling its agile transformation journey. DevOps is a framework, a culture and a mindset that focuses on communication, integration, and collaboration among development and operations professionals to enable rapid deployment of products. This helps to reduce EDP's time to market when delivering applications and services.

>5.500

deployments per month

>83%

reduction of deployment lead time

100%

Of CloudNative technologies with DevOps Pipelines

>80%

Automatic Deployments

>300

automated pipelines

About Digital Global Unit (DGU)

Digital Global Unit (DGU) was born to help EDP Group drive transformation to digital by developing outstanding ideas to improve and optimize processes and thus simplifying both clients and employees' journey. Comprised of a multifaceted team of developers, engineers, designers, data scientists, and other experts, DGU works every day to turn impossible ideas into successful business projects at EDP Digital Factory.

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HOW IT WORKS

TEAMS

DevOps encourages the empowerment of end-to-end teams with the autonomy to build, validate, deliver, and support their applications. It is an empowerment forged in communication and collaboration between software developers and IT operations teams that improves the speed and quality of software delivery. The combination of DevOps guiding principles with empowered teams results in end-to-end accountability, transparency and auditability, feedback, and, most importantly, improved, resilient, and reliable IT products.

PROCESSES

The DevOps CoE Team focused on achieving two main outcomes: quality of the delivery and freedom to think and innovate. How? They have standardized a set of technical principles that can be used with all the different technologies within the organization as well as in automating the delivery processes. This way, it's possible to mitigate the risk of an incident, improve delivery predictability, enhance efficiency, security, and quality, and also free people from repetitive tasks giving them more time to think and innovate.

TOOLS

Choosing "the right tools for the right job" is another key factor in the success of DevOps adoption. A good tool is characterized by its ability to evolve, scale, customize, and provide support in the decision-making process. EDP is now able to anticipate errors that would occur in production, by proactive and continuously executing tests and scanning code.

PROOF OF CONCEPT

Change is never an easy task. To ease its impact and get everyone on the same page concerning the benefits of this new framework, the DevOps CoE team started their job by demonstrating the framework benefits in a pilot project using cloud-based technologies. The final result was great and has definitely laid the groundworks for an eased and comfortable DevOps adoption.

CONTRACTS

The enablement of empowered and collaborative development and operations teams required a contractual change from separate contracts for Dev and Ops to contracts where teams can have end-to-end skills to develop, test and operate the application. This shift enabled EDP to gather both "dev" and "ops" people in the same team and bind them together through the shared responsibility of building, delivering and maintaining an IT product.

BENEFITS

- Improve deployment frequency as a result of the standardization and automation efforts;
- Achieve faster time to market: time-optimization from need identification to product delivery;
- Reduce the risk and provide autonomy;
- Visibility over the technical debt. The knowledge gained about the code status promotes a stronger software sustainability strategy.

BUMPS IN THE ROAD

With great power comes great responsibility. This maxim couldn't be truer than in the DevOps context. According to this culture, teams must be fully empowered and autonomous and also fully responsible and accountable. These last features imply a certain level of maturity and seniority – characteristics not always easy to find in teams – and that can jeopardize the integrity of EDP's shared infrastructure. After a few episodes of error concealment and poor judgment around the consequences of not being transparent, DevOps CoE has limited teams' freedom, and started working to find the balance between a highly autonomous team and the need for a cross-functional team that ensures the safety and integrity of the company's system architecture. Even though there's not a straightforward rule that can be applied to all applications, DevOps CoE is investing in standardizing procedures (e.g. peer code review) to provide more control and security.

RESULTS

By adopting the DevOps framework, EDP is promoting the development of a new culture and mindset that encourages the team's autonomy and union between IT professionals, as well as accountable and transparent processes. That's why DevOps is simultaneously an experience that is highly focused on collaboration as well as resilience. It tackles the change resistance while breaking down silos that exist between departments. It is already producing excellent outcomes:

- Self-service documentation. DevOps CoE provides ready-to-consume information about DevOps processes, procedures, and tools;
- Tools with Inner-Source Model. The infrastructure and configuration code can be consulted, discussed, and open to suggestions;
- Source-code ownership. As part of the DevOps transformation, EDP now centralizes the source code of the developed applications in its repositories. This way, the company is less dependent on suppliers and has more control over the code quality.