



devon

Using Compliance Automation

to Accelerate DevOps Transformation

Introduction

At DevOn, we believe in propelling organizations towards high-performance DevOps through our Enterprise DevOps Steppingstones model. This model encompasses the organization's approach to transformation, the People & Process aspect, and nine crucial technology accelerators. Among these accelerators, Compliance Automation plays a pivotal role in ensuring security, adherence to regulatory requirements, and efficient validation processes. This whitepaper delves into the realm of Compliance Automation, showcasing its significance and providing a real-world use case.

What is Compliance Automation?

Compliance Automation involves leveraging platform engineering & DevOps principles to automate processes and controls traditionally performed manually. It contains a few different concepts that companies can use to ensure near real-time insight into IT control compliance, setup light-weight platforms around important tooling to ensure compliancy-by-design, and react to interesting events throughout the development landscape where necessary.

An example of this is working with compliance professionals to setup decision records around IT controls, that can then be turned into 'given-when-then' style tests. These tests can be run in any teams' pipeline at every integration opportunity, so that every change is automatically verified for compliancy, giving both development and compliance teams a sense of ease. The ensuing testing reports can be automatically tagged and stored in a self-service style database, freeing development teams from having to gather evidence manually, and giving compliance professionals the chance to pull evidence when necessary rather than pushing for it to be gathered.

The other concepts of Compliance Automation come into play differently per organization; just like with platform engineering this relies on identifying common frustrations, complexities and constraints within the company, and coming up with a smart automated solution to them for all teams to build on top of. This can range from standardized pipeline tasks, setting up managed resources or mandatory pipelines and more.

Why Compliance Automation?

The landscape for compliance officers, security professionals, and risk-related roles is evolving rapidly. Automation addresses these challenges by establishing IT environments that are compliant-by-design and enabling the swift detection and correction of any deviations. It's about making a shift from manual, repetitive checks to focusing on more impactful and customer-centric initiatives, and bridging the often present silo between the worlds of software engineering and Governance, Risk and Compliance (GRC).

Automation doesn't replace Compliance staff; instead, it liberates them from routine tasks, allowing them to concentrate on more critical and detailed aspects of their roles. This shift is not exclusive to Compliance officers; IT teams also benefit from automated proof of control, enabling them to concentrate on delivering customer value while ensuring regulatory compliance. Moreover, setup correctly Compliance Automation also offers teams unfamiliar with what is expected of them guardrails that help them do the right thing, and do that thing right.



Benefits



Cost-Effectiveness

More economical than manual workflows.



Real-time Data for Decision-Making

Improved risk management with real-time data.



Continuous Verification

Verify compliance requirements, manage risks, and identify vulnerabilities continuously.



Reduced Security Risks

Lower risk of security breaches and fewer reporting errors.



Centralized Visibility & Self-Service

Access compliance status and risk attitude from a central dashboard.
Access compliance evidence whenever it is necessary, instead of asking and waiting



On-Demand Environments

Create compliant-by-design environments on-demand for your teams



Enhanced Accuracy

Improved accuracy and compliance reporting.

Conclusion

Compliance Automation stands as a cornerstone in our journey toward high-performance DevOps. By automating compliance processes, organizations can achieve efficiency, cost-effectiveness, and enhanced risk management. The use case at a major Dutch insurer illustrates the tangible benefits, showcasing how Compliance Automation can align with sustainability goals, optimize infrastructure costs, and empower teams to focus on delivering customer value. At DevOn, we continue to champion innovative solutions that drive DevOps transformation and elevate the performance of organizations.

Compliance Automation Use Case: Major Dutch Insurer

Situation

At a prominent Dutch insurer, the challenge was managing compliant VM templates for build agents efficiently. Build agents on VMs were used throughout the company to run pipelines during software engineering activities. The existing setup resulted in a wasteful situation with numerous VMs running continuously throughout the day, often completely idle, affecting sustainability goals and infrastructure budgets. Turning these VMs on only when necessary proved to be too slow to be effective.

Additionally, teams often had to spend time maintaining their own build VMs, albeit through a standardized template. This meant additional complexity & time spent on non-value add activities for nearly all dev teams within the organization.

Furthermore, through this approach there was little control or insight into the tools installed & used on these build VMs, potentially leading to vulnerability issues.

Task

The task was to work with a Developer Enablement & Compliance-focused team to create a solution that maintained compliance standards while addressing the inefficiencies of the existing setup.

The new solution needed to scale on demand and require minimal startup time, while also being applicable to nearly, if not all, development teams within the organization. Additionally, a minimal level of standardization / control over tools used on the build agents was necessary to guarantee compliancy with IT controls.

Activities

Through research and architectural exploration, a solution was crafted using the company's managed container platform in AWS. The implementation involved autoscaling down to zero using an event-driven approach combined with KEDA (Kubernetes Event-driven Autoscaler). Specifically, AWS Stepfunctions, EventBridge and serverless functions written in Python were used to keep things modular, in order to provision agent pools for teams when they requested them via a self-service portal.

Results

Teams within the insurer now have their own namespaces connected to their dev/CI server (Azure DevOps), scaling up when necessary and scaling back down to zero when there is no demand. The solution offers flexibility with six different agent flavors, each supporting various toolsets to keep runtimes fast. This approach resulted in a 90% reduction in infrastructure costs for build processes, aligning with the company's sustainability goals.

Additionally, teams only have to set which flavor of agent they wish to use instead of having to maintain their own.

Teams are also free to suggest contributions via an 'innersourcing' model, where the Developer Enablement team keeps track of requirements and works to integrate contributions in a safe manner. This has hugely helped boost adoption as teams can directly contribute to the product where they see fit.

Technology used

- Python (with pylint, pytest, assert-py and behave as test libraries)
- SonarQube +
- AWS Lambda
- AWS StepFunctions
- AWS EKS+Fargate (managed)
- AWS DynamoDB
- Kubernetes
- KEDA w/ Azure Pipelines trigger
- Azure DevOps (CI server & VCS)
- TypeScript (frontend plugin to Azure DevOps for teams to auto-request agent pools)



Conclusion

In conclusion, Compliance Automation serves as a linchpin in achieving high-performance DevOps, ensuring efficiency, cost-effectiveness, and robust risk management. The real-world use case at a major Dutch insurer exemplifies the tangible benefits, showcasing the transformative power of Compliance Automation in aligning with sustainability goals, optimizing infrastructure costs, and empowering teams to focus on delivering customer value.

At DevOn, we not only advocate for the principles outlined in this whitepaper but also offer a suite of services to help organizations embark on their journey towards Compliance Automation and DevOps excellence.

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How can DevOn help you?

Inspiration workshop

Engage with our experts in a half-day workshop designed to inspire and enlighten your team on the possibilities and benefits of Compliance Automation. Gain insights into industry best practices and emerging trends that can shape your organization's approach to DevOps transformation.

Roadmap workshop

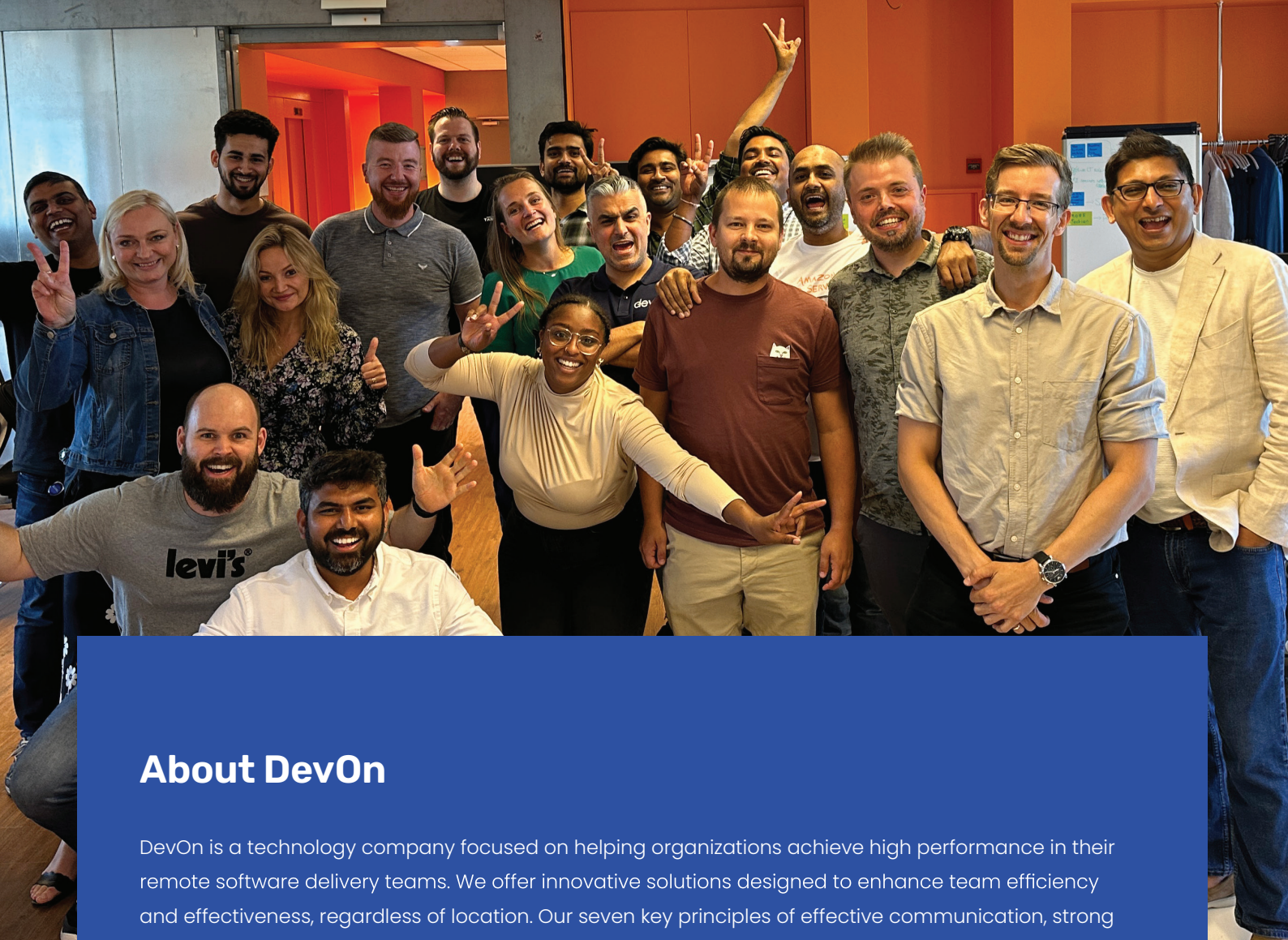
Collaborate with our seasoned consultants in a roadmap workshop, where we assist in crafting a concrete plan of approach to implement Compliance Automation. Tailored to your organization's unique needs, this workshop provides a strategic roadmap, ensuring a smooth and effective transition to automated compliance processes.

Consultancy services

Leverage the expertise of DevOn's consultants who specialize in implementing various types of Compliance Automation over time. Our consultants work hand-in-hand with your teams, offering guidance, hands-on support, and knowledge transfer. Whether it's streamlining Access Management, enhancing Change Management practices, or implementing IT controls, our experts ensure a seamless integration of Compliance Automation into your DevOps ecosystem.

Interested? Plan in a short session via info@devon.nl!

Embark on your DevOps transformation journey with DevOn's comprehensive suite of services, designed to empower your organization to embrace Compliance Automation, enhance efficiency, and deliver value to your customers while staying ahead in the rapidly evolving landscape of DevOps. Contact DevOn today to accelerate your path to high-performance DevOps and automated compliance excellence.



About DevOn

DevOn is a technology company focused on helping organizations achieve high performance in their remote software delivery teams. We offer innovative solutions designed to enhance team efficiency and effectiveness, regardless of location. Our seven key principles of effective communication, strong leadership, clear expectations, regular feedback, continuous improvement, recognition and reward, and results-focus serve as the foundation for building successful remote teams. Our team of experienced professionals utilizes cutting-edge technology to ensure seamless collaboration. With DevOn, organizations can improve the performance of their remote software delivery teams and reach their goals faster.

Awards & Recognition



3 Times Great Place to Work Certified

Certification based on **Trust Index 94%** – a comprehensive employee survey and culture audit



Top 10 inspiring Workplaces 2023

Ranked No.4



CONTACT US

Speak with one of our experts

Our insights can help you take advantage of change. If you're looking for fresh ideas to address your challenges, please feel free to reach out to us for a quick brainstorm.

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