The New Era of Integrated Software Delivery with DevOps

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Agenda

• What is DevOps?
• DevOps capabilities and its automation benefits
• DevOps adoption roadmaps
• DevOps influence on solution architectures
• DevOps Roles and responsibilities
• Implementing DevOps for Cloud, Mobile & Social technologies
What is DevOps

**Collaborative Development**
Foster productive collaboration with deeper lifecycle integrations
“No hassle” collaborative development capabilities on the cloud for continuous delivery

**Continuous Testing**
Enhanced integrations and capabilities to synchronize software testing with deployment and operations

**Continuous Release and Deployment**
Greater delivery speed and frequency for complex applications

**Continuous Monitoring**
Capabilities to improve service quality by monitoring application performance

- Agile development approach
- It spans the entire lifecycle, includes business planning and creation to delivery and feedback.
- Enable continuous delivery of software-driven processes and innovation
Why do we need a DevOps? Top technology trends are impacting how organizations operate.
Traditional Lifecycle development - challenges

- **Customers**: Costly, error prone manual and duplicative processes. They delay innovation and impact competitiveness.
- **Line of Business/Product Managers**: Slow deployment to development and test environments. There is no continuity. Teams tend to be waiting and unproductive.
- **Software & Product Development**: Risk of instability due to managing multiple configurations and versions.
- **Operations/Manufacturing & Support**:
Emerging technologies need a new development lifecycle

- **Changing Business Environment**
  - Increasingly volatile economic and regulatory environments drive the need to reduce risk

- **Evolving Customer Expectations**
  - Consumerization of tools and products drives demand for higher quality and faster delivery

- **Technology Trends**
  - Drive the need for agility
  - **Mobile**, **Cloud**, **Social**, **Big Data**, **Instrumented Products**, **Intelligent/Connected Systems**

- **Multi-sourcing/Supply Chain**
  - Increased outsourcing drives the need for governance

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**Product & Software Innovation**

- **Customers**
- **Line of Business/Product Managers**
- **Software & Product Development**
- **Operations/Manufacturing & Support**
DevOps Lifecycle delivers...

- Accelerate software delivery
- Reduce time to customer feedback
- Balance speed, cost, quality and risk
DevOps ecosystem and standards

DevOps: continuous delivery of software-driven innovation, with a feedback loop

Open Services for Lifecycle Collaboration (OSLC)

Inspired by the web
Proven
Free to use and share
Open
Changing the industry
Innovative

SaaS

PaaS

IaaS

open-services.net
How do we DevOps? 😊

• Adoption roadmaps
• Maturity models
Prescription for DevOps adoption

- Identify key pain points in the delivery process
- Assess current capabilities using the DevOps maturity model
- Produce heat maps of capability gaps and areas of improvement to determine priority
- Establish a roadmap with milestones and execution timelines

A maturity model approach
DevOps maturity model: sample

<table>
<thead>
<tr>
<th>Plan and Measure</th>
<th>Development and Test</th>
<th>Release and Deploy</th>
<th>Monitor and Optimize</th>
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<td>Scaled</td>
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<td>Define release with business objectives</td>
<td>Improve continuously with development intelligence Test Continuously</td>
<td>Manage environments through automation Provide self-service build, provision and deploy</td>
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<td>Repeatability</td>
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<td>Repeatably</td>
<td>Plan and source strategically Dashboard portfolio measures</td>
<td>Manage data and virtualize services for test Deliver and integrate continuously</td>
<td>Standardize and automate cross-enterprise Automated patterns-based provision and deploy</td>
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<td>Practiced</td>
<td>Link objectives to releases Centralize Requirements Management Measure to project metrics</td>
<td>Link lifecycle information Deliver and build with test Centralize and automate test management</td>
<td>Plan departmental releases and automate status Automated deployment with standard topologies</td>
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<td>Document objectives locally Manage department resources</td>
<td>Manage Lifecycle artifacts Schedule SCM integrations and automated builds Test following construction</td>
<td>Plan and manage releases Standardize deployments</td>
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Fully Achieved | Partially Achieved | Goals
How is DevOps influences software engineering & architect roles

- Manage projects effectively through open, standards-based platforms
- Address requirements for the organizations, vendors and teams (not just for components)
- Increase project visibility through traceability,
- Common reporting and analytics across the lifecycle
- Improve quality and reduce development costs with collaboration
- Establish asset reuse across organizations, vendors and teams
DevOps influences software engineering & architect roles
DevOps – other Roles and responsibilities

- Business User
- Business Developer / Data Analyst
- Domain Specialized Developer, Tester
- Backend Service Developer
- Platform Operations
- Infrastructure Operations

- Monitor and Optimize
- Develop and Test
- Plan and Measure
- Release and Deploy

DevOps – Continuous innovation, feedback and improvements
Implementing DevOps for the new millennium (Cloud, Mobile & Social technologies etc.)
DevOps solutions for Cloud

Reduce cost and speed delivery with an integrated Cloud solution
- Integrated IaaS, PaaS, Application Lifecycle Management tooling, Service Management and Monitoring provide an instant platform for DevOps
- Control operating costs with Token licensing

Streamline software delivery process and reduce time to value
- Rapid provisioning of virtual private/hybrid clouds environments with Patterns
- Continuous deployment and release across environments and SDLC stages
- High-quality achieved with early and continuous testing
- Collaboration across the enterprise (SoE, SoR teams)

An integrated set of DevOps services in the cloud
- Shrink development/test/deploy/learn cycle time, but consistently deliver software with speed, quality, accuracy with progressive rollouts
DevOps solutions for Mobile systems

→ **Quality Management for Systems of Engagement**
  - Automate testing for native & hybrid mobile apps
  - Virtualize middle-tier and back-end services and systems
  - Assess and manage quality, Extend application with automated testing

→ **Continuous Delivery for Mobile Applications**
  - Reduce response time to feedback
  - Continuously build, test and deploy, align to overall DevOps
  - Adopt agile practices
  - Collaborate across the organization

→ **Extend Enterprise Apps to Mobile**
  - Collaborate across front-end & back-end teams
  - Leverage service virtualization during development and test
  - Drive service optimization
DevOps is for your Enterprise

• DevOps solution addresses culture, process and tools integration across the software delivery lifecycle,
• spanning distributed and mainframe environments.
• Develop and test mainframe applications faster with higher quality
  ▪ Automated, traceable code review, and code coverage for COBOL and PL/I
• Collaboration and governance across lifecycle

- reduces time to customer feedback
- unifies process
- increases quality
- reduces risk and cost
- Common tools across end to end lifecycle
Thank you!