ITSM DevOps: Beyond Standard Changes

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Session 805
About…

**ITSM Academy**
- Full service provider of IT Service Management (ITSM) and DevOps education and advice
- Accredited and sustainable education and training
  - ITIL®
  - Process Design (CPDE)
  - DevOps
  - Agile Service Management®

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- Certified Process Design Engineer
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- DevOps Foundation certified
- Certified DevOps Leader
- Certified DevOps Test Engineer
- Certified Scrum Master
- Certified Agile Process Owner
- Certified Agile Service Manager
- Certified in Knowledge-Centered Support (KCS) Principles
Agenda

• The promise of DevOps
• The reality of DevOps
• Adapting ITSM in support of DevOps
The Promise of DevOps

Speed – Agility – Productivity – Stability – Quality
The Reality of DevOps

<table>
<thead>
<tr>
<th>Traditional IT</th>
<th>DevOps</th>
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<tbody>
<tr>
<td>Big batch sizes</td>
<td>Micro batches</td>
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<tr>
<td>Skill-centric silos</td>
<td>Product teams</td>
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<td>Centralized scheduling</td>
<td>Decentralized and continuous</td>
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<td>High-risk releases</td>
<td>Non-event releases</td>
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<td>Disseminated information</td>
<td>Actionable information</td>
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<td>Failure is not an option culture</td>
<td>Shift left, fail early</td>
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<tr>
<td>Cost and capacity metrics</td>
<td>Cost, capacity and flow (time)</td>
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<tr>
<td>My part is ‘Done’</td>
<td>IT is ready to deploy</td>
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</table>
“With the shift to digital transformation, CIOs and IT leadership must transform their organizations and increase the balance between quality and speed by changing their mindset and operating principles.”

Stephen Elliot IDC
ITSM DevOps

• The what and the why of ITSM hasn’t changed
• It’s the ‘how’ that MUST change

*DevOps represents a different way of thinking and working.*
New(?) Ways of Thinking

The Agile Manifesto

- Individuals and interactions
- Working software
- Customer collaboration
- Responding to change

While there is value in the items on the right, we value the items on the left more.

Scientific Method

- Define Value
- Remove Waste
- Maximize Value
- Pursue Perfection
- Map Value Stream

Socratic Method

- Define value from the perspective of the customer.

Lean Thinking

- Focus on VALUE
- Design for EXPERIENCE
- Start WHERE YOU ARE
- Work HOLISTICALLY
- Progress iteratively
- Observe DIRECTLY
- Be TRANSPARENT
- Collaborate
- Keep it SIMPLE

Systems Thinking

- Theory of Constraints
- Experimentation and Learning

Flow

Feedback

Experimentation and Learning
Words without actions are meaningless but...

...actions without words are confusing.
New(?) Ways of Working

Continuous Delivery
Stop the line when tests fail

Continuous Integration
Dev
Commit Code
Test
Build and Test
Staging
Acceptance Test
Prod
Deploy to Prod and Test
Release

Continuous Testing and Monitoring

Continuous Compliance
Automated Trigger
Manual Trigger
What It All Means

Frequent Deployments are Key to Success

• If you can deploy hundreds of times per day, you can recover from mistakes almost instantly
• If you can recover from mistakes almost instantly, you can take on more risk
• If you can take on more risk, you can try wild experiments
• The results of your wild experiments might turn into your next competitive advantage

The fastest learner wins!
Why ITSM/ITIL is Considered a Constraint

• Promotes silos
• Requires comprehensive document
• Establishes overly-complex processes
• Insists on ceremonies (CAB meetings)
• Relies on mass inspection
• Decouples accountability for quality and work effort
• Focuses on longer-term planning
• Relies on meaningless metrics
• Uses different vocabulary

We Don’t Need No Sticking Processes!
Processes Underpin the IT Value Chain

Processes are essential but they must be adapted.

Source: http://www.opengroup.org/it4it/about
What ITIL Actually Says

• Adopt
  • Commit to adopting a service-oriented, customer-focused culture
  • Incentivize and reward behaviors that reflect this commitment

• Adapt
  ✓ Understand ITIL best practices
  ✓ Understand why they are recommended
  ✓ Apply critical thought to adapting best practices to your organization's circumstances, needs, goals and objectives

*ITIL is only as valuable as the results it helps to achieve. How the practices are applied is critical.*
A Few Examples
Adapting Change Management

- Error budgets (Site Reliability Engineering)
- Compliance as code (policy as code)
- Hardened, secure and auditable configuration management environments and CD pipelines
- Automated and continuous testing
- Electronic approvals
- Automated change records
- Peer reviews
- Changes authorized prior to development
  - RFCs as user stories
- Change models

Change type, size and risk influence the level of authorization.
Adapting Change Management

...and oh, yeah, standard changes

Change type, size and risk influence the level of authorization.
About that CAB...

• “We found that when external approval (e.g., change approval boards) was required in order to deploy to production, IT performance decreased. But when the technical team held itself accountable for the quality of its code through peer review, performance increased.”

• “Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.”

W. Edwards Deming
Adapting Incident Management

- Leverage swarming practices
  - Major incidents
- Conduct blameless, actionable post-incident reviews
- Rethink communication channels
  - ChatOps
  - Twitter
- Produce actionable alerts
  - Deliver to individuals/teams that have the permission and ability to act
- Establish operational level agreements (OLAs)
- Understand the flow of information

Source: Atlassian DevOps Maturity Model report
Incident and Problem Management

Understand how information is used and how work gets done.

Backlog

User Stories

As who, I want what so that why.

Tickets

Just enough.
Just in time.

Understand how information is used and how work gets done.
Adapting Problem Management

In complex systems, there is no single root cause.

Lessons from Site Reliability Engineers

• Learn from failure
• Conduct blameless, actionable reviews
• Use a common template for reviews
• Use a variety of techniques for root-cause analysis (provide coaching)
• Initiate (engineer) actions to improve or correct the situation
• Trigger failures proactively (Chaos Engineering) (identify and address weaknesses)
The Reality of DevOps

• DevOps practitioners are ‘doing’ ITSM
• They’re just not calling it that and they are redefining it as they go
• So let’s call it what it is….

Continuous Improvement
Mastering Continuous Improvement

1. Understand the long-term vision or direction
2. Grasp the current condition
3. Establish the next target condition
4. PDCA and experiment toward the target condition

The Improvement Kata is a four-step process that focuses on learning and improving work. It considers the organization's long-term vision or direction.
Five Takeaways

• Go to Gemba – Go see. Ask why. Be respectful.
  • Don’t wait to be invited

• Honor and learn from the past, but don’t be bound by it

• Use guiding principles and values to shape the way you think

• Adapt your ITSM processes (the way you work) in support of DevOps
  • It’s ok to ‘break the rules’

• Allow time for experimentation, learning and – *gasp* – failure
  • To innovate you must be willing to learn... a lot!
  • To innovate you must be willing to fail
“The goal is not to be perfect by the end, the goal is to be better today.”
Simon Sinek
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**info@itsmacademy.com**

ITIL Overview
DevOps Overview
Agile Service Management Overview
Minimum Viable ITSM
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