DevOps: Demystifying the approach for delivering business value faster
Business Agility & IT Impact
What is DevOps?
WHAT IS DEVOPS?

“DevOps is the next step in the evolution of Agile and ALM”

Agile: How do I develop the “right” software?

DevOps: How do I deliver software faster?

ALM: How do I develop software with quality?
WHAT IS DEVOPS?

**CULTURE**
- Organizational alignment
- Effective leadership
- Continual learning

**PROCESS**
- Eliminate waste
- Increase efficiency
- Streamline feedback

**PEOPLE**
- Collaborate more
- Share common goals
- Focus on improvement

**TOOLS**
- Enhance productivity
- Enable collaboration
- Facilitate experimentation

BUILDING TRUST

BRINGING PEOPLE TOGETHER

DELIVERING VALUE FASTER

EXECUTING A DEVOPS STRATEGY
WHAT IS DEVOPS?

How our thinking starts to change with DevOps...

**Scrum**
- Product Owner define the backlog
- Potentially shippable software
- Holding up releases until all features are complete
- "3 week" batch sizes

**DevOps**
- Backlog generated from learning & feedback
- Staying shippable software
- Always deploying and control with feature flags
- "Change set" batch sizes
"The seven habits of effective DevOps"

Microsoft Development Division
Why DevOps matters
WHY DEVOPS MATTERS?

“The most fundamental business process in any company is getting an idea from inception to where it is making you money ...

The whole point of DevOps is to enable your business to react to market forces as quickly, efficiently, and reliably as possible.”

Damon Edwards
Managing Partner, DTO Solutions, Inc
WHY DEVOPS MATTERS?

Measuring what’s important

Team R vs. Team D
WHY DEVOPS MATTERS?

- Time to Market

- Maximize Investments

- Unrealized Business currency

- Removing Wasteful Activities
WHY DEVOPS MATTERS?

DevOps Adoption

Enterprise Adoption

Source: RightScale 2016 State of the Cloud Report
WHY DEVOPS MATTERS

2016 State of DevOps Report

**DEPLOYMENTS**
More frequent deployments

**RECOVERY**
Faster recovery times from failures

**FAILURE RATE**
Lower change failure rate

**LEAD TIMES**
Shorter lead times

Source: 2016 State of DevOps Report  |  presented by Puppet + DORA
What does DevOps look like?
WHAT DOES DEVOPS LOOK LIKE?

What would you have to change with your processes today to achieve 10x Deploys per day?
WHAT DOES DEVOPS LOOK LIKE?

The shift to DevOps

OLD WORLD
- Focus on **planning**
- **Compete**, not collaborate
- **Static** hierarchies
- **Individual** **productivity**
- **Efficiency** of process
- **Assumptions**, not data
- **Estimating** performance

NEW WORLD
- Focus on **delivering**
- **Collaborate** to win
- Fluent and **flexible** teams
- **Collective** **value** creation
- **Effectiveness** of outcomes
- Experiment, **learn** and respond
- **Measuring** performance
WHAT DOES DEVOPS LOOK LIKE?

Operational Deliverables

Unified Backlog

Requirements

Delivery Teams

Development

Collaboration

Production

Application-driven Infrastructure

Feedback Loops

Production Experimentation & Monitoring

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WHAT DOES DEVOPS LOOK LIKE?

What does it mean for me?

**Business Teams**
- Tech Debt Matters
- Learn from Customers
- Software is never done

**Developers**
- You build it, you run it
- Code for operations
- Testing is for everyone

**Testers**
- Automation is a must
- Test quality not just quantity
- Test data must be part of the strategy

**Operations**
- Apps drive infrastructure
- Scripting is tool of choice
- We own customer experience too
WHAT DOES DEVOPS LOOK LIKE?

Software Delivery Pipeline

Backlog

Feedback

Author Code

Unit tests

Code Coverage

Code Analytics

Code Metrics

Build

Version Control

Artifact Repo

Provision Infra

Deploy App

Deploy Tests

Test

Staging

Prod

Author Infra

Author Tests

Check-In

Feedback

Environment Tests

Automated Tests

Load Tests

Pen Tests

Exploratory Tests

Test Data

A/B Testing

Canary

Rollback

Bugs

Diagnostics

App Monitoring

Infra Monitoring

Usage Analytics

Business Innovation

Business Agility
WHAT DOES DEVOPS LOOK LIKE?

- Feature Requests
- Requirements / Bugs
- Development & Testing
- Builds & Deployments
- Auto Testing, Provisioning, Staging
- Production

- Small Batch Size (single piece flow)
- Wait Time & Change Volume
- Work in Progress (WIP)
- Successful Deployments
- Deployment Frequency
- Availability & Performance
- User Activity

- Lead Time
- MTTR
- Cycle Time
DEVOPS @ BING
How do we get there?
HOW DO WE GET THERE?

Client Example:

- Insurance services provider
- Large mainframe investment
- Small pockets of Agile
- 10 delivery teams

What they asked for?

- DevOps Roadmap
- Modern architecture
- Visibility into DevOps Journey
HOW DO WE GET THERE?

What are the steps?

1. DevOps Assessment
2. Organizational & Team Backlogs
3. DevOps Enablement Team
4. Delivery Team Rollout
5. Re-Assessment

The DevOps Journey...
HOW DO WE GET THERE?

Team Assessment

- Aligned to 7 habits
- Integrated Delivery team focused
- End to end delivery of software
HOW DO WE GET THERE?

Team Backlog

- Actionable Work Items
- Measureable Progress
- Work into current sprints
HOW DO WE GET THERE?

Organizational Backlog

- Common challenges
- Team roadblocks
- Unified solution
HOW DO WE GET THERE?

Automated Builds
Automated Tests
Infrastructure as Code
Automated Release

DevOps Enablement Team
(temporary)

Siloed Teams
Delivery Teams

Business Teams
Development
Testing
Operations

Team A
Team B
Team C
HOW DO WE GET THERE?

Organizational Rollout

Enablement Team
- Training
- Org Themes
- App End to End

Team A
- Training
- Team DevOps Backlog
  - Self Sufficient Team

Team B
- Training
- Team DevOps Backlog
  - Self Sufficient Team

Team C
- Training
- Team DevOps Backlog
  - Self Sufficient Team

Timeline
HOW DO WE GET THERE?

Every 3 to 6 month reassessments

- Validate team growth
- Next capabilities
- Share learnings

Did we improve?
DEVOPS CONSIDERATIONS

Sounds great...

What could possibly go wrong?
DevOps Challenges

- Changing Cultural habits
- DevOps skillsets
- Leadership support
- Living in the “day to day”
- Knowing where to start
DEVOPS CONSIDERATIONS

Shared Infrastructure

App Infrastructure

• Supports the App
• Infrastructure as Code
• Flexible Resources
• On Demand
• Hybrid Connectivity
DEVOPS CONSIDERATIONS

Automated Testing

• Lack of automation = tech debt
• Release ready?
• Environments
• Business Analysts & Testers need tools
What did we learn?
WHAT DID WE LEARN?

DevOps enables:
- Faster time to market
- High quality solutions
- Faster ROI with IT investments
- Higher customer satisfaction
- Greater employee engagement
WHAT DID WE LEARN?

Digital business transformation is already happening and DevOps is enabling the next generation of Agile software delivery.

How will you compete against companies that have already started their DevOps journey?
We believe in HELPING our CUSTOMERS create software SOLUTIONS in a better way.
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