DevOpsing in a Microsoft World

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"A 5 hour road trip to an amusement park on the hottest day of the year"

DevOps Challenges

- Normal, rational hesitation to widespread change
- Functional silos, organizational alignment
- Typical Agile-Lean-DevOps (ALDO) challenges

Typical
Organization

+

- Monolithic tools, screenshots, "click next"
- Closed source, undocumented APIs, friction
- Reliance on vendors for direction, road mapping
- Silos encouraged by Microsoft

"Microsoft"
Organization

+

- Commercial Off The Shelf (Buy vs. Build)
- Limited engineering tradition

Buy vs Build
Organization

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Core Challenge:

Enduring DevOps transformations require a commitment to learning

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"A learning organization is an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights"

– *Professor David A. Garvin, HBS*

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If you want to "do the DevOps" and don't have a learning organization, what do you do?

Growth Mindset?

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Interviews:

1. Describe Journey
2. Favorite/least favorite aspect
3. Advice to the 2015 you
4. Anticipating in next 2 years

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Describe the journey we've been on over the last 2 years

Rewarding, bumpy, and lots of self doubt, I definitely felt like an imposter. Eventually: "I felt like I could grow/contribute"

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The team has grown quite a bit but can regress to old ideas and mindsets; I learned quite a bit about dealing with folks I don't agree with

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It has been hard to ramp up due to the slew of tools, behaviors, and new ways of thinking

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What's been your **<u>favorite</u>** aspect of the journey?

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I have enjoyed expanding my sphere of responsibilities and interests by breaking down IT silos. The variety and level of activity within the team has been rejuvenating

I enjoy being on the leading edge of enterprise IT. DevOps is not new for unicorns but it is still in beginning stages in Microsoft centric enterprises.

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The encouragement to experiment (fail) without the fear of punishment, especially with ChatOps

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People, Teammates, Mentorship, Learning to ask for help; Developing confidence

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What's been your **<u>least favorite</u>** aspect of the journey?

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Constant change...all the experiments, not enough time to go deep

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Feeling lost/helpless, discomfort due to width and breadth of areas

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Lack of prioritization across projects, maintenance, support

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What advice would you give your 2015 self about the journey you are about to go on?

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Be prepared to disappoint someone, It could be your manager, the business, your teammate, or yourself

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Don't be overwhelmed by DevOps nirvana...try to stay focused on incremental improvements. Each improvement is like a savings deposit that will compound over time

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Prepare for a lot of change; be willing to embrace the change; Reflect on why you do things...is it still valid? Was it ever valid?

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Your existing skills are becoming obsolete and your expertise is at risk; Find a way to get started on new ideas

What are you most eagerly anticipating over the next couple of years?

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1. Public Cloud
2. CHEF all the things
3. Automation

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Additional questions:

1. Career progression
2. Educational background
3. Vendor certifications

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Observation:

Many veteran "IT Pros" started their career in help desk, advanced through the ranks, and likely bypassed college.

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If you want to "do the DevOps" and don't have a learning organization, what do you do?

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"…Your goal is to pitch the ball where the bat will be…"

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Let's not waste any more lives , because once we know that abilities are capable of such growth, it becomes a basic human right for children , all children , to live in places that create that growth, to live in places filled with "yet".

The power of believing that you can improve

Carol Dweck researches "growth mindset" — the idea that we can ...

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Let's not waste any more ~~lives~~[1], because once we know that abilities are capable of such growth, it becomes a basic human right for ~~children~~[2], all ~~children~~[2], to live in ~~places~~[3] that create that growth, to live in ~~places~~[3] filled with "yet".

[1] careers

[2] people

[3] workplaces

The power of believing that you can improve

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Let's not waste any more careers, because once we know that abilities are capable of such growth, it becomes a basic human right for people, all people, to live in workplaces that create that growth, to live in workplaces filled with "yet".

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Hypothesis:

DevOps practices can be used to teach the organization to become a learning organization

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SWOT Analysis ~2014

Strengths

- Vendor partnerships
- Exceptionally tight knit teams
- Expertise in storage & virtualization
- Strong operational background
- Entrepreneurial DNA
- Low turnover in team
- **99% virtualized with high availability**

Weaknesses

- Reliance on vendors (COTS, Microsoft)
- **Single threaded in numerous technologies**
- Substantial legacy footprint
- Large population of long-lived servers
- Organization not "product" oriented
- Decentralized internal customers
- Low standardization / automation

Opportunities

- **Centralized Infrastructure Engineering**
- Under-challenged IT Pros
- 2 Engineers with scripting capabilities

Threats

- Potential disruption in retail

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Public Service Announcement:

Your mindset as a leader matters

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BE
- a servant-leader
- an adaptive learner
- a creative thinker
- a global communicator

KNOW
- yourself and seek self improvement
- your people and help them achieve their potential
- the doctrine, and know when to be constrained by it
- your profession, contribute to it, and develop with it

DO
- the right things right
- provide a clear, actionable vision
- make timely decisions
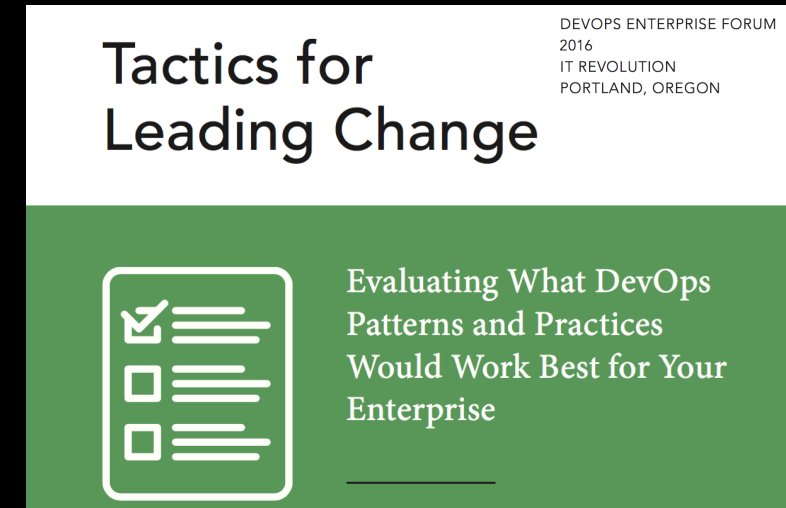- maintain balance and moderation

Small batch DevOps®

1. Make a compelling case for change (Tactic 14)

2. DevOps information sessions (Tactic 2)

3. Make Work Visible (Tactic 11) — TFS Kanban

4. Experiments (Tactic 4)

5. Gemba Walks (Tactic 9) - Go Observe

Later

    Set WIP Limits (Tactic 13)

    Blameless Retrospectives (Tactic 5)

Tactics for
Leading Change

DEVOPS ENTERPRISE FORUM
2016
IT REVOLUTION
PORTLAND, OREGON

Evaluating What DevOps
Patterns and Practices
Would Work Best for Your
Enterprise

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Learning Org progression

Cognitive - 2015

Exposed to new ideas, expand their knowledge and begin to think differently.

Behavioral - 2016

Employees internalize new insights and alter behavior.

Performance Improvement - 2017

Changes in behavior leading to measurable improvements in results.

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2015

Q1

- Daily Standup → Weekly Standup
- TFS Kanban
- **TFS Version Control : *Goal 250 artifacts***
- Conferences – spread wealth
- **DevOps in a Microsoft World (Snover)**
- Primary / Alternate engineer swaps

Q2

- CHEF Conf 2015 x 10
- Phoenix Project suggested reading
- **Nordstrom reference calls**
- **PS & VMware vCloud Automation Center**
- Prepare Workspace (TFS, .Net, PS, ChefDk)
- CHEF POC

Q3

- Enterprise CHEF contract (700 nodes)
- Weekly Demos
- DSC Server provisioning (PoshOrigin)
- **Difficulty stabilizing tools, automation**
- **Height of frustration** ☹
- PowerShell onsite training

Q4

- Simplified PoshOrigin: WSIWYG
- CHEF Greenfield via Server provisioning
- **Automation for ransomware remediation**
- Curious people series
- Desktop PowerShell module
- **CHEF: 100+ Greenfield Servers**
- **500+ artifacts in version control**

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2016

Q1
- Greenfield N-Tier App with CHEF
- CHEF onsite training
- **Slack experimentation**
- Work visibility & analytics — TFS + PowerShell
- Clean up ticketing system
- **Vmware DevOps investigation (vRA, etc.)**
- All in one monitoring solution

Q2
- <u>**Exploration:**</u> PS script consumption
- <u>**Automation:**</u>
  - psake, pester, Artifactory
  - Stretched vSAN cluster
  - **Data Center migration via automation**
  - PowerShell module to manage TFS Kanban
- <u>**Community:**</u> DevOpsDays Portland Sponsor
- CFPs for tech conferences

Q3
- <u>**Ideas:**</u> **VelocityConf – ChatOps & Rotations**
- <u>**Book:**</u> "Team of Teams" McChrystal
- <u>**Organization:**</u> Cross functional re-org
- <u>**SCM:**</u> **GitLab – version control & CI/CD**
- <u>**ChatOps:**</u> **CHEF + Hubot + Slack + GitLab**
- <u>**Automation:**</u> O365 Exchange in Cloud

Q4
- <u>**Exploration**</u>: scripting for AWS/Azure, EMC
- <u>**Challenges:**</u> Loadbalancer pains, SOX 404
- <u>**CHEF:**</u> 500+ Servers & CHEF Automate
- <u>**ChatOps:**</u> **150+ scripts, "Etsy Day 1"**
- <u>**Friction:**</u> **Prioritization, Principles**
- <u>**Org:**</u> Hiring great engineers, rotations

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2017:

Artifactory, CHEF, DSC, EMC, GitLab, Grafana, Hubot, InfluxDb, Jenkins, Nuget, OVF, Packer, Pester, *POSHOrigin, PowerShell, PowerCLI, psake, Sensu, Slack, Terraform, TFS (Kanban), Vagrant, Visual Studio, VMware, VS Code

2017:

Pods, Rotations, Cross-training

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2017:

ChatOps

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2017:

Scheduled Weekly Retrospectives

2017:

Azure PaaS: 10+ POCs, "Cloud first", Terraform, ARM templates

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2017:

CHEF: 1300+ Nodes, Sensu, Compliance

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2017:

Green/Blue

2017:

Learning labs

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