Building Microsoft Cloud Solutions: A DevOps Perspective

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“It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change.”

(Leon Megginson (1963): commonly misattributed to Charles Darwin.)
Session overview

• Positioning DevOps in
• Orchestrating our definition
• Automated Testing
• The full 360 with DevOps
DevOps
A brief overview
The results of DevOps

- Improve deployment frequency
- Achieve faster time to market
- Lower failure rate of new releases
- Shorten lead time between fixes
- Improve mean time to recovery
- ....

DevOps is a way to lower the risk of change with tools and culture.
Modernize DevOps

Begin with DEVOPS Automation Infrastructure AS CODE

Version infrastructure code
Create infrastructure consistently
Test & validate automatically

Just like Infrastructure AS CODE

ExpertsLive
Flexibility & agility is possible when a solution is build on “Guarantees”.
DevOps for IT Operations

How does this translate?

• Design for the cloud.
• Applications consume building blocks
• Standard (automated)service(s)
• Secure by design, compliant by default
DevOps in IT services
DevOps
For projects
DevOps in solution definition

No waterfall cloud projects, define your iterations!

THE WATERFALL PROCESS

‘This project has got so big,
I’m not sure I’ll be able to deliver it!’

THE AGILE PROCESS

‘It’s so much better delivering this
project in bite-sized sections’
DevOps for projects

Applications build on the Foundation

New Applications

Company standard services

New applications can required new standard services

Company standard services versioning

Backup
DR, Monitoring, Security, configuration

Backup
DR, Monitoring, Security, configuration

New service or standard services become part of the foundation

Version 1.0

Version 2.0
DevOps for projects

Approach

• Cut your solution in pieces to map development.
• Make work visible
• Short iterations, regular demo sessions.
DEMO
Organize
DevOps
In a cloud world
DevOps in a cloud world

Cloud IT infrastructure = Code, releases, updates and management in an automated way.

**DevOps**
- Code repository
- Build + deploy
- Automated testing
- User testing
- Monitor and improve
- Backlog

**People – Process - Tools**

**Communication**

**Guaranteed quality**

**One approach**
DevOps in a cloud world

Teams are a mixture of competences

- Each develops own part of the solutions.
- Defined deliverable
- Communication to develop defined deliverable
DevOps in approach

- Application development
- Build and release
- Build and release
- Platform development

DevOps: agile, short releases, automated, Infra as Code, configuration Management
DevOps in a cloud world

Approach

• Define one common approach
• Translates you work...
• ... into a deliverable
DevOps
Orchestrate your delivery
Release pipeline to orchestrate definition

• It all starts with the delivery
• Validation using gates
• Release
DEMO

Orchestrate your delivery
DevOps
Security and compliance
Automated security

What to automate, when to automate, or even whether one really needs automation

- How to handle sensitive information?
- How to validate compliance?
DEMO
Secure and compliant
The full 360 is possible with DevOps
The full 360 is possible with DevOps

Event producers → Collection → Ingestor (broker) → Transformation → Long-term storage → Presentation and action

- Applications
- Microsoft Azure
- Office 365 subscription
- Log Analytics
- Backup
- Security Center
- Azure Stack
- Azure System Center
- Field gateways
- Cloud gateways (web APIs)
- Event hubs
- Stream Analytics
- Stream processing
- Data Lake Analytics
- Azure storage
- Azure Data Lake
- Power BI
- Cortana
- Machine learning
DevOps Recap
Recap of the session

**Shorten cycle times and deliver value faster**
- Speed up development cycles with developer productivity tools
- Automate the workflow between Dev and Ops and deploy faster
- Continuously measure, learn and improve with state of the art DevOps tools and an agile cloud platform

**Implement DevOps Pipelines Faster on Azure**
- Easily deploy pre-integrated DevOps Pipelines
- Integrate into Azure with plugins for on-demand build and test servers (i.e. Jenkins)
- Leverage native or 3rd party monitoring

**Optimize IT resources and eliminate waste**
- Improve developer agility and resource efficiency with cloud Dev and Test environments
- Eliminate over-provisioning, lower costs and automate your deployment workflow with cloud environments for pre-production
Questions?
links

Visual studio online
Invoke-build
Presentation github repo