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Big Data, IoT & Cloud: Implications on Decisions and Culture

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Who am I?

Agenda

➢ The Cloud

➢ Internet of Things

➢ Big Data

➢ Pace of innovation – Incremental and Disruptive

➢ How we decided to move forward: DevOps

Cloud

There is no cloud
it's just someone else's computer

88% of organizations use public cloud computing.

63% use private clouds.

Different Cloud Strategies

Common Cloud Characteristics?

- On Demand Self Service
- Ubiquitous network Access: Anywhere, Any time ,Any Device
- Location independent Resource Pooling
- Rapid Elasticity
- Pay as you go

Except..

- We have invested in skill sets that are not readily applicable to the cloud..

- Are we sure about security?

- How do we handle governance?

Internet of things

IoT Market

- As of 2013, 9.1 billion IoT Units

- Expected to grow to 28.1 billion IoT devices by 2020

- Revenue growth from $1.9 trillion in 2013 to $7.1 trillion in 2020

Except…

- All of the same issues we have with access control, vulnerability management, patching, monitoring, etc.
- Imagine your network with 1,000,000 more devices
- Any compromised device is a foothold on the network

Big Data – or in our case "Smart Data"

- Structured and unstructured data

- Streaming of data and data lakes

- Analytics of data

Using data to inform business and make data driven decisions

Except..

Pace of Change

- Everything needs software
- Software runs on a server to become a service
- Delivering services are slow and error prone in traditional IT
- There are usually internal friction points that make this occur
- And IT is usually perceived as the bottleneck

Our Story – the perfect storm..

- We were trying to solve an issue with how our developers time was being spent…

- We lost key resources…

- University sponsored culture shift…

- Internal audit…

- The cloud, big data, and IoT…

What we set out to do …

- Version control for everything

- Automated testing

- Proactive Monitoring and Metrics

- Visible Ops/Change management

- Configuration Management

- "Put developers on call"

- Toolchain approach

- Transparent uptime and retrospectives

SysOps to DevOps

Why should you care?

- Better service quality
- More reliable services
- Increased value by being able to change/adapt
- More efficiency for IT Professionals
- Reduce bottlenecks through cross-training
- Increased employee satisfaction
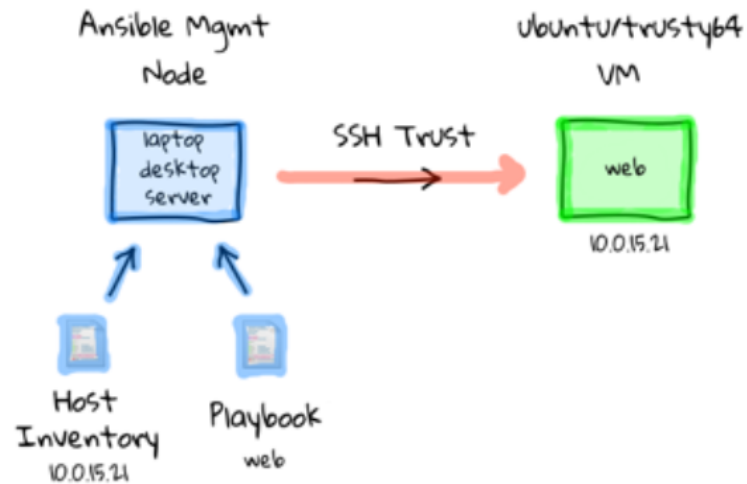- Continuous learning and improvement

ChatOps

Orchestration Tools

We use Ansible

Human Resources

- Trainings
- Recruitment, Retention
- Retraining and Silo Elimination

Thank You!

Questions? Feedback?