S99624 - A CONTAINER-PLATFORM APPROACH TO DIGITAL TRANSFORMATION AND DEVOPS

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What you’ll learn in this session

The 4 adoption patterns for evolving Digital Transformations and how to technologies such as Ansible and OpenShift make that possible with containers.

Key points to watch out for:

- Modern Business Success is based on Speed to Execute
- Digital Transformation is not just about Digital Native companies
- Technology transformations must match People and Process transformations
- Containers are a core technology for Digital Transformation
WHAT IS DIGITAL TRANSFORMATION?
MODERN BUSINESS CHALLENGE

Business wants more with less

SPEED = REVENUE
THE DISRUPTORS

Airbnb

Netflix

Uber
THE EVOLVERS
DISRUPTORS

Emerging Customer Trends

- Mobile
- Web
- Business Platform
- Data Analytics

Developers | DevOps | SRE

TRANSFORMERS

Existing Customer Trends

- Mobile
- Web
- Many Business Platforms
- Data Silos

Emerging Customer Trends

Conway’s Law
Org Charts

Developers | DevOps | SRE
TRANSFORMERS - THE DIGITAL TRANSFORMATION
BUT THE CIO HAS A DILEMMA
Maintain existing AND grow new capabilities
AUTOMATION ADOPTION PATTERNS

- **Pattern 1**: Existing Applications
- **Pattern 2**: DevOps Evolution
- **Pattern 3**: Containerize Apps
- **Pattern 4**: Cloud Platforms
## Why Enterprise-Wide IT Automation Is Elusive

### People

Skills gaps & org charts get in the way

- Developers should be developing apps & features, not maintaining environments
- IT & Network Admins have limited code-writing abilities
- Typical silos (ops, dev, network, etc.) aren’t thinking holistically

### Point Tools

Proliferation of point solutions and vendor-specific tools

- Most automation approaches only solve one problem in one domain
- Most vendors offer tools that ONLY work with their products
- Many tools are too complicated and require programming or scripting

### Pace of Innovation

Automation requires integration across domains

- Management tools are *always* constrained by available “adapters” for IT services
- Agent-based tools create even more headaches (planning, security, maintenance)
- Integrations need to be continuously updated and expanded

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WHAT IS ANSIBLE?

It’s a simple automation language that can perfectly describe IT application environments in Ansible Playbooks.

It’s an automation engine that runs Ansible Playbooks.

Ansible Tower is an enterprise framework for controlling, securing and managing your Ansible automation with a UI and RESTful API.
WHY ANSIBLE?

SIMPLE

- Human readable automation
- No special coding skills needed
- Tasks executed in order
- Usable by every team
- Get productive quickly

POWERFUL

- App deployment
- Configuration management
- Workflow orchestration
- Network automation
- Orchestrate the app lifecycle

AGENTLESS

- Agentless architecture
- Uses OpenSSH & WinRM
- No agents to exploit or update
- Get started immediately
- More efficient & more secure
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AUTOMATE | MANAGE APPS - ANSIBLE TOWER

TOWER EMPOWERS TEAMS TO AUTOMATE

CONTROL
Scheduled and centralized jobs

KNOWLEDGE
Visibility and compliance

DELEGATION
Role-based access and self-service

SIMPLE
Everyone speaks the same language

POWERFUL
Designed for multi-tier deployments

AGENTLESS
Predictable, reliable, and secure

AT ANSIBLE’S CORE IS AN OPEN-SOURCE AUTOMATION ENGINE
CONTAINERIZE APPS - ANSIBLE CONTAINER

Use Ansible to define and build, orchestrate, container applications.

WHY USE SHELL SCRIPTS TO DEFINE CONTAINER PAYLOADS?

- Build images using Ansible Playbooks
- Orchestrate containers from your images, à la docker-compose up
- Push images to public or private registries
- Generate Ansible playbooks to deploy your applications to Kubernetes, OpenShift, etc.
MULTI-CLOUD CONTAINER DEPLOYMENTS

Microsoft Azure

RED HAT CLOUDFORMS
RED HAT OPENSHIFT Container Platform

VPN Gateway

RED HAT OPENSHIFT Dedicated

vmware

RED HAT CLOUDFORMS
RED HAT OPENSHIFT Container Platform

ANSIBLE

ANSIBLE

ANSIBLE

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CONTAINER ADOPTION PATTERNS

PATTERN 1: CONTAINER PLATFORM

PATTERN 2: CLOUD-NATIVE APPS

CONTAINER OPPORTUNITY

PATTERN 3: HYBRID CLOUD

PATTERN 4: BUSINESS INNOVATION
CONTAINER PATTERNS ACROSS ORGANIZATIONS

Infra & Ops Team

CONTAINER PLATFORM
Docker, Kubernetes, Container Security

HYBRID CLOUD
IaaS, PaaS, Storage, Cloud Management

AppDev & LOB

CLOUD-NATIVE APPS
Microservices, DevOps

BUSINESS INNOVATION
New Apps and Services, New Business Models

CONTAINER OPPORTUNITY

Technology Oriented

Business Oriented

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OPENSHIFT = ENTERPRISE KUBERNETES++
BUSINESS BENEFITS OF CONTAINERS AND DEVOPS WITH OPENSHIFT

- 66% faster application development lifecycles
- 25% less IT staff required per app developed

5 year ROI: 531%
Average Annual Benefits per 100 Developers: $1.29M
Payback Period: 8 Months

INNOVATION, THE RED HAT WAY
Community-founded, community-powered

BUSINESS REQUIREMENTS DRIVE THE NEED FOR INNOVATION

OPEN SOURCE ENABLES INNOVATION

COMMUNITIES ARE THE CATALYST FOR INNOVATION

RED HAT IS COMMUNITY-POWERED INNOVATION

RED HAT IS A LEADER IN OPEN SOURCE INNOVATION
BRIDGING THE GAPS

Accelerating innovation

TRADITIONAL
LINEAR

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OPEN INNOVATION LABS

CONTEMPORARY
NON-LINEAR

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Three key components

COLLABORATION
Space to work, innovate, and discuss

RESIDENCY
An eight-week accelerated teaming engagement

COMMUNITY INCUBATION
Communities supporting innovation
THANK YOU

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LEARN. NETWORK. EXPERIENCE OPEN SOURCE.