IT Self-Service Portal

In a Continuous Delivery World
Hi.

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Dell EMC Services for IT transformation

Entwine IT operations tightly with the business and with software developers

- Business case and roadmap
- IT service center, roles, and processes design
- DevOps processes design
- IT service strategy, catalog and portal design and implementation
- Financial management strategy for service-based pricing

Rationalize your application portfolio and build cloud-native apps with big data analytics

- Application profiling and migration
- Application modernization and replatforming
- Cloud-native apps development, big data strategies, analytics development
- Application retirement

Implement a platform for IaaS and PaaS to support both traditional and cloud native apps

- Data center strategy and migration
- IaaS and PaaS development
- Hybrid cloud platform deployment
- Data protection, disaster recovery, isolated recovery strategies
- Analytics and cloud-native applications platforms deployment

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“The Cloud” – Isn’t it beautiful?

Let’s move everything to the cloud – said the CIO
The Cloud is - **Technology** + **Process** + **People**
Process
Help me drive cost, risk, and complexity out of my portfolio.
How We Think We Get New Ideas Into Production

Software Delivery Life Cycle

- Dev/code
- Build
- Artifact registry
- Deployment
- Monitor

Push
Code artifacts
Deploy
Launch

Process

Developers
Middleware
System admins
Infrastructure admins
Service ops
How We Really Get New Ideas Into Production

- Provision a VM
- Configure the OS
- Install Components
- Configure Monitoring
- Deploy Application
- Check In Code
- Compile/Build
- Unit Test
- Code Analysis
- Functional Tests
- Integration Tests
- Security Tests
- Capacity Tests
- User Acceptance Tests
App Delivery - It Is All Very Manual

Step 1: Hello release team, the build is ready. Please deploy to test.

Step 4: Hello release team, the build is ready. Please deploy to perf.

Step 7: Hello release team, the build is ready. Please deploy to prod.

Step 2: Hello Dev team, deployed in test env inform your Test team to run integration test

Step 5: Hello Dev team, deployed in perf env inform your Test Team to run performance test

Step 5: Hello middleware team, something went wrong in environment

Step 3: Hello Dev team, here is the result of test (Success/Fail)

Step 6: Hello Dev team, here is the result of Perf (Success/Fail)

Step 5: Hello Release team, fixed the issue. Please proceed with deployment.
BUSINESS VALUE... from IT?
“Success is a company’s ability to see the window of opportunity and capitalize on it.”

https://www.ted.com/talks/bill_groass_the_single_biggest_reason_why_startups_succeed?language=en
People
People are already doing their best; the problems are with the system. Only management can change the system.

- W. Edwards Deming

We are going to make IT Great Again!
Let’s Build an IT Self Service Portal
Key IT Self-Service Portal Benefits

Dynamic experience tailored to each audience

- Change the perception of IT
- Advertise that IT is “open for business” as a service provider and broker
- Modern and productive employee experience
- Key enabler for overall service automation
- Buy time to get the “house in order” behind the scenes
A Typical IT Service Request
Add CPU to ESX VM Guest – Production

Workflow: Add CPU to ESX VM Guest (Windows or Linux) – Production

- **Requester** submits Remedy request to add CPU to the Non Virtual Machine
- **ESX/VM Ware Production Support** reviews the request and determines if VM has CPU available.
- **Decision**: If No. of CPUs requested is greater than 8, the Capacity team is engaged to check for CPU performance and CPU usage.
- **Capacity team** runs Tivoli reports to check for CPU performance and CPU usage. If the CPU usage is greater than 50%, ESX/VM Production support is informed.
- **Change Management process** is followed and approval received to continue with scheduling of the VM Shutdown with Requester. If Change is declined, Request is closed and Requester is notified.
- **ESX/VM Ware Production support** schedules VM shutdown with the requester (App Owner).
- **ESX/VM Ware Production Support** shuts down the VM as per the agreed schedule and adds CPU to the virtual machine via vCenter.
- **ESX/VM Ware Production Support** closes Remedy Request and Requester is notified.
- **ESX/VM Ware Production Support** follows steps d) thru f) if No. of CPU request is less than 8.
Add CPU to ESX VM Guest – Production

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Manual Validation

Manual Analysis & Notification

Manual Analysis & Notification

Wait for Change Management Process

Wait for App Owner Schedule

Manual Update

Close Request and Notify
Add CPU to ESX VM Guest – Production

Traditional Infrastructure Automation Approach

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Automate Validation

Automate Analysis & Notification

Automate Analysis & Notification

Wait for Change Management Process

Wait for App Owner Schedule

Automate Update

Close Request Notify and Notify
Self Service Portals Thru the Years

Wave 1

- Improve the way employees learn about, shop for, and order IT Services
- Improve the perception of IT
- Reduce Operational costs
- Eliminate manual processes of service requests via phone and email
- Create a Service Catalog of IT Services
Self Service Portals Thru the Years

The IT Store

Wave 1
- Improve the way employees learn about, shop for, and order IT Services
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Enhanced Employee Experience

Wave 2
- Enable self-service marketplace for browsing and ordering the entire IT service catalog
- Consumer grade experience and eCommerce-style features
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Wave 3

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“Help me execute at the speed of business with both resiliency and quality.”
Evolution of IT Consumption

Traditional

- Applications
  - DBases
  - ERP
  - LoB
  - E-mail

- IT Request
  - Ticketing system

- Component “Event” Mgmt
  - Manual ITIL Processes

- Infrastructure Hardware
  - Virtualized Servers
  - Networks
  - Storage

IaaS

- Applications as Services
  - DBaaS
  - ERPaaS

- IaaS Service Consumption
  - Service Portal

- Service Management
  - Service Catalog
  - Automated Workflows
  - Policy Engine

- Cloud Infrastructure
  - Virtualized Servers, Storage, Networking
  - Public

PaaS, Cloud Native

- Cloud-native Applications

- Microservice Consumption
  - API

- PaaS Management
  - Containers
  - Elastic Runtime
  - Automated Pipelines

- IaaS Service Consumption

- Service Management

- Cloud Infrastructure
ITaaS Service Portfolio

- Consumer Services
- Application Services
- Platform & Data Services
- Infrastructure Services
- Security Services

- VIRTUALIZED DESKTOPS
- COMMUNICATION COLLABORATION & CONTENT
- CHOICE COMPUTING Pervasive Mobility
- MISSION CRITICAL APPLICATIONS
- 3rd PLATFORM APPLICATION DEVELOPMENT
- LINE OF BUSINESS SaaS/OTS APPLICATIONS
- BAaaS BIG DATA
- ePaaS APP DEV PLATFORM
- APPLICATION INTEGRATION CLOUD
- MOBILE APP PLATFORM Enterprise AppStore
- PRIVATE CLOUD Scalable, Extensible, Trusted Infrastructure Platforms
- HYBRID CLOUD

- Identity & Access
- Data Protection
- Monitoring & Analytics
- Assurance & GRC
Making Unicorns
Triple Threat to Success

- Overloaded Teams
- Technical Debt
- Inefficient Processes
ORGANIZE AROUND VALUE

Focus on Optimizing Flow
Delivery Pipeline
Policy as Code Based Application Development Lifecycle

SECURITY, GOVERNANCE, COMPLIANCE

Dev Stage
- Code Analysis
- OWASP Tests

QA Stage
- Firewall Validation
- DB Config Validation
- SSL Cert Validation

UAT Stage
- Pen Test
- DMZ Validation
- Backup Config Validation
- Data Retention Validation
- InfoSec Validation

CHANGE

AUTOMATED POLICY VERIFICATION

PRODUCTION
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- Wait for App Owner Schedule
- Automate Update
- Close Request Notify and Notify
Evolving into Delivery Pipelines

Converting Infrastructure Automation to Delivery Pipelines

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Analysis Stage

Approval Stage

Update Stage
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Developer Productivity & IT Self-Service Goals

1. Enhanced Developer Experience
   - Persona-based transparency and access to pipelines
     Productivity-focused portal that aggregates pipeline information and merges it with project, app, business, operational, functional, or user story context depending on the audience.

2. Enhanced Employee Experience
   - “Face of IT” as part of a broader ITaaS initiative
     Enable self-service marketplace for browsing and ordering the entire IT service catalog. Consumer grade experience and eCommerce-style features.

3. Service Automation
   - API-driven integration and automation to improve delivery
     Telemetry and metric-driven SLAs and management powered by loosely-coupled services orchestrated and automated using policies and templated configurations. Harness the power of agile infrastructure.
The Focus Of IT Self Service Needs To Change

- From **Silos** to **Delivery Teams**
  - **Outcomes** over **Activities**
- This change isn’t “solved” with a technology change
- This change is evolved through:
  
  **People + Process + Technology**

  **Culture!**
Wave 3 - Self Service Portals

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Change the Culture

Wave 3
- Harness the power of agile
- Focus on the flow of changes
- Order Pipelines
  - Keep Items and Recipes in the Catalog
- Embrace Continuous Improvement
- Anything not in production is a science experiment
Self Service Portals Thru the Years

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## New Approach to Change Management

### Security, Governance, and Compliance

<table>
<thead>
<tr>
<th>POLICY</th>
<th>EXECUTE</th>
<th>MEASURE</th>
<th>IMPROVE</th>
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</table>
| • Distributed and documented manually  
  • Compliance based | • Manual checks  
  • Large batch  
  • Late stage | • Manually created and compiled reports and dashboards  
  • 3rd party audits | • Defined in silos  
  • Police for compliance |

### Traditional Approach

- Policy-as-Code  
- Defined in application properties  
- Logic embedded in pipeline  
- Commitment based

### Modern Approach

- Policy test integrated in pipelines  
  • Automated test validate/verify compliance  
  • “Shift left” in SDLC  
  • Collaborate w/Dev

- Real-time verification data available  
  • Fully auditable reporting  
  • Integrated dashboards

- Lean change management  
  • Gather insights & define options  
  • Run experiments
CloudOps Components

**Deployment Artifacts**

- Nexus
- artifactory

**Configuration Management**

- Puppet
- Chef
- VMWare

**Infra as Code (Templates)**

- AWS Cloud Formation
- Azure Templates
- OpenStack Heat
- VMWare Service Blueprints

**Orchestrator of Orchestrators**

- ServiceNow
- Jenkins
- Bamboo

**Productivity Hub**

- ServiceNow

**Target Platform**

- VMware
- Amazon Web Services
- Microsoft Azure
- OpenStack
- Docker
- Mesos
- Pivotal Cloud Foundry

**Application Delivery Pipeline**
Modern Human Change model

TRADITIONAL MODEL: Change thinking to change behavior

MODE2 MODEL: Change behavior to change thinking

WHAT WE DO

VALUES AND ATTITUDES

CULTURE

Distribute then Inspect

Prove then Radiate

John Shook, 2010 MIT Sloan Management Review
Application-centric Model

Product Management
- PORTFOLIO
- STRATEGY

Enterprise Governance
- STANDARDS
- POLICIES
- PRACTICES
- ARCHITECTURE
  - Emergent Standards
  - Request from Governance
  - Tools
  - Teams
  - Architecture
  - Process
  - Policy
  - Environment

Community of Practice
- PATTERNS
- SMEs
- TRAINING

APPLICATION

Request from Business

Insights

DATA

Technology Implementation

Request from IT

Dashboards & Productivity Hub

Consumers

DATA
Source Code Management

Repository Name

Repository Type
- Git
- Mercurial

Repository Description

Forking Preference
- Select...

Repository Project Management
- Issue Tracking (Boolean)
- Wiki (Boolean)

Repository Main Branch
- Select...

Back  Next
Creating The Continuous Delivery Culture

8 Accelerators For Leading The Change

1. Establish a Sense of Urgency
2. Create a Guiding Coalition
3. Develop a Vision and Strategy
4. Build an automated Application Delivery Pipeline MVP
5. Generate Quick Wins
6. Empower Broad Based Action
7. Anchor New Approaches in the Culture
8. Consolidate Gains and Produce More Change
Starting tomorrow, what will YOU DO…

...differently to help create value faster?
Starting tomorrow, what will YOU DO...

...to validate your change helped create value faster?
Starting tomorrow, what will YOU DO...

...to share your success with other teams and departments?
Starting tomorrow, what will YOU DO...

to codify that success in a development platform?