Infrastructure Automation
(vRA and Infrastructure as Code)

June 6, 2019

Damion Terrell – UNM IT Platforms – VIS

Ray Dennis – UNM IT Applications – Opps

Software Defined Operations with LoboCloud

UNM IT uses vRealize Automation to provide templated VMs which include current security OS updates and backups in LoboCloud. The next frontier is to provide further automation for advanced self-service deployments.

Current technologies could provide scalable, load balanced, VM application stacks. These can be deployed as simply as drag and drop or triggered automatically by a custom event (like committing code).

This presentation will explore a proof of concept utilizing UNM-IT technologies.

Software Defined Data Center and Operations

- What is LoboCloud and vRealize Automation?

- What's New?

- Future: Day 2 Operations

- Demo

- Q & A

What is LoboCloud? (Fastinfo #7059)

LoboCloud (https://lobocloud.unm.edu/vcac/org/UNMHosted) allows authorized customers to rapidly build and manage new virtual machines to their specifications.

Using VMware's vRealize Automation, UNM – IT's LoboCloud provides a secure portal to the IT Private Cloud, streamlining the Virtual Machine (VM) request process.

Why Use LoboCloud?

- Drastically reduces roll-out time

- Provides infrastructure, configuration, and console management for your virtual machines (VMs)

- Templated VMs

  - OS Updates, AV, IP and DNS configuration, and Nightly Backup w/ Restore

  - Basic sysadmin support

  - Advanced consulting available

- Above benefits makes **TCO** much cheaper than public cloud

Disclaimer

Proof of Concept

This is What Could Be

What's New with vRA 7.5

What's Possible

- Blueprints
    - Simple to complex configuration of templates
    - T-Shirt Sizing (sm, med, large, …)
    - Configuration based on form entry
- Software Components
    - Added to Blueprints
    - Configuration based on form entry
- Provision into NSX / Software Defined Data Center w/ Distributed Firewalls including Application Stack Isolation

Software Defined Operations

Future: What *Could* Day 2 Operations Provide?

Possible New Catalog Items

- Software Requirements
- Individual Application Stacks (web, app, DB)
- Load Balanced Services
- Ability to Scale the Number of VMs and/or Resize VMs
- Connect with and burst into Public Clouds

Demo

Please hold Questions

What Will it take to implement SDO

- Buildout Complex Catalog Items
    - Blueprints including multiple VMs with required software components
    - App Isolation (incl out of the box).
- Workflows to Integrate
    - Automation of F5 VIP and Pool Creation
    - NSX - Distributed Fire Wall Security & Dynamic Security Tags
    - Notification and Approval Policies for scaling current deployments
- Identify Additional Self Service Items

Benefits of Implementation of SDO

- Full VM Restore from backups through the portal
- Web Development against Banner
    - Development
    - Repo Submission Triggered Events
    - Integration Testing
- Infrastructure as Code
    - Migration from DEVL environment through INTG to Production
    - Possibilities for development, integration, and production locations
- Departmental Use Cases
    - Learn

Day 3: Back to the Future

On Demand:

- Containers

- Code update submission driven deployments for INTG testing

- Migration between Cloud Endpoints

Thank You

Questions?