SS44800 - Practical Satellite Deployments
From Box to Orbit in 60 minutes

David Caplan
Principal Product Manager
Rich Jerrido
Technical Marketing Engineer
Jan van der Noll
Rabobank
June 29, 2016
Digital Transformation

**APPLICATIONS**
New architectures and ways to integrate

**DEV**
New ways of developing and delivering applications

**INFRstructure**
New cloud-based infrastructure and ways to serve applications

**OPS**
More agile process to support both IT and the business

**RED HAT MANAGEMENT**
SATELLITE
BUILD A TRUSTED & SECURE RED HAT ENVIRONMENT

Manage the Red Hat Lifecycle
Provision & Configure at Scale
Standardize Your Environment

CLOUDFORMS
DELIVER SERVICES ACROSS YOUR HYBRID CLOUD

Hybrid Cloud Management
Self-Service Provisioning
Policy-driven Compliance

ANSIBLE
AUTOMATE YOUR IT PROCESSES & DEPLOYMENTS

Simple & powerful language
No agents to install
Scale with Ansible Tower

INSIGHTS
PREVENT CRITICAL ISSUES BEFORE THEY OCCUR

Continuous Insights
Verified Knowledge
Proactive Resolution
WHY SATELLITE 6

- Manage Red Hat infrastructure
- Simplified system integration
- Enhanced drift & configuration management
- Manage multiple Red Hat accounts
- Built to scale
- Streamlined content management
- Centralized console
- Life-cycle management
- Provisioning
- Configuration
- Software management
- Subscription management
- Reporting
- Auditing
- Workflow

#redhat #rhsummit
Satellite 6

- Automate Provisioning using PXE, Images, & containers, discover bare-metal servers & auto-provision with policies
- Blend RPMs, Puppet Modules, & Containers in a single versioned construct, and promote thru life cycles
- Configure using Puppet with fully managed & versioned content across your customized environments
- Deploy Red Hat content with confidence that your subscriptions are delivering their full value
SATELLITE 6 ARCHITECTURE

CONTENT SOURCES
- RED HAT PORTAL
- PUPPET FORGE
- DOCKER HUB
- GIT HUB
- THIRD-PARTY REPOS

OPERATORS

RED HAT SATELLITE

ORG N

ORG 2

ORG 1

RED HAT ANALYTICS

OPERATOR

ORGANIZATION 1

LIB

DEV

QE

PROD

VERSION 1

VERSION 2

VERSION N

COMPOSITE CONTENT VIEW 2

RED HAT SATELLITE

NETWORK

CAPSULE 1

CAPSULE 2

CAPSULE 3

CAPSULE N

REGION 1

REGION 2

REGION 3

REGION N

NETWORK (Firewall)

D

QE

P

QE

QE

P

CAPSULE 1

CAPSULE 2

CAPSULE 3

CAPSULE N

REGION 1

REGION 2

REGION 3

REGION N

#redhat #rhsummit
Satellite Tools of the Trade
Provisioning & Configuration
Satellite Tools of the Trade
CDN, Puppet, and Custom Repos
Satellite Tools of the Trade
Staging in the Library
Satellite Tools of the Trade
Refining with Content Views
Satellite Tools of the Trade

Automation with Templates
Satellite Tools of the Trade

Configuration

#redhat #rhsummit
Satellite Tools of the Trade

System Definition with Host Groups

- Templates
- Content Views
- Networking
- Puppet
Satellite Tools of the Trade

RBAC

#redhat #rhsummit
Satellite Tools of the Trade

Compute Resource
Satellite Tools of the Trade

Lifecycle Environments

#redhat #rhsummit
Satellite Tools of the Trade

Rabobank Provisioning & Configuration

- Custom
- Satellite Library
- Templates
- Content Views
- Networking
- Location
- Puppet
- RBAC
- Compute Resource
Rabobank Provisioning Story

- Existing situation (Satellite 5 / CfEngine)
  - Standard baseline deployment
  - Application specific configuration with various methods
    - Manual
    - Custom RPM’s
    - Scripts
- Goals
  - All configuration executed from configuration database
  - Split configuration responsibility between OS management team and Application management team
Rabobank Functional Design

- Baseline image build
  - Satellite 6.1.9 PXE / Kickstart / Puppet
  - Without various agents / backup config / monitoring
- Delivery of systems for customers
  - Image based / Puppet / Ansible
  - Generic base config built as a host-group
  - Configured with Puppet (centrally managed)
    - Deviations are possible
  - Application specific OS config – Ansible (customer managed)
- Separate host-groups for current system
Rabobank Technical Design

- High Availability
  - VMware SRM for Satellite server HA
- Easy scalable
  - Initially no separate capsules
  - Load Balanced Capsules using Reference architecture
- Puppet
  - Satellite 6 used as External Node Classifier
  - Puppet Modules managed with R10K (Puppet tooling)
Satellite 6 HA Reference Architecture

Satellite 6 HA Architecture

Pacemaker Cluster

Domain: sysmgmt.bos.redhat.com
10.19.2.0/24 Network

sat6-ha.sysmgmt.bos.redhat.com

Managed Hosts

Satellite Services
Active-Passive
Postgres
MongoDB
Puppet/CA
Candlepin
Qpid
Foreman
Katello
Foreman Proxy
• DHCP
• TFTP
• DNS

Capsule Services
MongodB
Puppet/CA
Pulp
Qpid

Active-Passive pacemaker cluster

Ports 9000
8000

HAPProxy
HAPProxy
VRDP

vrps

Capsule Services
MongodB
Puppet/CA
Pulp
Qpid

Active-Passive pacemaker cluster

Ports 9000
8000

HAPProxy
HAPProxy
VRDP

vrps

Domain: remote.bos.redhat.com
10.19.3.0/24 Network

capsule-lib.remote.bos.redhat.com

Domain: xyz.bos.redhat.com
10.19.3.0/24 Network

capsule-lib.remote.bos.redhat.com

#redhat #rhsummit
Discovery

1. DHCP, DNS, TFTP

- Default Organization@Default Location
- Discovery Rules
  - Name: 2_CPU, 1_CPU
  - Priority: 0, 1
  - Query: cpu_count > 1, cpu_count = 1
  - Host group: RH16_Dev_Servers, RH16_Dev_Servers
  - Enabled: true, true

2. Discovery flows
Remote Execution

- Template Design and Versioning Phase
- Template Host Assignment, Schedule, and Invocation Phase
- Templates Delivered via HTTPS
- Agentless Execution Over SSH
Open SCAP Integration
Learn More
## Satellite Related Talks and Labs

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wed -Thurs (Exhibition Hours)</td>
<td>UXD Interview for 6.2 Users In the Red Hat Booth (Incentives for Interviews)</td>
</tr>
<tr>
<td>Wed 3:30 – 4:30</td>
<td>SS44812: Transitioning from Red Hat Satellite 5 to 6</td>
</tr>
<tr>
<td>Wed 3:30 – 4:30</td>
<td>SL45190 - Practical OpenSCAP, Security Standard Compliance and Reporting</td>
</tr>
<tr>
<td>Thur 10:15 – 10:45</td>
<td>SS45622 - Sat 6 Power User Tips and Tricks</td>
</tr>
<tr>
<td>Thur 4:45 -5:45</td>
<td>Satellite Birds of a Feather</td>
</tr>
</tbody>
</table>
Come See Us!

Visit the Satellite Team
In the Red Hat Infrastructure
Booth #508 (A-J)

Visit the Foreman Team
In the Community
Booth #508