AGENDA

● Why self service, challenges and solutions
● A customer perspective
● Demonstration
WHY SELF-SERVICE?

CHALLENGES AND SOLUTIONS
DIGITAL TRANSFORMATION DRIVING DRAMATIC CHANGES IN IT

CEO
Competitive pressure driving digital transformation

LINE OF BUSINESS
Challenged to deliver services faster, at scale, and more efficiently

DEVELOPERS
Need to develop applications faster with greater productivity

IT OPERATIONS
Must provide infrastructure agility, on-demand that scales as needed

“The business environment today is pushing companies to respond to ever increasing competition.

In order to remain competitive, they have to deliver their services faster, at greater scale, and do so efficiently in order to remain profitable.

These demands drive application developers to create new applications and deliver them faster.

This further places stress on the IT Operations team who has to provide a scalable, on-demand infrastructure that can service the Developers.”

Gartner
SELF-SERVICE SIGNIFICANTLY IMPROVES AGILITY

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“We analyzed the numbers and realized with Red Hat we saved almost 10 years of time and almost $5 million in soft savings.”

Jason Cornell, Cox automotive:

Self-service benefits
- Service delivery times: weeks to minutes
- Improved compliance by using standardized offerings
- More efficient use of staff

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#1 - LIFE CYCLE
1. Deploy resources through a portal

2. There is no step 2
ISSUES WITH “FIRE AND FORGET”

● When are the resources cleaned up? (sprawl!)
● How to manage resources after they are deployed (day-2 ops)? E.g.:
  ○ Restart VMs
  ○ Get a console
  ○ Snapshot a data volume
  ○ See resource utilization
● Who owns what?
● What resources are owned by what service?
SOLUTION - FULL LIFE CYCLE MANAGEMENT

“Classical” self service process

“My Services” for day-2 management
#2 - COMPLIANCE
USERS WANT

- Newer version of the OS
- Root access
- A newer version of a library
- An older version of a library
- Both versions of a library
- Root access
- The latest version of left-pad
- Root access?
- Root access!
CHALLENGE

How to

● Be compliant: security, regulatory, corporate, other
● Not be in the way
TWO WAYS TO COMPLIANCE

Option 1: change control / ITSM CM

Option 2: “trust but verify”
SINGLE-VM VS. MULTI-TIER SELF SERVICE
MULTI-TIER APPS: CHALLENGES

- Multiple types of resources to create: VMs, load balancers, subnets.
- Resources need to be created in certain order.
- Application software need to be installed.
- Application software needs to be configured for its role in the stack.
- Application software needs to be configured for its relationship with other resources.

Common solution: “Template”
TEMPLATE TYPE: CLOUD NATIVE
HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)

SITUATION:
THERE ARE 14 COMPETING STANDARDS.

14?! RIDICULOUS! WE NEED TO DEVELOP ONE UNIVERSAL STANDARD THAT COVERS EVERYONE'S USE CASES. YEAH!

SOON:
SITUATION:
THERE ARE 15 COMPETING STANDARDS.
ISSUES WITH TEMPLATES

- Lowest common denominator
  - OR Cloud specific

  - Declarative style limitations
    - Declarative is theoretically more "correct"; BUT
    - VMs have too much state to be accurately captured declaratively
    - Results in lots of "glue" scripting

  - Anything but a toy example gets really really complex. E.g.:
    - 4,000 line ClearWater TOSCA template (3,600 YAML + 400 bash)
    - 9,000 line MongoDB template
AUTOMATION VS TEMPLATES

● What if we had a Simple, Powerful, Agentless orchestration language?
  ○ That is understood and loved by the ops teams.
  ○ With large number of integrations and big community
  ○ Where it’s very easy to define the creation process of a multi-tier app

● Then, Automation could be the Template
AUTOMATION AS THE TEMPLATE

- All of the following using the same template
  - Creation of resources
  - On-system configuration
  - Life-cycle actions
- 900+ available modules
- Individual orchestration steps can be declarative
- Included in CloudForms 4.5
SUMMARY

● Self-service can significantly improve agility

● Challenges with classical self-service
  ○ Life cycle management
  ○ How to enforce compliance?
  ○ How to define multi-tier apps?

● CloudForms 4.5 has
  ○ Full life-cycle management
  ○ Powerful, agent-less policy engine for enforcing compliance
  ○ Ansible “Automation is the Template” based service definition
A CUSTOMER PERSPECTIVE
What is ING and who am I

- Global financial institution with a strong European base
- Offering retail and commercial banking services in over 40 countries
- Lead Dev Engineer
- Dutch Infra department
Going through change

- Organisational
- VM deployment
- Why Cloudforms
- Component-api based
Self-service with custom portal

- Single entry point
- The use of Cloudforms
- Dynamic dialogs
Deploy RHEL 7 VM

Red Hat Enterprise Linux version 7
A stable, secure and INS-connected instance of Red Hat Enterprise Linux version 7, with the ability to run enterprise workloads on.

**How it works**

1. **Configure your VM**
2. **Review and deploy**

**Select a deployment method**
- Recommended
- Advanced

A RHEL7 VM for general purpose with most used and pre-defined configuration.

**VM specifications**
- CPU:* 2 CPU
- Memory:* 8 GB
- Storage type:* Medium
- Availability zone:* Purple

**General specifications**
- Cost center:* Non-relevant
- Management domain:* MD

**Environment details**
- Location:* (Select Location)
- Private network:* (Select Private network)
- Environment:* (Select Environment)

You still have to fill in some required values.

[Next]
What we have build

- Single-VM provisioning workflow providing RHEL 7
- IPAM
- IaaS API for placement
- Pre-register vm for backup and UAM
- HierAPI
- Ansible
- Monitoring / CMDB
- ...

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Future

- Second day operations
- Multi-VM
- ...

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CLOUDFORMS SELF-SERVICE PORTAL

SIMPLE SERVICE PROVISIONING

TEMPLATE SERVICE PROVISIONING

AUTOMATION PROVISIONING

FULL VISIBILITY
DAY 2 OPERATIONS
SECURITY GOVERNANCE
RESOURCE CONSUMPTION

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ANSIBLE SERVICES in CLOUDFORMS 4.5

RED HAT®
CLOUDFORMS

+ Deploy new Instances
  Deploy NGINX & web application
  Register instances with ELB

FULL VISIBILITY
DAY 2 OPERATIONS
SECURITY GOVERNANCE
RESOURCE CONSUMPTION

ELB

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REFERENCES

● Download Red Hat CloudForms
  https://access.redhat.com/products/red-hat-cloudforms

● Red Hat CloudForms Blog
  http://cloudformsblog.redhat.com/

● Red Hat CloudForms YouTube channel
  https://www.youtube.com/user/cloudformsnow
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