Rabobank

Hybrid automation at Rabobank

Deployment @ Rabobank

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Rabobank

Rabobank

- Top 3 banks in the Netherlands
- +/- 40.000 employees
- Dutch market - Generic bank
- International - Food and Agri

Agenda

- Introduction
- Project Setup
- Initial Design
- Final Solution
- Future developments / ideas

Introduction

- Stable/enforced baseline (2 hours)
- Application preparations up to 2 weeks
- Application specific settings
  - Different methods (rpm, script, manual, . . .)
  - Often hard to reproduce
- OS / Middleware migrations very costly

Old style: System manufacturing - component driven

New Style: System manufacturing - turn key solution

Project Initiation

- Solution needed to fit in overall architecture
  - In development at the time
  - Flexible choice (API based) needed
- CloudForms / Satellite 6
  - Satellite 6 -> logical successor Satellite 5
  - CloudForms
    - Native solution for RHEL
    - Can be integrated in other overall solution (using API)

Project Setup

- Project outline defined
- Scrum method
  - Detailing design ‘during development’
- Opportunity to adjust to changing insights
  - Technical
    - Rise of Ansible
  - Organizational
    - Devops teams

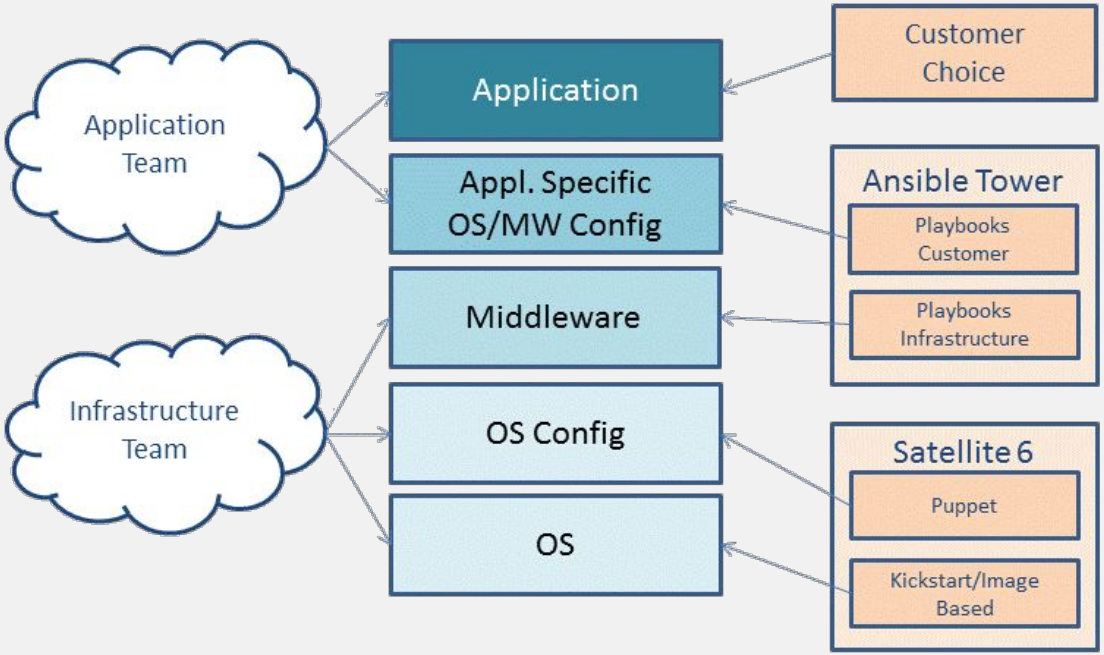
Initial design

- Environment
  - Cloudforms / Satellite 6
  - All OS / Middleware and OS related application config defined in Satellite 6
  - Puppet as provider for all defined config
  - No manual changes on the system
  - Application deployment from other tooling (customer choice) optionally kicked off by Cloudforms deployment

Final Solution

- Environment
  - Cloudforms (interface / API provider)
  - Satellite 6 / Puppet
    - OS software and baseline configuration
  - Ansible / Tower
    - Middleware software and configuration
    - OS related application configuration
    - Available for Application Teams for Application development

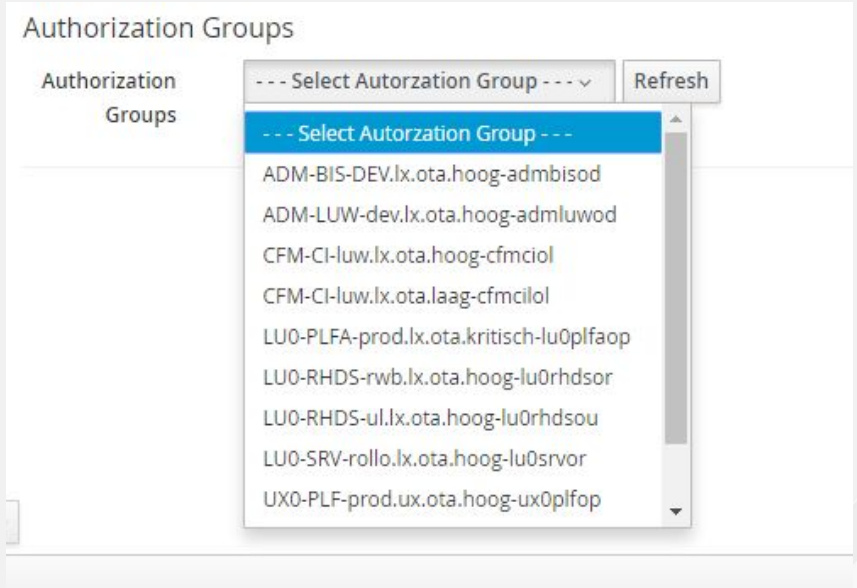
Functional

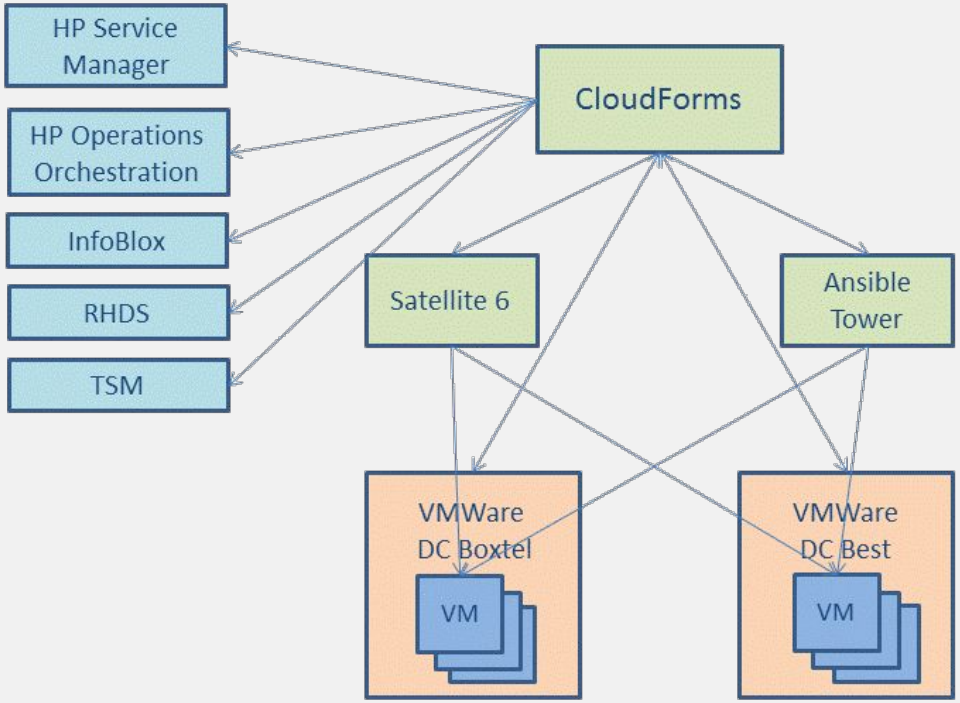


Technical Implementation

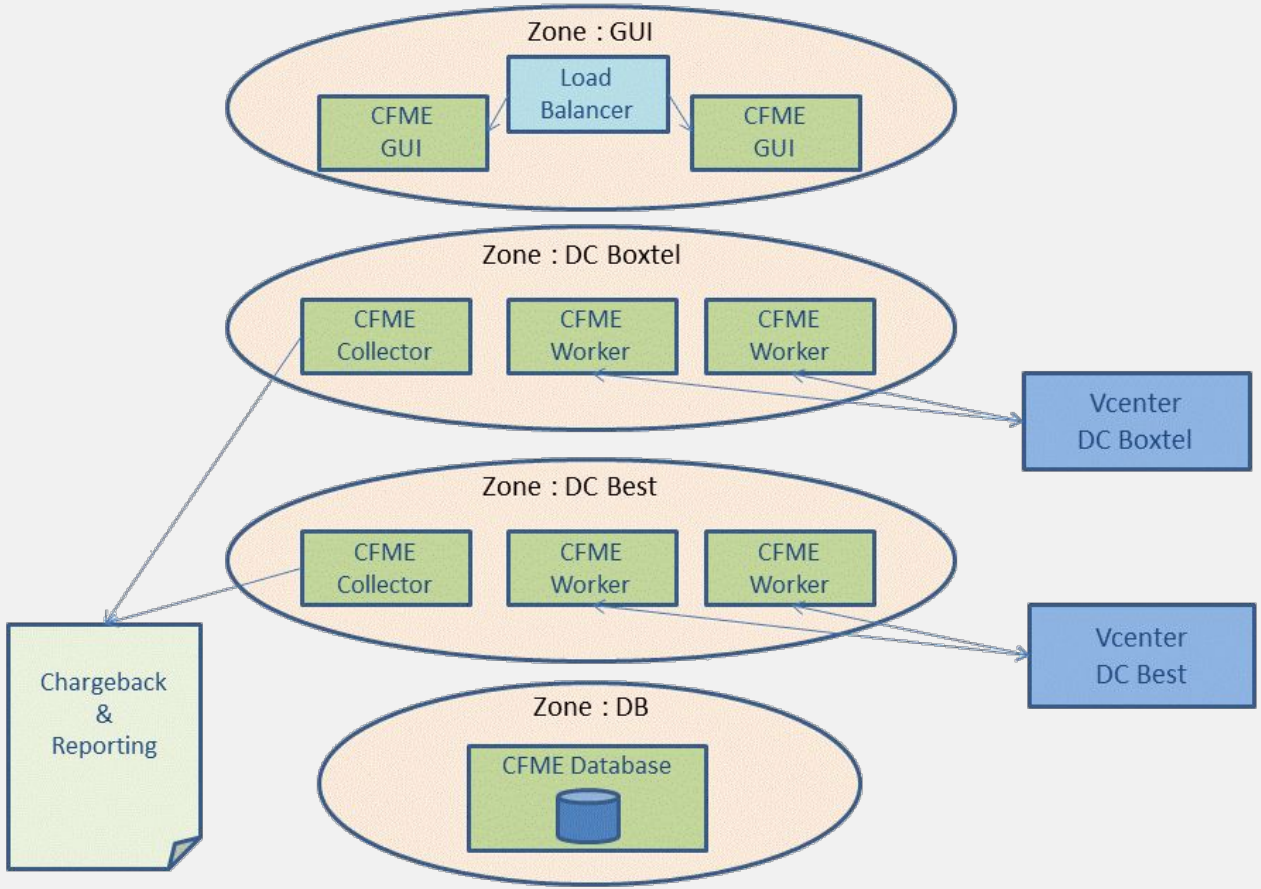
CloudForms

- Interface (GUI / API)
- Orchestration (internal environments)
  - Manage VM's within VMWare
  - Deploy / extend / decommission
  - DNS (add/remove)
  - ITIL (Assets, relations)
  - Backups (TSM node/schedule)
  - Monitoring
  - LDAP (ownership / authorizations)





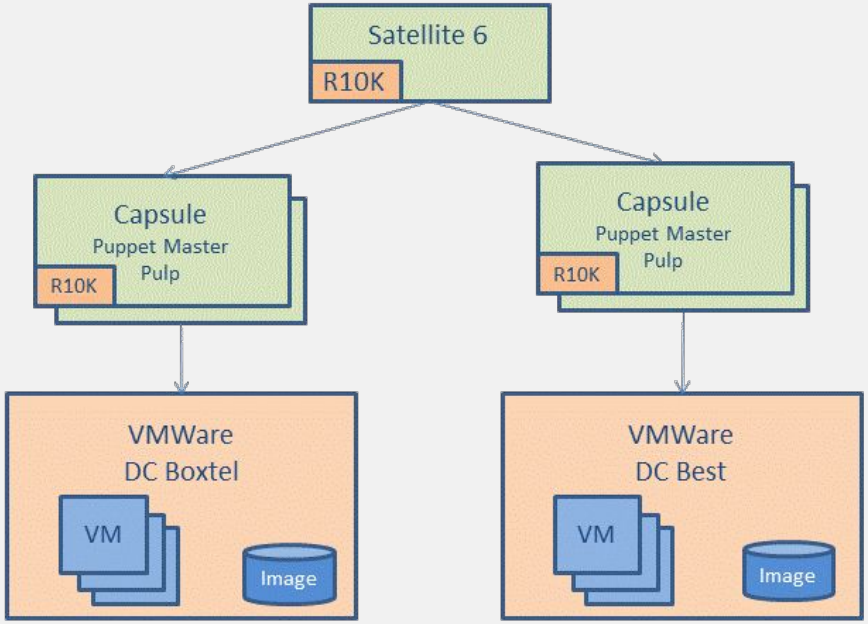
Red Hat CloudForms
Hybrid Cloud Administration



Red Hat CloudForms
Hybrid Cloud Administration

Satellite6 / Puppet

- Build image(s)
  - Basic kickstart / hardening
- Deploy servers based on images (speed)
  - Network configuration via VMWare Custom . . . .
  - Initial activation script (Subscribe to Satellite / initial Puppet run
    Puppet content depending on environment (Sandbox/DTA/PA/P)
- Baseline / security configuration (Puppet)
- Baseline / Security enforcing (Puppet)
- Puppet - R10K
- Remote execution (i.a. used by CloudForms)


Satellite 6
R10K
Capsule
Puppet Master
Pulp
R10K
Capsule
Puppet Master
Pulp
R10K
VMWare
DC Boxtel
VM
Image
VMWare
DC Best
VM
Image

Ansible Tower

- Playbooks from GIT repo's
- Infra
  - Middleware playbooks
- DevOps teams
  - Application specific OS config playbooks
  - Application playbooks

Security

- Division Sandbox / DTA / PA / Prod
- Access to systems (order and manage) based on department of user and environment (Cloudforms tagging)
- Different Ansible keys for departments and environments (SandBox/DTA/PA/P)
- Access to environments can be differentiated
  Optional : 4-eyes principle for running playbooks

Usage example

- SandBox systems
  - Root access, autoexpire (1 week)
- Within devops flow :
  - Order system (API)
    - Build VM, incl. authorizations and executed playbook
  - Execute automated tests
  - Process / save results
  - Decommission system (API)

Future

- CloudForms
  - Integrate OpenShift / Openstack
  - Replace current chargeback
  - Pooling mechanism (faster, reliability, failing api's)
- Satellite 6
  - OpenSCAP

Questions ?

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