Data Center Automation with YADT

Berlin | 23.05.2013 | Schlomo Schapiro
Systems Architect, Open Source Evangelist
>2 billion PI per month
2 data center with ~1400 VM
total of ~600 employees
  → ~30 crossfunctional IT teams
  → ~160 in IT
15 years in business
part of Deutsche Telekom
Systems Management with YADT

YADT
an Augmented Deployment Tool
All Humans are on the Same Side

Build
Config
Deploy
Test
Systems-Management

Scale Out Data Centers

Business Decision To Go Live

Automation
1st task: Reduce Systemic Complexity

File Management

Systems Management
File Management with RPM & YUM
File Management with RPM & YUM

Libraries
Applications
Configuration
Operating System

100 %
File Management with RPM & YUM

- Configuration Build
- Application Build
- Infrastructure Build

YUM Repos

DEV
QA
PROD
File Management with RPM & YUM

Configuration Build

Application Build

Infrastructure Build

YUM Repos

DEV

QA

PROD

Interface

RPM

RPM

RPM
Configuration Build – Pre-built Config Content

Configuration Build

Application Build

Infrastructure Build

YUM Repos

DEV

QA

PROD

RPM

RPM

RPM
Configuration Build – Pre-built Config Content

commit
config file

SVN

build
config RPM

YUM Repo

RPMs
with
static
content
Configuration Build – Pre-built Config Content

Commit config file

Templating Variables Overlaying

Build config RPM

RPMs with static content
Configuration Build – Pre-built Config Content

commit config file

SVN

build config RPM

we use 1 RPM per host

YUM Repo

RPMs with static content

Templating Variables Overlaying

we use 1 RPM per host

RPMs with static content
Configuration Build – Pre-built Config Content

- Shared responsibility: Ops, Dev, QA...
- Templating Variables Overlaying
- We use 1 RPM per host
- RPMs with static content

Commit config file
Build config RPM
YUM Repo

SVN
Application Build – Continuous Release Delivery

- Configuration Build
- Application Build
- Infrastructure Build

YUM Repos

DEV

QA

PROD
Application Build – Package Promotion Pipeline

DEV

Pre-PROD

PROD

Committed Repo

Tested Repo

Released Repo

YUM Repo

YUM Repo

YUM Repo
Application Build – Package Promotion Pipeline

1. CI -> Committed Repo
2. Committed Repo -> YUM Repo
3. YUM Repo -> Pre-PROD: Auto-promote release if tests OK
4. Pre-PROD: Tested Repo -> Business decision to Go Live with tested versions
5. Released Repo -> PROD

- DEV
- Pre-PROD
- PROD

Deploy & Test
YUM Repo
Tested Repo
Released Repo

Deploy & Test
Deploy & Test

File Management through many YUM repositories

Configuration Build

Application Build

Infrastructure Build

PROD

DEV

QA

YUM Repo

YUM Repo

YUM Repo

YUM Repo

YUM Repo

YUM Repo

RPM

RPM

RPM

RPM

RPM

RPM
Systems Management with YADT

YADT
an Augmented Deployment Tool
YADT – Unified Dependency Tree

Load Balancer

HTTPD

Tomcat

Web Server

App Server
YADT – Large Scale System Management

- HTTPD
- Tomcat
- Web Server
- Java App
- App Server
YADT – Large Scale System Management

LB: www.immobilienscout24.de

Web Server
HTTPD
Tomcat
web-app
httpd
tomcat
app
config

App Server
Java App
config

Web Server
HTTPD
Tomcat
web-app
httpd
tomcat
app
config

App Server
Java App
config
YADT – Large Scale System Management

1st chunk

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YADT – Large Scale System Management

1st chunk

LB: www.immobilienscout24.de

2nd chunk

Web Server

HTTPD

Tomcat

Web Server

Java App

App Server

HTTPD

Tomcat

Web Server

Java App

App Server
Systems Management with YADT

Reduce Systemic Complexity

Keep It Simple
Automation is our Continuous Delivery Platform

Automation

All Humans are on the Same Side

Build
Config
Deploy
Test
Systems-Management

Automation

Business Decision
To Go Live

Scale Out
Data Centers
DevOps

We build it together as one team.

We understand it completely.

And it is fully automated.
Thank you very much! Please contact me for further questions and discussions.

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