Advanced Software Management with RPM

Berlin | 09.06.2010 | Schlomo Schapiro
Systemarchitekt, Open Source Evangelist
Agenda

- Background
- Vision – The Linux Way of Doing Things
- Glue
- Discussion
Background

ImmobilienScout24
- Leading real estate listing portal in Germany
- Run everything on RHEL5 x86_64, XEN, Apache, Tomcat ...
- ~ 600 servers for DEV, QA, PROD and surrounding systems

Fairly automated deployment & configuration management
- home brew
- OS independent (back then we used also Windows...)
- Lots of reinvented wheels included
- Configuration management based on layering

Challenges
- Faster, better, cheaper
- Automation, Validation, continuous (live) deployment
Vision – The Linux Way of Doing Things

Software Management

- Packaging and versioning of files
- Static image of a server
- Unified view of system, application and configuration level
- Strong validation
- Upgrades and downgrades, rollbacks, transaction sets

Under Linux we can say configuration = software

RPM

System Management

- Cause change between 2 static states
- Manage (= control) services
- Remote control
- Func and funcshell, puppet, SSH-based (home brew)
Proof Of Concept

- Simplified setup of our current environment
  - Configuration management with layering
  - Simple Templating (variable substitution)
  - Bare-metal provisioning (cobbler, kickstart)
  - Convert existing IS24 software packages to RPM
  - 1 configuration RPM per host with all files included
  - System management through SSH and Linux commands
  - Software management with `yum update`

- Result
  - It works!
  - Config change → host rollout = Time to type `svn` and `yum`
  - Provisioning, update, rollback and validation
  - Templating back end could be smarter
Big Picture

Config SVN

SVN

Templatting DB

Post-commit hook creates is24-config-$hostname RPM

YUM Repository

Automated RPM creation

Host | Requires | Provides | DB_HOST | DB_USER
--- | --- | --- | --- | ---
tstweb01 | httpd, is24-tomcat | db01 | prod

is24-config-tstweb01-1.0-$rev.rpm:
/etc/is24/system.properties
/etc/is24/db.properties
/etc/is24/web.properties

[root@tstweb01 ~]# yum update

db.host=@@@DB_HOST@@@@
db.user=@@@DB_USER@@@@
db.port=3306

config

├── all
│   └── etc
│       └── is24
│           └── system.properties

├── loctyp
│   └── tstweb
│       └── etc
│           └── is24
│               └── web.properties

├── typ
│    └── web

├── loc
│    └── tst
│       └── etc
│           └── is24
│               ├── web.properties
│               └── db.properties

├── host
│    └── tstweb02

[Image of diagram]
RPM Dependencies

- `is24-config-tstweb01`

  Requires

- `httpd`
- `is24-mod_jk`
- `is24-tomcat`
- `is24-base-env`
- `is24-appl-env`

- `is24-tomcat-data`
- `is24-jcr`

  Requires

- `is24-contentrules`
- `is24-jcr-base`
- `is24-sitemapassembler`

  Requires

- `is24-jtools`
- `is24-sitemapassembler-config`

  Requires

- `jdk`
Take it easy

Put everything into a package and watch as the system does its job for you.
Thank you very much! Please contact me for further discussions about this talk.

Contact:
Immobilien Scout GmbH
Andreasstraße 10
10243 Berlin

Phone: +49 30 243 01-1229
Email: schlomo.schapiro@immobilienscout24.de
URL: www.immobilienscout24.de