IT-Automatisierung bei dm

OSAD Munich - October, 16th 2018
Who am I?

- Timo Goebel
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- https://github.com/timogoebel
- dmTECH GmbH, Responsible for Linux on Servers
- Foreman & fog-vsphere Committer
Linux at dm

Start of Linux at dm

2009

System Z, AIX and Windows

2013

Launch „dm.de“

2015

Today

4000 Linux Hosts
Agenda

1. Ecosystem
2. Our special Foreman
3. Server Self-Service
4. Outlook
Ecosystem

- We operate our own datacenters
- VMWare vSphere Hypervisor
- RHEL and SLES
- Provisioning with Foreman
- Config Management with Puppet
- We love to automate
Puppet

Core Modules

Control Repo

Control Repo

Control Repo

managed by other teams

managed by us
Our Special Foreman
Foreman

- Open Source Project to manage the lifecycle of servers
- Orchestrates other systems
- Can create VMs, DNS-Entries, DHCP-Reservations, ...
- Shows Reports from Puppet (or Ansible, Chef, Salt, ...)
Foreman Omaha

- CoreOS does not have any packages, just a single image
- It’s super cool!
- Image Mirror for CoreOS in Smart Proxy
- Manages Updates of Servers
- We have crazy CoreOS Snippets, Foreman’s templating engine is awesome
- Adds Reporting Dashboards
- Building block for our Kubernetes cluster
Foreman Rescue

- Boot a host into an Anaconda based rescue system
- Build mode with a different template
- Might be a good candidate for core 😊
Foreman Wreckingball
Foreman DLM

- Lock Management for Hosts
- If you have 10 Webservers, you just want to update a single one at the same time
- Hosts are identified by the PuppetCA certificate

- Workflow:
  - Try to acquire Lock
  - Exit if lock is already taken by another host
  - Do the upgrade process, reboot the host
  - Release lock
Foreman Spacewalk

- Foreman + Smart Proxy plugins
- Packages for our SUSE-Systems are provided by SUSE Manager (Spacewalk)
- Foreman is used for provisioning
- When a Host is deleted or reprovisioned, it’s removed from Spacewalk
Foreman Expire Hosts

[foreman] Expiring hosts in foreman

De-Mailbox, FD-ITS-Linux-TG, Goebel, Timo

The following hosts will be expired on 2018-05-29. Please change expiry date if you want to keep these hosts alive.

<table>
<thead>
<tr>
<th>Hostname</th>
<th>Host group</th>
<th>Environment</th>
<th>Expiration Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>[redacted]</td>
<td>INFRA</td>
<td>stable</td>
<td>2018-05-29 (in 7 days)</td>
</tr>
</tbody>
</table>
Foreman Monitoring

- Foreman + Smart Proxy plugins
- Links Foreman to a Monitoring system, currently only icinga2 is supported
- Set Downtimes
- Create / Delete host in Monitoring Solution
- Integrated with lock manager
  - When a host acquires a lock, Forman sets a downtime
# dmTECH Open Source

dmTECH Open Source projects, subsidiary of dm-drogerie markt, Europe's largest drugstore.

## Repositories

<table>
<thead>
<tr>
<th>Repository</th>
<th>Description</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>selavi</td>
<td>Service Landscape Visualizer</td>
<td>JavaScript</td>
</tr>
<tr>
<td>micrometer-metrics-wrapper</td>
<td>Micrometer wrapper to allow generic class level metric values</td>
<td>Java</td>
</tr>
</tbody>
</table>

## foreman_dlm

A plugin for Foreman that allows Foreman to act as a distributed lock manager.

<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruby</td>
<td>5 stars</td>
</tr>
</tbody>
</table>

## Top languages

- Ruby
- Java
- JavaScript
- Python
- HTML

## Most used topics
Server Self-Service
## Create Hosts

**Basic Resources Configuration**
You can pick from available prices for basic configuration. Switch to the manual tab if you would like a fine-tuned setup.

### Resources

<table>
<thead>
<tr>
<th>OS</th>
<th>CPUs</th>
<th>RAM</th>
<th>Disk</th>
</tr>
</thead>
<tbody>
<tr>
<td>RedHat</td>
<td>4</td>
<td>64 GB</td>
<td>100 GB</td>
</tr>
<tr>
<td>RedHat</td>
<td>8</td>
<td>128 GB</td>
<td>200 GB</td>
</tr>
<tr>
<td>RedHat</td>
<td>16</td>
<td>256 GB</td>
<td>400 GB</td>
</tr>
</tbody>
</table>

### Rick Server Location

- **Karlsruhe**
  - Datacenter 1 & 2 (LAN)
- **Karlsruhe**
  - Datacenter 3 (LAN)

### Server Configuration

**App Tier**
- Signed

**Subnet**
- Loading data from server

**Database Type**
- Mirror

**Automated server configuration**

The servers will be configured with basic operating system settings. If you want to use custom puppet code to set up your server, use the link below.

**Puppet configuration**

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**Hosts Creation**

Add project details, tell us how many hosts you want to create, and give your hosts names that will help you to identify them.

### Provide project details

- **Project**: Use only letters (A to Z) and numbers (0-9), Must start with number of input fields for host names.

### Host Role in the Project

- **server**:

### Host Count

- 1

---

Choose host names

The name should match the following pattern: **project role** and can include only letters (A to Z) and numbers (0-9).

**Host 1 Name**
- one-server-01

---

Create Hosts

*Please fill in missing information.*
LISA - Specs

• Written entirely as a SPA in React

• Backend provided by Graphql implemented as a Foreman plug-in
Outlook

• This is a good solution. But how does this work together with the Cloud Native approach?
Thank you.