IT-Automatisierung bei dm

OSAD Munich – October, 16th 2018

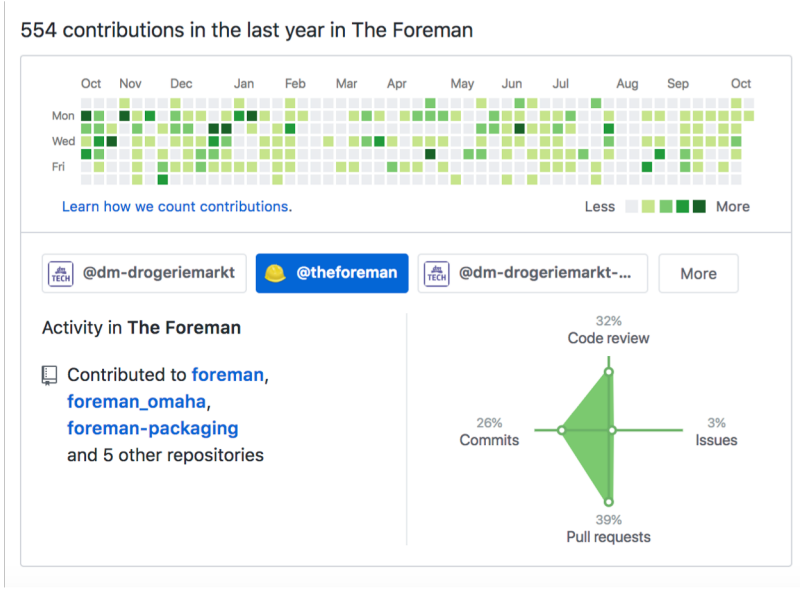
Who am I?

- Timo Goebel

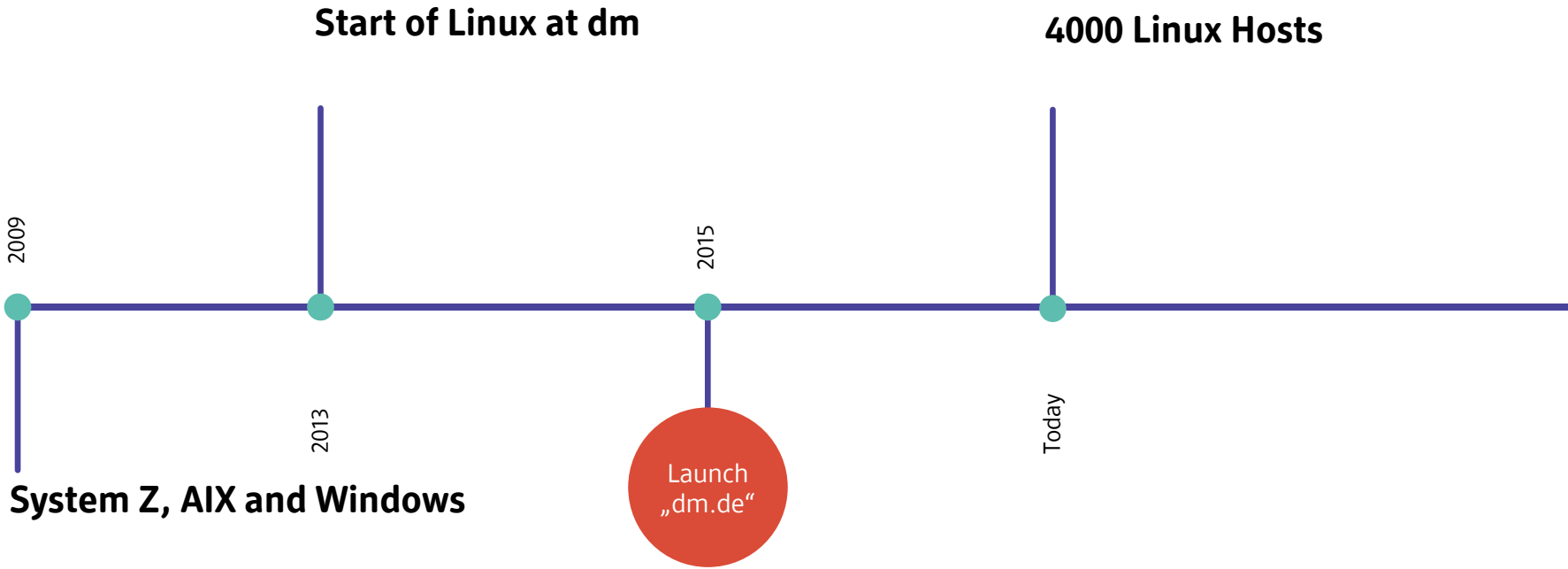
- mail@timogoebel.name
- https://github.com/timogoebel

- dmTECH GmbH, Responsible for Linux on Servers

- Foreman & fog-vsphere Committer



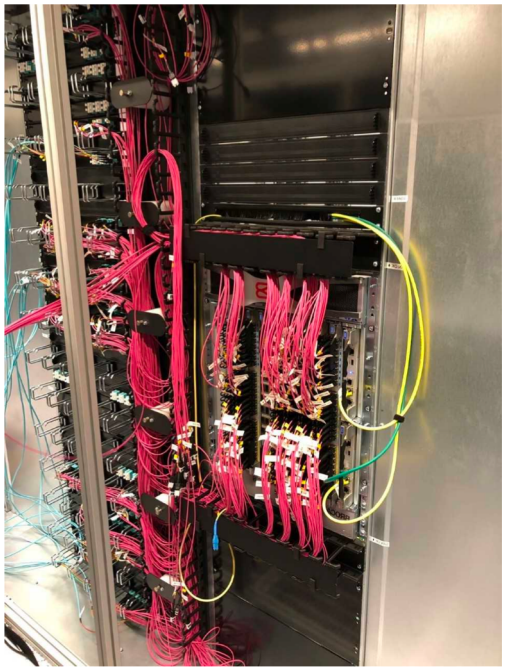
Linux at dm


Start of Linux at dm
4000 Linux Hosts
2009
2013
2015
Today
System Z, AIX and Windows
Launch „dm.de“

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

managed by other teams

Control Repo

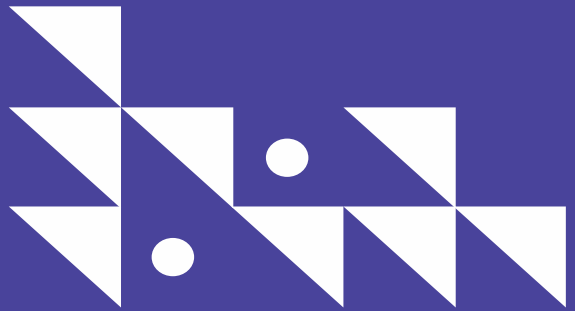
Control Repo

Control Repo

Core Modules

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, …)

redhat
Satellite

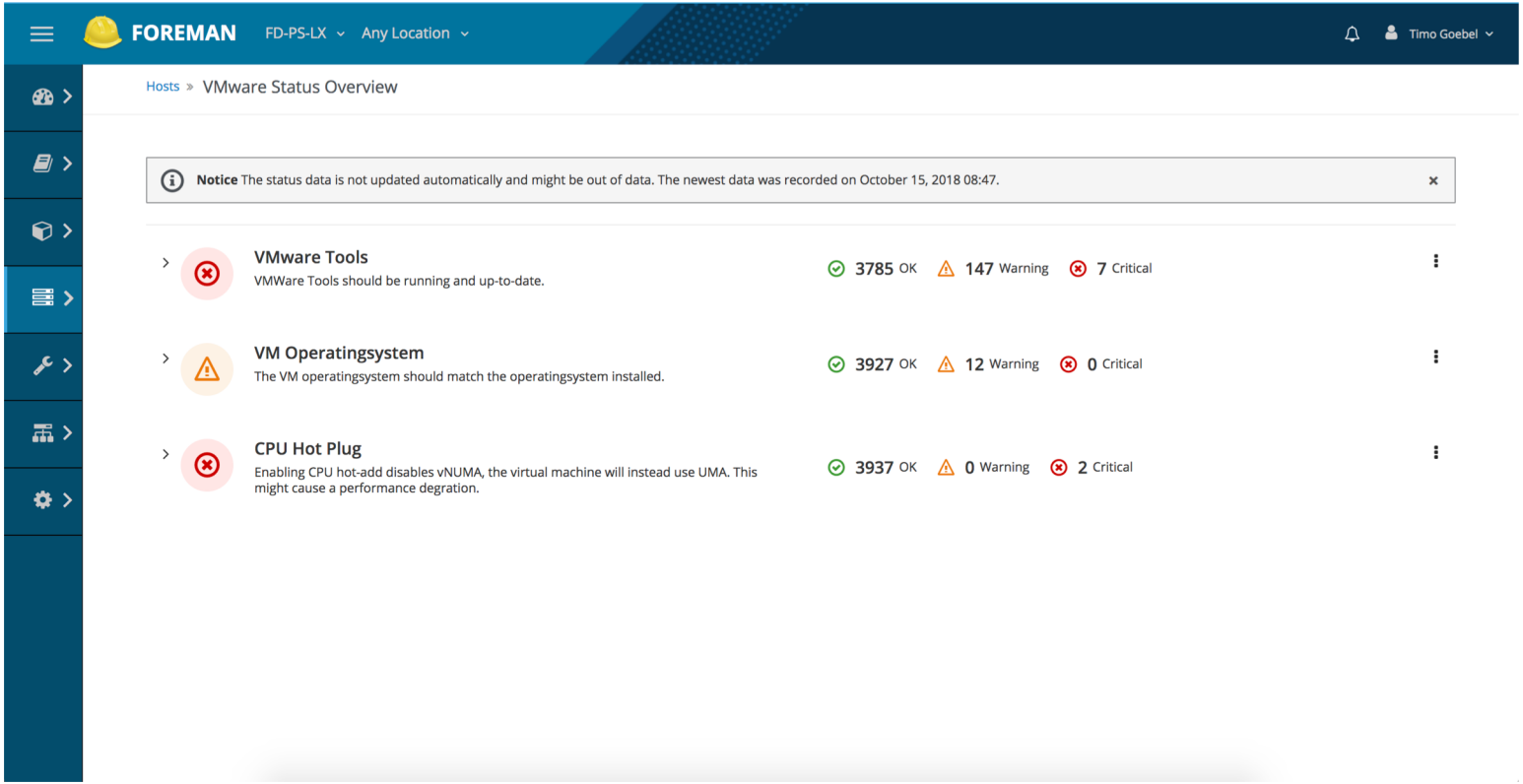
Foreman Omaha

- 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



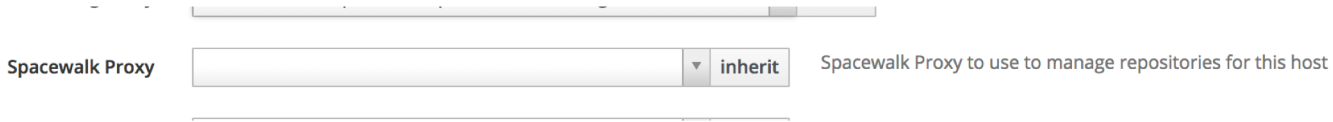
Foreman DLM

- 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

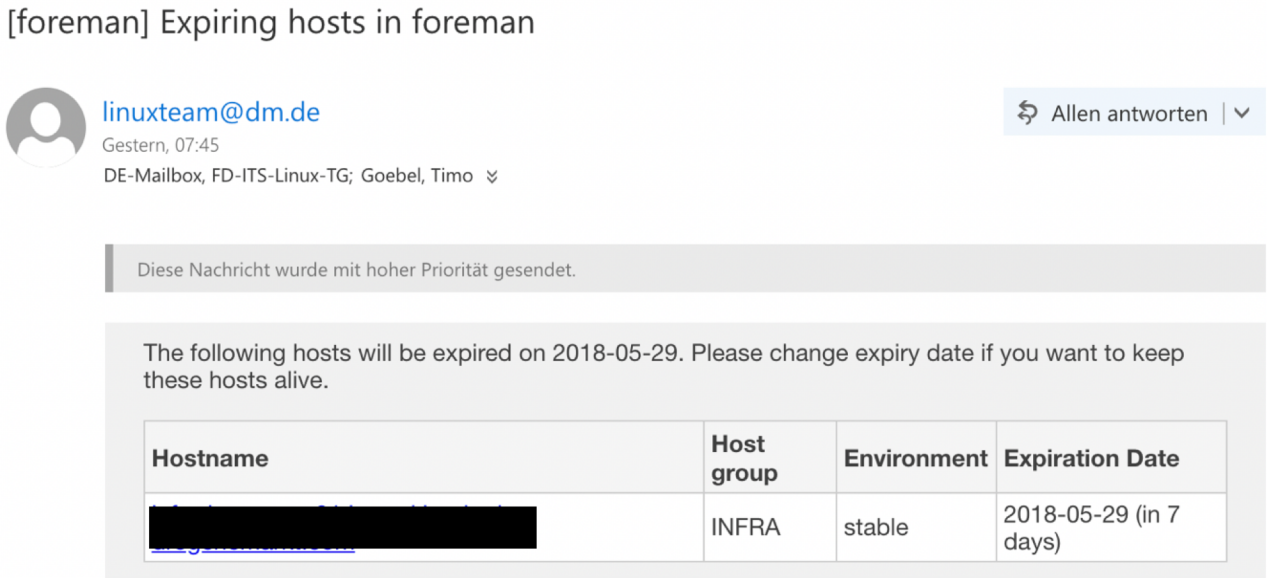
- Workflow:
  - Try to acquire Lock
  - Exit if lock is already taken by another host
  - Do the upgrade process, reboot the host
  - Release lock

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

linuxteam@dm.de

Gestern, 07:45

DE-Mailbox, FD-ITS-Linux-TG; Goebel, Timo

Allen antworten

Diese Nachricht wurde mit hoher Priorität gesendet.

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

Hostname	Host group	Environment	Expiration Date
[redacted]	INFRA	stable	2018-05-29 (in 7 days)

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

Search or jump to... / Pull requests Issues Marketplace Explore

dmTECH Open Source

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

Karlsruhe, Germany https://www.dmtech.de

Repositories 15 People 37 Teams 11 Projects 0 Settings

Pinned repositories

selavi

Service Landscape Visualizer

JavaScript ★ 18 5

micrometer-metrics-wrapper

Micrometer wrapper to allow generic class level metric values

Java ★ 4 1

Find a repository... Type: All Language: All New

foreman_dlm

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

ruby foreman theforeman

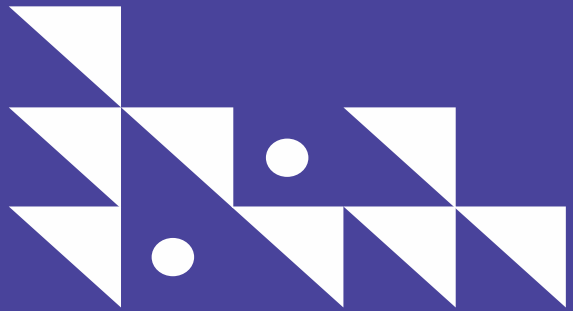
Ruby ★ 5 2 GPL-3.0 6 issues need help Updated an hour ago

Top languages

Ruby Java JavaScript Python HTML

Most used topics Manage

Server Self-Service



LISA

FONT

LISA

FONT: Montserrat / SemiBold

Pantone 115C

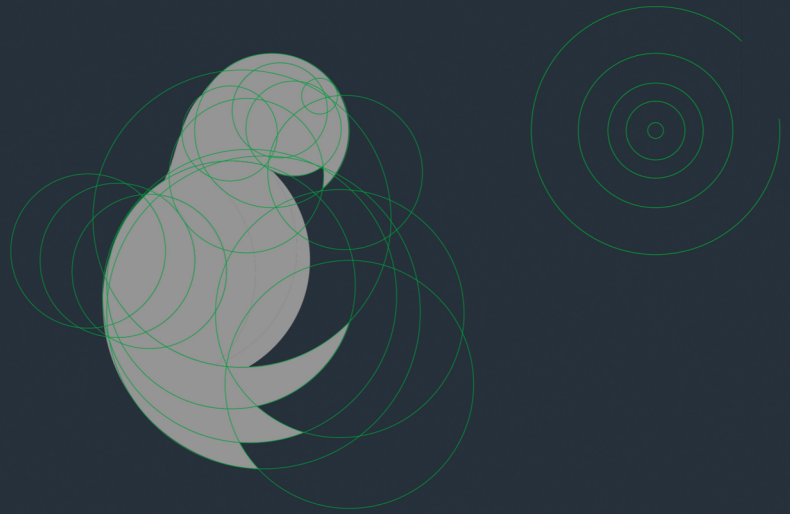
Pantone 165C

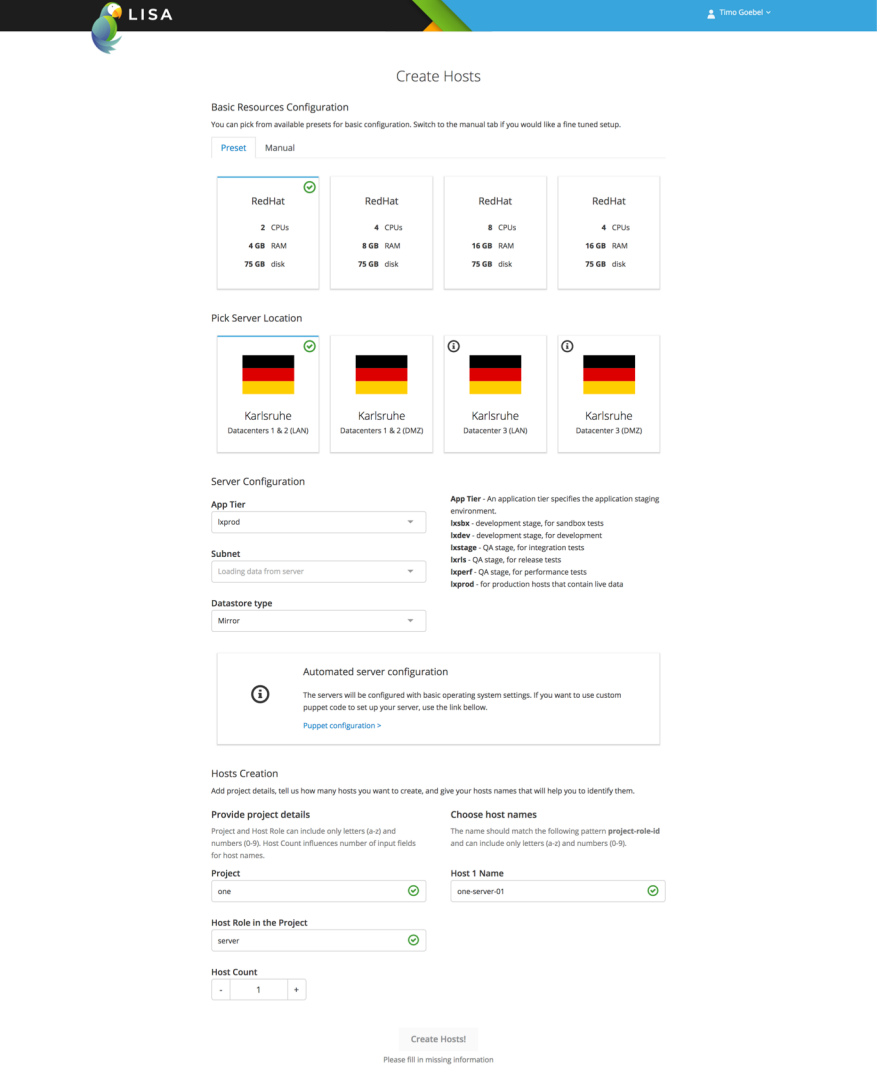
Pantone 388C

Pantone 361C

Pantone 337C

Pantone 7455C



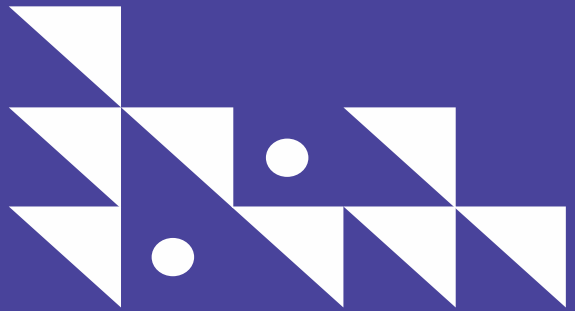

LISA
Timo Goebel
Create Hosts
Basic Resources Configuration
You can pick from available presets for basic configuration. Switch to the manual tab if you would like a fine tuned setup.
Preset
Manual
RedHat
2 CPUs
4 GB RAM
75 GB disk
RedHat
4 CPUs
8 GB RAM
75 GB disk
RedHat
8 CPUs
16 GB RAM
75 GB disk
RedHat
4 CPUs
16 GB RAM
75 GB disk
Pick Server Location
Karlsruhe
Datacenters 1 & 2 (LAN)
Karlsruhe
Datacenters 1 & 2 (DMZ)
Karlsruhe
Datacenter 3 (LAN)
Karlsruhe
Datacenter 3 (DMZ)
Server Configuration
App Tier
lxprod
Subnet
Loading data from server
Datastore type
Mirror
App Tier - An application tier specifies the application staging environment.
lxsbx - development stage, for sandbox tests
lxdev - development stage, for development
lxstage - QA stage, for integration tests
lxris - QA stage, for release tests
lxperf - QA stage, for performance tests
lxprod - for production hosts that contain live data
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 bellow.
Puppet configuration >
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 and Host Role can include only letters (a-z) and numbers (0-9). Host Count influences number of input fields for host names.
Project
one
Host Role in the Project
server
Host Count
-
1
+
Choose host names
The name should match the following pattern project-role-id and can include only letters (a-z) and numbers (0-9).
Host 1 Name
one-server-01
Create Hosts!
Please fill in missing information

dm TECH

LISA - Specs

- Written entirely as a SPA in React
- Backend provided by Graphql implemented as a Foreman plug-in

Outlook



Outlook

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

Thank you.