



Automate Monitoring @ AGFA HealthCare

Philipp Lemke

30. April 2019

Check_MK-Konferenz #5

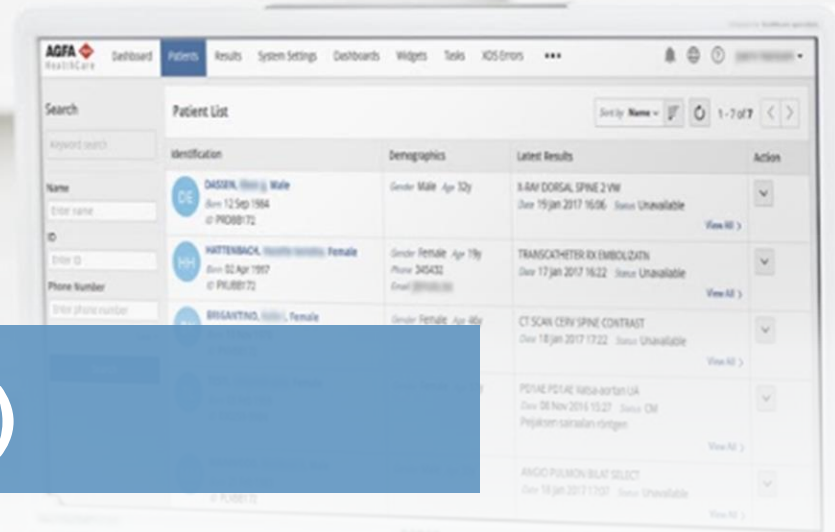
Philipp Lemke

- Team Lead DevSecOps Center @ Agfa Health Care
- ITIL / ISO20K Process Owner: Event- & Capacity Mgmt.
- Experience
 - ~ 6 Years Operating
 - ~ 13 Years Monitoring
 - ~ 7 Years Check_MK / OMD
- Freelancer | IT- Consultant



Agfa Managed Services (AMS)

- Monitoring
- Operating
- Maintenance
- Database Management
- Patch Management
- Virus Protection
- Network & Firewall Services



AGFA Managed Service

Service Delivery for a sample customer

Situation

- Oracle DBA & Unix Admin left hospital IT department
- Agfa proposes managed service for existing DBs and Unix systems in hospital DC

Agfa Point of View

- Necessary to operate systems not staged / installed by AMS
- Requires ability to operate very heterogeneous environments

Why Check_MK & why Salt



- Best monitoring tool
- Standard for AMS since 2013

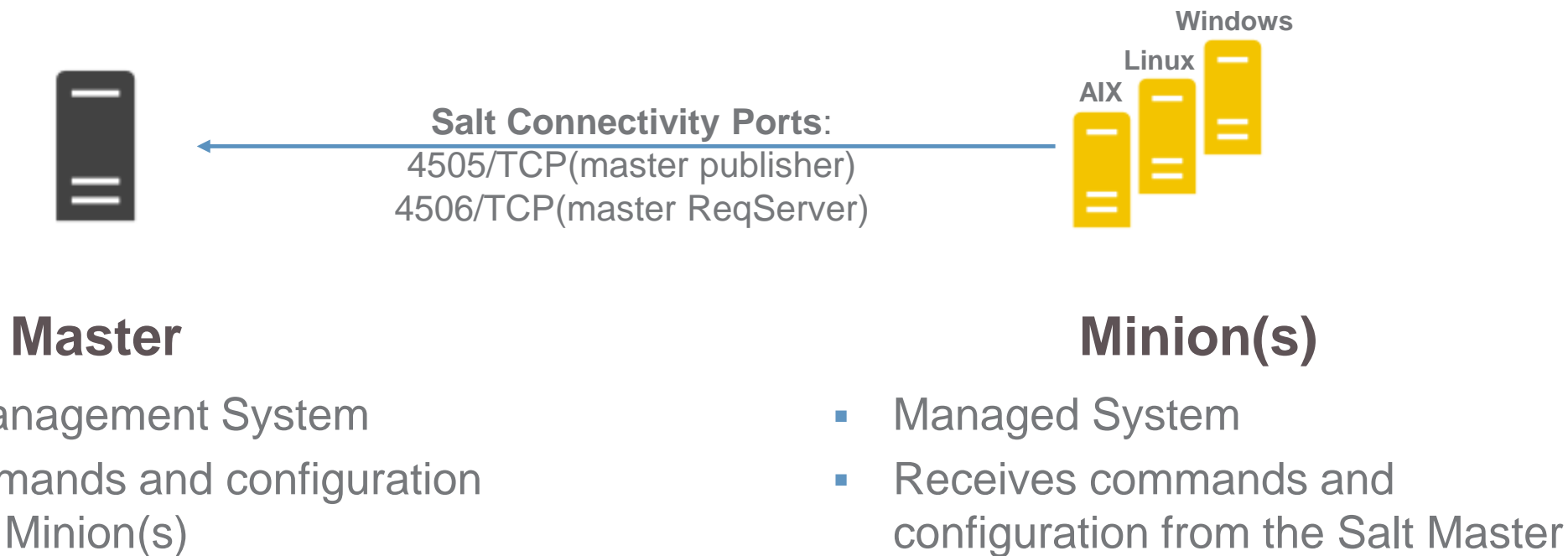


SALT

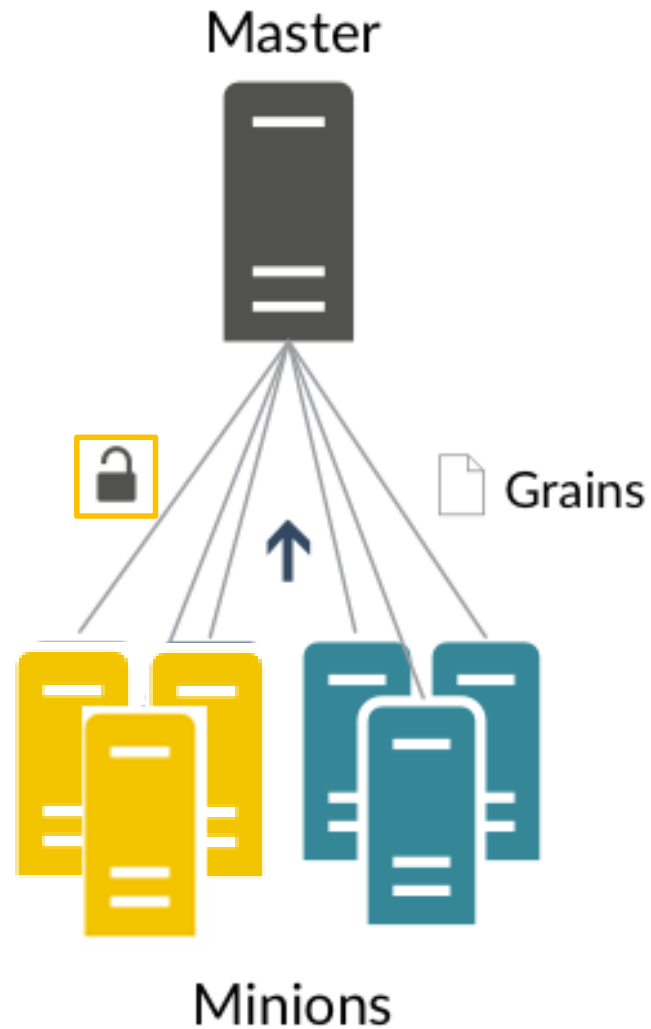
- Best automation solution

- Both: Written in Python 
- Provide full Python environment on all our platforms
 - Linux
 - AIX
 - Solaris
 - Windows

Salt Terminology – Salt Master & Minion

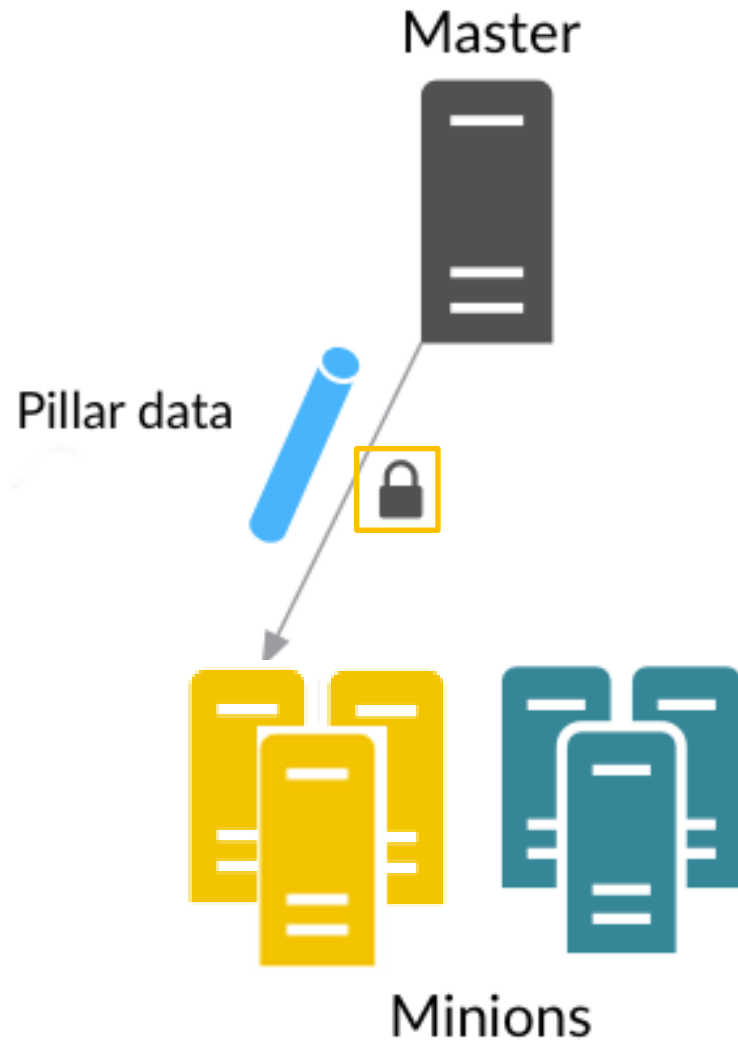


Salt Terminology – Grains



```
os:
  Ubuntu
os_family:
  Debian
osarch:
  amd64
oscodename:
  bionic
osfinger:
  Ubuntu-18.04
osfullname:
  Ubuntu
osmajorrelease:
  18
osrelease:
  18.04
osrelease_info:
  - 18
  - 4
path:
  /usr/local/sbin:
pid:
  9481
productname:
  Latitude 5590
```

Salt Terminology – Pillar



```
credentials:
  -----
  win:
    -----
    local_admin1:
      -----
      dom:
        localhost
      pwd:
        KXpnmvPhWfJ8sLZpMfOT
      user:
        administrator
```

Let there be light or → The Beginning

First Deployment Task

- **Get system under control!**
- Install Salt Minion
- Install Check_MK Agent
- Connect system to AMS Infrastructure

Once Minion is installed

- **Use Salt as enabler!**
- Add Host
- Set Host-Tags
- And more... (Compliance Checks, Maintenance Tasks, ...)

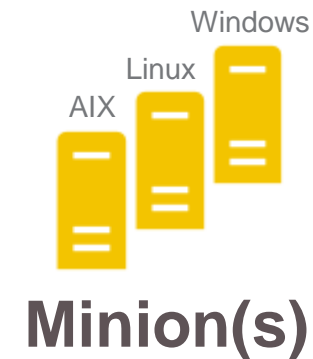
Salt Terminology - State (simplified)

State Definition:

- A declarative representation of a system configuration
- Designed to work cross-OS and cross-platform

Example:

```
ensure-check-mk-agent-installed:  
  pkg.installed:  
    - check_mk_agent : 1.5.0p12
```



Salt State Example – Check_MK Agent



Salt Master

```
salt \* state.apply ensure-check-mk-agent-installed
```

Example:

```
ensure-check-mk-agent-  
installed:  
pkg.installed:  
- check_mk_agent : 1.5.0p12
```

Salt State Example – Check_MK Agent

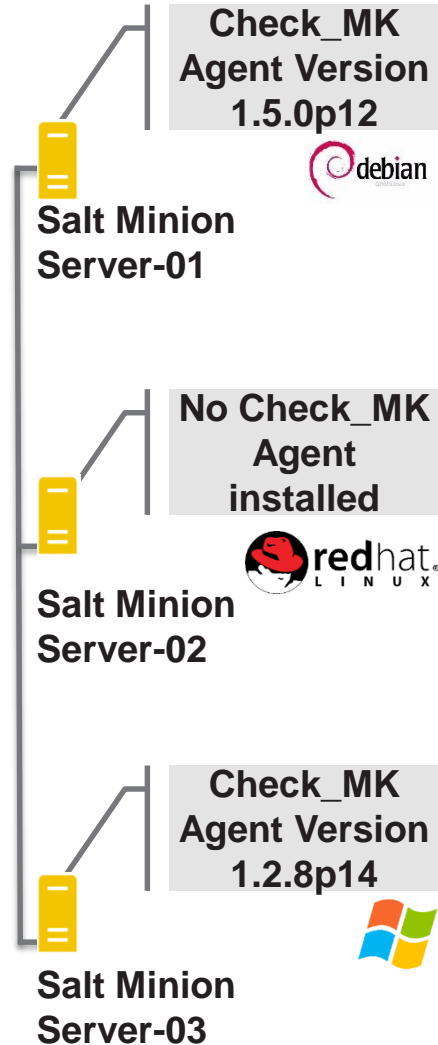


Salt Master

`salt * state.apply ensure-check-mk-agent-installed`

Example:

```
ensure-check-mk-agent-  
installed:  
pkg.installed:  
- check_mk_agent : 1.5.0p12
```



Salt State Example – Check_MK Agent

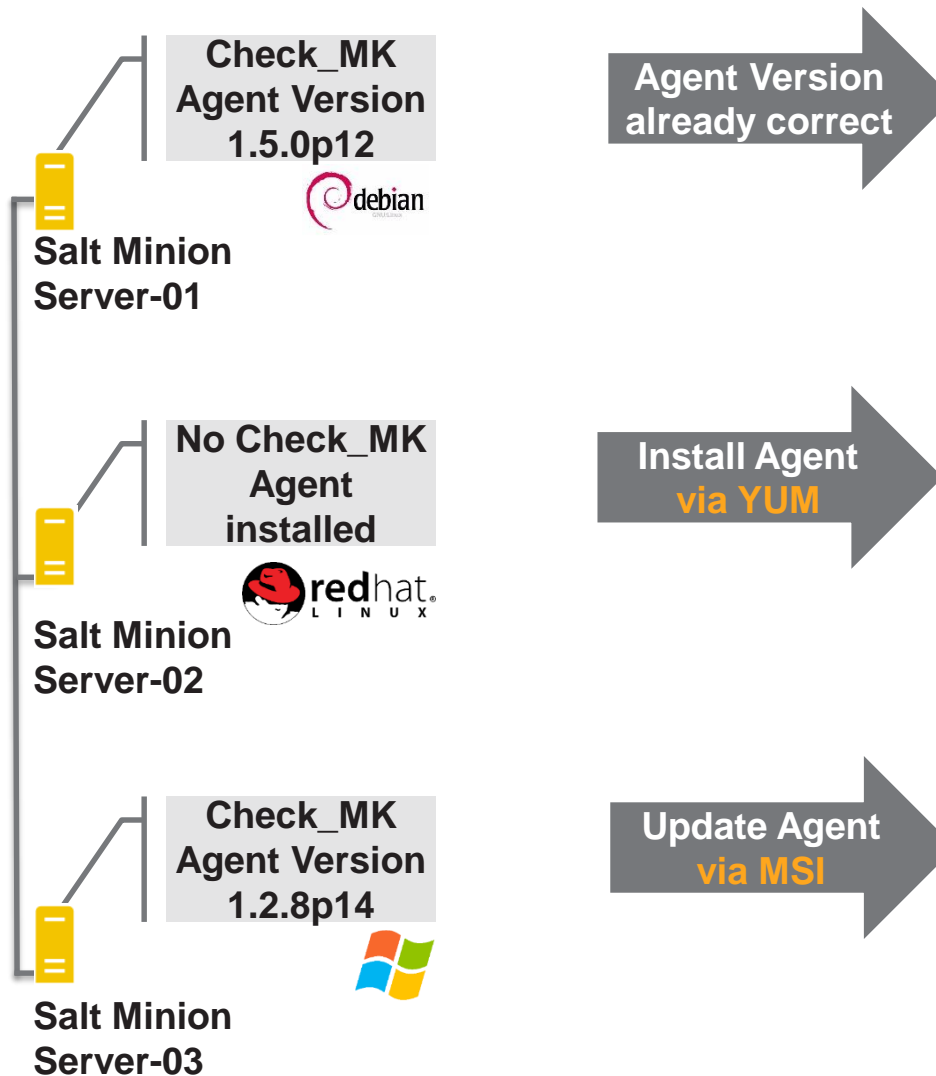


Salt Master

`salt * state.apply ensure-check-mk-agent-installed`

Example:

```
ensure-check-mk-agent-  
installed:  
pkg.installed:  
- check_mk_agent : 1.5.0p12
```



Salt State Example – Check_MK Agent

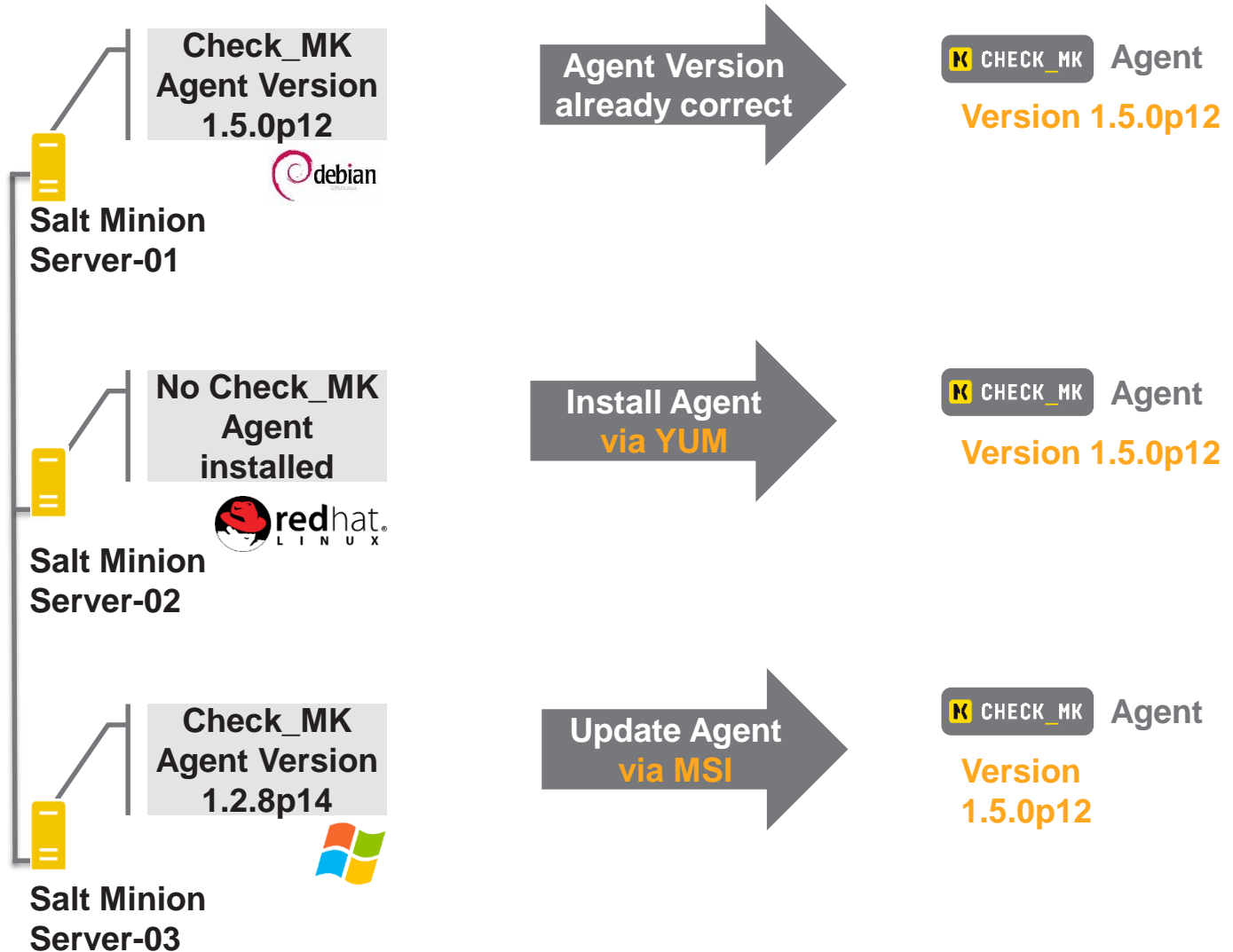


Salt Master

`salt * state.apply ensure-check-mk-agent-installed`

Example:

```
ensure-check-mk-agent-  
installed:  
pkg.installed:  
- check_mk_agent : 1.5.0p12
```



Salt Enhancements for Check_MK

- Dynamic Installation of Check_MK Agent Plugins

- Based on installed software



- Based on running processes



- Based on filesystem objects (binaries, config, ...)



- Add Host-Tags automatically by Dynamic Rollout Rules



Salt Enhancements for Check_MK

- Add Minions automatically to Check_MK - WATO
 - Add registered Salt Minions automatically to WATO
 - Set selected Grains automatically as WATO Host-Tags
 - Salt State in Action - managing deltas (Delete Hosts, Host-Tags)



Sources

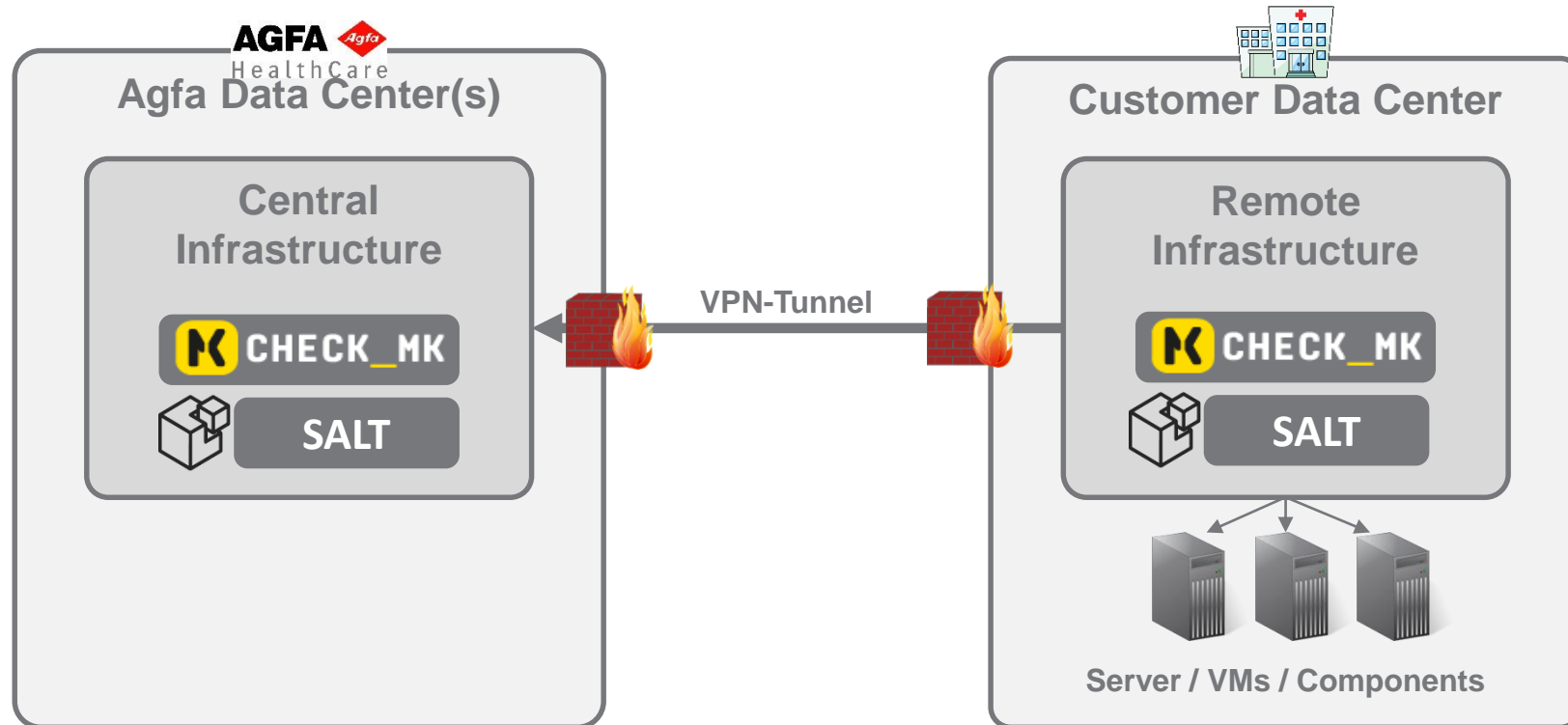
- SaltStack
 - <https://docs.saltstack.com/en/getstarted/overview.html>
- Check Automation Documentation
 - tbd
- Check-mk-web-api (Max brennerm)
 - <https://github.com/brennerm/check-mk-web-api>



VIELEN
DANK!

AMS Monitoring & Automation Infrastructure

- Central Infrastructure
 - 2 HA Data Centers
- Remote Infrastructure
 - ~80 Sites
 - ~160 dedicated VMs



AGFA HealthCare – DevSecOps Center

