Oracle Application Monitoring

28.04.2020, Daniel Röttgermann

swisscom

Agenda

1. Swisscom Banking – Who we are?
2. Swisscom Banking Requirements
3. Customer Requirements
4. Demo / Sample Views
5. Challenges
6. Future
7. Q & A

Swisscom Banking

Business Processes of today
and Innovations for tomorrow

Everything for Banking - since 37 years

100+

Completed Core Banking System Migrations

70

BPO-Customers (payments / investments and securities

For **75+**

Banks we run application monitoring

For **51**

Banks we operate the banking platform

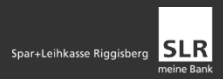
For **23+**

Banks & financial services firms, our Trend Scout e.foresight is doing research

100

Different peripheral systems

Swisscom Banking Customers - Selection



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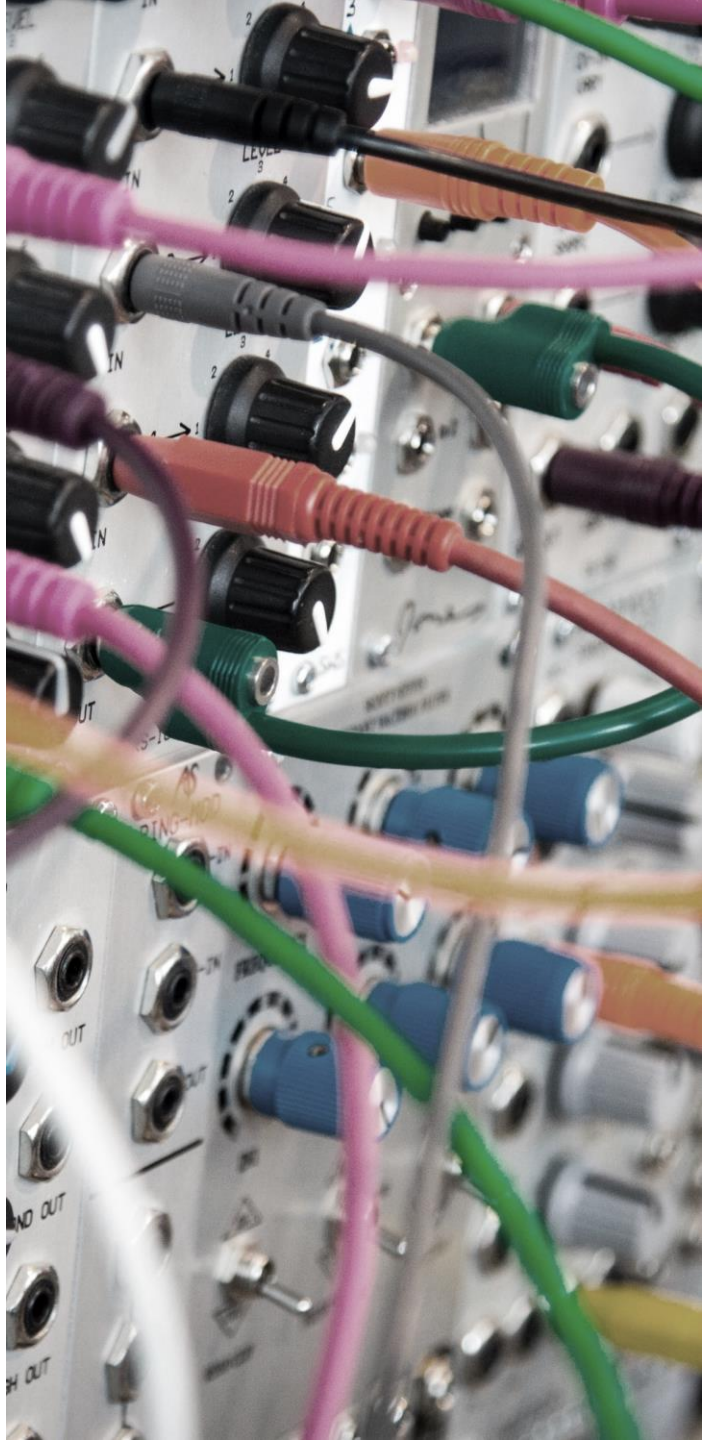


Fun Facts

20+

Sites = Customer, on one Host

1.450+

Monitored Hosts

155.000+

Monitored Services

35

Oracle Hosts

184

Oracle Instances

25.000

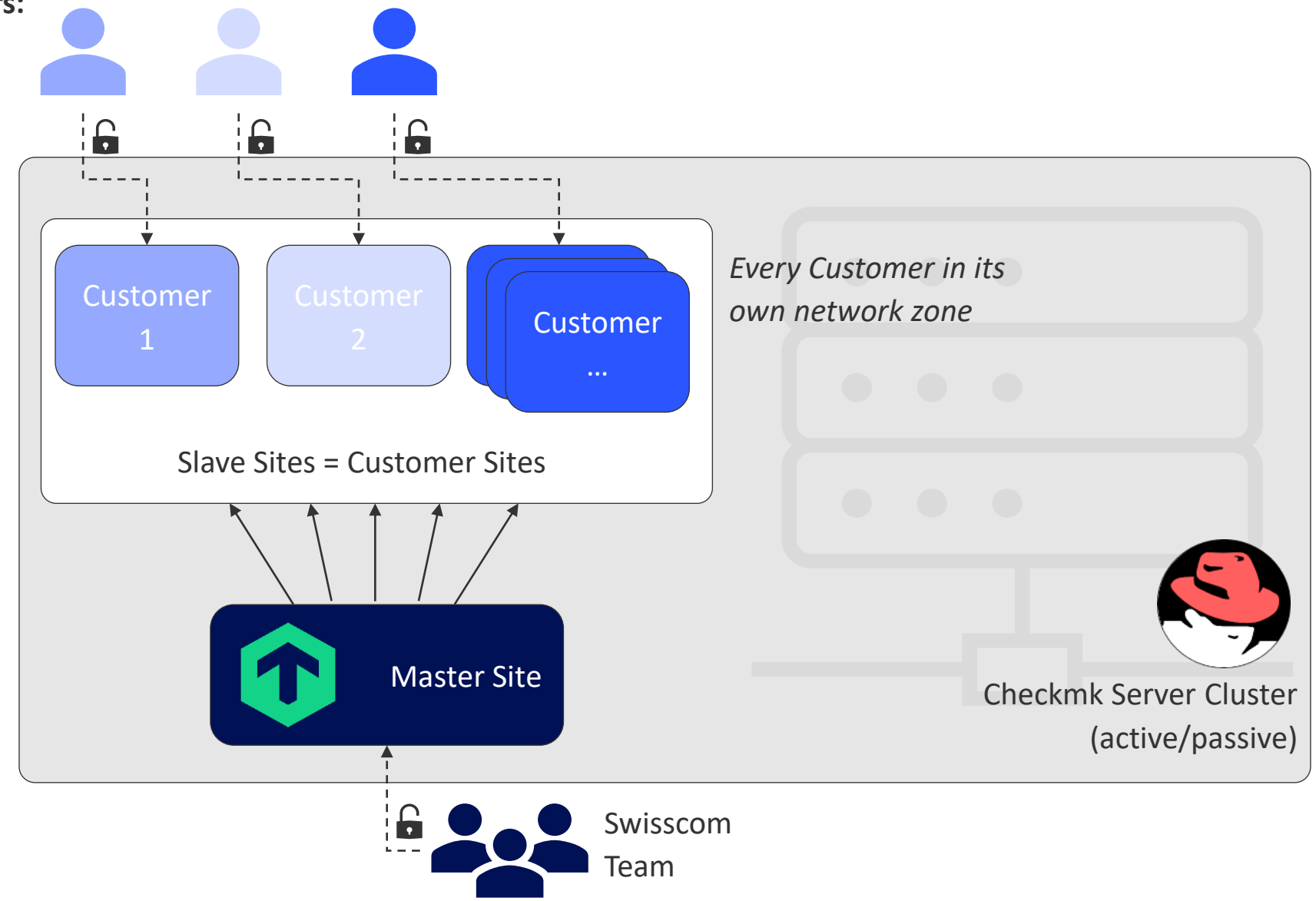
mk_oracle based Services

Up to **30**

Databases on one Oracle Server

Checkmk Managed Services Setup – Swisscom Banking – High Level

Customers:
External
Login



Swisscom Banking Requirements

The large number of enterprise customers requires a high degree of innovation and flexibility

Requirements towards database monitoring

Custom SQLs

- Application specific SQLs
- Several applications on one DB
- Performance data
- Availability

mk_oracle based Checks

- mk_oracle runs SQL and creates a new section for output
- Agent transports data
- Own application check matches with section
- Depending on application, services and/or inventory data are being created

Improved inventory functions

- Status Data in inventory
- Application Details:
  - Release, Release Date, Install Time…
  - Background Jobs, Networks, Process Queues, …
- Mix of status & inventory data

Improved Oracle Application Views & Dashboards

- Views with inventory & status data
- Create views with «mixed» inventory data
  - Part1 from Check1 & Part2 from Check2 ….
- Perf-O-Meter Views for DBs (CPU, Memory, Uptime…)

Customer Requirements

As if our internal ones weren’t enough…

Customer requirements towards database monitoring

Custom SQLs

- Application specific SQLs
- Several applications on one DB
- Performance data
- Availability

More DB details/ information

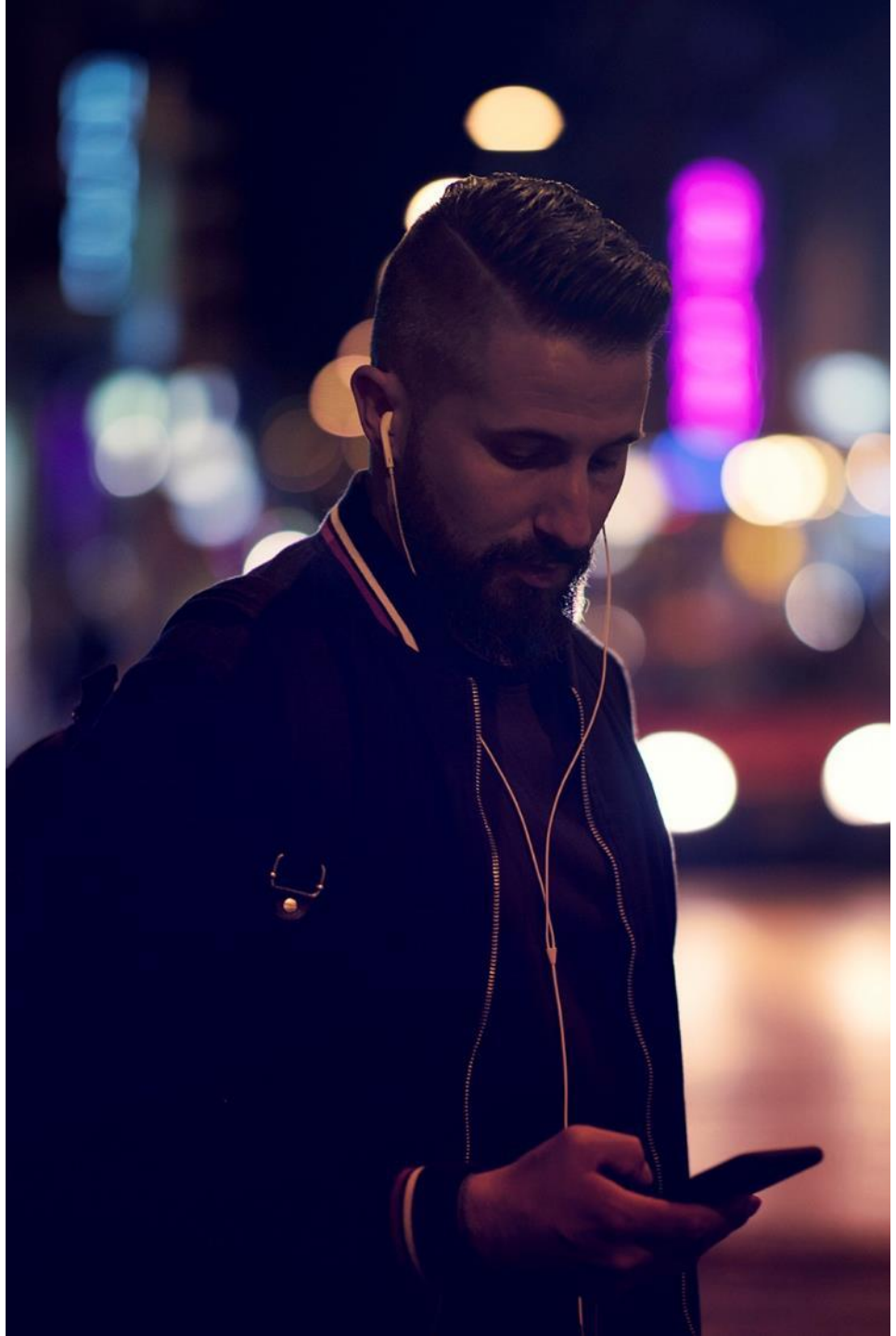
- SGA
- PGA
- CPU
- Memory
- …

More Oracle based application information

- Release, Release Date, Install Time…
- Background Jobs, Networks, Process Queues, …

Reporting & Capacity Management

- Reporting for Oracle DBs
- Capacity Mgmt calculations for Oracle Services (Tablespace, Memory, CPU, …)



Demo

Let's get some impressions

Challenges

Not everything that glitters is gold…

Challenges

Number of DB's & Services

- **30 databases** on one host
- Up to **30.000 services** on one host

Number of Custom SQL's

- Up to **60 Custom SQLs** on one host
- **Complex** oracle.cfgs due to number of SQL's
- **Maintenance** and **optimization** of custom SQL's
  - Application **changes** with release
  - Table **no longer exists** with release

Performance / Timeout of agents

- **Runtime** of **mk_oracle**
- **Too many** databases
- Custom SQL's with **long runtime**
- **Many** default **mk_oracle SQLs**
- **Team members** and **Customers** are dependent on **current** data

Popularity / Acceptance

- More requests both internally and externally
  - Views
  - Dashboards
  - Custom SQL's
  - Checks
  - …

Reporting & Capacity Management

- More complex requirements
- Missing functionalities

Banking Software Differences / Requirements

- Paths/Prefix/Postfix/Discovery…
- Database Cloning / come and go
- Non-Standard Oracle Setup

Future?

Oracle Application Monitoring 2021?

Performance

- **Improve run time** of mk_oracle and **optimize** for demanding **Swisscom** scenarios
- Try to **further optimize run time** of SQL's
- Try to **further optimize run time** of custom SQL's.
- **Optimize** check **run time** (parsing / monitoring delay / result processing)

Views

- Creation of **default Oracle Views** in Checkmk
- Introduction of **generic** Oracle application **views**
- **Perf-O-Meter** views for DBs (useful sorting)
- **More** Oracle based Application **Views**
  - For different teams within **Swisscom**
  - For **Customers**

Dashboards

- Introduction of a **Default Oracle Dashboard** in Checkmk
- Introduction of **generic** Oracle application based Dashboards
- **More** Oracle based application **Dashboards**
  - For different teams within **Swisscom**
  - For **Customers**

Capacity Management

- **Always** possible within the GUI
- Works for **every service**
  - ORA $db Performance DB-Time
  - ORA $db Performance Memory
  - ORA $db Tablespace
  - ...

Reporting

- **Automated** reports for
  - all Oracle DBs
  - all Oracle based applications
- Includes **Capacity Management** relevant data

Q & A

Thank you!

Contact

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