The Checkmk Roadmap 2020+

CHECKMK CONFERENCE #6 - MUNICH, APRIL 28, 2020

Lars Michelsen
Head of Development
tribe29
Agenda

1. Recap: What’s coming for Checkmk 1.7
2. The next 100+ features
3. The next big topics
Most features are nearing completion

User Experience
Cloud & Containers
Network Monitoring
Automation & Extensibility
Performance

Extend the monitoring base
Only project in early stage: Redesigning the UX

- Redesigned user experience
- Raw Edition: Modern graphing + Grafana integration
- Improved reporting
- New dashlets and dashboard usability
- Pre-built intelligent dashboards
- Tags & Labels
- Forecast graphs and historic data painters
Nearly finished with Cloud & Containers for 1.7

<table>
<thead>
<tr>
<th>Feature</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud &amp; Containers</td>
<td>100%</td>
</tr>
<tr>
<td>Prometheus integration</td>
<td>100%</td>
</tr>
<tr>
<td>Extended Kubernetes Monitoring</td>
<td>100%</td>
</tr>
<tr>
<td>Improved Dynamic Configuration</td>
<td>100%</td>
</tr>
<tr>
<td>More AWS plug-ins</td>
<td>100%</td>
</tr>
<tr>
<td>More Azure plug-ins</td>
<td>100%</td>
</tr>
</tbody>
</table>
Finishing up ntop integration as main topic

Network Monitoring

- ntop integration: Traffic dashboard
- ntop integration: Alerts
- ntop integration: Flows
- ntop integration: Host details

VPN Monitoring

More plug-ins for network monitoring
Check-API on final spurt, REST-API progressing

Automation & Extensibility

Check-, Inventory- and Bakery-API

REST-API

Distributed agent bakery and bakery configurability

New notification plug-ins
Major performance improvements still underway

Performance

More scalability for check helpers
Activate Changes: Incremental sync of configuration
WATO improvements
Many checks done, more to come :-)

+ Extend the monitoring base

New and extended plug-ins already done

More to come!
A lot of useful features are built during a year

- Make available vs. not decreasing stability
- Feature packs give you the option to choose
- Features are packed as MKPs in patch releases
- User can choose to enable feature & disable it again

Innovation releases

- Make new features testable during development phase
- Released when some larger feature needs to be tested
- No releases when code base is not ready for it
- Currently: In the middle of a complex Python 3 transition
- Does not make much sense to start innovation phase
The road to Checkmk 1.7

We need your support with testing - send us your bug reports etc.

feedback-1.7-beta@checkmk.com
Agenda

1. Recap: What’s coming for Checkmk 1.7
2. The next 100+ features
3. The next big topics
When is it finally done?

Idea stage

Concept stage

Implementation stage
We are in the middle of the journey

<table>
<thead>
<tr>
<th>Overall UX Redesign</th>
<th>Redesign most used workflows</th>
<th>Most will be done for 1.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed UX Redesign</td>
<td>Create consistency and more intuitive user interfaces on all the detail pages</td>
<td>Start in Q3 2020</td>
</tr>
<tr>
<td>Dashboarding 3.0</td>
<td>Step-up dashboarding usability</td>
<td>Partly done in 1.7, will continue for 1.8</td>
</tr>
<tr>
<td>Notifications &amp; Reports</td>
<td>Improve standard notification &amp; report layouts</td>
<td>Partly done in 1.7, will continue for 1.8</td>
</tr>
</tbody>
</table>
Anything missing?

Cloud & Containers

A deep sea of emptiness
Monitoring the Google Cloud Platform

- Special agent - similar to AWS and Azure
- Ready-built for dynamic configuration
- Checks for standard services
  - Cloud Storage
  - Compute Engine
  - Cloud SQL
  - Cloud Load Balancing
- Additional checks possible based on feature requests
Deeper integration of Prometheus and Checkmk

Already done for Checkmk 1.7

- Integration of most important Prometheus exporters
- Running PromQL queries natively in Checkmk

Next steps

- Integrating more Prometheus exporters (based on feature requests)
- Directly connecting to Prometheus exporters

We need your experience in the field - please help us by testing it!
Completeness of REST-API

- Technology stack established and first features done
- Goal for 1.8: Completeness
- Vision: Everything can be done via API
The performance improvements...

In progress for Checkmk 1.7

- We will have finished many performance improvements already for 1.7
  - Splitting the Check Helpers
  - Activate Changes with incremental sync
  - Several WATO improvements

Further current issues to be fixed

- Even faster activate changes
- Large number of users
- Network scans for very large networks
Extend monitoring base

2000+ check plug-ins - covering everything

- Last year: many “strategic check plug-ins”, e.g. AWS
- This year: mostly customer-request driven
- Many new devs → More capacity :)
- Also: Your votes matter!

# check plug-ins

0 305 480 720 1,130 1,293 1,544 1,767 1,927

Complete end-to-end encryption

- Last year: Livestatus encryption
- Still missing: Notification spooler
- Notification spooler optionally forwards notifications from remote to central sites for delivery
- Workarounds:
  - Tunnel notification spooler traffic (SSH, VPN)
  - Do not use forwarded notifications
Two-Factor Authentication

- 2FA is good practice for login procedures
- Multiple ways how to do 2FA
  - Hardware (e.g. Yubikey)
  - Software (e.g. Google authenticator)
- First step:
  - Add optional 2FA to GUI supporting U2F
  - Using a Checkmk local validation server
- Future:
  - Connecting other validation servers
And ... honing all the existing features

- Checkmk has so many features
- No feature is ever complete
- Not only about fixing bugs
- Rather about honing features to be really great
- You can’t market that, but these quality of life improvements are important
- We will care about this
Agenda

1. Recap: What’s coming for Checkmk 1.7
2. The next 100+ features
3. The next big topics
We will start working on these things in Q4/2020
These are our strategic priorities, a rough outline of focus areas
Kubernetes will be key to make VMWare vSphere7 much more dynamic and bring the dev and ops world closer.

Software providers will also increase delivery of their software via containers - ops needs to implement and monitor this.
Checkmk in the Cloud

Enable better for cloud deployments

- Deployment with standard images directly from AWS Market Place - similar for Azure
- Agents with possibility to push data - better in cloud environments, also allows for self-registration
A lot of “blackbox” services are used these days

E2E testing becomes more and more important

Establish best practices in integrating E2E with Checkmk

Potentially integrate E2E tools into the Checkmk UI
Automatic dependencies

1. Resolving issues quicker
2. Prevent issues from happening
3. Reduce unnecessary notifications

- Discovering dependencies based on multiple dimensions
  - Using physical and virtual networks
  - Application configurations (e.g. vSphere, Oracle, Kubernetes)
- Visualizing these dependencies
Checkmk analytics

- Complementary to dependency analysis
- Automatic correlation of metrics to find systems which experience similar atypical behaviour
- Powerful visualizations intelligently highlighting anomalies using large amounts of data to find root causes quicker
More network monitoring

- Better understand networks
  - Extended visualization of network topologies
  - Discovery of network topologies (ntop, LLDP and more)
- Virtual networks in virtualization platforms
- Improve monitoring of network hardware
  - Include support info from vendors (e.g. PSIRT advisories)
  - Improve monitoring APIs for network devices, e.g. streaming telemetry
Monitoring modern hypervisors

Checkmk in the Cloud

E2E monitoring integration

Automatic dependencies

More intelligence for Checkmk

More network monitoring
Thank you

tribe29 GmbH
Kellerstraße 29
81667 München
Deutschland

Web — tribe29.com
E-Mail — mail@tribe29.com