Check_MK
Development
Lars Michelsen
The development team

- 9 developers (+2 starting from Q3)
- The check team (3 developers)
- Head of development
Developing a Feature
Developing a Feature

- Request
- Check?
- Check-Team
  - Head of Development
  - Design (Concept, Cost, Schedule)
  - Go?
  - Implementation
  - Builds, Release
  - Review, Tests
  - MKP, Patch
Bugs
and other issues
Bug reports

- Ticket or feedback mail
  - Ticket → prioritized fix
- Feedback
  - 2 month backlog
  - Most activity before stable release
Quality
### QA: Review via Gerrit

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andreas Boesl</td>
<td>Uploaded patch set 1.</td>
</tr>
<tr>
<td>Jenkins</td>
<td>Patch Set 1: Build Started <a href="https://ci.mathias-kettner.org/">https://ci.mathias-kettner.org/</a>...</td>
</tr>
<tr>
<td>Andreas Boesl</td>
<td>Patch Set 1: Kurz zum drüberschauen. Das war BL lichi...</td>
</tr>
<tr>
<td>Jenkins</td>
<td>Patch Set 1: Verified+1 Build Successful <a href="https://ci.mathias-kettner.org/">https://ci.mathias-kettner.org/</a>...</td>
</tr>
<tr>
<td>Lars Michelsen</td>
<td>Patch Set 1: (1 comment) Noch eine Anmerkung</td>
</tr>
<tr>
<td>Andreas Boesl</td>
<td>Uploaded patch set 2.</td>
</tr>
</tbody>
</table>

```python
h = ''<table><tr>'
if perc_used + perc_uncommitted <= 100:
    # Regular handling, no overcommit
    h += perfometer_td(perc_used, "#00ff6b")
    h += perfometer_td(perc_uncommitted, "#ecccff")
    h += perfometer_td(perc_totally_free, "white")
data = [(perc_used, "#00ff6b"),
            (perc_uncommitted, "#ecccff"),
            (perc_totally_free, "white")]
```

---

Check_MK Conference #3 – Check_MK Development
# QA: Tests via Jenkins

<table>
<thead>
<tr>
<th>S</th>
<th>W</th>
<th>Name</th>
<th>Last Success</th>
<th>Last Failure</th>
<th>Last Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Bandit</td>
<td>36 min - #1111</td>
<td>N/A</td>
<td>3 min 49 sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GUI-Crawl</td>
<td>2 days 20 hr - #753</td>
<td>N/A</td>
<td>13 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Integrationtests</td>
<td>36 min - #2294</td>
<td>2 days 23 hr - #2290</td>
<td>9 min 4 sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PyLint</td>
<td>45 min - #3591</td>
<td>20 hr - #3590</td>
<td>9 min 18 sec</td>
</tr>
</tbody>
</table>
QA: Various actions

- Reduce complexity
  - Single Python version
  - Ship dependencies (single version)
- Move common code to libraries
- Refactor grown code
- Extend automated tests
Versioning scheme

- 1.2.7i3 → 1.2.8b1

  Removed odd to even step between innovation and beta phase

- Don’t fear 2nd level increment!

  1.2.8 → 1.4.0

- Only even numbers for stable versions?

  Next will be 1.5.0
Cycle of Releases
Release cycle
Maintenance phases

● Active maintenance
  – Security + Bug fixes
  – Regular fix releases

● Passive maintenance
  – Fixes and releases on customer request
Maintenance intervals

- Daily: No maintenance releases
- Innovation
  - 1 - 2 months active maintenance
  - 1 - 2 months passive maintenance
- Stable
  - 1,5 years active maintenance
  - 1,5 years passive maintenance
Linux Distributions
Supported Distributions

• Major distributions are supported
• Covering vendor maintenance
• Extending on demand
• 32-bit support will be dropped soon
New Feature-Werks

#7563 #7569 #7590
Werk #7563
Online Backup
Online Backup

• Desirable: Site backup without stopping the site
• Problem: rrdcached continuously writes data to RRD files
• Solution: Extend rrdcached with new commands:
  – SUSPEND <file>, SUSPENDALL
  – RESUME <file>, RESUMEALL
Werk #7569

Disk space cleanup
Sometimes housekeeping is necessary

- Hosts have been moved or deleted manually
- RRDs do not receive any new data because a check changed or its host/service was deleted
- Lots of ancient uninteresting history data piles up
- Inventory archive contains old stuff
Don‘t fear: We have a cron job now...

- Remove data older than a given age
- Incrementally remove old data until enough space is free
- Remove abandoned host data (enabled by default: older than a month)
- Easily configurable via WATO‘s site management
Werk #7590
Shipping Python™
Python in Check_MK

• Previously we used the platform’s Python
  – Wide range from 2.4.3 to 2.7.13
  – Lots of changes in the language and underlying libraries

• Now we ship known, recent versions of
  – Python (2.7.13)
  – a set of 33 additional packages
Benefits

- Reduced complexity and testing effort
- Easier and better customer support
- Simpler development for us and our customers
- Just remember: Use `#!/usr/bin/env python`
- Bonus: pip works in site!
OS Support and Integration
A decade of distributions

- Added support for recent distributions
  - Ubuntu 16.10 (yakkety) / 17.04 (zesty)
  - Debian 9 (stretch)
  - SLES 12 SP2
- We still support CentOS 5
- Install omd as a systemd service when appropriate
Maintaining a Distribution
Problems

• Old SW potentially has more bugs, is more insecure, and has less features.

• New SW has a tendency to drop support for old distributions/libraries.

• Open Source SW and old LTS distributions are not a good fit

• Example CentOS 5: 10 years old, no TLS 1.2
Finding a middle ground

- Ship 27 packages/modules with 88 patches
- Track some security patches from distros
- Re-enable dropped distro/library support
- Fix evil bugs: Race conditions, edge cases, ...
- Implement a few new tiny features
„Niemand ist weiter von der Wahrheit entfernt als derjenige, der alle Antworten weiß.“

Zhuangzi
Writing a **good** user manual is hard but necessary!
You surely know manuals like this:

**Open:**
- Here you can open a new file

**Save:**
- Here you can save your file

**Print:**
- Here you can print your file

...
Check_MK Conference #3 - News from the User Manual
Targets of the Check_MK User Manual

We want it to be

- precise
- complete
- helpful
- fun to read!
Situations in which you access the manual

- Acquaint yourself with a certain topic
- Get information you need for a concrete task
- Evaluate if Check_MK is what you need
- Look for features you didn't know about
- and others....
Approach of the manual

• Is split into task oriented articles
• Does not try to replace the online help
• Always first a getting started, then more and more technical details
• Covers several Check_MK versions at once
• It's a continuous work in progress project
Current Situation

- German: 50 articles
- Many but not all topics covered
- English: 35 articles
- Translation is in progress
Print version

• First pre-edition (12 units): 530 pages
• Second pre-edition (12 units): 580 pages
• First official edition probably:
  − 800+ pages
  − later 2017
  − price: 90 EURO or 2 support credits
• Several up-to-date editions each year
Check_MK - Das offizielle Handbuch

Letzte Aktualisierung: 26. Januar 2017

1. Installation

- Check_MK - Das Offizielle Handbuch
- Installation auf einem Linux-Server
- Installation der virtuellen Appliance
- Ausführliche Installationsanleitung
- Schnelleinstieg ins Monitoring
- Check_MK Versionen
- Versionsupdate von Check_MK

Ein Wegweiser für das Kennenlernen von Check_MK
Kurze Anleitung ohne viel Details
Kurze Anleitung ohne viel Details
Ausführliche Anleitung für Installation mit DEB/RPM
In drei Minuten zum ersten überwachten Host

(NEU) Welche Check_MK-Version soll ich verwenden?
(NEU) Update von Check_MK und Upgrade der Demoversion

Navigation:
Check_MK
Die Check_MK Editionen
Das Check_MK Monitoring-System

Bildschirmfotos
Screencasts
Demo-Server
Erfolgsgeschichten und Meinungen

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Katalog der Checkplugins
Thanks for listening!
YOUR FEEDBACK IS WELCOME