

#### 2<sup>nd</sup> Check\_MK Conference





#### 2. Check MK Konferenz





# Herzlich Willkommen in München!

Welcome to Munich!



#### Our team has grown :-)



## CHECK\_MK KONFERENZ 2015 MÜNCHEN

#### The Programme

#### Monday, Oct 19<sup>th</sup> 2015

7:30 - 9:30 am	Breakfast in the conference hotel For all participants that have booked including hotel
9:30 - 9:45 am	Official opening of the conference Welcome of the participants, Introduction of the Check_MK-Team
9:45 - 10:30 am	Mathias Kettner Newest developments in Check_MK - Part 1
	15 minutes break
10:45 - 11:45 am	Douglas Mauro - TruePath Technologies, USA  Demystifying SNMP
	15 minutes break
12:00 am - 1:00 pm	Robert Sander - Heinlein Support GmbH  CMDBs and Check_MK
	Lunch together
2:15 - 3:15 pm	Bernd Erk - Netways GmbH Elasticsearch, Logstash and Kibana - a powerful trio
	15 minutes break
3:30 - 4:25 pm	Check_MK Team Newest developments in Check_MK - Part 2
	25 minutes break
4:50 - 5:20 pm	Gunanand Nagarkar, Ravi Bhure - Opex Software, India  Migration from Solarwinds to Check_MK
	15 minutes break
5:35 - 6:00 pm	Check_MK Team Check_MK's new metrics system
	75 minutes break
7:15 - 11:00 pm	Evening event



## CHECK\_MK KONFERENZ 2015 MUNCHEN

#### The Programme

#### Tuesday, Oct 20<sup>th</sup> 2015

7:30 - 9:00 am	Breakfast in the conference hotel For all participants that have booked including hotel				
9:00 - 9:55 am	Check_MK Team Newest developments in Check_MK - Part 3				
	15 minutes break				
10:10 - 11:05 am	Markus Mühlebach, LTW Intralogistics GmbH, Austria LTW Intralogistics GmbH und Check MK - Monitoring of industrial plants				
	15 minutes break				
11:20 am - 12:15 pm	Marius Pana, Spearhead Systems, Romania Automation with Ansible				
	Lunch together				
1:30 - 2:25 pm	Robert Altnöder, LIN:BIT, Austria  Data replication and high availibility with multi-node-clusters				
	15 minutes break				
2:40 - 3:30 pm	Tim Despiegelaere, SYNERGICS CVBA, Belgium Check_MK Treasures				
15 minutes break					
3:45 - 4:30 pm	Check_MK Team Check_MK Roadmap - Plans und Ideas for the future				
4:30 - 4:40 pm	Official end of the conference Leave-Taking of the participants				



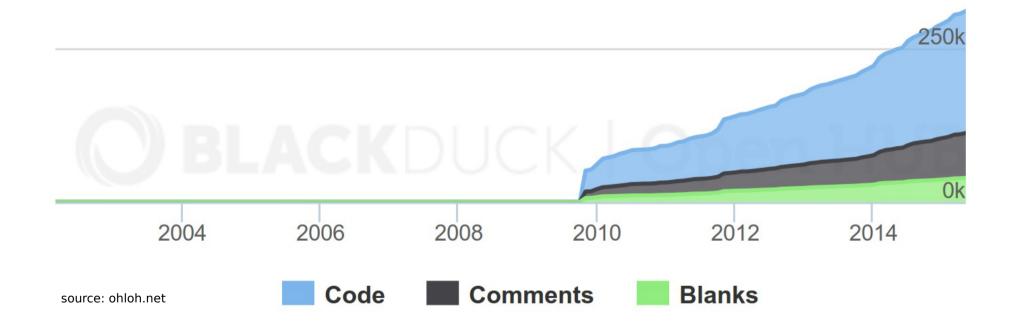


#### **Development of Check\_MK**



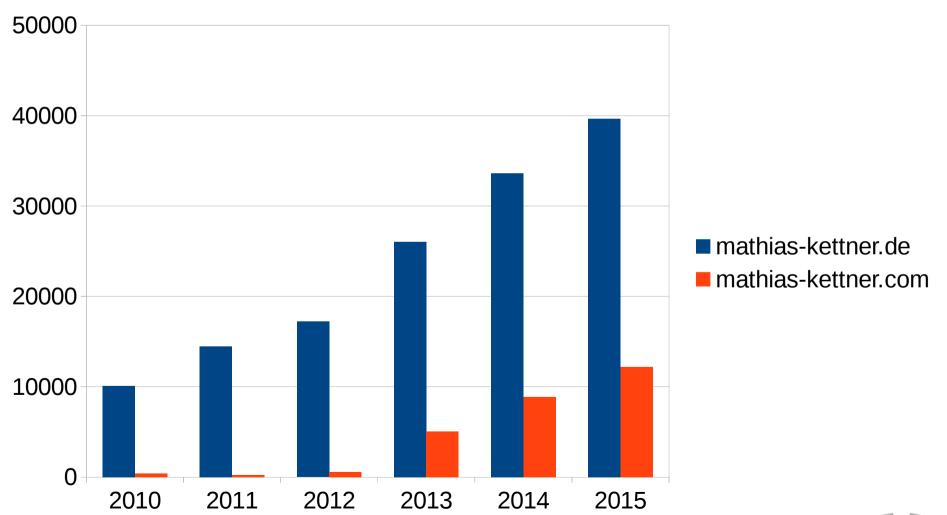
#### Lines of Code

#### Lines of Code





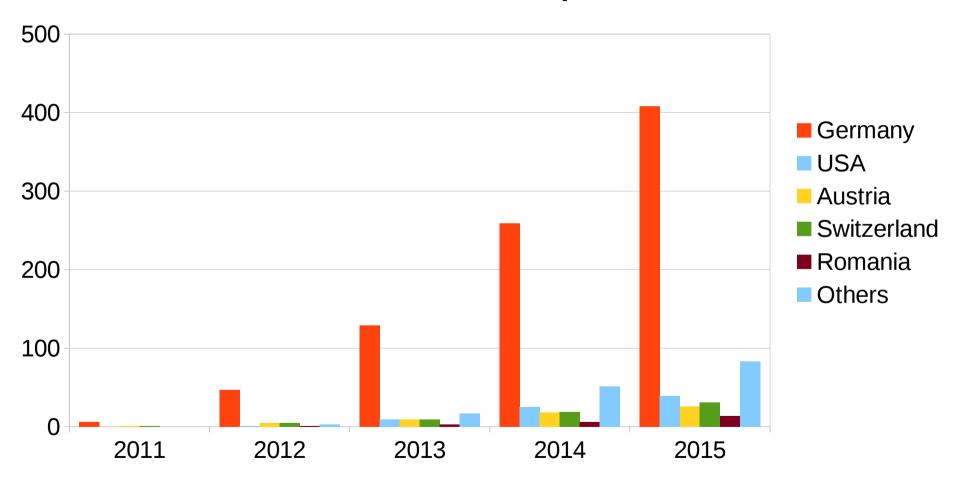
#### Unique Visitors each **September**





#### Subscriptions

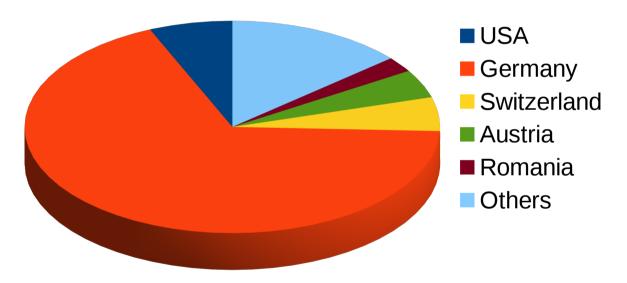
#### **Number of Subscriptions**





#### By Country

#### **Subscriptions by Country**





#### News in Check\_MK

#### **News in Check\_MK**

Part 1



#### We will show:

- The new Check\_MK Raw Edition
- News in the Agent Bakery
- News in the User Interface
- News in Business Intelligence (BI)
- News in WATO





#### The new Check\_MK Raw Edition

#### The **old** situation (choose one of):

- Packages from omdistro.org
- Manual setup via ./setup.sh
- Packages from your Linux Distribution
- Packages from the subscription
- Check MK appliance



#### **Current Situation**

#### The **new** Situation

- Check\_MK Raw Edition (CRE)
- Check MK Enterprise Edition (CEE)
- Check\_MK Appliance



#### Check\_MK Raw Edition

#### **Check\_MK Raw Edition:**

- 100% Open Source
- every stable patch version is released
- Download for free on our web site



#### Check\_MK Enterprise Edition

#### **Check\_MK Enterprise Edition:**

- Requires Subscription
- also innovation versions and daily builds
- Download from our web site with credentials



#### CHECK\_MK MUNCHEN

#### KONFERENZ 2015 CRE versus CEE - Features

Features	Raw Edition	Enterprise Edition	Check_MK Appliance
Full-Featured IT-Monitoring-System with over 800 shipped check plugins	х	х	х
Hardware/Software inventory	Х	Х	х
Event Console - process messages from syslog, SNMP traps and file files	х	х	х
Longtime storage of performance data and availability	х	Х	х
High performance and low latency via Check_MK Micro Core		х	х
Performanceboost for SNMP based checks by 100%		Х	х
Livestatus-Proxy: optimal response times and stability in distributed setups		Х	х
Agent Bakery: automatic packaging of individual monitoring agents		Х	х
Reporting: Creation of individualized reports in PDF format		Х	Х
New interactive system for visualization of performance data		Х	Х
Integrated connection to the graphing tool Graphite		Х	Х
User Interface optionally in German		Х	х
Operating system administration via Web-GUI (incl. updates)			х
Maintenance of versions and instances via Web-GUI			х
Integrated High Availability (HA)			х



#### CHECK\_MK MUNCHEN

#### KONFERENZ 2015 CRE versus CEE - Installation

Installation and update	Raw Edition	Enterprise Edition	Check_MK Appliance
Linux-Knowledge required	little	little	none
Easy installation via DEB/RPM, no third-party software required	Х	Х	1
Multiple Monitoring-Instances on a single server	х	х	Х
Multiple versions installed in parallel	х	х	Х
Support for latest Linux-Distributions	х	х	1
Support for older Linux-Distributions (e.g. RedHat 5, SLES 11SP2		х	1
Stable Check_MK releases	х	х	Х
Check_MK Innovation-releases		х	Х
Daily snapshot releases		х	Х
Daily stable patch releases		х	х





#### **News in the Agent Bakery**

#### Improved Bakeability

- Almost all plugins and options now bakeable
- Also custom plugins are bakeable
- Support for more operating systems



#### #8266: Download page

## #8266 Added download page for the builtin agents/plugins to agent bakery page





#### #8266: Download page

Builtin Agents			omdadmin (admin)	13:19
⚠ 2 Changes	<b>M</b> ≾ Re	elease Notes		
▼ Packaged Agents				
check-mk-agent_2015.10.06-1_all.deb check_mk_agent.msi		check-mk-agent-2015.10.06-1.noarch.rpm	21.986	
▼ Linux Agent - Example configuration using with sys	temd			
systemd socket definition file	149	systemd service definition file	151	
▼ Linux/Unix Agents				
Check_MK Agent for AIX	9691	Check_MK Agent for FreeBSD	14.681	
Check_MK Agent for HP/UX		Check_MK Agent for Linux		
Check_MK Agent for Mac OS/X		Check_MK Agent for NetBSD		
Check_MK Agent for OpenBSD		Check_MK Agent for OpenVMS		
Check_MK Agent for Solaris		Check_MK Agent for Linux with caching		
mk-job: runs monitored jobs on Linux waitmax - if /usr/bin/timeout is missing		mk-job.solaris: runs monitored jobs on Solaris	3032	
Walithax II /usi/bill/timeout is inissing	3070			
▼ Linux/Unix Agents - Example Configurations				
apache_status.cfg	1889	jolokia.cfg	. 1978	
logwatch.cfg		Example configuration for NGNIX plugin		
sglnet.ora	219	sqlplus.sh		



- Generic agents for all operating systems
- Also plugins for direct download
- Matches version of Check\_MK
- Also available in Raw Edition

#### Note

The download on our home page was dropped.



#### #8302 Download host's agent

### #8302 New page for downloading the baked monitoring agent of a host





#### #8302 Download host's agent

Configuration  Restrict agent access via IP address:  Finetune Windows Eventlog monitoring:  Configuration of individual Eventlogs:  Historic messages:  On  Agent for AIX (TGZ)  Agent for Linux (DEB)  Agent for Linux (RPM)  Configuration of individual Eventlogs:  Historic messages:  On  Agent for Linux (RPM)  Configuration of individual Eventlogs:  Application, WARN/CRIT, without context  Historic messages:  On  Agent for Linux (RPM)  Check_mk_agent_2015.10.06-e470ed4f6f5e4866.tar.gz (4.25 kB)  Check_mk_agent_2015.10.06-e470ed4f6f5e4866_all.deb (18.1 kB)  Check_mk_agent_2015.10.06-e470ed4f6f5e4866.noarch.rpm (20.7 kB)	Download Check_MK Agent for host Inx5-srv omdadmin (admin) 13:09						
Agent for Linux (RPM)  Restrict agent access via iP address:  Finetune Windows Eventlog Configuration of individual Eventlogs: Without context Without context Without context Without context Without context Without context Historic messages: on Check_mk_agent_2015.10.06-e470ed4f6f5e4866.tar.gz (4.25 kB)  Agent for Linux (RPM)  Application, WARN/CRIT, Without context Without Conte	T All Agents						
monitoring: Eventlogs: Application, WARN/CRT1, without context  Historic messages: on  Agent for AIX (TGZ) check_mk_agent_2015.10.06-e470ed4f6f5e4866.tar.gz (4.25 kB)  Agent for Linux (DEB) check_mk_agent_2015.10.06-e470ed4f6f5e4866_all.deb (18.1 kB)  Agent for Linux (RPM) check_mk_agent-2015.10.06-e470ed4f6f5e4866.noarch.rpm (20.7 kB)	Restrict agent access via IP 10.1.33.41						
Agent for AIX (TGZ)       check_mk_agent_2015.10.06-e470ed4f6f5e4866.tar.gz (4.25 kB)         Agent for Linux (DEB)       check_mk_agent_2015.10.06-e470ed4f6f5e4866_all.deb (18.1 kB)         Agent for Linux (RPM)       check_mk_agent-2015.10.06-e470ed4f6f5e4866.noarch.rpm (20.7 kB)		monitoring: Eventlegs: Application, WARN/CRIT,					
Agent for Linux (DEB) check_mk_agent_2015.10.06-e470ed4f6f5e4866_all.deb (18.1 kB)  Agent for Linux (RPM) check_mk_agent-2015.10.06-e470ed4f6f5e4866.noarch.rpm (20.7 kB)		Historic messages: on					
Agent for Linux (RPM) check_mk_agent-2015.10.06-e470ed4f6f5e4866.noarch.rpm (20.7 kB)	Agent for AIX (TGZ)	check_mk_agent_2015.10.06-e470ed4f6f5e4866.tar.gz (4.25 kB)					
	Agent for Linux (DEB)	check_mk_agent_2015.10.06-e470ed4f6f5e4866_all.deb (18.1 kB)					
	Agent for Linux (RPM)	check_mk_agent-2015.10.06-e470ed4f6f5e4866.noarch.rpm (20.7 kB)					
Agent for Linux (TGZ) check_mk_agent_2015.10.06-e470ed4f6f5e4866.tar.gz (16.9 kB)	Agent for Linux (TGZ)	check_mk_agent_2015.10.06-e470ed4f6f5e4866.tar.gz (16.9 kB)					
Agent for Windows (MSI) check_mk_agent-2015.10.06-e470ed4f6f5e4866.msi (728 kB)	Agent for Windows (MSI)	check_mk_agent-2015.10.06-e470ed4f6f5e4866.msi (728 kB)					



#### #8302 Download host's agent

- Why for all operating systems?
  - Check\_MK cannot know the OS type
  - Host might well not have an agent yet
- New possible workflow:
  - 1. Create new host in WATO
  - 2. Download specialized agent for this host
  - 3. Deploy agent
  - 4. Do service discovery



#### All new Werks

#### LEVEL 2

```
#8092 Bake generic and vanilla agent
```

#8095 Agent bakery now creates .tar.gz files as an alternative for RPM and DEB

#8126 Agent bakery creates now tarball AIX agent (still no plugins)

#8195 Now able to deploy custom files with the agent (Windows only)

#8266 Added download page for the builtin agents/plugins to agent bakery page

#8302 New page for downloading the baked monitoring agent of a host

#### **LEVEL 1**

#8096 Configurable installations paths for Linux agents

#8110 Make variable directory for Check\_MK Linux/UNIX agent configurable in bakery

#8127 Agent bakery now allows to configure non-root user for agent

#8321 plugin/local parameters timeout, retry\_count, execution and cache\_age bakeable



#### Future: Deployment

## We are working on automatic deployment

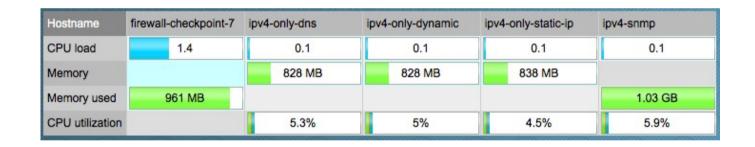
- Hosts will update their agents automatically
- Cryptographic signature of agents
- Protection from mass failures
- Support for Linux and Windows
- Other Unices might follow



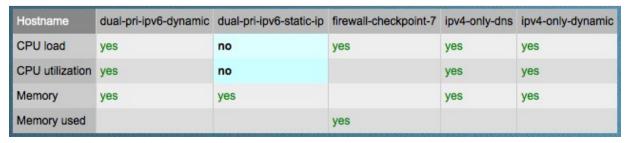


#### News in the User Interface

- Can be used to easily compare values of equal services on different devices
- For example performance data:



But also other values (e.g. settings):





#### Action/Icon Popup Menu

- Icons and actions can be displayed directly in the column or in a popup menu
- Default: Actions in popup, states in column
- Can be configured according to your needs
- You can add your own actions





#### Werk list - change tracking

- See and filter list of changes in GUI
- Track incompatible changes

Warning: There are 54 unacknowledged incompatible werks:

Show unacknowledged incompatible werks

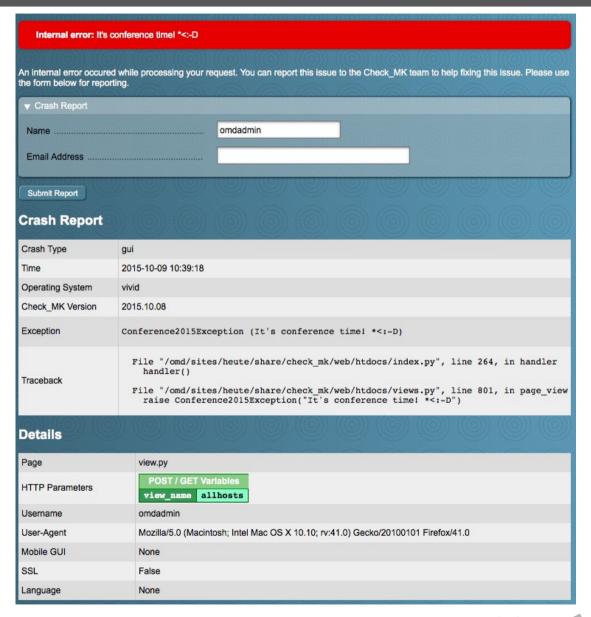
1.2.7	3						
ID	Version	Date	Class	Level	Compatibility	Component	Title
#8306	1.2.7i3	2015-10-07 16:32:29	New Feature	Trivial Change	Compatible	The Check_MK Micro Core	Log stack trace in case of crash of CMC
#2620	1.2.7i3	2015-10-07 13:19:24	Bug Fix	Trivial Change	Compatible	User Interface	Fixed issue loading correct graph templates when HTTP is disabled on system apache level
<u>#2637</u>	1.2. <mark>7i</mark> 3	2015-10-07 12:34:54	New Feature	Trivial Change	Compatible	Checks & Agents	etherbox2 temp: new check for the etherbox 2 (from firmware version 1.21 on) / MessPC
<u>#2656</u>	1.2.7i3	2015-10-06 16:53:40	New Feature	Trivial Change	Compatible	Checks & Agents	windows agent can now optionally output the full command line in the ps section
<u>#2655</u>	1.2.7i3	2015-10-06 16:01:24	New Feature	Trivial Change	Compatible	Checks & Agents	Windows Agent can now read additional settings from an optional check_mk_local.ini file
<u>#2649</u>	1.2.7i3	2015-10-06 11:32:46	New Feature	Prominent Change	Compatible	WATO	Bulk renaming of hosts in WATO
<u>#2654</u>	1.2.7i3	2015-10-06 10:31:08	Bug Fix	Trivial Change	Compatible	Checks & Agents	logwatch: fixed high memory and cpu usage caused by too many unacknowledged messages





#### New Crash reporting

- GUI and Checks
- Reported via HTTP/AJAX





#### New Crash reporting

#### Our view on the reports

Crashe	s (grouped)			
► Type	Times reported	First reported	Last reported	Reports
check	1	16.09.2015 08:36:32 (Version: 2015.08.04)	16.09.2015 08:36:32 (Version: 2015.08.04)	55f90dda05376
check	1	26.08.2015 09:00:24 (Version: 2015.07.31)	26.08.2015 09:00:24 (Version: 2015.07.31)	55dd646c32ca0
check	2	13.08.2015 16:16:06 (Version: 2015.08.13)	10.09.2015 13:09:23 (Version: 2015.08.12)	55cca6d480eaf, 55f164f0a7dff
check	1	24.09.2015 09:11:46 (Version: 2015.09.15)	24.09.2015 09:11:46 (Version: 2015.09.15)	5603a26463246
check	1	31.08.2015 13:12:02 (Version: 2015.08.28)	31.08.2015 13:12:02 (Version: 2015.08.28)	55e4368adddfd
check	1	27.08.2015 10:18:32 (Version: 2015.08.27)	27.08.2015 10:18:32 (Version: 2015.08.27)	55dec7df3cc62
gui	1	23.09.2015 12:51:35 (Version: 2015.08.12)	23.09.2015 12:51:35 (Version: 2015.08.12)	5602843794645
check	2	08.09.2015 15:55:47 (Version: 2015.08.12)	09.09.2015 07:43:15 (Version: 2015.08.12)	55efc46411c1b, 55efc7172f820
check	4	31.08.2015 15:09:59 (Version: 2015.07.31)	01.09.2015 14:35:21 (Version: 2015.07.31)	55e45232776f7, 55e59c0443581, 55e59bcdd2bca, 55e59be1c5ed6
check	1	28.08.2015 09:41:28 (Version: 2015.07.31)	28.08.2015 09:41:28 (Version: 2015.07.31)	55e010f4d34ee
check	1	17.08.2015 10:46:50 (Version: 2015.08.13)	17.08.2015 10:46:50 (Version: 2015.08.13)	55d1b1bdc398d
check	1	02.10.2015 12:09:15 (Version: 2015.09.18)	02.10.2015 12:09:15 (Version: 2015.09.18)	560e58074aacf
check	2	18.09.2015 07:45:24 (Version: 2015.09.16)	25.09.2015 22:20:01 (Version: 2015.09.25)	55fba5db75a6a, 5605b7ee58f00
check	1	11.09.2015 09:25:59 (Version: 2015.09.07)	11.09.2015 09:25:59 (Version: 2015.09.07)	55f290b537d3a
check	1	06.08.2015 16:46:00 (Version: 2015.08.04)	06.08.2015 16:46:00 (Version: 2015.08.04)	55c37350a3983
check	1	28.08.2015 09:44:22 (Version: 2015.08.06)	28.08.2015 09:44:22 (Version: 2015.08.06)	55e0116eb3984



- Improved styling of dashboard designer
- Sidebar snapins can now be added as dashlets to dashboards
- Host/service statistics dashlets now deal with the context
- Allowing unicode characters in static text dashlet



- Added handling of multiple LDAP connections (incl. Solving of name conflicts and cross directory syncs)
- Multiple LDAP groups can be configured for assigning single roles to users
- Able to set custom user attributes based on group memberships
- Automatically syncing credential changes to slave sites in distributed setups



### Usability and others

#### **Usability**

- Sorting Check MK\* services always on top of services lists
- Services are now sorted in a natural way
- Added icon uploader, unified icon selection

#### **Additional changes**

- User IDs are now allowed to contain special characters
- New personal setting for start page, right after login
- Allow input of plugin output and perfdata when faking checks
- Icon for link to host/service parameters
- New icon for hosts/services that are out of their service period
- Virtual Host Tree now allows adding levels of WATO folders
- Allow clickable URLs in comments and downtime texts



#### **Filters**

- Added config option "Default filter group" to set the initial network topology view filter
- New downtime filter for comments
- Added regex based filtering of contacts to log based views
- New filter for (de-)selecting preliminary notifications to "check-mk-notify"
- New filter for selecting hosts/services based on their service period
- New filter for start of downtime
- Site host filters can now be negated
- Allow service regular expression filter to be negated



- Improved load time of Check\_MK GUI
- Better visualize manually changed notification enable/disable
- Allow commands for setting downtimes and acknowledging on BI aggregates
- Admins can now delete views/dashboards/reports created by other users
- Implemented password policy capabilities for local users
- The Snapins "Folders" and "Tree of Folders" can now be used by users without wato permission
- Sidebar snapin 'Tree of Folders' and 'WATO folder' filter now available on slave sites
- Output icon information in CSV/JSON/Python export of views
- Relative timestamps display warnings when they should be in future but are in past
- Remove PNP Timeranges from range selection, put these ranges directly into the list
- Add support for jsonp export (next to json and py





# **New in WATO**

# CHECK\_MK KONFERENZ 2015 MUNCHEN

### GUI changes (1/2)

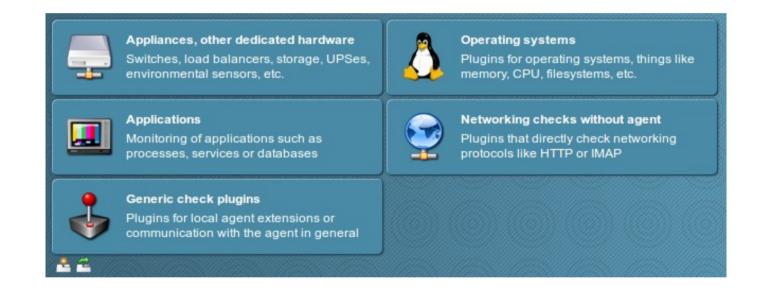


► Monitoring Core
► Service discovery
► Execution of checks
► Notifications
► Alert Handlers
▶ User Interface
The state of the s
▼ Administration Tool (WATO)
Automatically create monitoring agents
Number of configuration snapshots to keep
WATO restart mode for Nagios Restart
Use unsafe legacy encoding for distributed WATO
Hide internal folder names in WATO
Allow upload of insecure WATO snapshots
Hide hosttags in WATO folder view
Hide names of configuration variables
Hide help text of rules in list views
Use GIT version control for WATO
Pretty-Print rules in config file of Event Console
► User Management
► Reporting
► Site Management

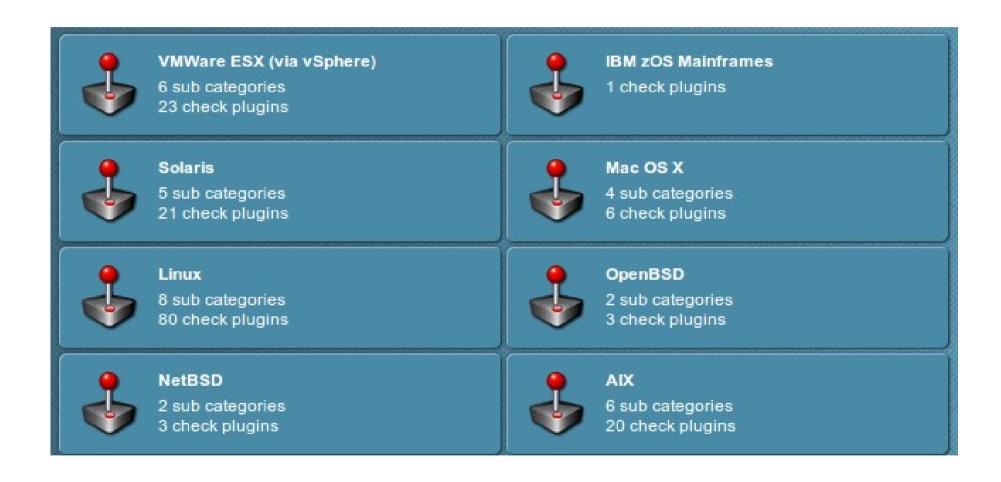




### GUI changes (2/2)











#### CPU, Memory and Kernel Performance

Type of Check	Plugin Name	Agents
CPU load	cpu.loads	AIX, FreeBSD, Linux, Mac OS X, NetBSD, OpenBSD, Solaris
CPU utilization	kernel.util	Linux
Detailed usage of RAM, Swap, VMalloc and other memory areas on Linux	mem.linux	Linux
Total number of current processes and threads	cpu.threads	AIX, FreeBSD, Linux, Mac OS X, NetBSD, OpenBSD, Solaris
Usage of Vmalloc address space	mem.vmalloc	Linux
Usage of physical and virtual RAM	mem.used	Linux
Various Linux kernel counters	kernel	Linux

#### Files and Logfiles

Type of Check	Plugin Name	Agents
Age and size of files	fileinfo	AIX, FreeBSD, Linux, Mac OS X, Solaris, Microsoft Windows
Age, size and count of a group of files	fileinfo.groups	FreeBSD, Linux, Mac OS X, Solaris, Microsoft Windows
Check logfiles for relevant new messages	logwatch	AIX, Linux, Solaris, Microsoft Windows



Title	Detailed usage of RAM, Swap, VMalloc and other memory areas on Linux		
Name of plugin	mem.linux		
Description	This check measures all of the available memory readings of the complex Linux memory management, which are found in /proc/meminfo. You can define levels on every useful value, not only on RAM and Swap. Please note that the Linux memory management is very complex. This check takes all this into account and also correctly handles the concept of caching and the fact that Linux swaps out inactive parts of processes even if there is enough RAM left.  This is not a bug, it's a feature. In fact it is the only way to do it right (at least for Linux): What parts of a process currently reside in physical RAM and what parts are swapped out is not related in a direct way with the		
	current memory usage.		
	Linux tends to swap out parts of processes even if RAM is available. It does this in situations where disk buffers (are assumed to) speed up the overall performance more than keeping rarely used parts of processes in RAM.		
	For example after a complete backup of your system you might experiance that your swap usage has increased while you have more RAM free then before. That is because Linux has taken RAM from processes in order to increase disk buffers.		
	Per default there are various crit/warn levels set. Please use WATO for viewing and adapting these levels.		
Service name	Memory		
Parameter rule set	✓ Memory and Swap usage on Linux		
Example for Parameters	Levels for RAM		
	Levels for Swap		
	Levels for Total virtual memory		
	Upper levels for Total Data in relation to RAM		
	Upper levels for Shared Memory		
	Upper levels for Page tables		
	Upper levels for Disk Writeback		
	Upper levels for Committed memory		
	Lower levels for Commit Limit		
	Lower levels for Largest Free VMalloc Chunk		



## Technical changes

- Changes can be discarded
- Search form added
- Upload of SNMP MIBs
- Agent download: http://SITENAME/check\_mk/agents



### LEVEL 2 changes

- #1489 Added iCalendar import for generating timeperiods e.g. for holidays
- #1560 Put host and service groups into one WATO menu item
- #1562 Move manual checks into a new WATO module
- #2136 Unify headers of Host/Service rules, EC rules and notification rules
- #2297 Cleanup global settings, rename sections, remove obsolete settings
- #2300 New catalog of check plugins and manpages now available as a new WATO module
- #2365 Removed old deprecated notification global options for plain emails
- #2373 Skip unmonitored hosts during bulk discovery
- #2486 Remove special handling for non-distributed-setups in WATO
- #2487 Remove dangerous <i>Factory Reset</i>
   button



### LEVEL 1 changes (1/2)

- #1163 Service discovery: Added direct link to check parameter ruleset of services
- #1428 Web-API: now able to add cluster hosts
- #1170 Added buttons to move rules to top/bottom of the list to ruleset edit dialog
- #1495 Most WATO tables can now be sorted (where useful)
- #1504 WATO makes host tag and group information available for NagVis
- #1535 Disabled services on service discovery page now link to the ruleset
- #1561 Remove Auditlog from the main WATO menu and put it into the activate Changes page
- #1697 Allow non-Ascii characters in topic of host tag groups
- #1707 WATO rule editor: show title of tag group when rendering the conditions of a rule
- #1689 Creating WATO backends for each configured site now
- #1690 Pending changes can now be discarded
- #1693 Added search form to global settings page
- #1717 Split up LDAP configuration dialog into four boxes



### LEVEL 1 changes (2/2)

- #1760 Added search form to manual checks page
- #1785 Upload SNMP MIBs via WATO
- #1868 "Successfully created the host" message is also shown on host diagnose page now
- #1934 WATO Web-API: Documentation is finally available
- #1935 WATO Web-API: Reduced number configurable role permissions
- #2176 One custom icon or action can be configured per process/service
- #2250 Added download page for shipped agents and plugins
- #2264 WATO Web API: new function get all hosts (returns all host attributes)
- #1254 The target address for crash reports can now be configured in wato global settings
- #8193 agent bakery: now able to load bakelets from local directory
- #2462 Users with access to host/services can now edit the disabled services rule for their hosts/folders
- #2463 Hiding not permitted actions from service discovery page when only permitted on host
- #2479 Allowing dots in host-, service- and contact groups now





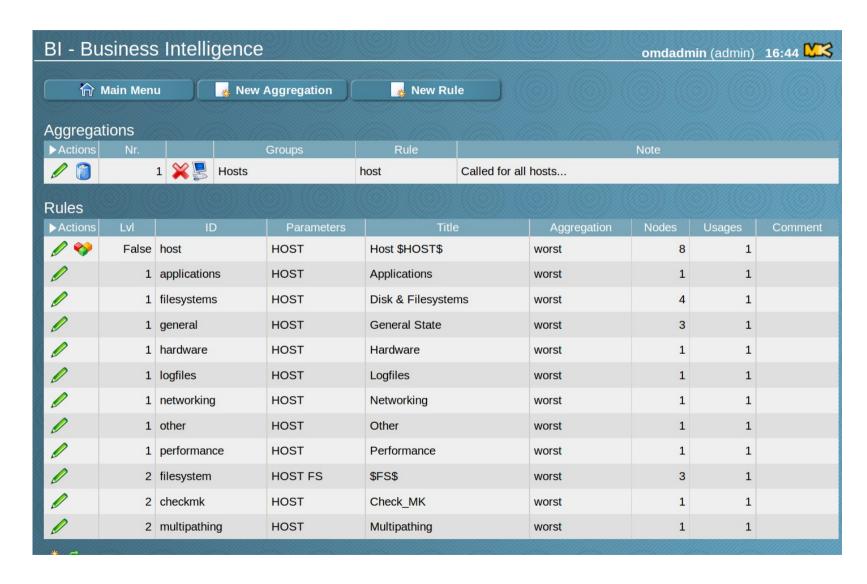
# News in Business Intelligence



### #2537 BI Editor: restructured, now show tree structure of aggregations, show unused rules

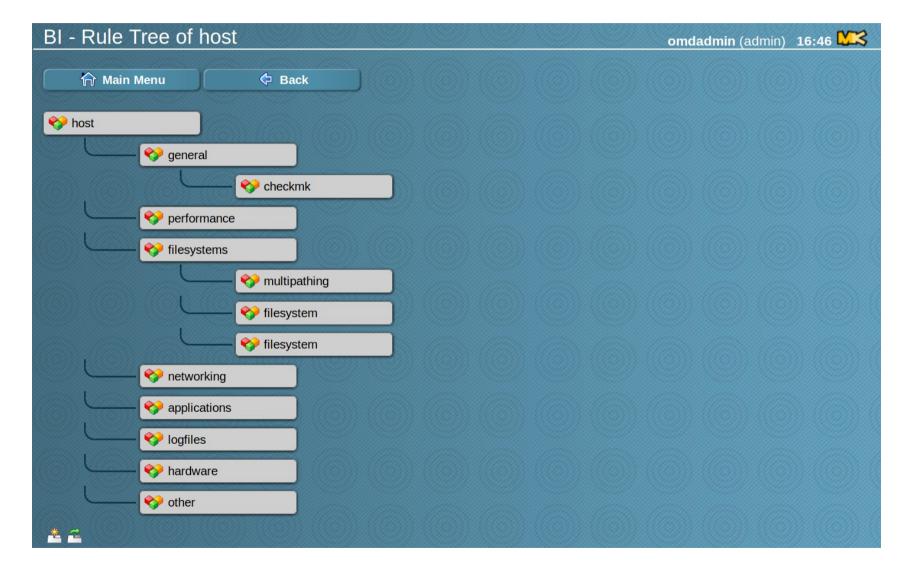


# CHECK\_MK KONFERENZ 2015 Before MUNCHEN

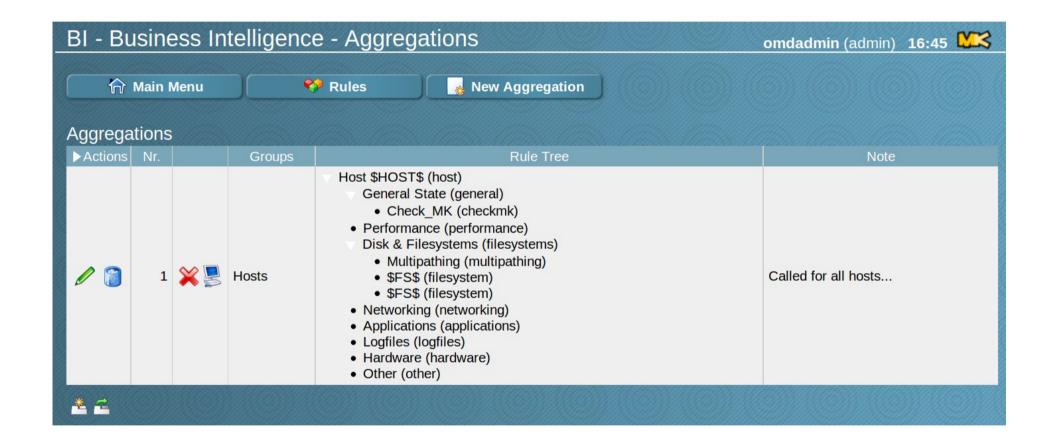




#### Before - Rule Tree

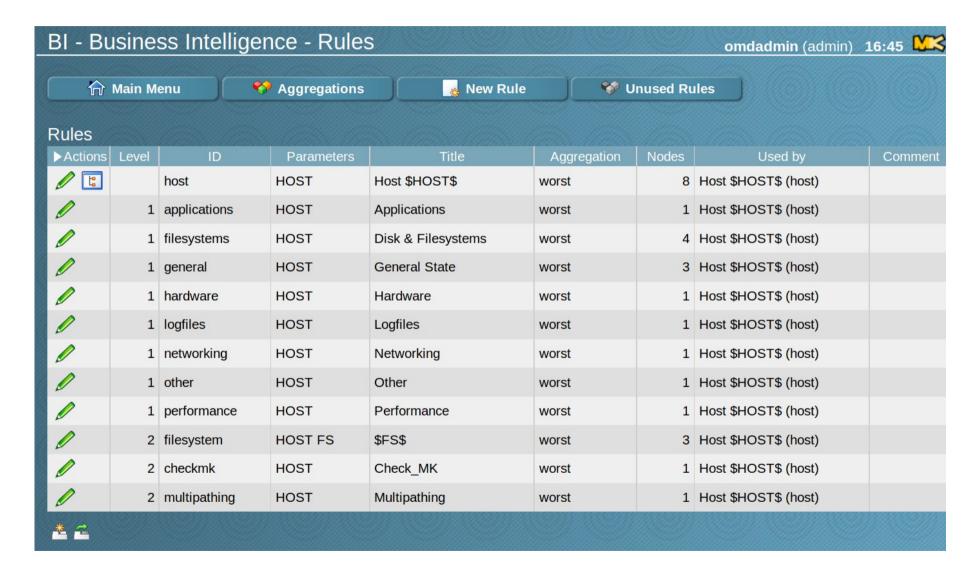






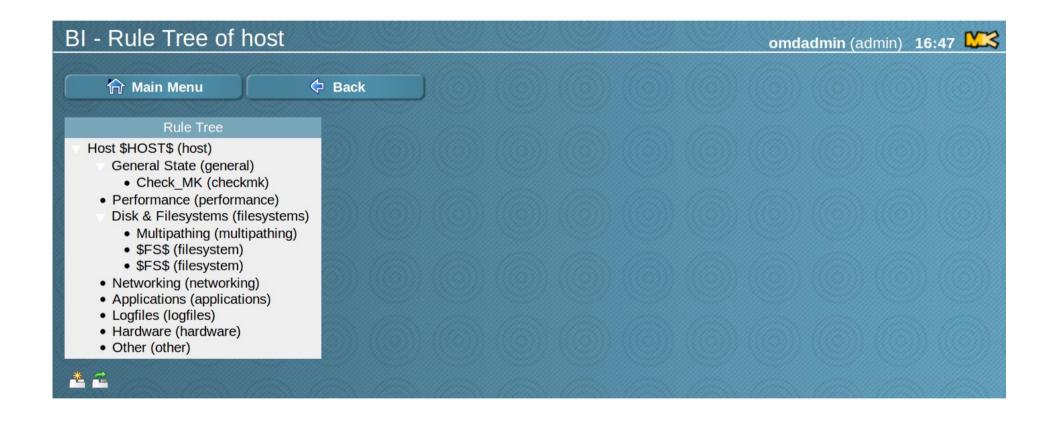


#### CHECK\_MK KONFERENZ 2015 After - Rules MUNCHEN





#### After – Rule Tree







#### KONFERENZ 2015 After – Unused Rules

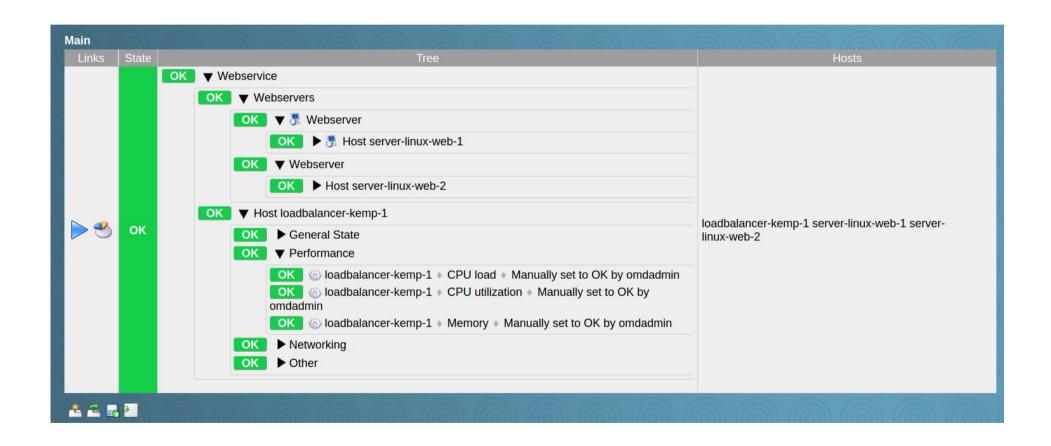




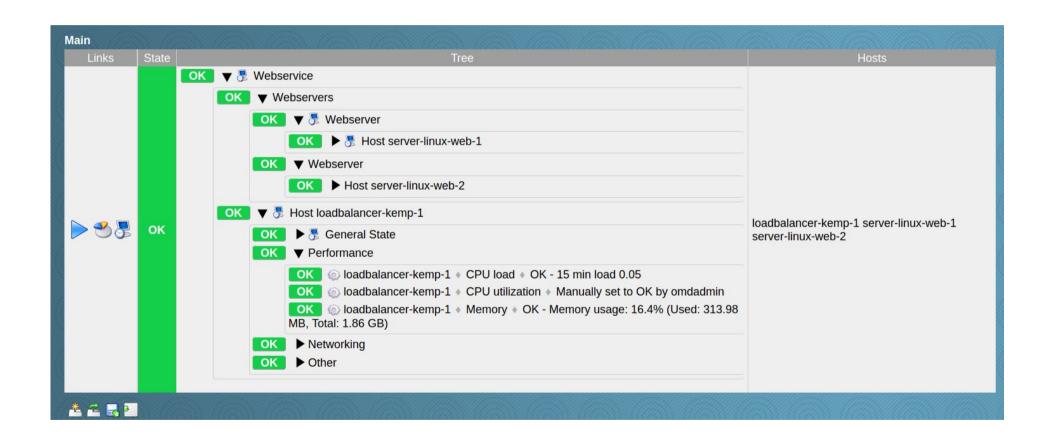


# #2354 BI aggregations now also consider the service period













# #2629 BI Aggregations now adopt downtime from hosts





# #2628 check\_bi\_aggr service now also goes into downtime if the monitored BI aggregation is in downtime



CHECK\_MK KONFERENZ 2015 MÜNCHEN

