

Monitoring with Nagios and Check_MK

Stefan Hornburg (Racke)
racke@linuxia.de

YAPC::EU 2015, Granada, 4th September 2015

Monitoring

- ▶ Why ?
- ▶ Who ?
- ▶ What ?

Why ?

- ▶ Availability of servers and services
- ▶ 3rd party services (SLA)

Who ?

- ▶ Companies
- ▶ Open Source Projects

What ?

- ▶ Use Case Mailserver
 - ▶ Basic Checks
 - ▶ Mail Checks
- ▶ Other / Custom checks

Basic Checks

- ▶ CPU
- ▶ Memory Usage
- ▶ TCP Connections
- ▶ Disk Usage

Email Checks I

- ▶ SMTP
- ▶ IMAP/POP
- ▶ Webmail
- ▶ Database

Email Checks II

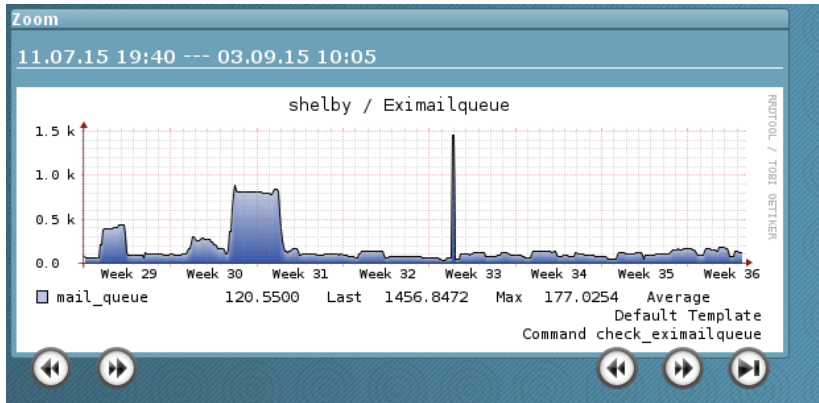
- ▶ Email loop

Email Checks III

- ▶ Antivirus
- ▶ Spamfilter

Email Checks IV

► Queue



Email Checks V

- ▶ Blacklists

More Checks

- ▶ stuck jobs
- ▶ products on Amazon
- ▶ orders
- ▶ crashes
- ▶ import files
- ▶ backups
- ▶ MySQL replication
- ▶ Security updates

Nagios

- ▶ Advantages
- ▶ Checks
- ▶ Disadvantages

Advantages

- ▶ Flexible
- ▶ Plugins (simple model)
- ▶ Addons
- ▶ Community
- ▶ Ecosystem

Checks

- ▶ Check = Plugin
`/usr/lib/nagios/plugins/check_http`
- ▶ active checks
- ▶ passive checks

Check States

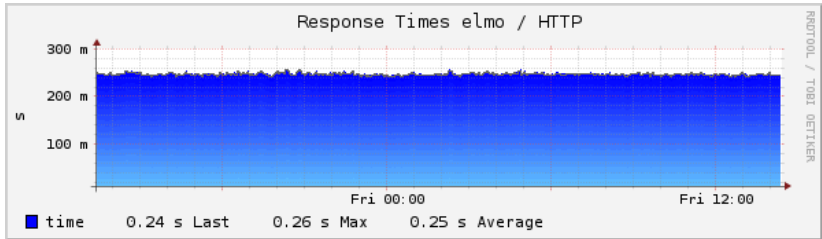
- ▶ OK
- ▶ WARNING
- ▶ CRITICAL
- ▶ UNKNOWN

Text and Performance Data

```
HTTP OK: HTTP/1.1 200 OK –  
33920 bytes in 0.263 second response time  
| time=0.262644s;;;0.000000 size=33920B;;;0
```

```
HTTP WARNING: HTTP/1.1 404 Not Found –  
317 bytes in 0.004 second response time  
| time=0.003667s;;;0.000000 size=317B;;;0
```

Performance Graph



Disadvantages

- ▶ Configuration
- ▶ Scalability in large environments

Check_MK

- ▶ Features
- ▶ Components
- ▶ Installation & Configuration
- ▶ Practical Advice

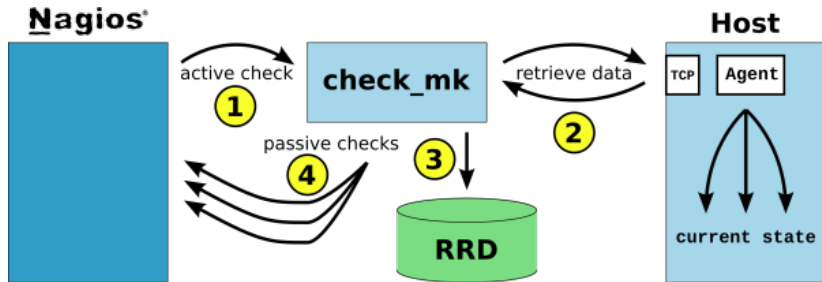
Features

- ▶ Automatic service detection
- ▶ Rule based, hierarchical configuration
- ▶ High performance through passive checks
- ▶ Creates Nagios configs for you

Components

- ▶ Configuration & Check Engine
- ▶ Livestatus
- ▶ Multisite
- ▶ WATO
- ▶ Notify
- ▶ Business Intelligence
- ▶ Mobile
- ▶ Event Console

Architecture



Source: http://mathias-kettner.de/bilder/overview_600.trans.png

WATO Configuration

▼ Configuration GUI (WATO)

Number of configuration snapshots to keep	50
WATO restart mode for Nagios	Restart
Use unsafe legacy encoding for distributed WATO	<input type="checkbox"/> off
Hide internal folder names in WATO	<input checked="" type="checkbox"/> on
Allow upload of insecure WATO snapshots	<input type="checkbox"/> off
Hide hosttags in WATO folder view	<input type="checkbox"/> off
Hide names of configuration variables	<input checked="" type="checkbox"/> on
Hide help text of rules in list views	<input checked="" type="checkbox"/> on
Use GIT version control for WATO	<input checked="" type="checkbox"/> on

Git Version Control

```
commit a326fb1cdc8b26cad68434de092b6b3d5360ce32
Author: omdadmin <omdadmin>
Date:   Tue Aug 4 09:06:24 2015 +0200
```

Created new host turbine.

Installation

- ▶ Open Monitoring Distribution `http://omdistro.org/`
- ▶ Bundle in a single package
 - ▶ Nagios
 - ▶ `check_mk`
 - ▶ Multisite
 - ▶ ...
- ▶ `/opt/omd`

Installation Agent

- ▶ `/opt/omd/versions/.../share/check_mk/agents`
- ▶ Debian/Ubuntu packages
- ▶ RPM packages
- ▶ Scripts for BSD, Mac OS, ...
- ▶ Windows Installer

Installation Agent Debian

- ▶ `dpkg -i check-mk-agent_1.2.6p5-1_all.deb`
- ▶ `/etc/xinetd.d/check_mk`
- ▶ Restart xinetd

Adding and updating hosts

```
Inventory check_mk -I linuxia  
Inventory check_mk -II linuxia  
Reload check_mk -O linuxia
```

Migrating from NRPE to MRPE

Configuration file `/etc/check_mk/mrpe.cfg`

Example

```
APT /usr/lib/nagios/plugins/check_apt
```

Practical Advice

- ▶ Tune configuration for slower hosts
- ▶ Check execution time
- ▶ Check intervals

Tune configuration for slower hosts

- ▶ Connect timeout
- ▶ Check interval
- ▶ Ping round trip time
- ▶ NTP notifications

Connect timeout

```
conf.d/wato/global.mk
```

```
tcp_connect_timeout = 10.0 # default 5 seconds
```

Check interval

```
conf.d/wato/rules.mk
```

```
extra_host_conf['check_interval'] = [  
    ( 3.0, [], ALL_HOSTS, {'comment': u'Set check interval'  
] + extra_host_conf['check_interval']
```

```
# default 1 minute
```

Ping round trip time

```
conf.d/wato/rules.mk
```

```
ping_levels = [  
  ( { 'loss': (80.0, 100.0),  
      'packets': 6,  
      'timeout': 20,  
      'rta': (1500.0, 3000.0) },  
    [ 'wan', ], ALL_HOSTS,  
    { 'comment': u'Allow longer round trip times when ping' },  
  ] + ping_levels
```

NTP notifications

```
extra_service_conf["notification_options"] = [  
( "n", ALL_HOSTS, ["NTP Time"]),  
]
```

Practical Advice

- ▶ Status files
- ▶ Cached checks

Cached checks

- ▶ Run script in background.
- ▶ Store result in cache file.
- ▶ Use cache for x seconds.

Questions

Questions?

Resources

Check_MK Homepage http://mathias-kettner.com/check_mk.html

Slides

Slides: <http://www.linuxia.de/talks/yapc2015/nagios-en-beamer.pdf>