

# ZABBIX MONITORING

## DIE VOLLE KONTROLLE



# Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.

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SLAC 2013



# Was ist Zabbix?

Opensource Monitoringlösung  
Basierend auf:  
Serverdaemon  
SQL Datenbank  
Webgui  
Agent

## Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Was macht Zabbix?

- Daten sammeln (Items)  
Zabbix Agent (Unix, Windows)  
SNMP, IMPI, SSH, Telnet, ODBC
- Daten auswerten (Trigger)
- Daten präsentieren (Graph)
- Aktionen auslösen (Action)  
Mail, SMS, Telefonanruf,  
Kommando lokal und remote

## Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Zabbix installieren

## Systemvoraussetzungen Server

- Unix mit gcc
- SQL Datenbank  
MySQL, Postgre SQL, Oracle, DB2
- Webserver mit PHP

Die Installation aus den Quellen gelingt auf allen gängigen Distributionen.

## Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Zabbix konfigurieren

- Konfiguration ausschließlich über Webgui
- Alle Daten werden in DB gespeichert
- Agenten sind „dumm“, alle Steuerung geht vom Server aus
- Minimale Konfig-Datei für Server mit DB Zugangsdaten

## Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Zabbix Konfigurieren

## Terminologie

### Host:

Wer wird beobachtet?  
IP Adresse, DNS-Name

Host werden in Gruppen zusammengefasst.

Template = vorkonfigurierter Host ohne Adresse, die eine Konfiguration vererben.

## Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Host anlegen 1:

« Host list Host: lab4.org Monitored Z SH JMX IPMI Applications (22) Items (71) Triggers (23) Graphs (7) Discovery rules (0)

Host Templates IPMI Macros Host Inventory

Host name lab4.org

Visible name

Groups

In groups

CUS:Kramm

Other groups

00\_DVL Templates  
01\_DIE\_DA Templates  
Citrix Xenserver  
CUS:BKU  
CUS:CasaCura  
CUS:dicv-limburg  
CUS:die-da  
CUS:dv-loesungen  
CUS:eirene  
CUS:Inform



New host group

Agent interfaces

IP address

DNS name

Connect to

Port

Default

80.77.30.2

lab4.org

IP

DNS

10050



Remove

Add

SNMP interfaces

Add

JMX interfaces

Add

IPMI interfaces

Add

Monitored by proxy

(no proxy)

Status

Monitored

Save

Clone

Full clone

Delete

Cancel

# Host anlegen 2:

« Host list Host: lab4.org Monitored Z SH JMX PMI Applications (22) Items (71) Triggers (23) Graphs (7) Discovery rules (0)

Host Templates IPMI Macros Host Inventory

Apache Active Debian Linux	<a href="#">Unlink</a>	<a href="#">Unlink and clear</a>
Combined Linux	<a href="#">Unlink</a>	<a href="#">Unlink and clear</a>
HTTPD passive	<a href="#">Unlink</a>	<a href="#">Unlink and clear</a>
Linux var Partition	<a href="#">Unlink</a>	<a href="#">Unlink and clear</a>
Memcache	<a href="#">Unlink</a>	<a href="#">Unlink and clear</a>
MySQL Active	<a href="#">Unlink</a>	<a href="#">Unlink and clear</a>
Postfix	<a href="#">Unlink</a>	<a href="#">Unlink and clear</a>
SSH Root Password Check	<a href="#">Unlink</a>	<a href="#">Unlink and clear</a>
Ubuntu Linux	<a href="#">Unlink</a>	<a href="#">Unlink and clear</a>

[Add](#)

[Save](#) [Clone](#) [Full clone](#) [Delete](#) [Cancel](#)

Zabbix  
Konfigurieren

# Terminologie

## Item:

Was wird beobachtet?

CPU-Auslastung,  
Speicherverbrauch,  
Erreichbarkeit, Festplattenauslastung, etc.

Aus welcher Quelle stammen die Daten?

Zabbix Agent, SNMP, IPMI, SSH, ODBC, externe Skripte auf Agent oder Server

# Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Item anlegen:

**Item**

Host	Base Linux Active						
Name	Free Disk Space / Percent						
Type	Zabbix agent						
Key	vfs.fs.size[/,pfree] <a href="#">Select</a>						
Type of information	Numeric (float)						
Units	%						
Use custom multiplier	<input type="checkbox"/> 0						
Update interval (in sec)	300						
Flexible intervals	<table border="1"><thead><tr><th>Interval</th><th>Period</th><th>Action</th></tr></thead><tbody><tr><td colspan="3">No flexible intervals defined.</td></tr></tbody></table>	Interval	Period	Action	No flexible intervals defined.		
Interval	Period	Action					
No flexible intervals defined.							
New flexible interval	Interval (in sec) 50 Period 1-7,00:00-24:00 <a href="#">Add</a>						
Keep history (in days)	90						
Keep trends (in days)	365						
Store value	As is						
Show value	As is <a href="#">show value mappings</a>						
New application							
Applications	-None- CPU Usage Disk Memory Network Errors Network Interfaces						
Populates host inventory field	-None-						
Description	<div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>						
Status	Enabled						

[Save](#) [Clone](#) [Delete](#) [Cancel](#)

# Messwerte ablesen

LATEST DATA

Items Group CUS:Kramm Host lab4.org

Filter

Name	Last check	Last value	Change	History
Apache (2 Items)				
Availability (2 Items)				
Base Availability ACTIVE (1 Item)				
Base Information (4 Items)				
CPU Usage (6 Items)				
Disk (4 Items)				
Disk Partition /var (1 Item)				
HTTPD (1 Item)				
Memcache (1 Item)				
Memory (7 Items)				
MySQL Availability (Active) (2 Items)				
MySQL Configuration (3 Items)				
MySQL Performance (25 Items)				
Network Errors (1 Item)				
Network Interfaces (2 Items)				
Postfix (2 Items)				
Processes (1 Item)				
SSH Root Password Check (1 Item)				
Ubuntu Linux (1 Item)				

# Messwerte ablesen

Items					Group	CUS:Kramm	Host	lab4.org
					▼ Filter ▼			
Name	Last check	Last value	Change	History				
+	Name	Last check	Last value	Change	History			
+	Apache (2 Items)							
+	Availability (2 Items)							
+	Base Availability ACTIVE (1 Item)							
+	Base Information (4 Items)							
+	CPU Usage (6 Items)							
	CPU Idle (%)	07 Jun 2013 11:29:43	99.1 %	-0.03 %		<a href="#">Graph</a>		
	CPU IO-Wait (%)	07 Jun 2013 11:29:44	0.02 %	-0.01 %		<a href="#">Graph</a>		
	CPU Load (avg5)	07 Jun 2013 11:29:42	0.06	-0.03		<a href="#">Graph</a>		
	CPU Softirq (%)	07 Jun 2013 11:29:45	0.008283 %	-		<a href="#">Graph</a>		
	CPU System (%)	07 Jun 2013 11:29:46	0.34 %	+0.01 %		<a href="#">Graph</a>		
	CPU User (%)	07 Jun 2013 11:29:47	0.47 %	+0.03 %		<a href="#">Graph</a>		
+	Disk (4 Items)							
	Disk read IOPs/sek	07 Jun 2013 11:29:22	0	-		<a href="#">Graph</a>		
	Disk write IOPs/sek	07 Jun 2013 11:29:23	0	-2		<a href="#">Graph</a>		
	Free Disk Space /	07 Jun 2013 11:26:24	6.87 GB	-		<a href="#">Graph</a>		
	Free Disk Space / Percent	07 Jun 2013 11:26:25	77.41 %	-		<a href="#">Graph</a>		

# Terminologie

## Trigger:

Daten der Items auswerten

Daten der Items berechnen

Durchschnitt, Summe etc.

Sollwerte definieren und mit Istwerten vergleichen

Trigger kennt nur den Status TRUE oder FALSE.

# Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Trigger anlegen:

CONFIGURATION OF TRIGGERS Create trigger

**Triggers** Group: 00\_DVL Templates Host: Base Availability PASSIVE [ Hide disabled triggers ]

Displaying 1 to 4 of 4 found

« [Template list](#) **Template:** [Base Availability PASSIVE](#) [Applications](#) (3) [Items](#) (3) [Triggers](#) (4) [Graphs](#) (0) [Screens](#) (0) [Discovery rules](#) (0)

<input type="checkbox"/>	<b>Severity</b>	<b>Name</b>	<b>Expression</b>	<b>Status</b>	<b>Error</b>
<input type="checkbox"/>	High	<a href="#">Constantly no Ping data! Host or Proxy down?</a>	{Base Availability PASSIVE:icmpping.nodata(1500)}=1	<a href="#">Enabled</a>	
<input type="checkbox"/>	Average	<a href="#">No ping! Host Down?</a>	{Base Availability PASSIVE:icmpping.sum(#8)}<1	<a href="#">Enabled</a>	
<input type="checkbox"/>	High	<a href="#">No ping constantly! Host down?</a>	{Base Availability PASSIVE:icmpping.sum(#30)}<10	<a href="#">Enabled</a>	
<input type="checkbox"/>	Average	<a href="#">No Ping data! Host or Proxy down?</a>	{Base Availability PASSIVE:icmpping.nodata(900)}=1	<a href="#">Enabled</a>	

# Trigger anlegen:

CONFIGURATION OF TRIGGERS

« Template list **Template: Base Availability PASSIVE** Applications (3) Items (3) Triggers (4) Graphs (0) Screens (0) Discovery rules (0)

Trigger Dependencies

Name: No ping! Host Down?

Expression: {Base Availability PASSIVE:icmpping.sum(#8)}<1 **Fehlertolleranz**

srv01.cloud-monitoring.de: Condition

https://srv01.cloud-monitoring.de/zabbix/popup\_trexpr.php

Trigger expression condition

Item: Base Availability PASSIVE:Ping **Select**

Function: Last (most recent) T value is = N

Last of (T)

Time shift: N

Insert

Severity: No

Enabled:

Save

The screenshot shows the Zabbix configuration interface for creating a trigger. The 'Trigger' tab is selected. A red speech bubble highlights the 'Expression' field, which contains the Zabbix function '{Base Availability PASSIVE:icmpping.sum(#8)}<1'. Below the expression is a dropdown menu titled 'Trigger expression condition' for the item 'Base Availability PASSIVE:Ping'. The 'Function' dropdown is set to 'Last (most recent) T value is = N'. The 'Time shift' dropdown is set to 'N'. The 'Severity' dropdown is set to 'No'. The 'Enabled' checkbox is checked. At the bottom left are 'Save' and 'Cancel' buttons. A red circle highlights the word 'Fehlertolleranz' (error tolerance) next to the expression field. The URL in the browser's address bar is https://srv01.cloud-monitoring.de/zabbix/popup\_trexpr.php.

# Notfallhandbuch:

Trigger   Dependencies

Name	Burp Server not running	Add				
Expression	{Burp Backup Server:proc.num[burp,,, "-c /etc/burp/burp-server.conf"].last(0)}=0					
<a href="#">Expression constructor</a>						
Multiple PROBLEM events generation	<input type="checkbox"/>	Kurzanleitung				
Description	Try '/etc/init.d/burp start' Look at /var/log/burp and look at syslog. Try staring burp server in foreground 'burp -F -c /etc/burp/burp-server.conf'					
URL	<a href="https://tasks.dv-loesungen.de/issues/275">https://tasks.dv-loesungen.de/issues/275</a>					
Severity	Not classified	Information	Warning	Average	High	Disaster
Enabled	<input checked="" type="checkbox"/>	Link				
<a href="#">Save</a>		<a href="#">Clone</a>	<a href="#">Delete</a>	<a href="#">Cancel</a>		

# Terminologie

## Template:

Templates = fertige Konfiguration bestehend aus Items und Triggern. Hosts können zu beliebig vielen Templates hinzugefügt werden. Der Großteil der Konfiguration wird über Templates realisiert.

# Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Template Übersicht

<input type="checkbox"/> <a href="#">Templates ↑</a>	<a href="#">Applications</a>	<a href="#">Items</a>	<a href="#">Triggers</a>	<a href="#">Graphs</a>	<a href="#">Screens</a>	<a href="#">Discovery</a>	<a href="#">Linked templates</a>
<input type="checkbox"/> <a href="#">Advanced Windows Active</a>	<a href="#">Applications (1)</a>	<a href="#">Items (10)</a>	<a href="#">Triggers (0)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Amanda Hosteurope</a>	<a href="#">Applications (1)</a>	<a href="#">Items (2)</a>	<a href="#">Triggers (0)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Apache Active CentOS Linux</a>	<a href="#">Applications (1)</a>	<a href="#">Items (1)</a>	<a href="#">Triggers (1)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Apache Active Debian Linux</a>	<a href="#">Applications (1)</a>	<a href="#">Items (2)</a>	<a href="#">Triggers (1)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Apache Tomcat</a>	<a href="#">Applications (1)</a>	<a href="#">Items (1)</a>	<a href="#">Triggers (1)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Areca Raid Linux</a>	<a href="#">Applications (1)</a>	<a href="#">Items (2)</a>	<a href="#">Triggers (3)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Arekia Backup Client</a>	<a href="#">Applications (1)</a>	<a href="#">Items (1)</a>	<a href="#">Triggers (1)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Arkeia Master Linux</a>	<a href="#">Applications (1)</a>	<a href="#">Items (4)</a>	<a href="#">Triggers (1)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Base Availability ACTIVE</a>	<a href="#">Applications (2)</a>	<a href="#">Items (5)</a>	<a href="#">Triggers (2)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Base Availability PASSIVE</a>	<a href="#">Applications (3)</a>	<a href="#">Items (3)</a>	<a href="#">Triggers (4)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Base Linux Active</a>	<a href="#">Applications (6)</a>	<a href="#">Items (22)</a>	<a href="#">Triggers (2)</a>	<a href="#">Graphs (3)</a>	<a href="#">Screens (1)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Base Linux Passive</a>	<a href="#">Applications (5)</a>	<a href="#">Items (4)</a>	<a href="#">Triggers (5)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	<a href="#">Base Availability PASSIVE, SSH Daemon</a>
<input type="checkbox"/> <a href="#">Base Linux SSH Agent</a>	<a href="#">Applications (1)</a>	<a href="#">Items (1)</a>	<a href="#">Triggers (0)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Base Windows ACTIVE</a>	<a href="#">Applications (4)</a>	<a href="#">Items (18)</a>	<a href="#">Triggers (26)</a>	<a href="#">Graphs (1)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Base Windows PASSIVE</a>	<a href="#">Applications (1)</a>	<a href="#">Items (1)</a>	<a href="#">Triggers (0)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Burp Backup Client Linux</a>	<a href="#">Applications (1)</a>	<a href="#">Items (4)</a>	<a href="#">Triggers (0)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Burp Backup Server</a>	<a href="#">Applications (1)</a>	<a href="#">Items (3)</a>	<a href="#">Triggers (2)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Citrix XenServer 6.X</a>	<a href="#">Applications (1)</a>	<a href="#">Items (1)</a>	<a href="#">Triggers (0)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-
<input type="checkbox"/> <a href="#">Combined Apache Linux</a>	<a href="#">Applications (2)</a>	<a href="#">Items (3)</a>	<a href="#">Triggers (2)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	<a href="#">Apache Active Debian Linux, HTTPD passive</a>
<input type="checkbox"/> <a href="#">Combined Linux</a>	<a href="#">Applications (12)</a>	<a href="#">Items (29)</a>	<a href="#">Triggers (8)</a>	<a href="#">Graphs (3)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	<a href="#">Base Availability ACTIVE, Base Availability PASSIVE, Base Linux Active</a>
<input type="checkbox"/> <a href="#">Combined Windows</a>	<a href="#">Applications (10)</a>	<a href="#">Items (27)</a>	<a href="#">Triggers (34)</a>	<a href="#">Graphs (1)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	<a href="#">Base Availability ACTIVE, Base Availability PASSIVE, Base Windows ACTIVE, Base Windows PASSIVE</a>
<input type="checkbox"/> <a href="#">Configxx Login</a>	<a href="#">Applications (1)</a>	<a href="#">Items (1)</a>	<a href="#">Triggers (1)</a>	<a href="#">Graphs (0)</a>	<a href="#">Screens (0)</a>	<a href="#">Discovery (0)</a>	-

# Template und Items Übersicht

Name ↑	Triggers	Key	Interval	Applications	Status	Error
<a href="#">Innodb_row_lock_waits_per_sec</a>		mysql.global_status[Innodb_row_lock_waits]	120	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Bytes_received_per_sec</a>		mysql.global_status[Bytes_received]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Bytes_sent_per_sec</a>		mysql.global_status[Bytes_sent]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Connections_per_sec</a>		mysql.global_status[Connections]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Connection Usage Percent</a>	Triggers (2)	mysql.connection_usage	240	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Deletes_per_sec</a>		mysql.global_status[Com_delete]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Innodb_data_pending_fsyncs</a>		mysql.global_status[Innodb_data_pending_fsyncs]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Innodb_data_pending_reads</a>		mysql.global_status[Innodb_data_pending_reads]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Innodb_data_pending_writes</a>		mysql.global_status[Innodb_data_pending_writes]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Inserts_per_sec</a>		mysql.global_status[Com_insert]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Max Allowed Connections</a>		mysql.variables[max_connections]	240	MySQL Configuration	<a href="#">Enabled</a>	
<a href="#">Max Used Connections</a>		mysql.global_status[Max_used_connections]	240	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">MySQL Memory Usage</a>		proc.mem[,mysql]	60	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">MySQL Ping</a>	Triggers (1)	mysql.ping	90	MySQL Availability (Active)	<a href="#">Enabled</a>	
<a href="#">MySQL Version</a>		mysql.variables[version]	7200	MySQL Configuration	<a href="#">Enabled</a>	
<a href="#">Query Cache Free Memory</a>		mysql.global_status[Qcache_free_memory]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Query Cache Hits per sec</a>		mysql.global_status[Qcache_hits]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Query Cache Lowmem Prunes</a>		mysql.global_status[Qcache_lowmem_prunes]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Query Cache Size</a>		mysql.variables[query_cache_size]	600	MySQL Configuration	<a href="#">Enabled</a>	
<a href="#">Questions_per_sec</a>		mysql.questions	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Selects_per_sec</a>		mysql.global_status[Com_select]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Standard mysqld running</a>		proc.num[mysqld]	90	MySQL Availability (Active)	<a href="#">Enabled</a>	
<a href="#">Table locks immediate per sec</a>		mysql.global_status[Table_locks_immediate]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Table locks waited per sec</a>		mysql.global_status[Table_locks_waited]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Threads Cached</a>		mysql.global_status[Threads_cached]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Threads Connected</a>	Triggers (1)	mysql.global_status[Threads_connected]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Threads Created</a>		mysql.global_status[Threads_created]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Threads Running</a>		mysql.global_status[Threads_running]	90	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Time spend waiting for Innodb Locks</a>		mysql.global_status[Innodb_row_lock_time]	120	MySQL Performance	<a href="#">Enabled</a>	
<a href="#">Updates_per_sec</a>		mysql.global_status[Com_update]	90	MySQL Performance	<a href="#">Enabled</a>	

# Zabbix Konfigurieren

## Terminologie

### Action:

Aktion in Abhängigkeit von einem Trigger auslösen.

Aktionen =

- Email senden
- Lokales Kommando ausführen
- Remote Kommando ausführen

*In vielen Fällen reicht eine Standardaktion: „Send Notification if Trigger is true“*

## Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Aktionen im Überblick

ZABBIX

Help | Get support | Print | Profile | Logout

srv01.cloud-monitoring.de

Monitoring Inventory Reports Configuration Administration

Host groups | Templates | Hosts | Maintenance | Web | Actions | Screens | Slide shows | Maps | Discovery | IT services

History: Configuration of triggers » Configuration of templates » Configuration of triggers » Configuration of templates » Configuration of items

Search

CONFIGURATION OF ACTIONS

Create action

Actions

Event source Triggers

Displaying 1 to 5 of 5 found

<input type="checkbox"/> Name 	Conditions	Operations	Status
<input type="checkbox"/> <a href="#">Send first Email</a>	Maintenance status not in "maintenance" Trigger value = "PROBLEM"	<b>Send message to user groups:</b> Informed People	<a href="#">Enabled</a>
<input type="checkbox"/> <a href="#">Send Phone Call</a>	Maintenance status not in "maintenance" Trigger value = "PROBLEM" Trigger severity >= "Average" Host group = "Important Hosts"	<b>Send message to user groups:</b> Informed People	<a href="#">Enabled</a>
<input type="checkbox"/> <a href="#">Send reminder Email</a>	Maintenance status not in "maintenance" Trigger value = "PROBLEM" Host group <> "Unimportant Hosts"	<b>Send message to user groups:</b> Informed People	<a href="#">Enabled</a>
<input type="checkbox"/> <a href="#">Send SMS</a>	Maintenance status not in "maintenance" Trigger value = "PROBLEM" Host group = "Important Hosts"	<b>Send message to user groups:</b> Informed People <b>Send message to user groups:</b> Informed People	<a href="#">Enabled</a>
<input type="checkbox"/> <a href="#">Service Restart</a>	Maintenance status not in "maintenance" Trigger value = "PROBLEM"	<b>Run remote commands on current host</b>	<a href="#">Disabled</a>

# Informieren

- Zu jedem Trigger kann ein Link zu einem Wiki oder Notfallhandbuch hinterlegt werden
- Über Platzhalter in den Maitexten können aber auch Suchen nach Triggern in Dokumentationen ausgelöst werden  
`wiki.doku.de?search={TRIGGER_NAME}`

# Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Aktion Mail senden

**CONFIGURATION OF ACTIONS**

Action    Conditions    Operations

Name	Send first Email
Default operation step duration	3600 (minimum 60 seconds)
Default subject	{TRIGGER.SEVERITY}: {HOSTNAME} {TRIGGER.NAME}
Default message	Severity: {TRIGGER.SEVERITY} Host: {HOSTNAME} IP: {IPADDRESS} Problem: {TRIGGER.NAME} Item: {ITEM.NAME} Last value: {ITEM.VALUE} Proxy : {PROXY.NAME}
Recovery message	<input checked="" type="checkbox"/>
Recovery subject	RECOVERED: {HOSTNAME} {TRIGGER.NAME}
Recovery message	Host: {HOSTNAME} Trigger: {TRIGGER.NAME} Item: {ITEM.NAME} Status: {TRIGGER.STATUS} Last value: {ITEM.LASTVALUE} Proxy : {PROXY.NAME}
Enabled	<input checked="" type="checkbox"/>

**Actions:** Save    Clone    Delete    Cancel

# Aktion Telefonkette

**Action**

Name	Hotline Phonecall
Event source	Triggers <input type="button" value="▼"/>
Enable escalations	<input checked="" type="checkbox"/>
Period (seconds)	180 [min 60]
Default subject	p49_default_alarm
Default message	<input style="height: 100px; width: 100%;" type="text"/>
Recovery message	<input type="checkbox"/>
Status	Enabled <input type="button" value="▼"/>

**Action conditions**

Type of calculation	AND <input type="button" value="▼"/> (A) and (B) and (C) and (D)
Conditions	<ul style="list-style-type: none"> <li>(A) <input type="checkbox"/> Trigger value = "PROBLEM"</li> <li>(B) <input type="checkbox"/> Maintenance status not in "maintenance"</li> <li>(C) <input type="checkbox"/> Trigger severity &gt;= "Disaster"</li> <li>(D) <input type="checkbox"/> Host group &lt;&gt; "Low Prio"</li> </ul>

**Action operations**

<input type="checkbox"/>	Steps	Details	Period (sec)	Delay	Action
<input type="checkbox"/>	1 - 0	Send message to User "Hotline"	Default	Immediately	<input type="button" value="Edit"/>
<input type="checkbox"/>	2	Send message to User "david. ...."	Default	3m	<input type="button" value="Edit"/>
<input type="checkbox"/>	3	Send message to User "michael. ...."	Default	6m	<input type="button" value="Edit"/>
<input type="checkbox"/>	4	Send message to User "andreas.f. ...."	Default	9m	<input type="button" value="Edit"/>
<input type="checkbox"/>	5	Send message to User "dominik. ...."	Default	12m	<input type="button" value="Edit"/>
<input type="checkbox"/>	6	Send message to User "thorsten.kramm"	Default	15m	<input type="button" value="Edit"/>
<input type="checkbox"/>	7 - 0	Send message to User "Hotline"	Default	18m	<input type="button" value="Edit"/>
<input type="checkbox"/>	8 - 0	Send message to User "david. ...."	Default	21m	<input type="button" value="Edit"/>

**Delete selected**

**Edit operation**

Step	From <input type="text" value="1"/>
	To <input type="text" value="0 [0-Infinity]"/>
	Period <input type="text" value="0 [min 60, 0-Default]"/>
Operation type	<input type="button" value="Send message"/>
Send message to	<input type="button" value="Single user"/> Hotline <input type="button" value="Select"/>
Send only to	<input type="button" value="zbx_phone_request"/>
User medias	<input type="text" value="zbx_phone_request 015112677510 1-7,00:00-23:59; NIWAHD"/>
Default message	<input checked="" type="checkbox"/>
Conditions	(A) <input type="checkbox"/> Event acknowledged = "Not Ack"

**Save** **Cancel**

# Einkommende Mail

Average: nas01.die-da.int Burp Server not running

zabbix@cloud-monitoring.de

Gesendet: Freitag, 7. Juni 2013 11:42

An: kramm@lin4.de

Severity: Average  
Host: nas01.die-da.int  
IP: 10.211.40.2  
Problem: Burp Server not running  
Item: Running Burp Server processes  
Last value: 0  
Proxy : dieda-düsseldorf

=====

Hints:

Try '/etc/init.d/burp start'  
Look at /var/log/burp and look at syslog.  
Try staring burp server in foreground  
'burp -F -c /etc/burp/burp-server.conf'

Acknowledge: <https://srv01.cloud-monitoring.de/zabbix/acknow.php?eventid=14235596>

Login to this host: <ssh://root@10.211.40.2>

Create ticket: <https://srv01.cloud-monitoring.de/createticket/?eventid=14235596>

More information: <https://srv01.cloud-monitoring.de/zabbix/search.php?search=nas01.die-da.int>

Links: <https://tasks.dv-loesungen.de/issues/275>

# Störung / Bug #287

Bearbeiten Aufwand buchen Beobachten Kopieren Löschen

## Average: nas01.die-da.int Burp Server not running

[« Zurück](#) | 1/34 | [Weiter »](#)

Von Kramm, Thorsten vor weniger als 1 Minute hinzugefügt.

Status:	In Bearbeitung	Beginn:	07.06.2013
Priorität:	Normal	Abgabedatum:	
Zugewiesen an:	-	% erledigt:	<div style="width: 0%; background-color: #ccc; height: 10px; margin-bottom: 5px;"></div> 0%
Kategorie:	-	Aufgewendete Zeit:	-
Zielversion:	-		

### Beschreibung

Zitieren

Zabbix meldete am 2013-06-07 11:42:34 an [kramm@lin4.de](mailto:kramm@lin4.de) folgendes Problem:

#### Average: nas01.die-da.int Burp Server not running

```
Severity: Average
Host: nas01.die-da.int
IP: 10.211.40.2
Problem: Burp Server not running
Item: Running Burp Server processes
Last value: 0
Proxy : dieda-dsseldorf
```

### Unteraufgaben

Hinzufügen

### Zugehörige Tickets

Hinzufügen

Bearbeiten Aufwand buchen Beobachten Kopieren Löschen

Auch abrufbar als: [Atom](#) | [PDF](#)

# Kunde wird informiert

(In Bearbeitung) Average: nas01.die-da.int Burp Server not running [die dialogagenten #287]

DVL | Redmine Tasks

Gesendet: Freitag, 7. Juni 2013 11:45

An: kramm@dv-loesungen.de

Redmine sends you the following information. Do not remove this line!

Ticket #287 wurde erstellt von Kramm, Thorsten.

## Störung / Bug #287: Average: nas01.die-da.int Burp Server not running

- Autor: Kramm, Thorsten
- Status: In Bearbeitung
- Priorität: Normal
- Zugewiesen an:
- Kategorie:
- Zielversion:

Zabbix meldete am 2013-06-07 11:42:34 an [kramm@lin4.de](mailto:kramm@lin4.de) folgendes Problem:

### Average: nas01.die-da.int Burp Server not running

Severity: Average  
Host: nas01.die-da.int  
IP: 10.211.40.2  
Problem: Burp Server not running  
Item: Running Burp Server processes  
Last value: 0  
Proxy : dieda-dsseldorf

---

You have received this notification because you have either subscribed to it, or are involved in it.  
To change your notification preferences, please click here: <https://tasks.dv-loesungen.de/my/account>

Zabbix  
Konfigurieren

# Alarmieren

SMS Versenden:  
Einfach z.B. über Sipgate-API  
Sicherer über USB UMTS-Stick

Zabbix Benutzer steuern selbst, wann sie wie alarmiert werden.

# Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Wer wird wann wie benachrichtigt

Media	<input type="checkbox"/> Email	kramm@lin4.de	1-7,00:00-23:59;	NIWAHD	<a href="#">Enabled</a>	<a href="#">Edit</a>
	<input type="checkbox"/> Esendex SMS	491756598509	1-7,00:00-23:59;	NIWAHD	<a href="#">Enabled</a>	<a href="#">Edit</a>
	<input type="checkbox"/> Esendex VoiceCall	491756598509	1-7,00:00-23:59;	NIWAHD	<a href="#">Enabled</a>	<a href="#">Edit</a>

[Add](#) [Delete selected](#)

srv01.cloud-monitoring.de: Media

[Save](#) [Cancel](#)

New media

Type	<input type="button" value="Esendex SMS"/>
Send to	491756598509
When active	1-7,00:00-23:59;
Use if severity	<input type="checkbox"/> Not classified <input type="checkbox"/> Information <input type="checkbox"/> Warning <input checked="" type="checkbox"/> Average <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Disaster
Status	<input type="button" value="Enabled"/>

# **Monitoring**

Wissen, was passiert.  
Wissen, was zu tun ist.

Wahres Wissen ist Wissen,  
das auf die Ursachen zurückgeht.

Francis Bacon



Zabbix  
Konfigurieren

# Visualisieren

- Werte von Items in Graphen abbilden
- Mehrere Graphen zu Screen gruppieren
- Graphen können auch über Template konfiguriert werden.

# Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.





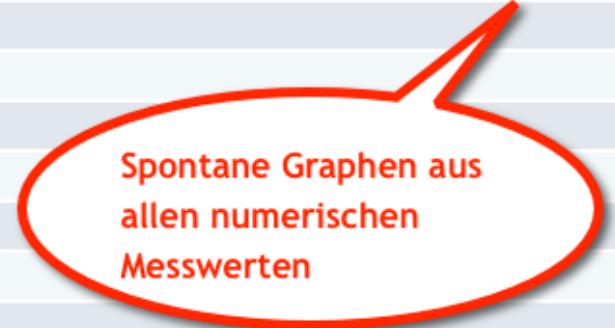
## Items

Group CUS:Kramm

Host lab4.org

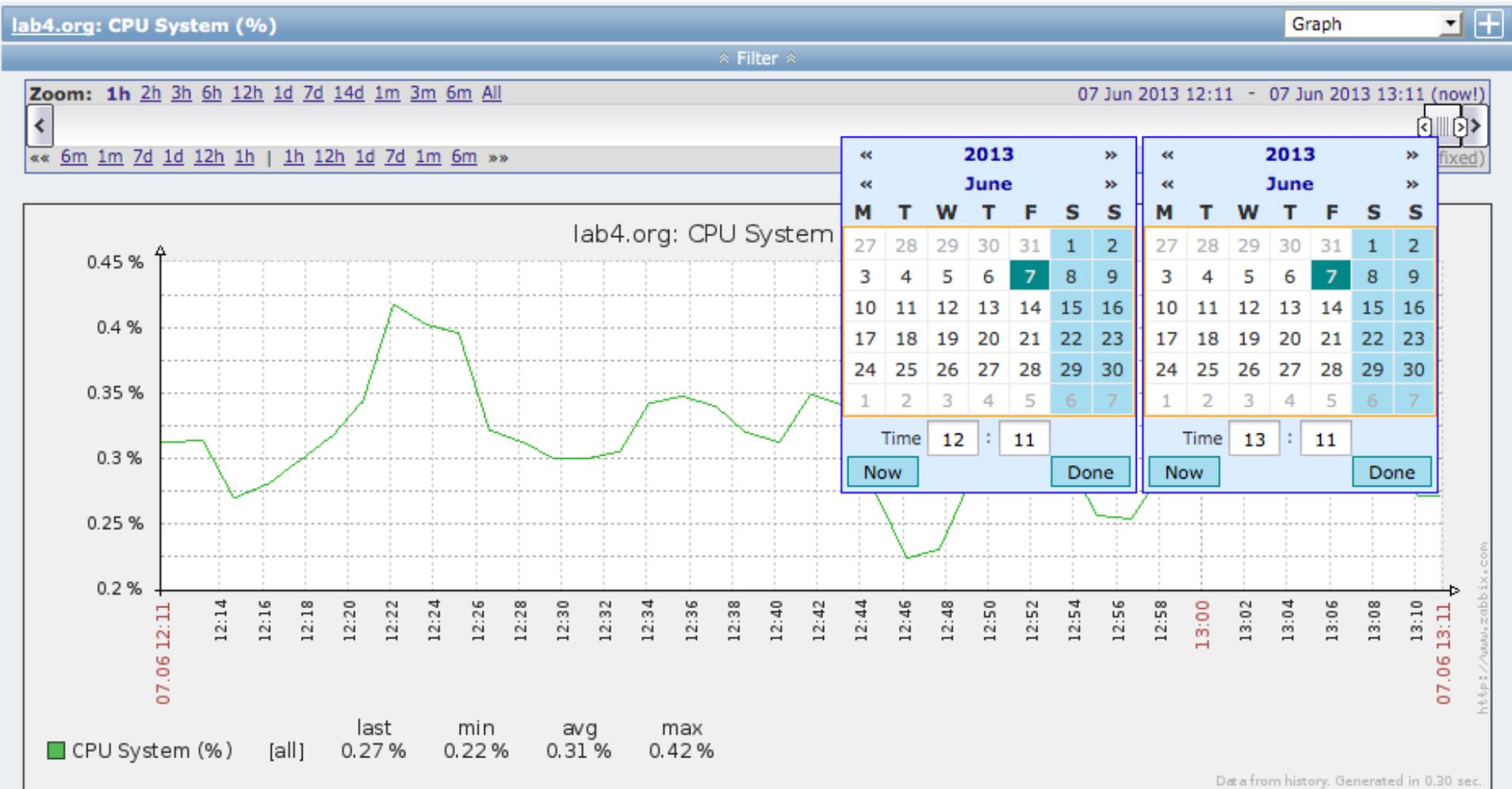
▼ Filter ▼

Name	Last check	Last value	Change	History
+ Apache (2 Items)				
+ Availability (2 Items)				
+ Base Availability ACTIVE (1 Item)				
+ Base Information (4 Items)				
+ CPU Usage (6 Items)				
CPU Idle (%)	07 Jun 2013 11:56:44	99.27 %	-0.12 %	<a href="#">Graph</a>
CPU IO-Wait (%)	07 Jun 2013 11:56:44	0.009925 %	-	<a href="#">Graph</a>
CPU Load (avg5)	07 Jun 2013 11:56:42	0.15	+0.09	<a href="#">Graph</a>
CPU Softirq (%)	07 Jun 2013 11:56:45	0.006616 %	-	<a href="#">Graph</a>
CPU System (%)	07 Jun 2013 11:56:46	0.3 %	+0.01 %	<a href="#">Graph</a>
CPU User (%)	07 Jun 2013 11:56:49	0.34 %	+0.09 %	<a href="#">Graph</a>
+ Disk (4 Items)				
+ Disk Partition /var (1 Item)				
+ HTTPD (1 Item)				
+ Memcache (1 Item)				
+ Memory (7 Items)				
+ MySQL Availability (Active) (2 Items)				
+ MySQL Configuration (3 Items)				
+ MySQL Performance (25 Items)				
+ Network Errors (1 Item)				
+ Network Interfaces (2 Items)				
+ Postfix (2 Items)				
+ Processes (1 Item)				
+ SSH Root Password Check (1 Item)				
+ Ubuntu Linux (1 Item)				

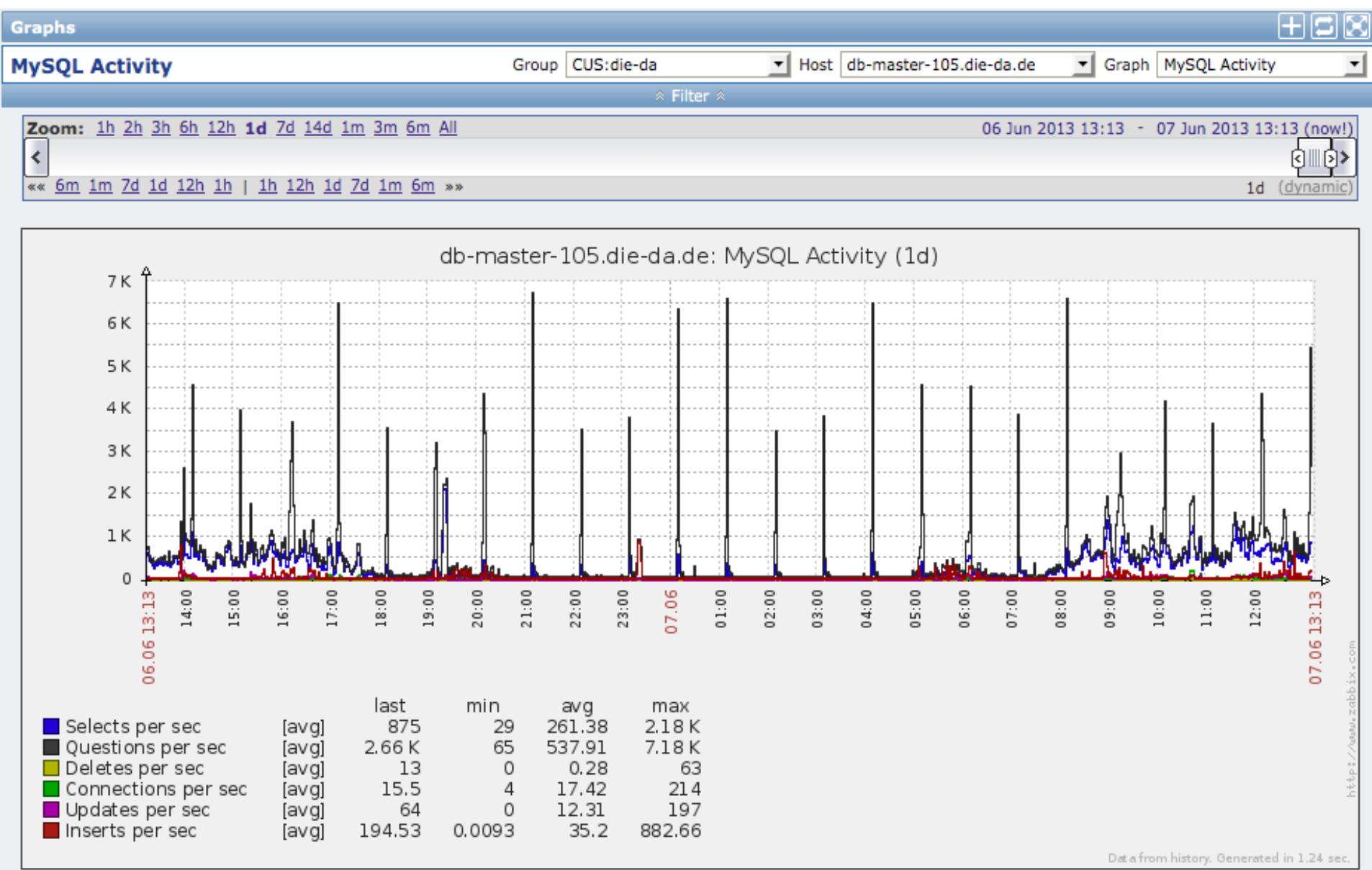


Spontane Graphen aus  
allen numerischen  
Messwerten

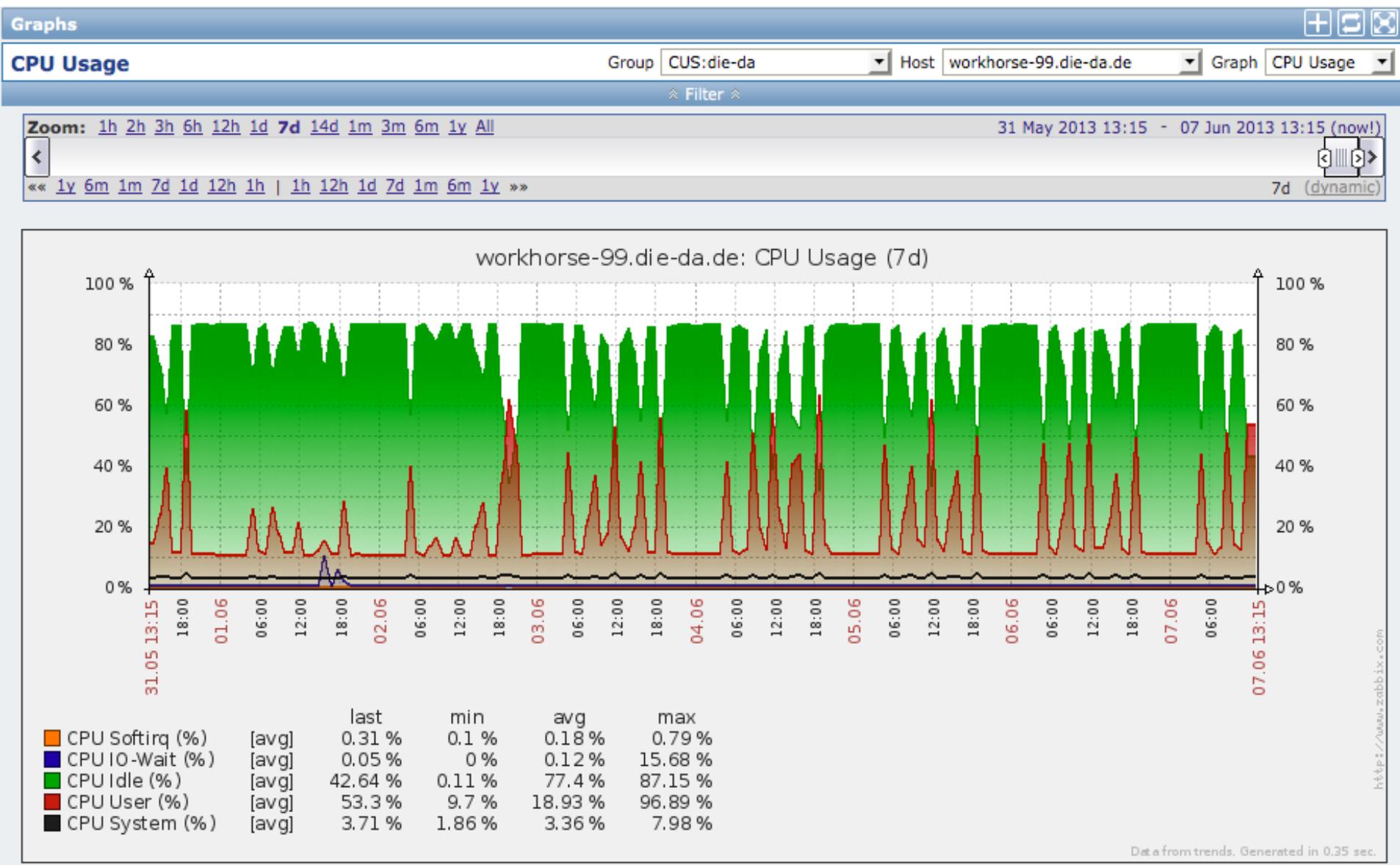
# Graph



# Graph



# Graph



# Screens: Zusammenhänge erkennen



# Sonst noch was?

- Webseitenüberwachung inkl. Klickstrecken und POST-Requests
- Client Simulation für gängige Protokolle
- Ausgabe von Triggerstatus kann leicht aus der DB oder der API abgelesen werden

## Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Sonst noch was?

- Zabbix Proxy für Netzwerksegmente, DMZ, Intranet etc.
- Syslog mit Datenbank sinnvolle Ergänzung (Application und KPI Monitoring)

## Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Dokumentation

- Viele Tutorials für Einsteiger und Profis unter  
<http://lab4.org/wiki>

# Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.



# Support

## Monitoring

Wissen, was passiert.  
Wissen, was zu tun ist.

DV Lösungen Schreiner GmbH

- Zabbix-Installationen aller Größen
- Einrichtung Monitoring für Linux und Windows
- Entwicklung von kundenspezifischen Checks
- Beratung
- Worry-Free Zabbix Appliance
- Outsourcing von Monitoring

[www.dvloesungen.de](http://www.dvloesungen.de)



# **Monitoring**

Wissen, was passiert.  
Wissen, was zu tun ist.

Wissen nennen wir jenen  
kleinen Teil  
der Ungewissheit,  
den wir geordnet und  
klassifiziert haben.

Ambrose Bierce

