



UiO : **University of Oslo**

ZABBIX @ UiO

Rafael Martinez Guerrero
Center for Information Technology Services
University of Oslo

Zabbix conference 2016
9-10 Sep. Riga, Latvia



~ 30.000





~ 3.000



~6.000



~ 30.000



~ 3.000



~16.000



~6.000



~ 30.000



~ 3.000



~16.000



~ 13.000TB



~6.000



~ 30.000



~ 3.000



~16.000



~ 13.000TB



~2.200



~6.000



~ 30.000



~ 3.000



~16.000



~ 13.000TB



~2.200



~6.000



~ 30.000



~1.600



~ 3.000



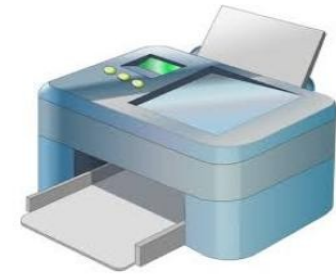
~16.000



~ 13.000TB



~2.200



~1.000 / 38.000.000



~6.000



~ 30.000



~1.600



~ 3.000



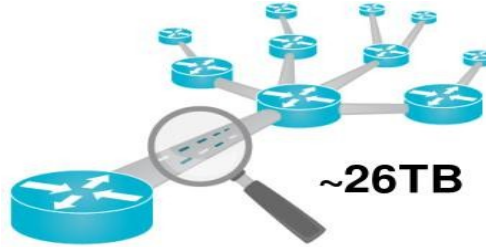
~16.000



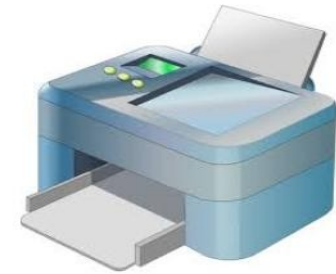
~ 13.000TB



~2.200



~26TB



~1.000 / 38.000.000



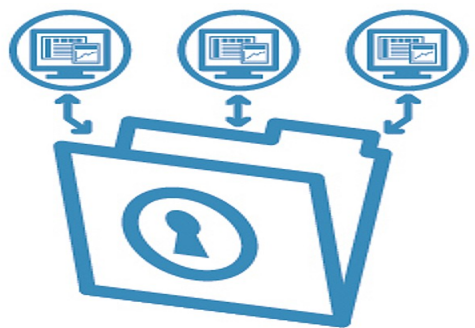
~6.000

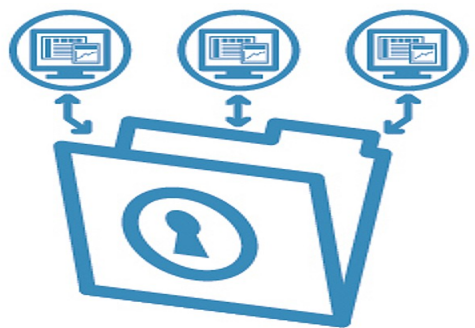


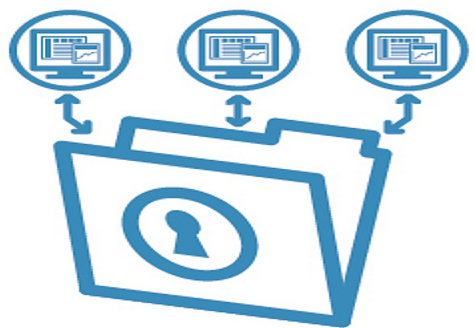
~ 30.000

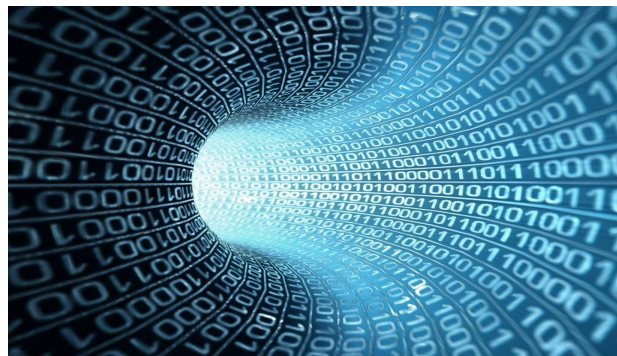


~1.600









Nagios®

General

- Home
- Documentation

Monitoring

- Tactical Overview
- Service Detail
- Host Detail
- Hostgroup Overview
- Hostgroup Summary
- Hostgroup Grid
- Servicegroup Overview
- Servicegroup Summary
- Servicegroup Grid
- Status Map
- 3-D Status Map

- Service Problems
 - Unhandled
- Host Problems
 - Unhandled
- Network Outages

Show Host:

- Comments
- Downtime
- Process Info
- Performance Info
- Scheduling Queue

Reporting

- Trends
- Availability
- Alert Histogram
- Alert History
- Alert Summary
- Notifications
- Event Log

Configuration

- View Config

Current Network Status

Last Updated: Tue Aug 11 10:04:02 PDT 2009
Updated every 90 seconds
Nagios® 3.0b5 - www.nagios.org
Logged in as: *nagiosadmin*

- [View History For all hosts](#)
- [View Notifications For All Hosts](#)
- [View Host Status Detail For All Hosts](#)

Host Status Totals

Up	Down	Unreachable	Pending
3	1	0	0
All Problems		All Types	
1		4	

Service Status Totals

OK	Warning	Unknown	Critical	Pending
7	2	4	8	0
All Problems		All Types		
14		21		

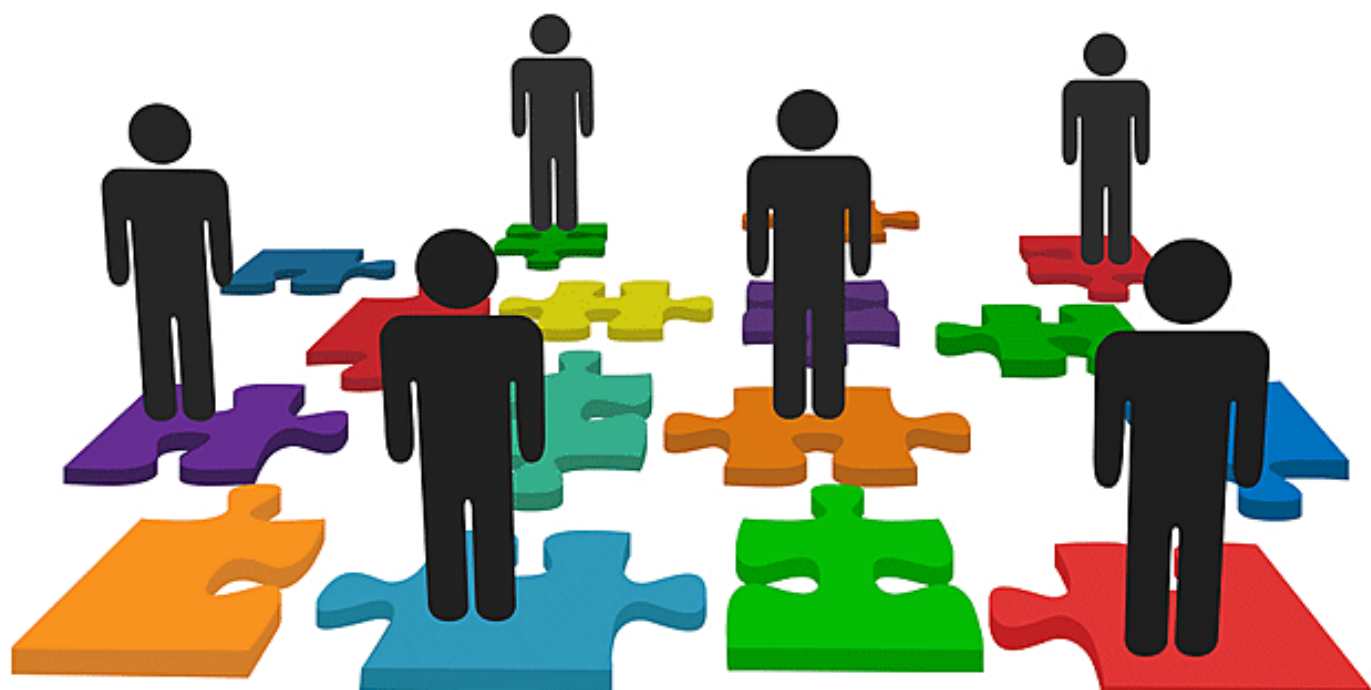
Service Status Details For All Hosts

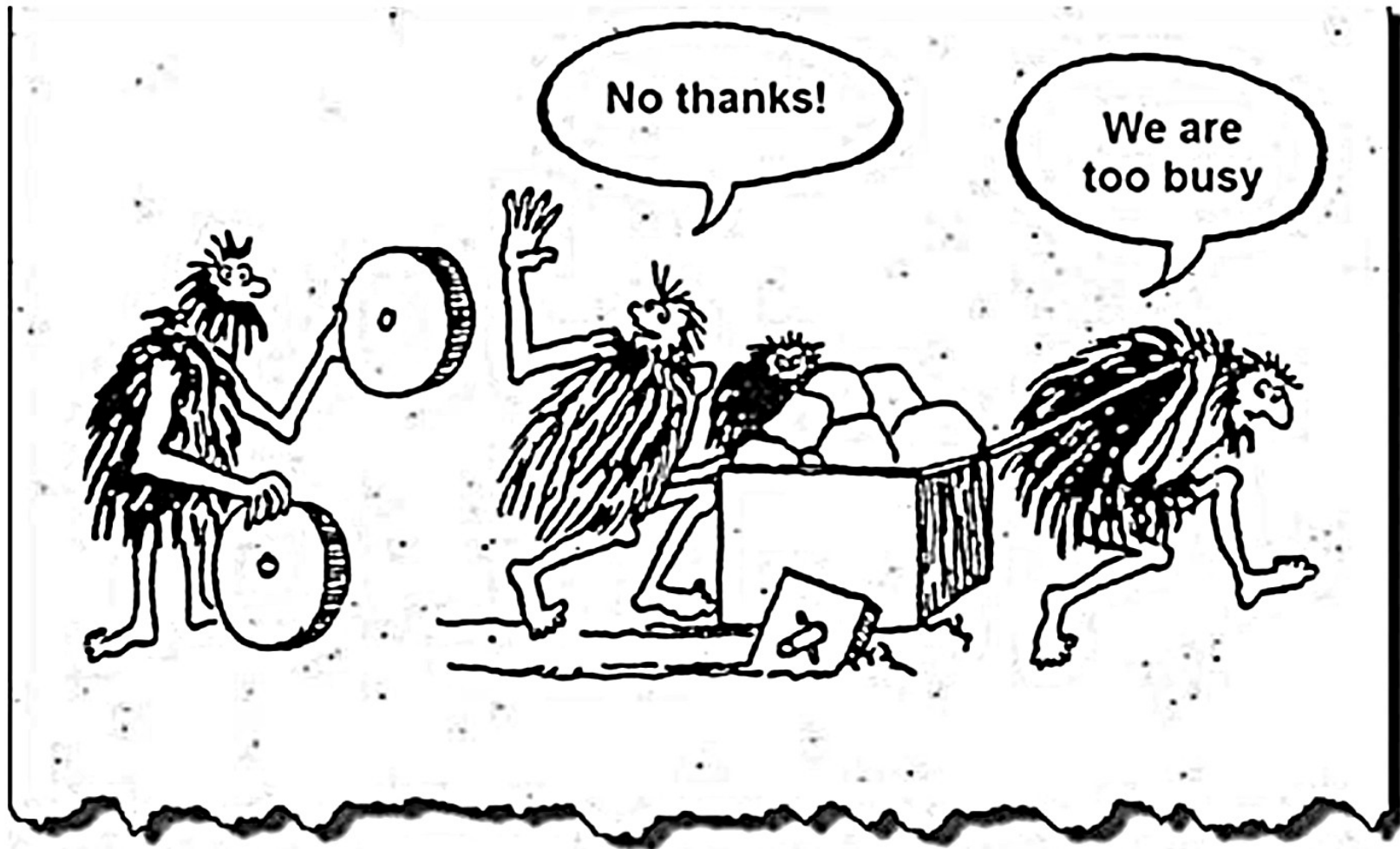
Entries sorted by **service status** (descending)

Host	Service	Status	Last Check	Duration	Attempt	Status Information
asico2690	PING	CRITICAL	08-11-2009 10:00:32	657d 16h 59m 56s	1/3	CRITICAL - Host Unreachable (10.2.0.2)
	C:\Drive Space	CRITICAL	08-11-2009 09:59:10	586d 21h 15m 4s	3/3	Connection refused
	CPU Load	CRITICAL	08-11-2009 09:57:54	586d 17h 4m 7s	3/3	Connection refused
	Explorer	CRITICAL	08-11-2009 09:59:17	586d 17h 3m 6s	3/3	Connection refused
	Memory Usage	CRITICAL	08-11-2009 09:59:10	586d 17h 2m 7s	3/3	Connection refused
	NSClient++ Version	CRITICAL	08-11-2009 09:59:16	586d 17h 3m 7s	3/3	Connection refused
	Uptime	CRITICAL	08-11-2009 09:59:11	586d 17h 2m 7s	3/3	Connection refused
asico2690	W3SVC	CRITICAL	08-11-2009 09:59:12	586d 17h 7m 4s	3/3	Connection refused
	Port 1 Link Status	UNKNOWN	08-11-2009 10:00:50	657d 16h 58m 41s	1/3	SNMP problem - No data received from host
asico2690	Uptime	UNKNOWN	08-11-2009 10:02:54	657d 16h 57m 26s	1/3	SNMP problem - No data received from host
	Port 161 Link Status	UNKNOWN	08-11-2009 10:01:53	241d 14h 23m 10s	3/3	SNMP problem - No data received from host
netgearAtColo	Uptime	UNKNOWN	08-11-2009 09:53:54	241d 14h 25m 36s	3/3	SNMP problem - No data received from host
	Root Partition	WARNING	08-11-2009 09:58:51	25d 16h 13m 23s	4/4	DISK WARNING - free space: / 1750 MB (18% inode=74%):
localhost	Total Processes	WARNING	08-11-2009 10:00:37	13d 3h 3m 26s	4/4	PROCS WARNING: 345 processes with STATE = RSZDT
	Current Load	OK	08-11-2009 10:00:58	26d 5h 53m 10s	1/4	OK - load average: 0.13, 0.11, 0.09
	Current Users	OK	08-11-2009 10:03:02	675d 18h 16m 18s	1/4	USERS OK - 1 users currently logged in
	HTTP	OK	08-11-2009 10:03:20	17d 5h 45m 42s	1/4	HTTP OK HTTP/1.1 200 OK - 681 bytes in 0.001 seconds
	PING	OK	08-11-2009 10:01:00	675d 18h 15m 18s	1/4	PING OK - Packet loss = 0%, RTA = 0.05 ms
	SSH	OK	08-11-2009 10:00:31	657d 20h 27m 26s	1/4	SSH OK - OpenSSH_3.4p1 (protocol 1.99)
	Swap Usage	OK	08-11-2009 10:01:00	657d 20h 26m 49s	1/4	SWAP OK - 72% free (2937 MB out of 4094 MB)
	PING	OK	08-11-2009 10:01:00	242d 3h 51m 8s	1/3	PING OK - Packet loss = 0%, RTA = 0.63 ms



Ganglia mrtg
SIPadm SCCM
JON Munin OracleCC
SCOM vCenter NAV
Nagios Graphite vCops
Cron
Pgcladmin Webhomer
tailnmail Command-Suite



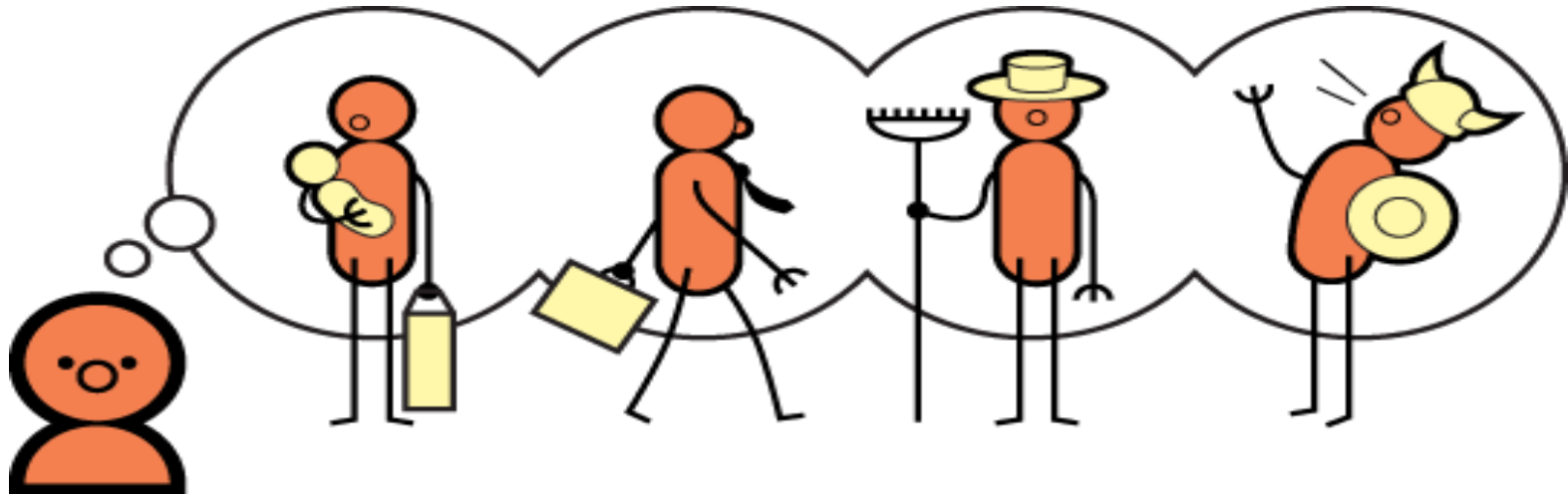




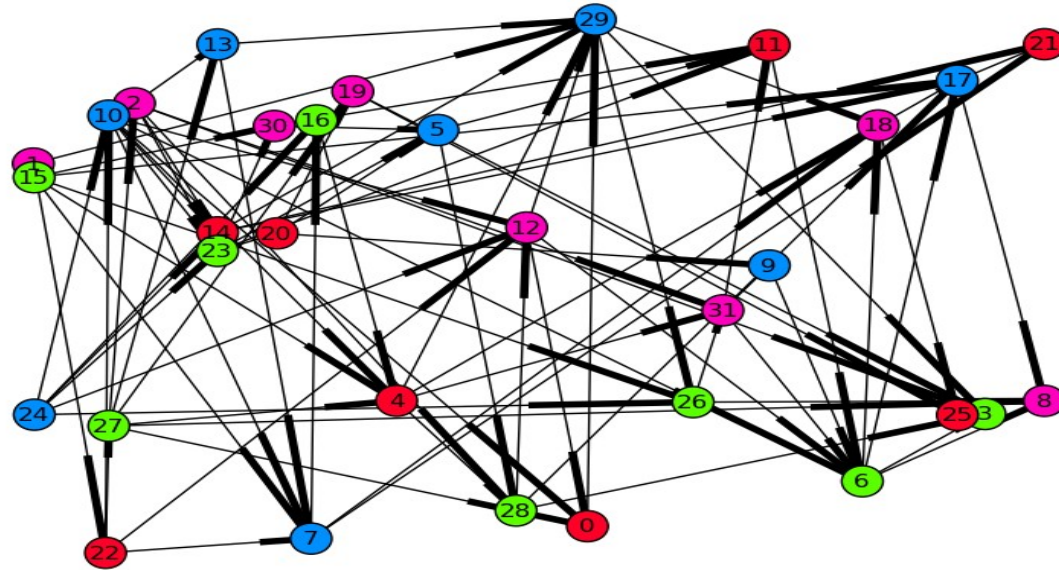
Distributed monitoring



Roles / usergroups



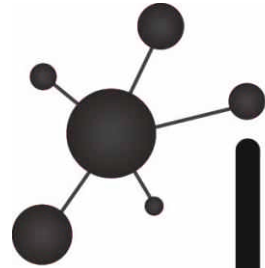
Dependencies / root cause



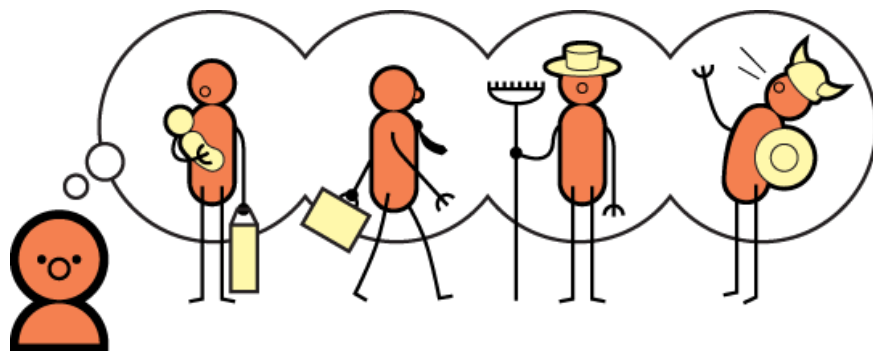
Integration / automation



ZABBIX



icinga









vmware®

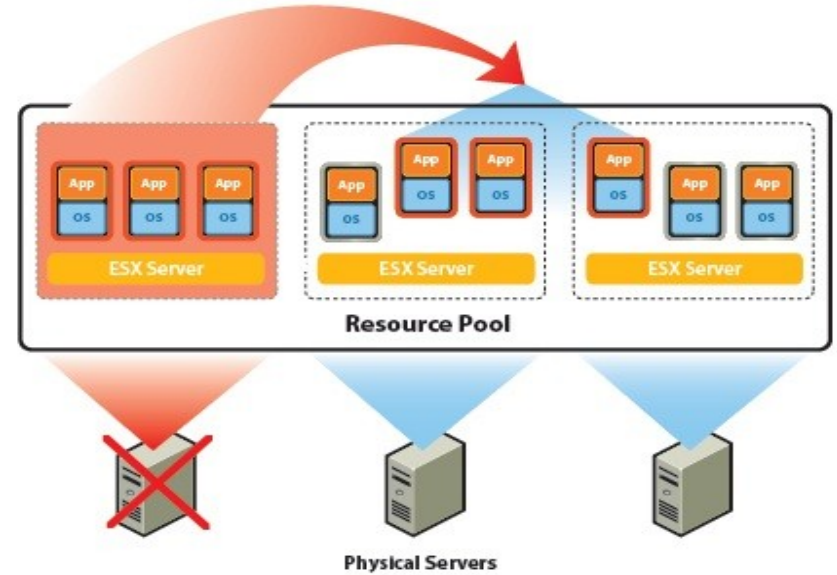
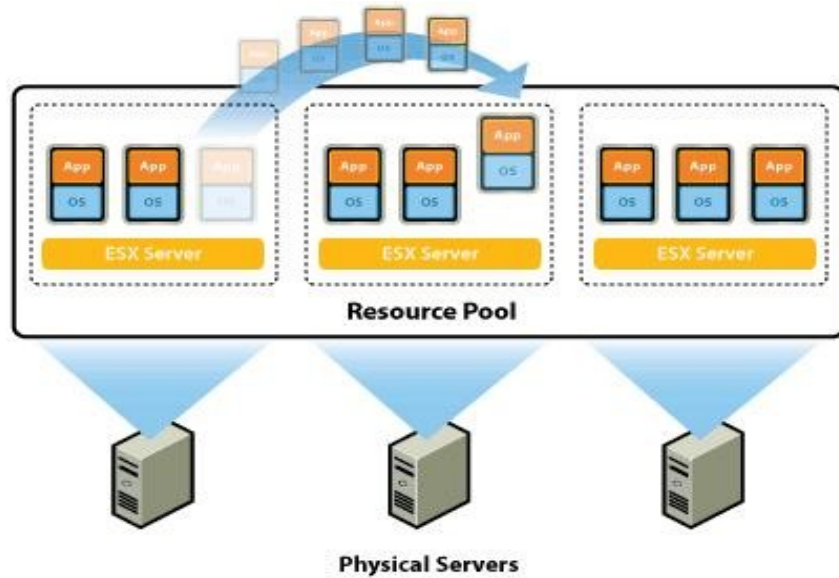


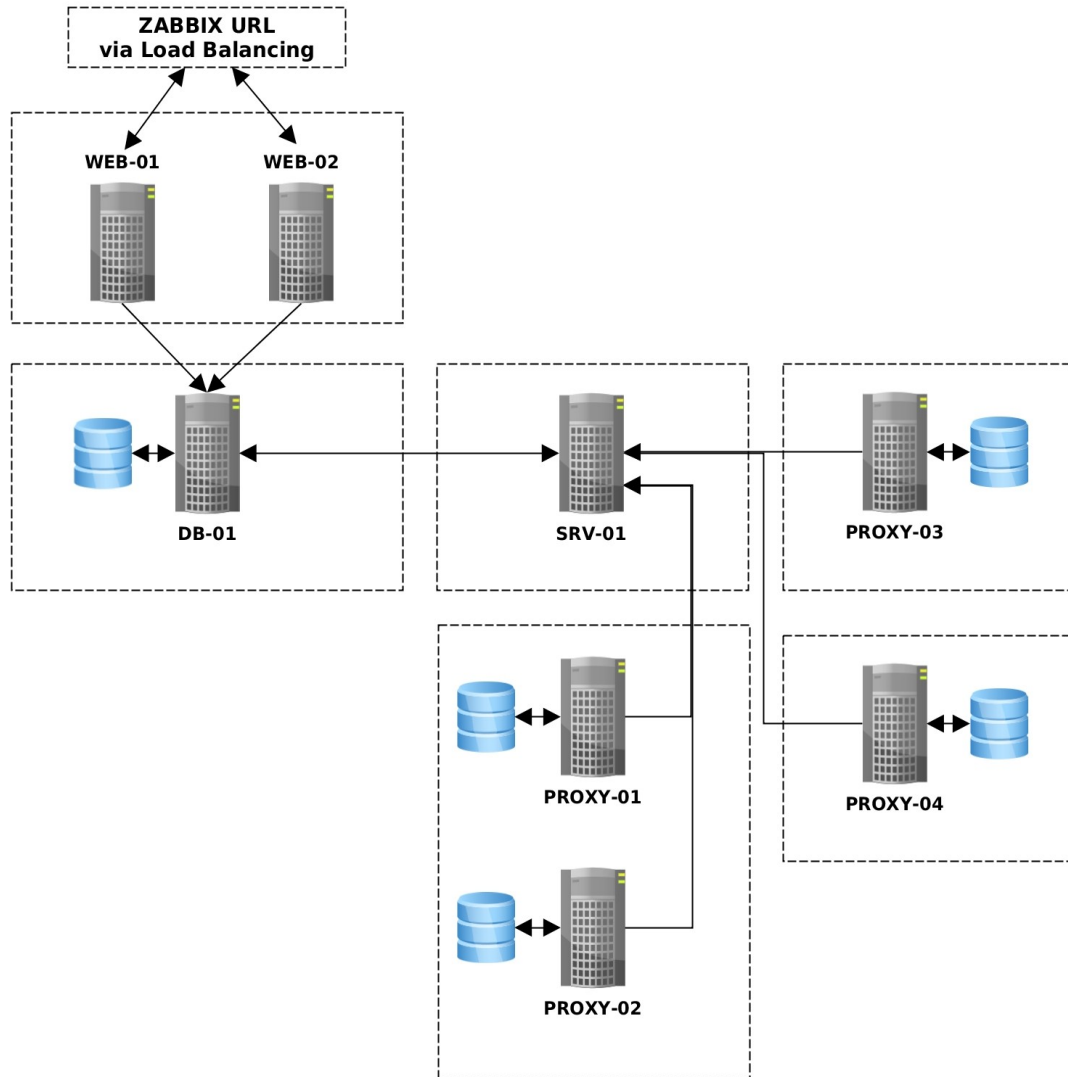
redhat®
L I N U X

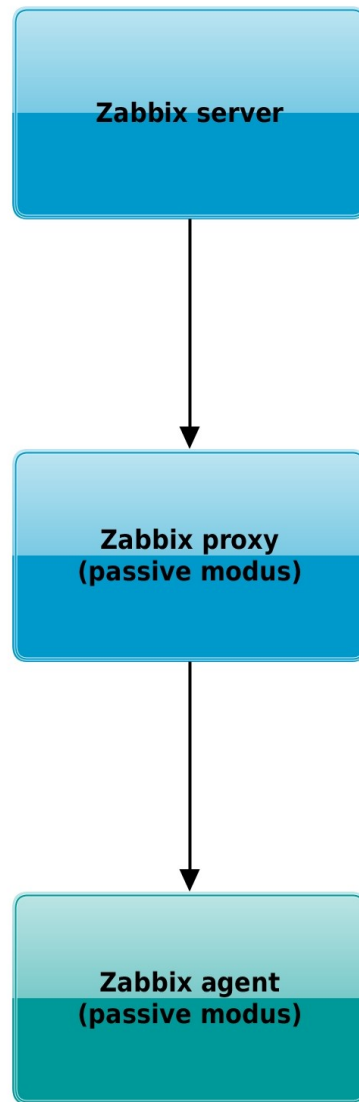
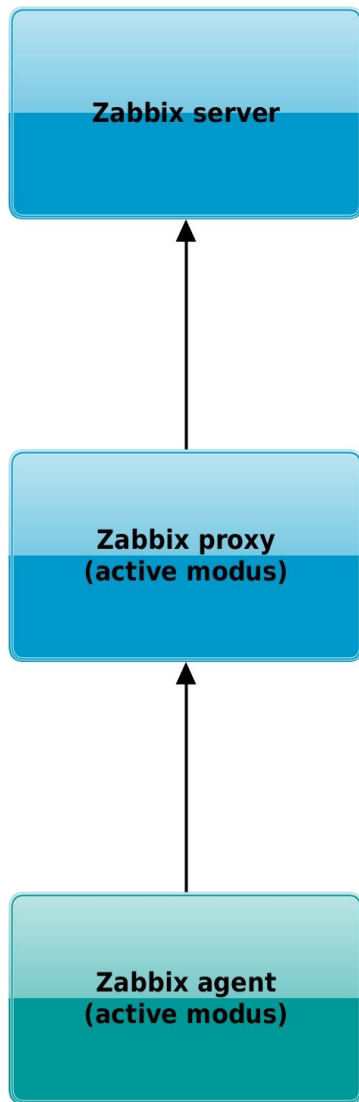


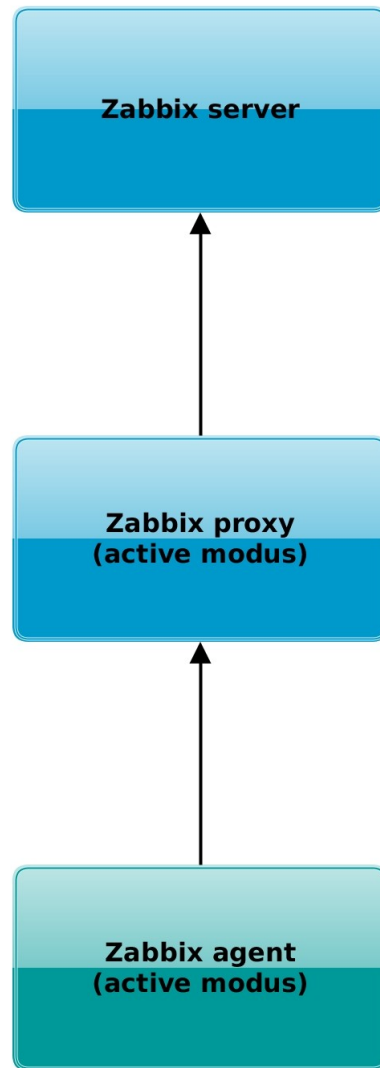


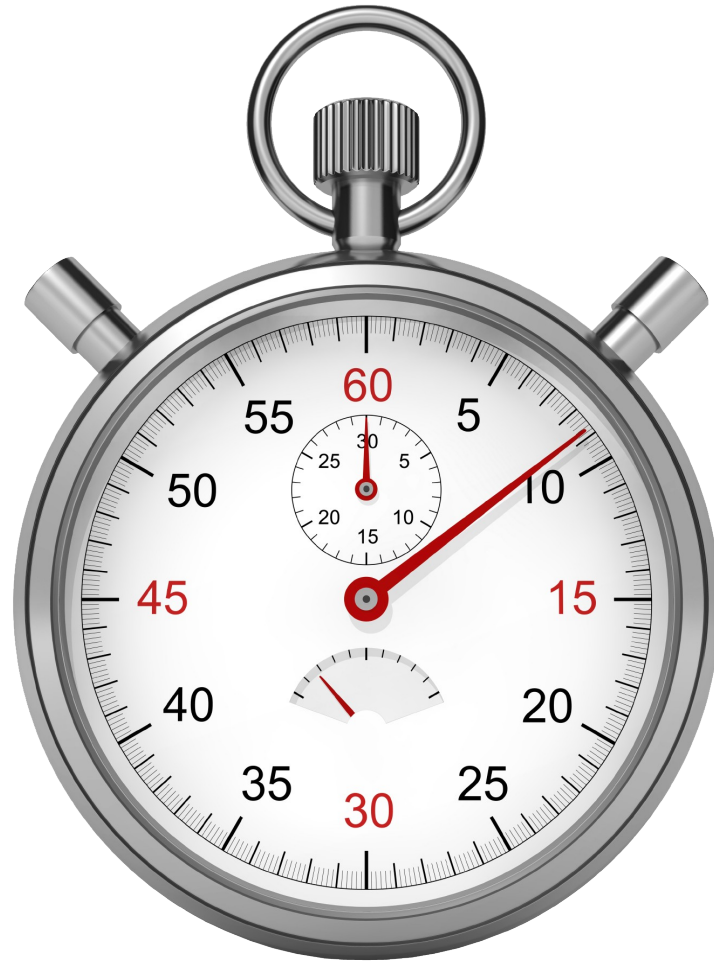
vmware DRS & HA













~3.000



~3.000



~320.000

~121.000.000/24H



~3.000



~320.000

~121.000.000/24H



~ 200.000



~3.000



~400



~320.000

~121.000.000/24H



~ 200.000

SiteAdmin = Owner

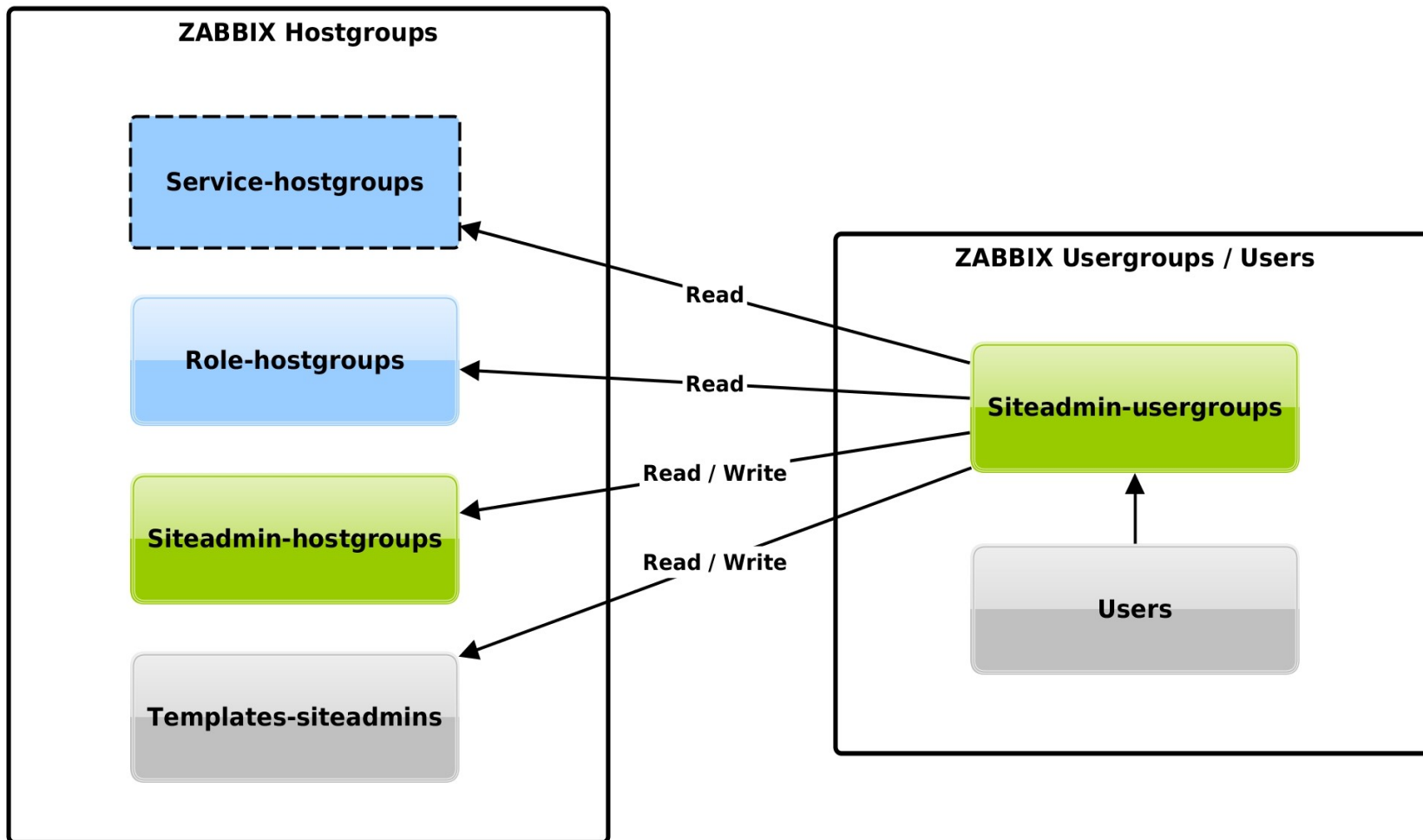
ZABBIX Hostgroups

Service-hostgroups

Role-hostgroups

Siteadmin-hostgroups

Templates-siteadmin



Nivlheim

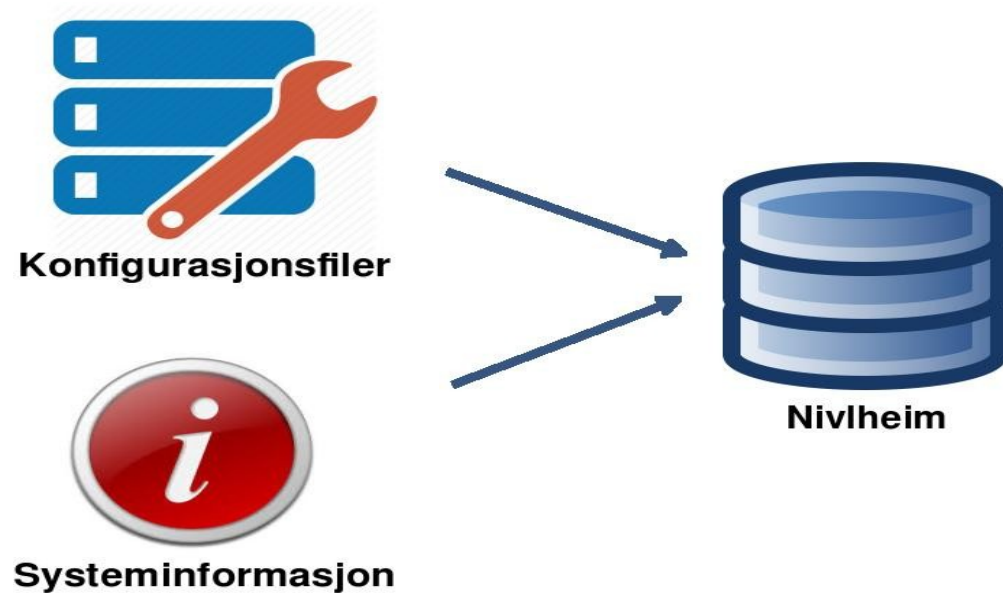


Konfigurasjonsfiler

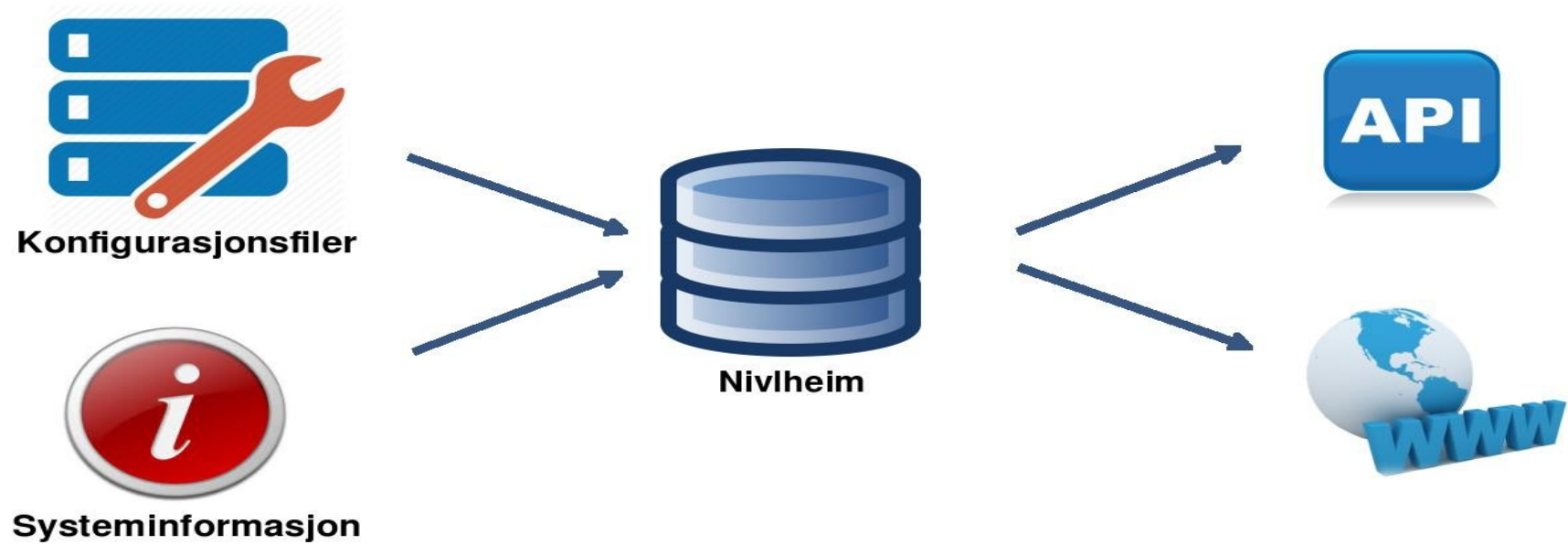


Systeminformasjon

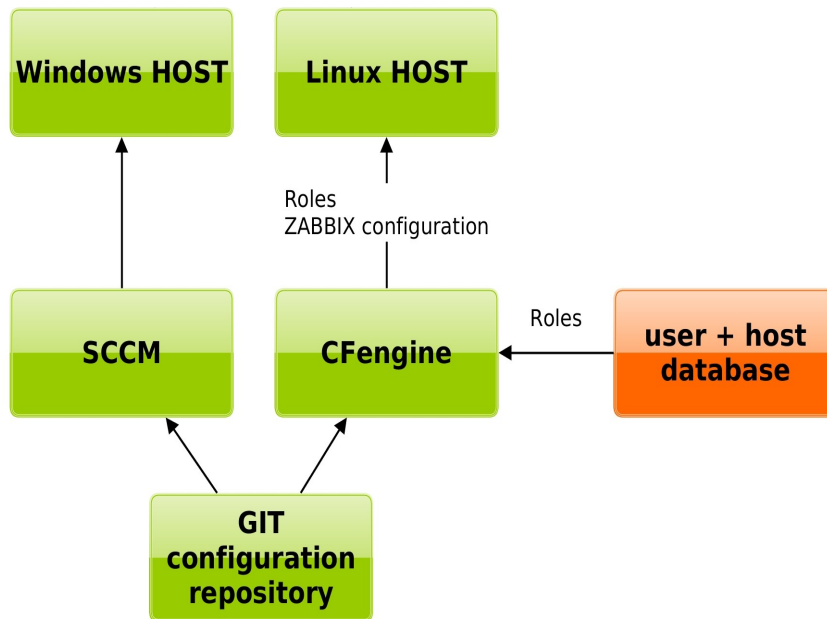
Nivlheim

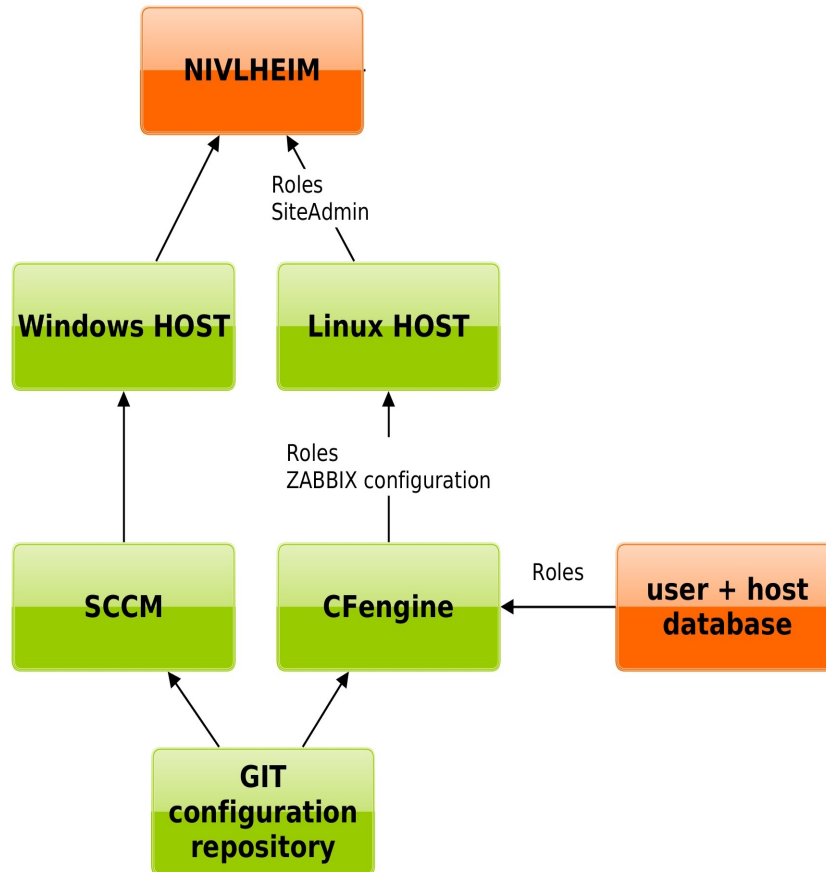


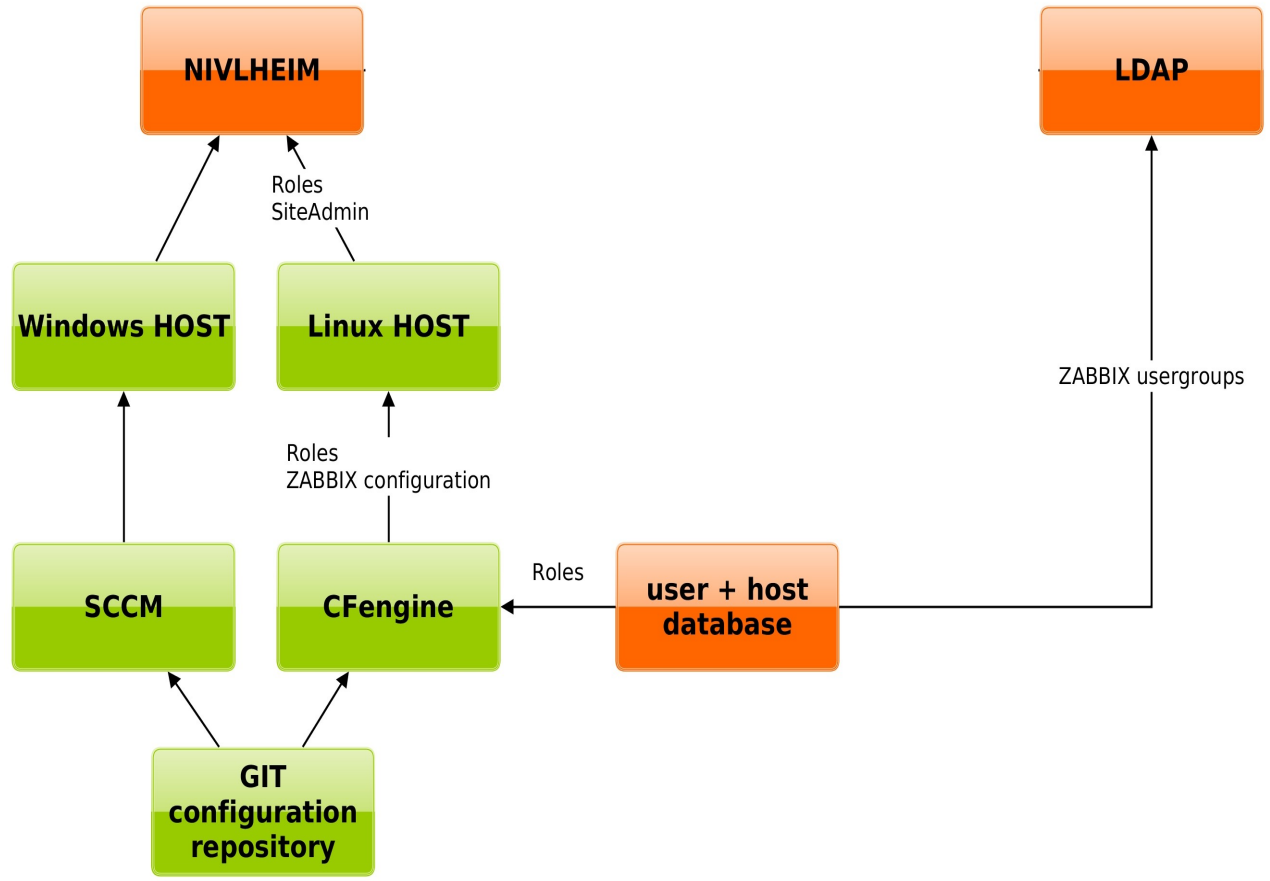
Nivlheim

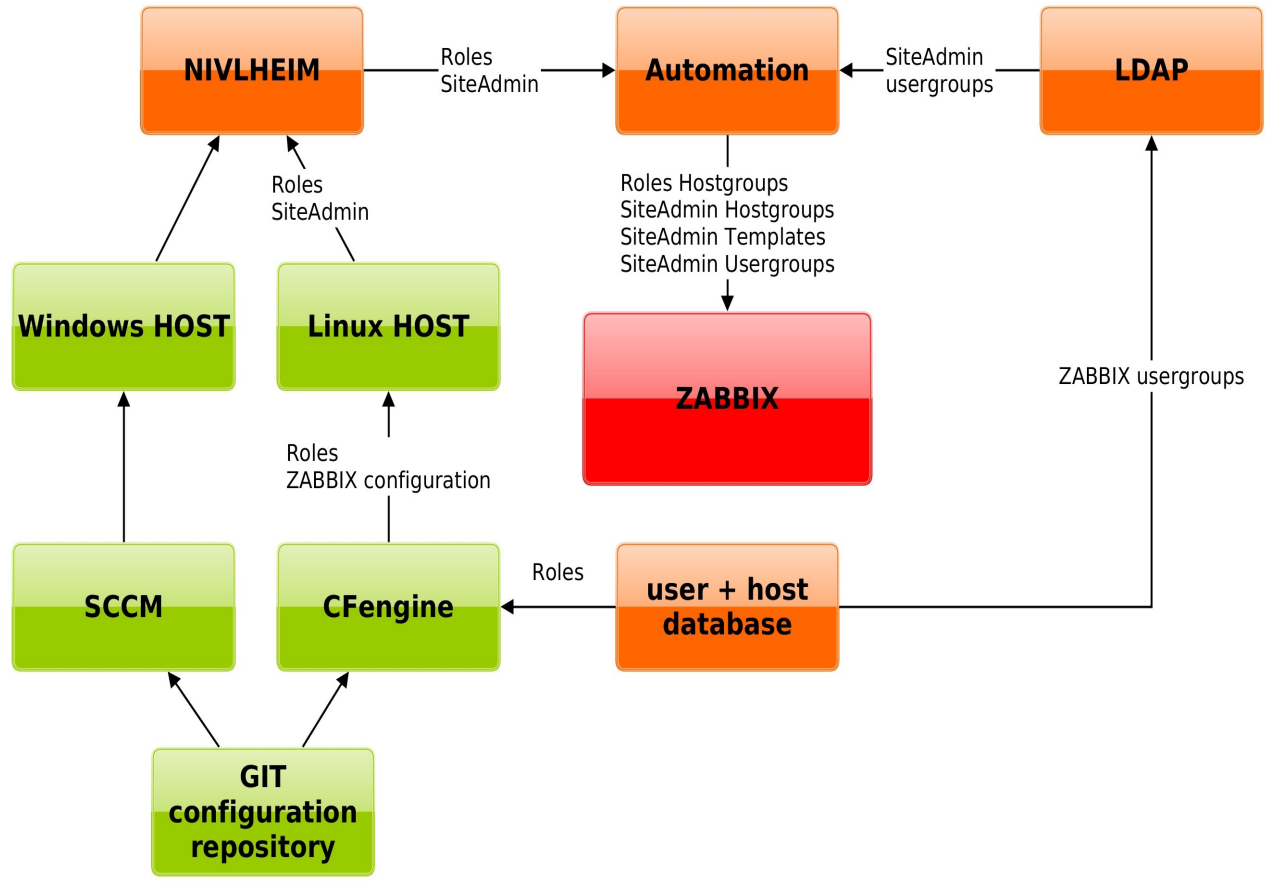


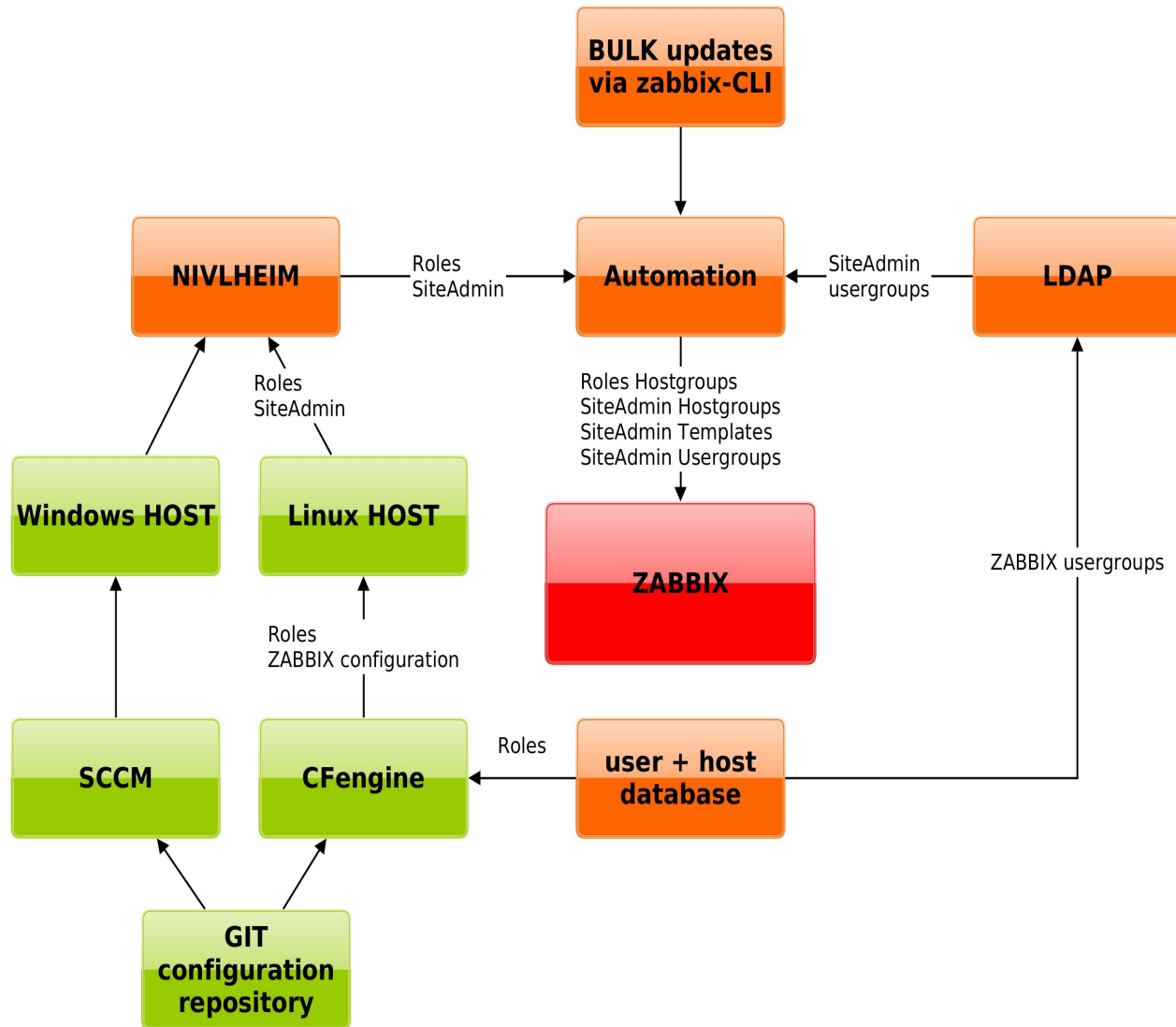


















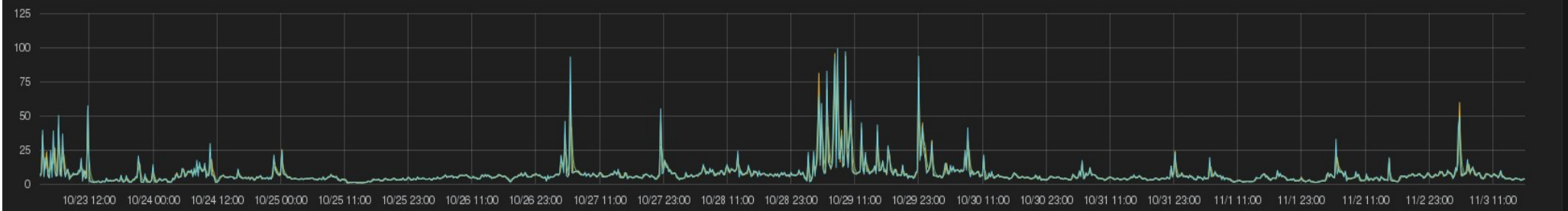
SELinux



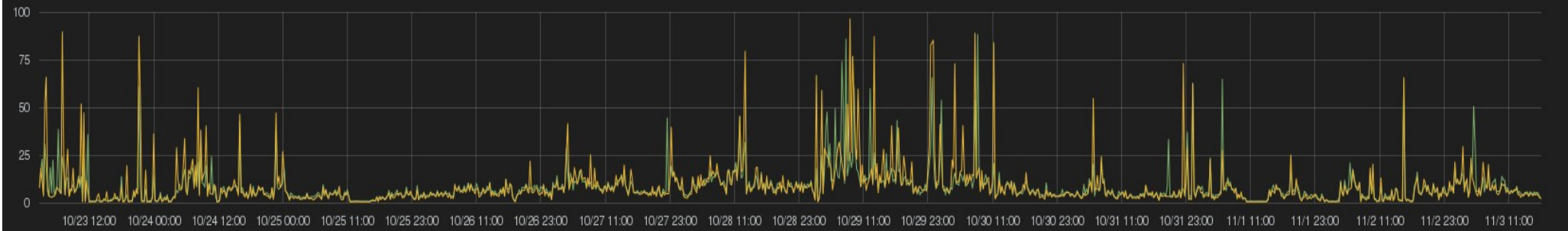
CPU



Load



Ping



Flame Graph

Search



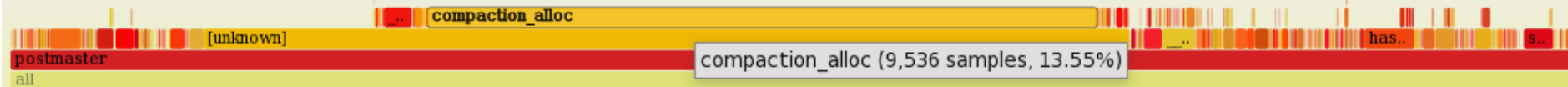
Function: postmaster (22,274 samples, 31.64%)

postmaster (22,274 samples, 31.64%)

Reset Zoom

Flame Graph

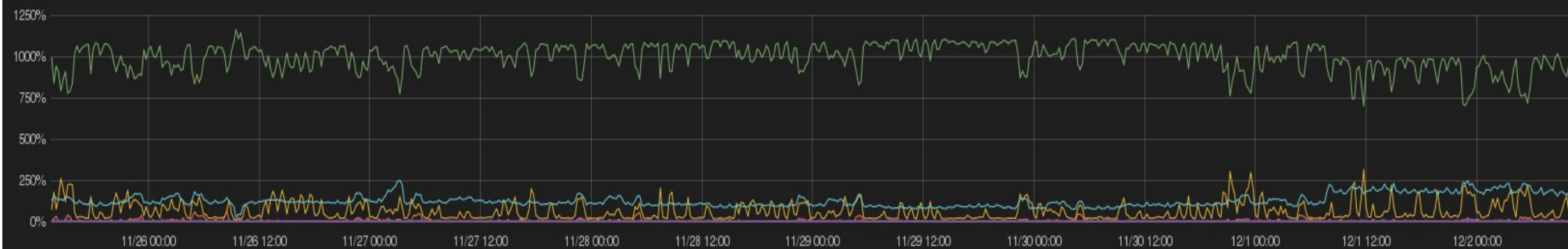
Search



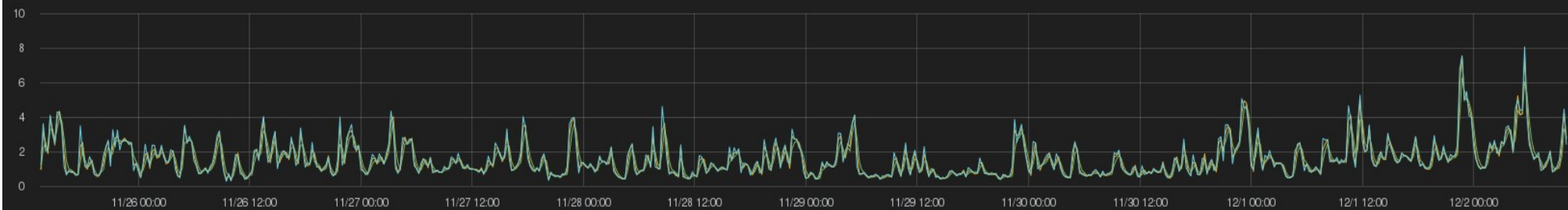
Function: compaction_alloc (9,536 samples, 13.55%)

compaction_alloc (9,536 samples, 13.55%)

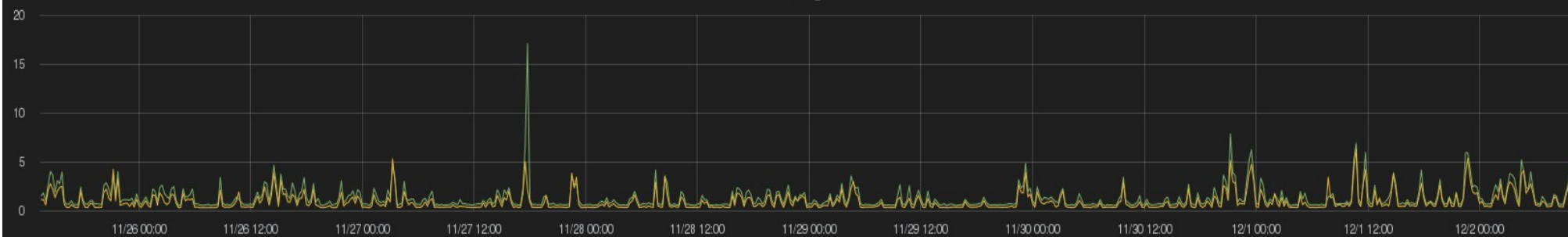
CPU



Load



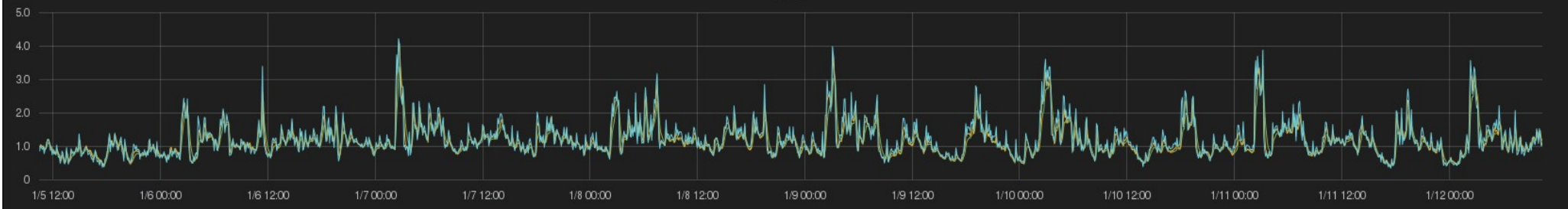
Ping



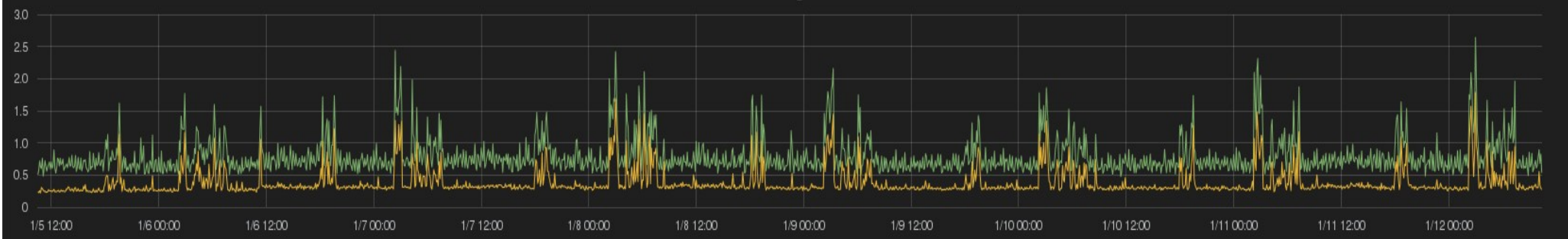
CPU



Load



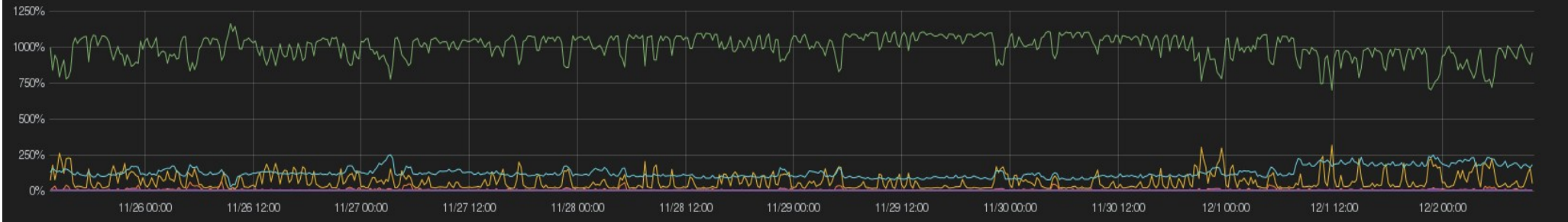
Ping



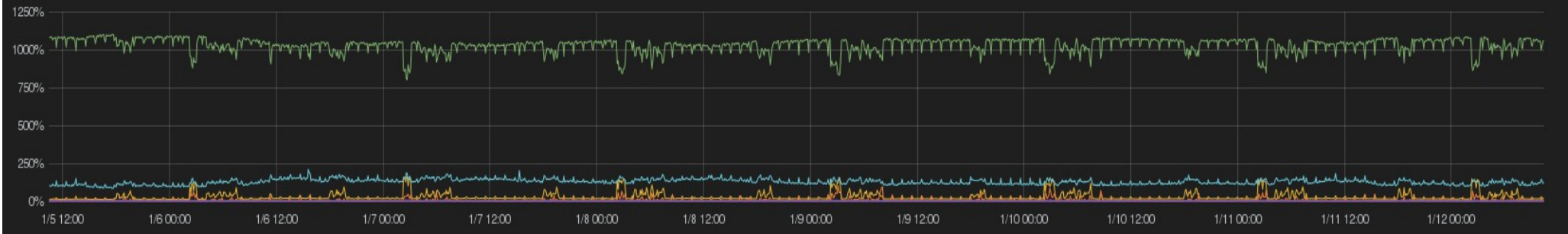
CPU



CPU



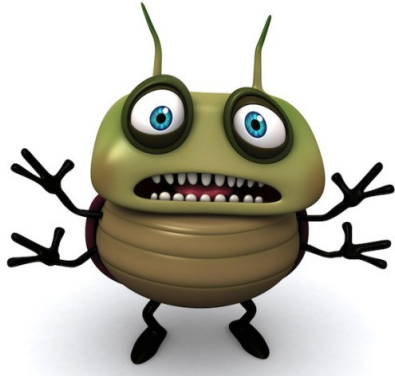
CPU

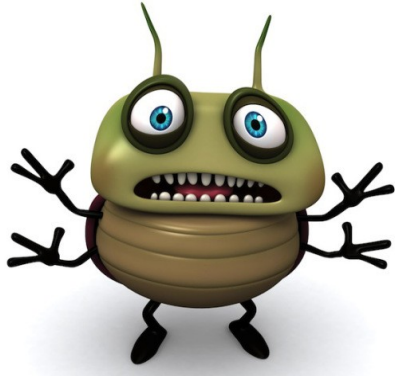


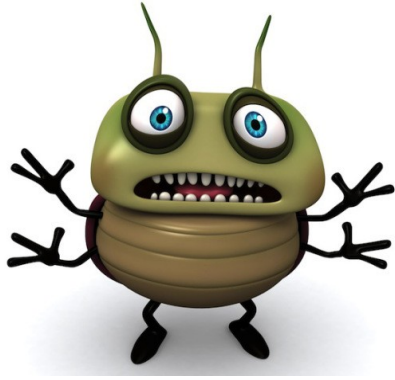


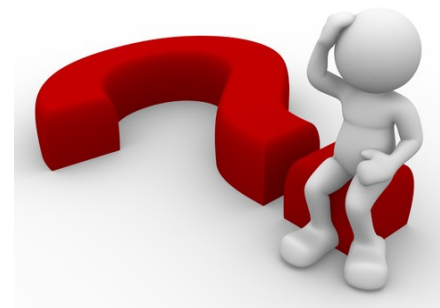












GRAFANA-ZABBIX

Uptime

1.535 week

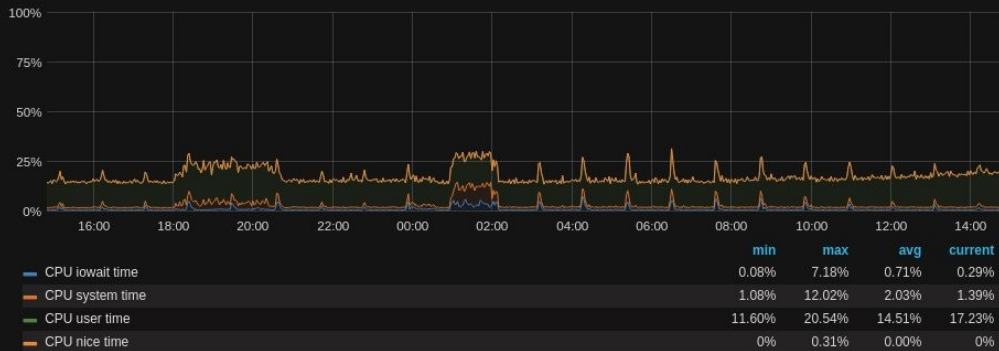
PostgreSQL Status

PostgreSQL is running

Zabbix agent status

Zabbix agent is running

CPU



PostgreSQL Processes



Transactions



Memory available



Connections



Slow queries



Cluster name

Cluster status

uio_prod

green

Total documents

6.91 Bil

Docs/sec

4.51K ops

Primary shards

919

Active shards

1.838 K

Active shards %

100.00%

Indexes size

4.91 TiB

Used data disk

15.00%

Total nodes



Total data nodes



Total CPU used				Mem heap used				Memory available			
Metric ▴	Max	Avg	Current	Metric ▴	Max	Avg	Current	Metric ▴	Max	Avg	Current
es-client01.uio.no: CPU total used time	0.48%	0.21%	0.39%	es-client01.uio.no: jvm.mem.heap_used_percent	7.50%	4.44%	3.50%	es-client01.uio.no: Memory available in %	45.09%	42.13%	45.08%
es-client02.uio.no: CPU total used time	0.66%	0.37%	0.30%	es-client02.uio.no: jvm.mem.heap_used_percent	6.00%	3.44%	6.00%	es-client02.uio.no: Memory available in %	46.75%	43.85%	46.74%
es-data01.uio.no: CPU total used time	26.48%	3.34%	3.84%	es-data01.uio.no: jvm.mem.heap_used_percent	74.00%	53.08%	35.00%	es-data01.uio.no: Memory available in %	46.99%	45.73%	46.96%
es-data02.uio.no: CPU total used time	21.17%	3.20%	3.18%	es-data02.uio.no: jvm.mem.heap_used_percent	76.00%	50.41%	55.00%	es-data02.uio.no: Memory available in %	46.85%	45.43%	46.82%
es-data03.uio.no: CPU total used time	17.18%	2.97%	2.97%	es-data03.uio.no: jvm.mem.heap_used_percent	73.50%	56.68%	68.00%	es-data03.uio.no: Memory available in %	47.02%	45.44%	47.00%
es-data04.uio.no: CPU total used time	17.57%	3.03%	3.46%	es-data04.uio.no: jvm.mem.heap_used_percent	74.00%	51.13%	63.00%	es-data04.uio.no: Memory available in %	70.94%	45.78%	47.21%
es-master01.uio.no: CPU total used time	2.17%	0.41%	0.43%	es-master01.uio.no: jvm.mem.heap_used_percent	2.00%	0.68%	0%	es-master01.uio.no: Memory available in %	48.16%	47.97%	48.15%
es-master02.uio.no: CPU total used time	2.60%	0.57%	1.60%	es-master02.uio.no: jvm.mem.heap_used_percent	2.00%	1.12%	2.00%	es-master02.uio.no: Memory available in %	47.97%	47.95%	47.96%
es-master03.uio.no: CPU total used time	2.61%	0.42%	0.09%	es-master03.uio.no: jvm.mem.heap_used_percent	2.00%	0.68%	2.00%	es-master03.uio.no: Memory available in %	48.12%	48.11%	48.12%

- ELK dashboards
- Search

ElasticSearch - Documents overview

ElasticSearch - Nodes overview

ElasticSearch - Node details

Elasticsearch - Cluster global overview

Elasticsearch - Indexes health

Logstash/query overview

Elasticsearch ZABBIX alarms						
Host	Status	Severity	Issue	Last change	Age	Info
es-master01.uio.no	Problem	High	CFENGINE client is not running on this host	05 Sep 2016 09:33:00	6 hours	
es-master01.uio.no	Problem	Average	CROND is not running on this host	05 Sep 2016 09:33:00	6 hours	

ELK - ZABBIX

Zabbix alarms overview

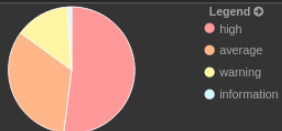


Zabbix - Total active alarms

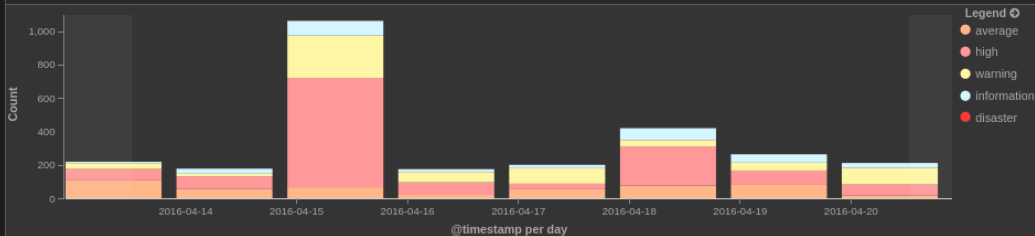
100

Count

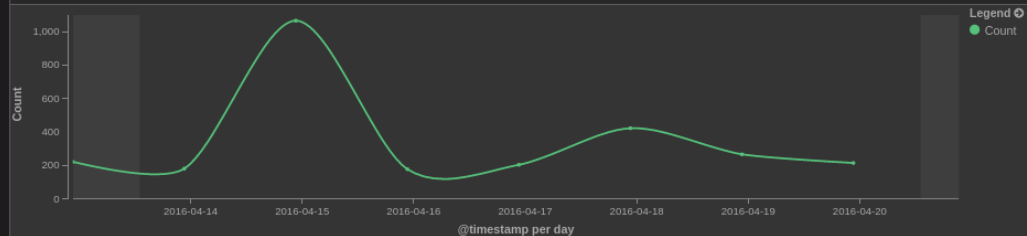
Zabbix - Active Alarms severity



Zabbix - Generated Alarms severity



Zabbix - Generated alarms count



Zabbix - Total generated alarms

2,749

Count

Zabbix - Generated Alarms severity

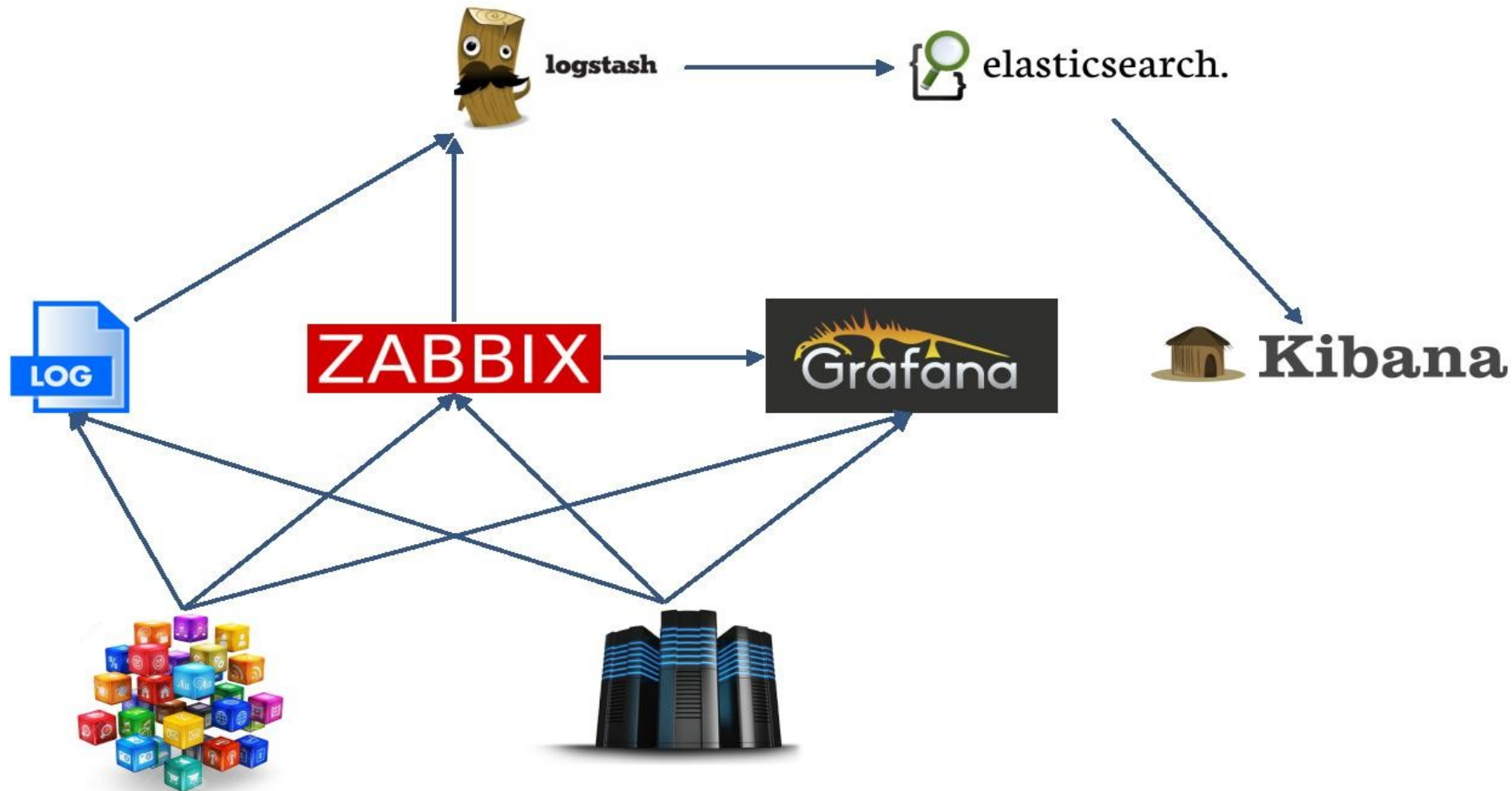


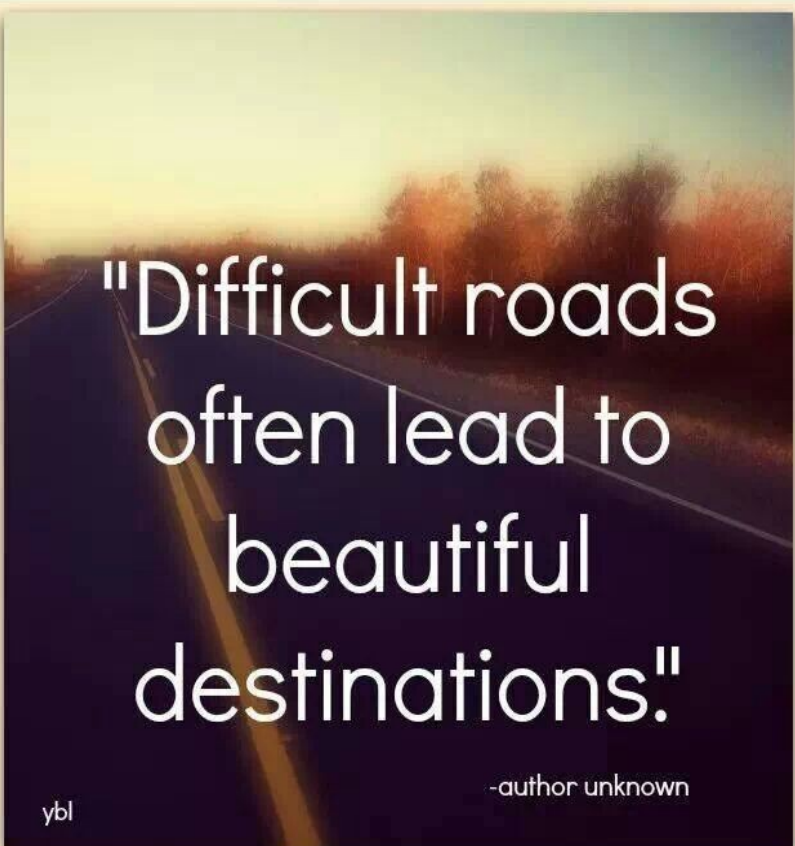
Zabbix - All active alarms

1 2 »							
Time	timestamp	alarm_status	hostname	ip	alarm_severity	ack_status	alarm_name
▶ April 20th 2016, 14:17:51.099	April 20th 2016, 16:17:29.000	PROBLEM	-	129.240.188.198	Average	No	The disk /home has used more than 95% of total diskspace (Free: 4.96 %)
▶ April 20th 2016, 13:51:56.645	April 20th 2016, 15:51:29.000	PROBLEM	-	129.240.133.10	High	No	Host is unavailable via ICMP ping
▶ April 20th 2016, 13:03:17.277	April 20th 2016, 15:02:47.000	PROBLEM	-	129.240.3.146	Average	No	The disk /dbfiles/dbora-uo-test01/ora01 has used more than 92% of total diskspace (Free: 7.95 %)
▶ April 20th 2016, 11:22:46.053	April 20th 2016, 13:22:06.000	PROBLEM	-	129.240.188.214	Average	No	The disk /var has used more than 95% of total diskspace (Free: 4.98 %)
▶ April 20th 2016, 10:45:47.669	April 20th 2016, 12:45:19.000	PROBLEM	-	129.240.120.181	High	No	Host is unavailable via ICMP ping
▶ April 20th 2016, 10:37:19.498	April 20th 2016, 12:36:58.000	PROBLEM	-	129.240.102.243	High	No	[KANT] - The virtual volume kant-med-fs02/med-imb-pkanne is full
▶ April 20th 2016, 09:08:59.791	April 20th 2016, 11:08:25.000	PROBLEM	-	0.0.0.0	Average	No	Instance [w3utvjb02-foransatte-2] has problems with the database
▶ April 20th 2016, 09:07:51.991	April 20th 2016, 11:07:13.000	PROBLEM	-	0.0.0.0	Average	No	Instance [w3utvjb03-foransatte-1] has problems with the database
▶ April 20th 2016, 09:07:18.835	April 20th 2016, 11:07:03.000	PROBLEM	-	129.240.170.80	Average	No	Instance fw3testib04-minestudier-21 has problems with the database

Zabbix - All generated alarms

1 2 3 4 5 ...10 »							
Time	timestamp	alarm_status	hostname	ip	alarm_severity	ack_status	alarm_name
▶ April 20th 2016, 14:23:33.772	April 20th 2016, 16:21:57.000	OK	-	129.240.253.202	Information	No	VoIP: SIP ping voiptest2-sbc2 softphone
▶ April 20th 2016, 14:20:30.583	April 20th 2016, 16:17:50.000	OK	-	129.240.4.68	Warning	No	[fsweb.no:443/evuweb/sjekk] - jboss sjekk code
▶ April 20th 2016, 14:17:51.099	April 20th 2016, 16:17:29.000	PROBLEM	-	129.240.188.198	Average	No	The disk /home has used more than 95% of total diskspace (Free: 4.96 %)
▶ April 20th 2016, 14:12:19.459	April 20th 2016, 16:10:38.000	OK	-	129.240.4.68	Warning	No	[fsweb.no:443/evuweb/sjekk] - jboss sjekk code
▶ April 20th 2016, 14:07:10.002	April 20th 2016, 16:05:23.000	OK	-	129.240.4.68	Warning	No	[fsweb.no:443/evuweb/sjekk] - jboss sjekk code
▶ April 20th 2016, 14:04:00.520	April 20th 2016, 16:02:19.000	OK	-	129.240.4.68	Warning	No	[fsweb.no:443/evuweb/sjekk] - jboss sjekk code





"Difficult roads
often lead to
beautiful
destinations."

ybl

-author unknown

WHY
WHAT
WHO
WHEN
HOW
WHERE

