



Webinar

Zabbix performance tuning

all our microphones are muted

ask your questions in Q&A, not in the Chat

use Chat for discussion, networking or applause

1

Performance tuning



Zabbix performance tuning

Zabbix data flow



Visualization

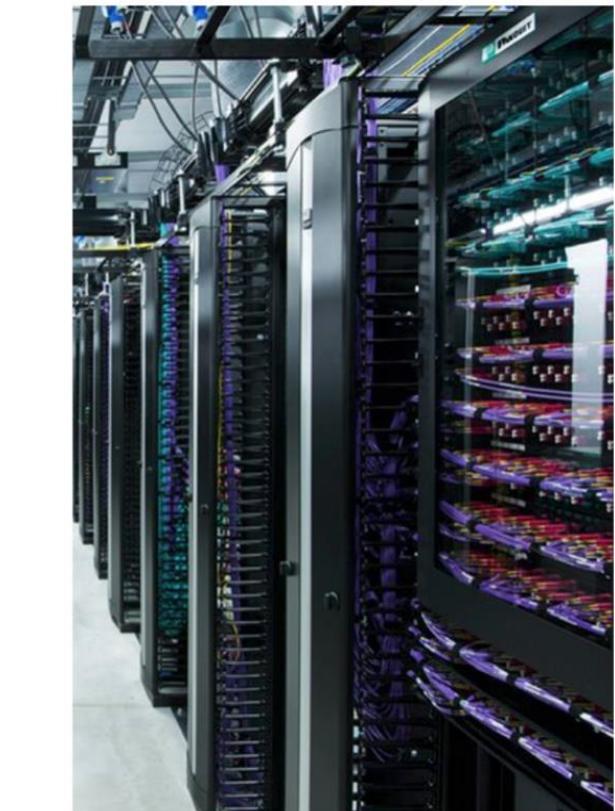


History

Notifications



Analysis



Data collection

Zabbix performance tuning

How to measure performance

Number of values processed per second (NVPS)

A rough estimate of NVPS is visible in Zabbix

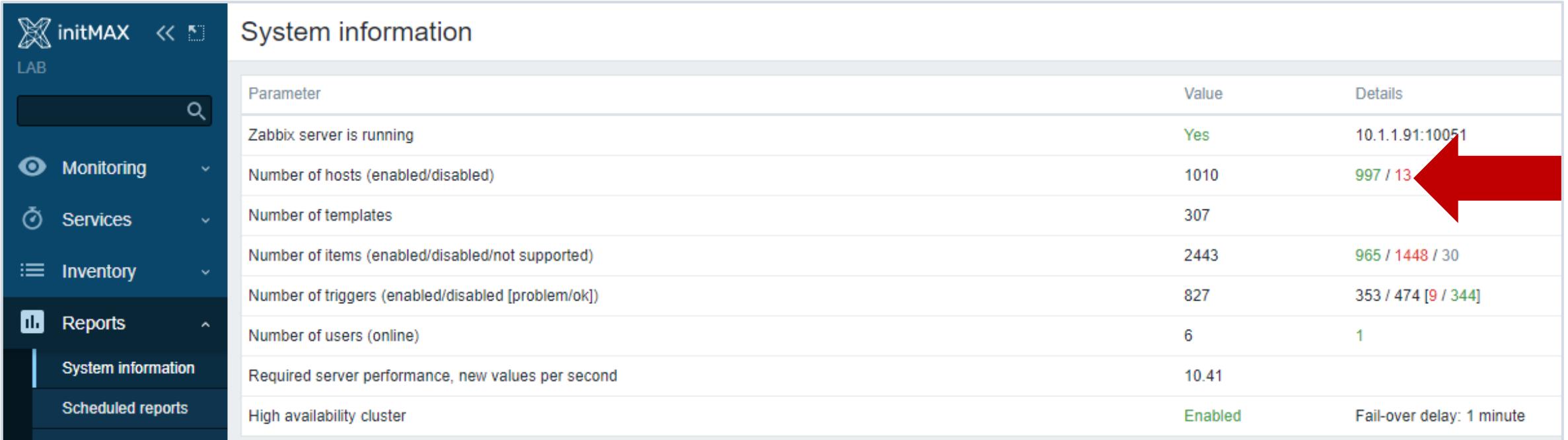


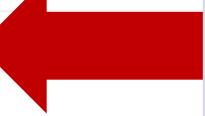
System information			
Parameter	Value	Details	
Zabbix server is running	Yes	10.1.1.91:10051	
Number of hosts (enabled/disabled)	1010	997 / 13	
Number of templates	307		
Number of items (enabled/disabled/not supported)	2443	965 / 1448 / 30	
Number of triggers (enabled/disabled [problem/ok])	827	353 / 474 [9 / 344]	
Number of users (online)	6	1	
Required server performance, new values per second	10.41		
High availability cluster	Enabled	Fail-over delay: 1 minute	

Zabbix performance tuning

How to measure performance

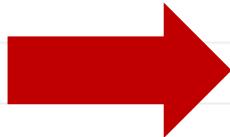
Why the number of devices is not an indicator?



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Zabbix performance tuning

How to measure performance



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- › Update frequency greatly affects NVPS.
- › The calculation takes into account data from the monitored devices.
- › Data types “Zabbix trapper” or “SNMP trap” are not taken into account.

Zabbix performance tuning

Performance



Hardware: 10 Core CPU, 32GB, RAID10 BBWC

Budget: ~ 4K EUR

- › Zabbix is able to deliver 2 million of values per minute or around 30.000 of values per second
- › In real life performance would be worse. Why?!

What affects performance?

- › Type of items, value types, SNMPv3, number of triggers and complexity of triggers.
- › Housekeeper settings and thus size of the database.
- › Number of users working with the WEB interface.

Zabbix performance tuning

What affects performance?

60 items per host, update frequency once per minute

Number of hosts	Performance - NVPS
100	100
1 000	1 000
10 000	10 000

300 items per host, update frequency once per minute

Number of hosts	Performance - NVPS
100	500
1 000	5 000
10 000	50 000

- › Choose update frequency and duration of storage carefully

Performance

- History analysis affects performance of Zabbix. But not so much!

	Slow	Fast
Database size	Large	Fits into memory
Low-level detection	Update frequency 30s, 15m, 30m	Update frequency 1h, 1d, 7d
Errors in settings	nodata(5m) and mult. event generation, min(#3600)	nodata(5m), min(3600)
Trigger expressions	min(), max(), avg()	last(), nodata()
Data collection	Polling (SNMP, agent-less, passive agent)	Trapping (active agents)
Data types	Text, string	Numeric

Performance

Different views on performance



“I just added 5 hosts and Zabbix died” :-(

“Zabbix is so slooooow, I have only 48 hosts” :-(



“Zabbix Milestone achieved - 1000 hosts and growing” :-)

“Our status update: 232623 hosts, 3878565 items, 591121 triggers, 19086 vps” :-)

What's the difference?

Zabbix performance tuning

Performance

Common problems of initial setup

Default database settings

- › Tune database for the best performance (https://github.com/hermanekt/Zabbix_SQL_tunned_for_40k)

Not optimal configuration of Zabbix Server

- › Tune Zabbix Server configuration (Monitoring > Dashboard > Zabbix server health)

Housekeeper settings do not match hardware spec

- › (Use partitions in DB)

Use of default templates

- › Make your own smarter templates

Use of older releases

- › Always use the latest one!

Performance

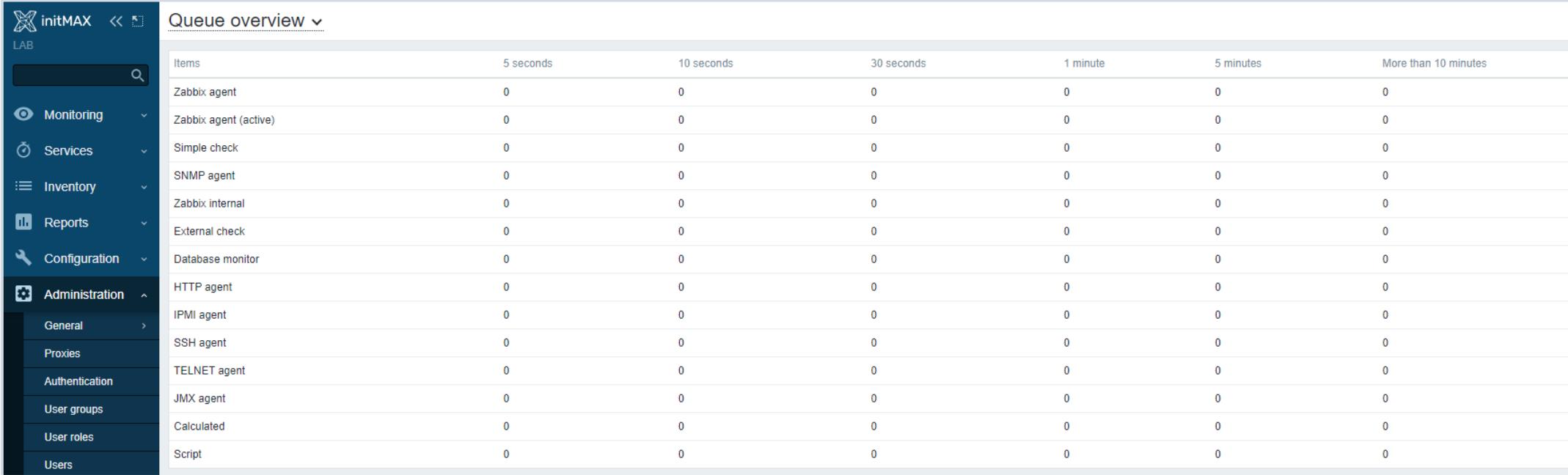
Visible symptoms of bad performance

- › Zabbix queue has too many delayed items Administration->Queue
- › Frequent gaps in graphs, no data for some of the items
- › False positives for triggers having nodata() function
- › Unresponsive WEB interface
- › No alerts or thousands of alerts

Zabbix performance tuning

Performance

Nice view of queue of items



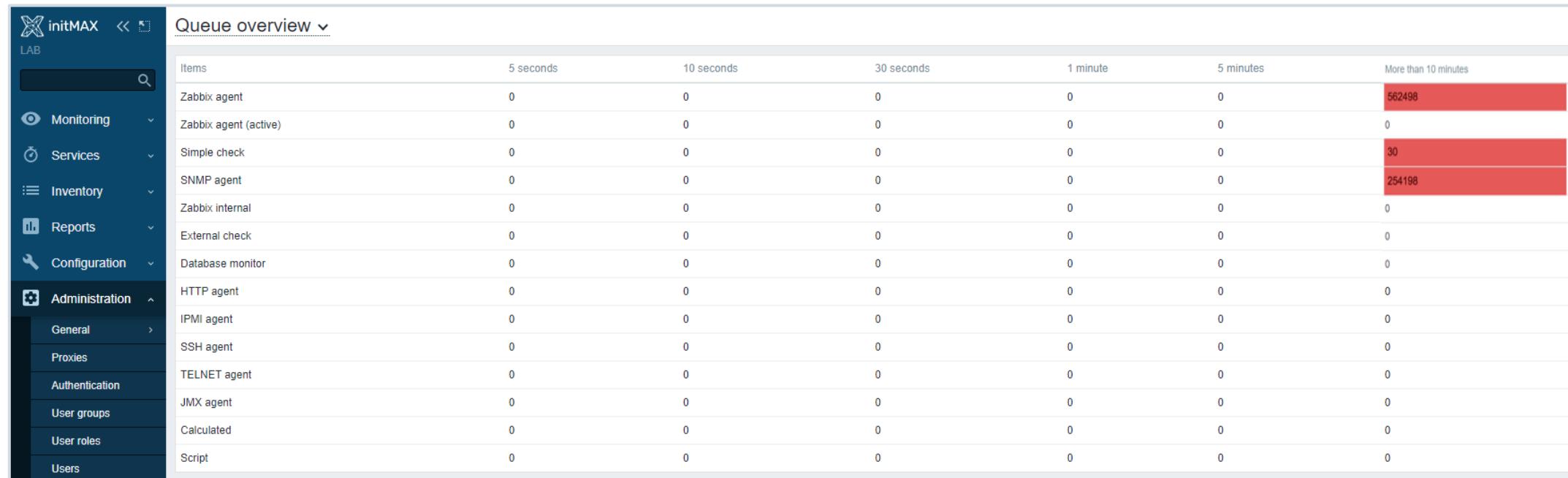
The screenshot shows the initMAX interface with a sidebar on the left containing navigation links for Monitoring, Services, Inventory, Reports, Configuration, Administration (with sub-links for General, Proxies, Authentication, User groups, User roles, and Users), and LAB. The main content area is titled "Queue overview" and displays a table of item counts across different time intervals. The table has columns for "Items" and time intervals: "5 seconds", "10 seconds", "30 seconds", "1 minute", "5 minutes", and "More than 10 minutes". All values in the table are 0.

Items	5 seconds	10 seconds	30 seconds	1 minute	5 minutes	More than 10 minutes
Zabbix agent	0	0	0	0	0	0
Zabbix agent (active)	0	0	0	0	0	0
Simple check	0	0	0	0	0	0
SNMP agent	0	0	0	0	0	0
Zabbix internal	0	0	0	0	0	0
External check	0	0	0	0	0	0
Database monitor	0	0	0	0	0	0
HTTP agent	0	0	0	0	0	0
IPMI agent	0	0	0	0	0	0
SSH agent	0	0	0	0	0	0
TELNET agent	0	0	0	0	0	0
JMX agent	0	0	0	0	0	0
Calculated	0	0	0	0	0	0
Script	0	0	0	0	0	0

Zabbix performance tuning

Performance

Nice view of queue of items during a problem state



Items	5 seconds	10 seconds	30 seconds	1 minute	5 minutes	More than 10 minutes
Zabbix agent	0	0	0	0	0	562498
Zabbix agent (active)	0	0	0	0	0	0
Simple check	0	0	0	0	0	30
SNMP agent	0	0	0	0	0	254198
Zabbix internal	0	0	0	0	0	0
External check	0	0	0	0	0	0
Database monitor	0	0	0	0	0	0
HTTP agent	0	0	0	0	0	0
IPMI agent	0	0	0	0	0	0
SSH agent	0	0	0	0	0	0
TELNET agent	0	0	0	0	0	0
JMX agent	0	0	0	0	0	0
Calculated	0	0	0	0	0	0
Script	0	0	0	0	0	0

Zabbix performance tuning

Performance



Identify

Step 1



Tune

Step 2



Improve

Step 3

2

Identify



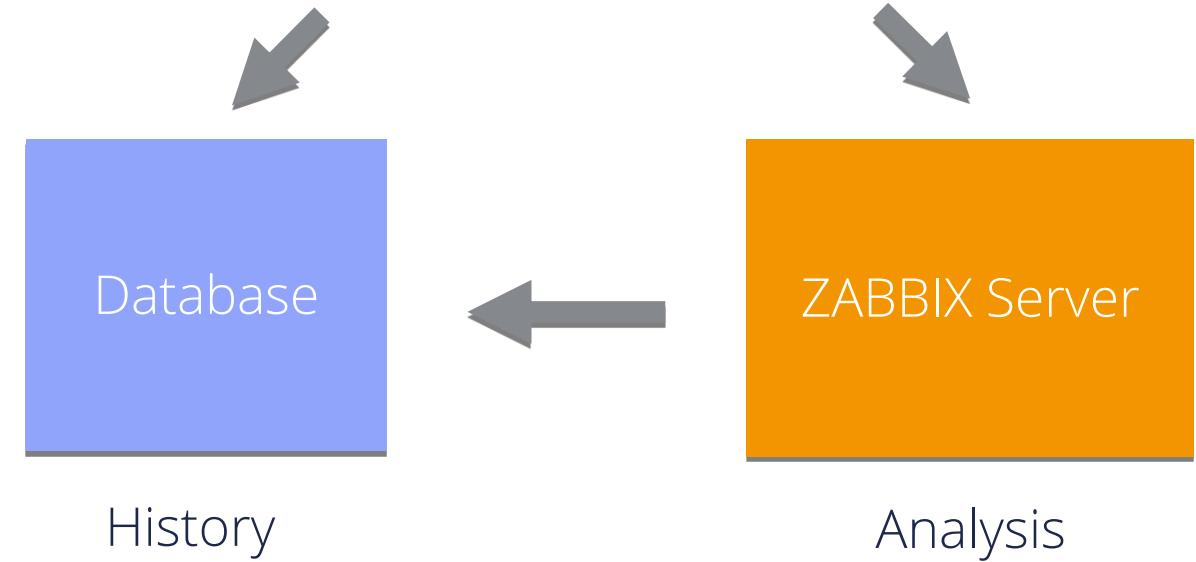
Zabbix performance tuning

Identify

How to understand which one is the root cause of Zabbix slowdown?

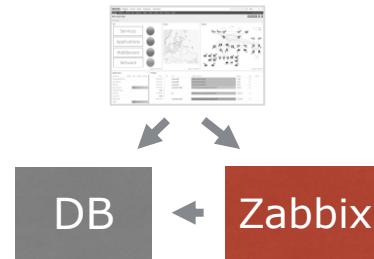


Visualization



Zabbix performance tuning

Identify



Main utilities

- › top, ntop, iostat, vmstat, sar
- › Zabbix itself
- › strace or log file with debugging mode enabled
- › ps aux | grep zabbix_server

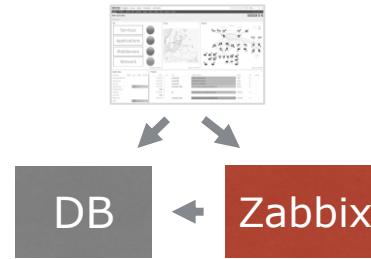
```
# ps ax | grep sync
zabbix_server: history syncer #1 [synced 1845 items in 0.257111 sec, syncing history]
zabbix_server: history syncer #2 [synced 24 items in 0.060314 sec, idle 4 sec]
zabbix_server: history syncer #3 [synced 0 items in 0.000018 sec, idle 4 sec]
zabbix_server: history syncer #4 [synced 0 items in 0.000009 sec, syncing history]
```

Values change?



Zabbix performance tuning

Identify



Main utilities

- › top, ntop, iostat, vmstat, sar
- › Zabbix itself
- › strace or log file with debugging mode enabled
- › ps aux | grep zabbix_server

```
# ps ax | grep sync
history syncer #1 [synced 1020 items in 285.198752 sec, syncing history]
history syncer #2 [synced 915 items in 285.177799 sec, syncing history]
history syncer #3 [synced 3401 items in 284.936376 sec, syncing history]
history syncer #4 [synced 1194 items in 285.280719 sec, syncing history]
```

During the problem?



Zabbix performance tuning

Identify

Get internal statistics

The actual VPS value

- zabbix[wcache, values, all]
- zabbix[queue,1m] amount of items with a delay of more than 1 minute

Zabbix server components

- Alerter, Configuration syncer, DB watchdog, discoverer, escalator, history syncer, http poller, housekeeper, icmp pinger, ipmi poller, poller, trapper, etc.

Zabbix server cache

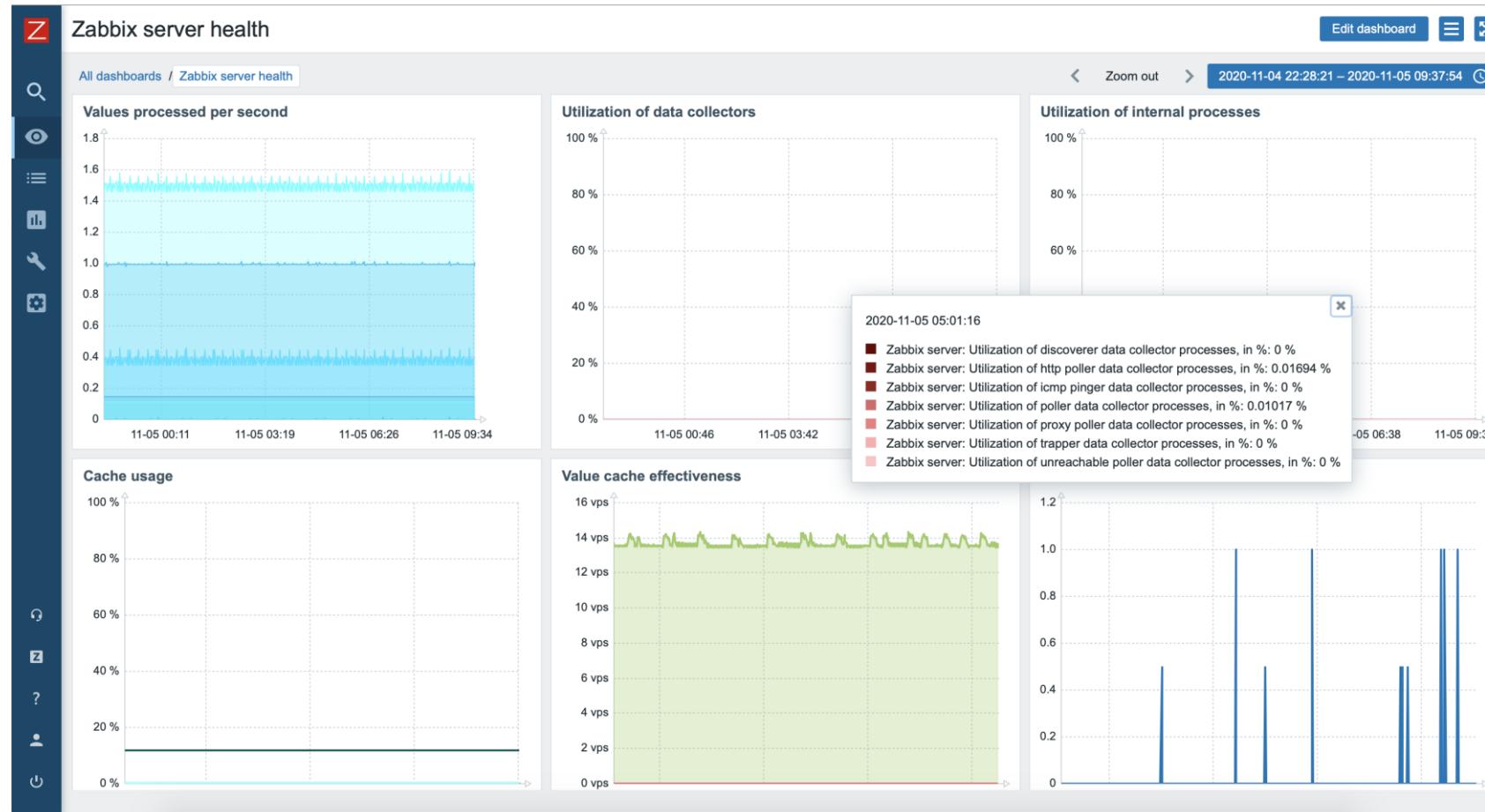
- history write cache, value cache, trend write cache, vmware cache, etc.

Ready templates:

- Template App Zabbix Server
- Template App Zabbix Proxy
- Template App Zabbix Agent

Zabbix performance tuning

Identify



Identify

Debug mode

- There is a problem, but it is not clear what kind of problem?

- Enable debugging mode for the process:

```
# zabbix_server -R log_level_increase=alerter
```

- Search in the log for information about the problem (grep, etc.):

```
/var/log/zabbix/zabbix_server.log
```

Zabbix performance tuning

Identify

How to know that the performance of the DB is bad?

- Zabbix server configuration file, zabbix_server.conf

LogSlowQueries=3000

Zabbix performance tuning

Identify

Main utilities

- top, ntop, iostat, vmstat, sar
- DB statistics, innnotop

When	Load	Cxns	QPS	Slow	Sc/In/Up/De%	QCacheHit	CCacheHit	BpsIn	BpsOut
Now	0.00	218	2.04k	4	93/ 0/ 0/ 0	0.00%	100.00%	274.71k	2.35M
Total	0.00	2.00k	1.60k	173.93k	81/ 2/ 3/ 0	0.00%	100.00%	372.98k	4.11M
Cmd	ID	State	User	Host	DB	Time	Query		
Daemon	1	Waiting on empty q	event_sc	localhost	zabbix	5+21:18:05	SELECT DISTINCT t.triggerid,t.priority,h.name AS hostname,h.host,h.hostid FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879265	Sending data	root	zabbix	zabbix	05:12	SELECT DISTINCT t.triggerid,t.priority,h.name AS hostname,h.host,h.hostid FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879583	Sending data	root	zabbix	zabbix	04:40	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879654	Sending data	root	zabbix	zabbix	04:30	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879818	Sending data	root	zabbix	zabbix	04:29	SELECT DISTINCT t.triggerid,t.priority,h.name AS hostname,h.host,h.hostid FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879915	Sending data	root	zabbix	zabbix	04:29	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879931	Sending data	root	zabbix	zabbix	04:29	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879934	Sending data	root	zabbix	zabbix	04:28	SELECT DISTINCT t.triggerid,t.priority,h.name AS hostname,h.host,h.hostid FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879940	Sending data	root	zabbix	zabbix	04:28	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879970	Sending data	root	zabbix	zabbix	04:27	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3880048	Sending data	root	zabbix	zabbix	04:15	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3880122	Sending data	root	zabbix	zabbix	03:38	SELECT DISTINCT t.triggerid,t.priority,h.name AS hostname,h.host,h.hostid FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3878927	Sending data	root	zabbix	zabbix	03:28	SELECT DISTINCT COUNT(DISTINCT t.triggerid) AS rowscount FROM triggers t,functions f,items i,hosts_groups hg WHERE t.hostid = hg.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = hg.hostid		
Query	3880276	Sending data	root	zabbix	zabbix	03:25	SELECT DISTINCT t.triggerid,t.priority,h.name AS hostname,h.host,h.hostid FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3880041	Sending data	root	zabbix	zabbix	02:05	SELECT DISTINCT COUNT(DISTINCT t.triggerid) AS rowscount FROM triggers t,functions f,items i,hosts_groups hg WHERE t.hostid = hg.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = hg.hostid		
Query	3880848	Sending data	root	zabbix	zabbix	02:00	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3880722	Sending data	root	zabbix	zabbix	01:59	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879118	Sending data	root	zabbix	zabbix	01:47	SELECT DISTINCT COUNT(DISTINCT t.triggerid) AS rowscount FROM triggers t,functions f,items i,hosts_groups hg WHERE t.hostid = hg.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = hg.hostid		
Query	3881015	Sending data	root	zabbix	zabbix	01:37	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3880981	Sending data	root	zabbix	zabbix	01:31	SELECT DISTINCT t.triggerid,t.priority,h.name AS hostname,h.host,h.hostid FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3879535	Sending data	root	zabbix	zabbix	01:29	SELECT DISTINCT COUNT(DISTINCT t.triggerid) AS rowscount FROM triggers t,functions f,items i,hosts_groups hg WHERE t.hostid = hg.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = hg.hostid		
Query	3880240	Sending data	root	zabbix	zabbix	01:28	SELECT DISTINCT t.triggerid,t.priority,h.name AS hostname,h.host,h.hostid FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3881198	Sending data	root	zabbix	zabbix	01:23	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3881267	Sending data	root	zabbix	zabbix	01:20	SELECT DISTINCT t.triggerid,t.state,t.error,t.url,t.expression,t.description,t.priority,t.lastchange FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3881352	Sending data	root	zabbix	zabbix	01:11	SELECT COUNT(DISTINCT t.triggerid) AS rowscount FROM triggers t WHERE NOT EXISTS (SELECT NULL FROM functions f,items i,hosts h WHERE f.itemid = i.itemid AND i.hostid = h.hostid AND h.hostid = t.hostid)		
Query	3881468	Sending data	root	zabbix	zabbix	00:47	SELECT DISTINCT t.triggerid,t.priority,h.name AS hostname,h.host,h.hostid FROM triggers t,functions f,items i,hosts h WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = h.hostid		
Query	3881593	Sending data	root	zabbix	zabbix	00:46	SELECT DISTINCT h.hostid,h.name FROM hosts h,hosts_groups hg WHERE h.flags IN (0,4) AND EXISTS (SELECT NULL FROM triggers t WHERE t.hostid = h.hostid AND t.triggerid = f.triggerid AND f.itemid = i.itemid AND i.hostid = hg.hostid)		

Identify

Main utilities

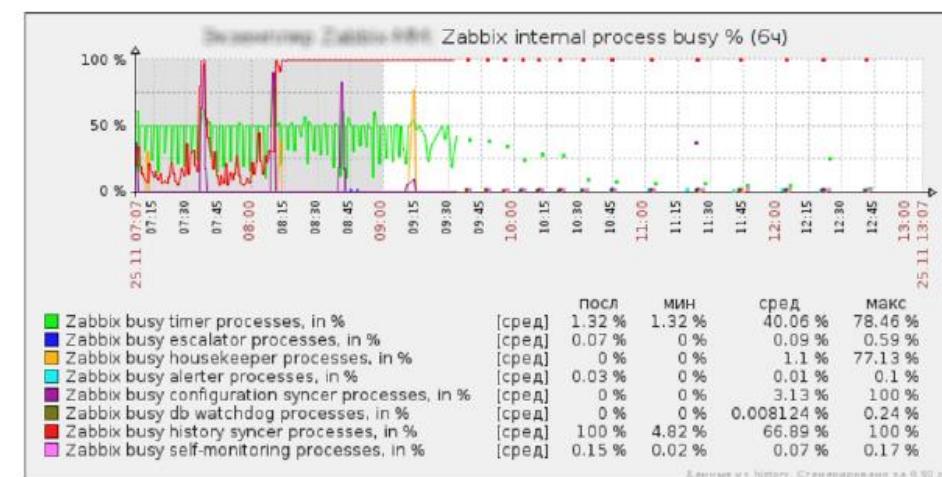
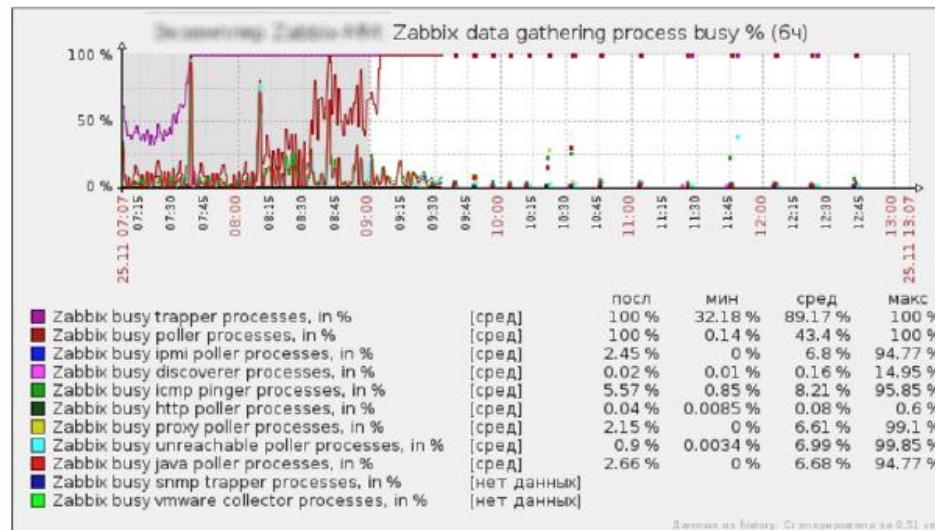
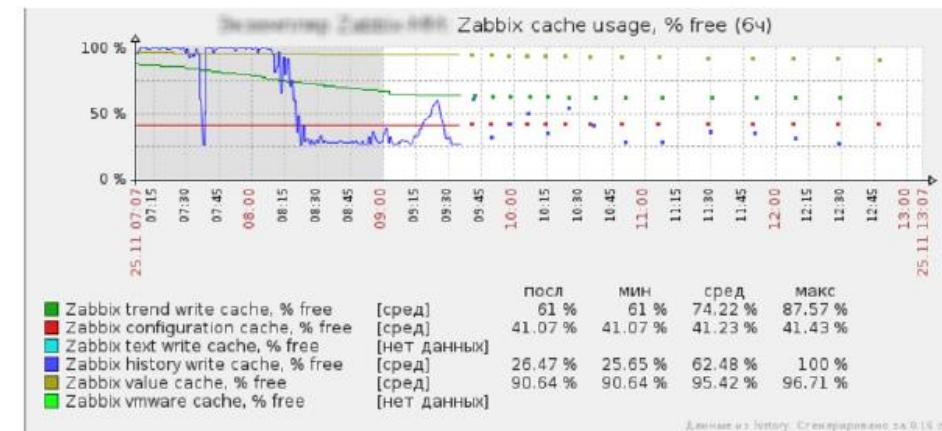
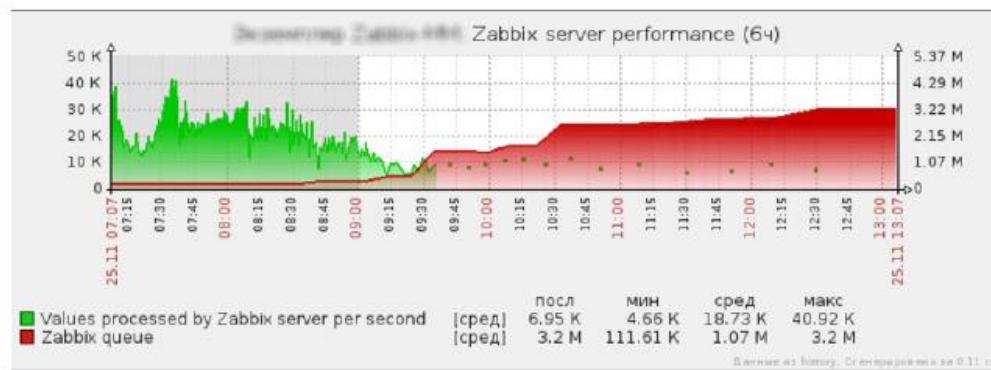
- › top, ntop, iostat, vmstat, sar
- › DB statistics, innnotop

```
# grep slow /var/log/zabbix/zabbix_server.log
slow query: 9.054528 sec, "insert into events (eventid, source, object, objectid,
clock...
slow query: 8.501505 sec, "update hosts set lastaccess=1421211815 where hostid...
slow query: 6.754405 sec, "insert into history (itemid,clock,ns,value) values...
slow query: 37.949541 sec, "select i.itemid, i.hostid, h.proxy_hostid, i.type,
i.data_type...
slow query: 70.877295 sec, "select distinct t.triggerid, t.description, t.expression,
t.error..."
```

Zabbix performance tuning

Identify

Slow DB?



Zabbix performance tuning

Identify

Debug mode

User groups

Name	Status	Enabled	Disabled	Frontend access	Debug mode	Status
System default	System default	System default	System default	System default	Disabled	Disabled
System default	System default	System default	System default	Internal	Enabled	Enabled
Internal	Internal	Internal	Internal	System default	Disabled	Enabled
System default	System default	System default	System default	Disabled	Disabled	Enabled
Disabled	Disabled	Disabled	Disabled	Internal	Disabled	Enabled
Enabled	Enabled	Enabled	Enabled	System default	Enabled	Enabled
Enabled	Enabled	Enabled	Enabled	System default	Disabled	Enabled
Enabled	Enabled	Enabled	Enabled	System default	Enabled	Enabled
Enabled	Enabled	Enabled	Enabled	System default	Disabled	Enabled
Displaying 9 of 9 found						

ZABBIX-DEMO

All dashboards / ZABBIX-DEMO

From now-7d To now

Last 2 days Yesterday Today Last 5 minutes
Last 7 days Day before yesterday Today so far Last 15 minutes
Last 30 days This day last week This week Last 30 minutes
Last 3 months Previous week This week so far Last 1 hour
Last 6 months Previous month This month Last 3 hours
Last 1 year Previous year This month so far Last 6 hours
Last 2 years This year Last 12 hours
This year so far Last 1 day

Edit dashboard

SLA report

Service	SLO	2021-07	2021-08	2021-09	2021-10	2021-11	2021-12	2022-01	2022-02	2022-03	2022-04	2022-05
www.initmax.cz	99.9%	100	100	100	100	100	100	100	100	100	100	100
www.zabbix.com	99.9%	100	100	100	100	100	100	100	100	99.8654	98.8888	100

Displaying 2 of 2 found

Help

User settings

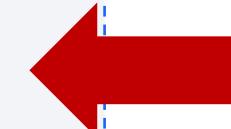
Sign out

Debug

Identify

Debug mode

```
***** Script profiler *****
Total time: 0.960905
Total SQL time: 0.749027
SQL count: 5636 (selects: 4065 | executes: 1571)
Peak memory usage: 180.5M
Memory limit: 2G
```

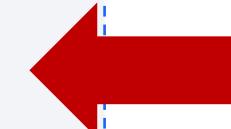


Load speed
less than a
second

Identify

Debug mode

```
***** Script profiler *****
Total time: 10.960905
Total SQL time: 0.749027
SQL count: 5636 (selects: 4065 | executes: 1571)
Peak memory usage: 180.5M
Memory limit: 2G
```

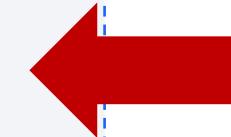


Problem
with web
server

Identify

Debug mode

```
***** Script profiler *****  
Total time: 10.960905  
Total SQL time: 10.749027  
SQL count: 5636 (selects: 4065 | executes: 1571)  
Peak memory usage: 180.5M  
Memory limit: 2G
```



Problem
with DB

3

Tune



Tune

Tune number of processes (example)

- Zabbix server configuration file, zabbix_server.conf:

StartPollers=80

StartPingers=10

StartPollersUnreachable=80

StartIPMIPollers=10

StartTrappers=20

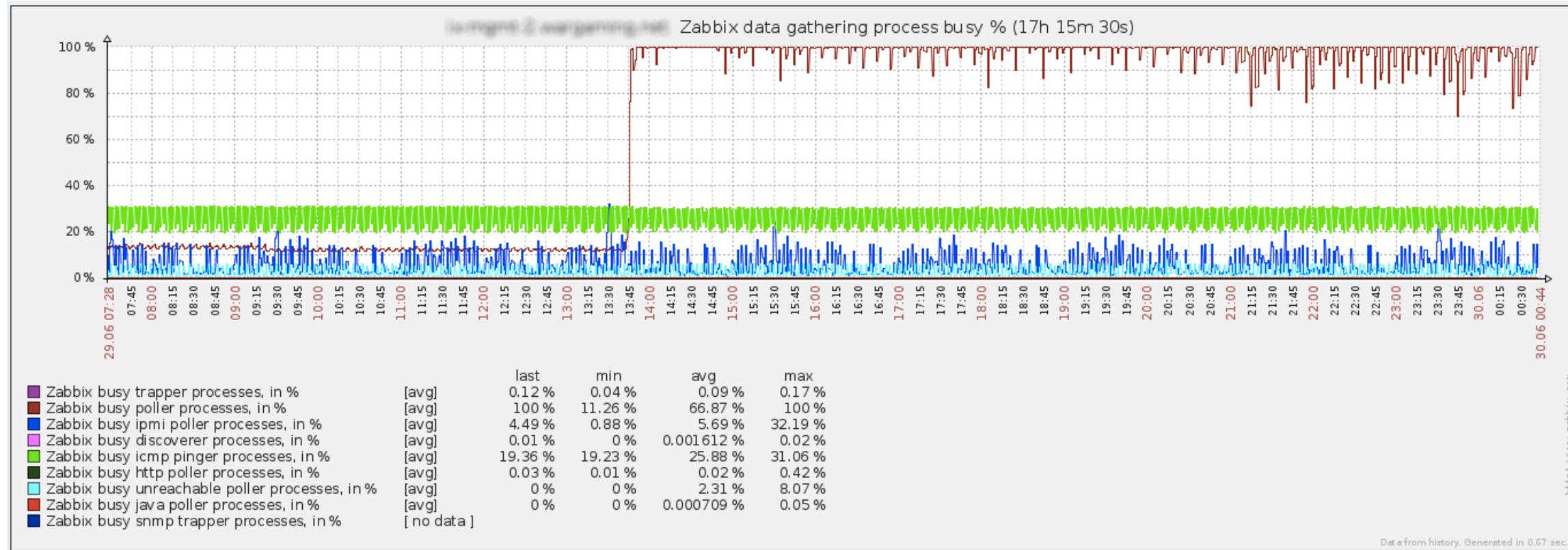
StartDBSyncers=6

Zabbix performance tuning

Tune

How to know when it is time to tune Zabbix configuration?

- Failures in graphs or 100% load



Zabbix performance tuning

Tune

InnoDB is better than MyISAM

- › Look at the data

mysqladmin status / variables (or innotop)

- › InnoDB

innodb_file_per_table = 1

innodb_buffer_pool_size=<large> (~75% of total RAM)

innodb_buffer_pool_instances = 8

innodb_flush_log_at_trx_commit = 2

innodb_flush_method = O_DIRECT

innodb_log_file_size = 256M

- › Do not use

Query history

Zabbix performance tuning

Tune

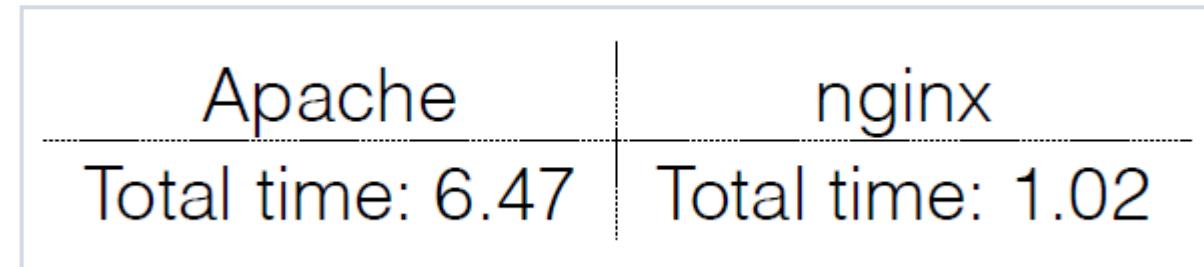
Problem with Web server

```
***** Script profiler *****  
Total time: 10.960905  
Total SQL time: 0.749027  
SQL count: 5636 (selects: 4065 | executes: 1571)  
Peak memory usage: 180.5M  
Memory limit: 2G
```



Problem
with web
server

- › Optimize configuration
- › Try nginx



4

Improve



Zabbix performance tuning

Improve

Table partitioning

- › It is a way to split large tables into smaller partitions.
- › Make sense for historical tables:
 - history_* and trends*
- › Benefits:
 - Easy to remove older data
 - Significantly better performance

Zabbix performance tuning

Improve

No table partitioning

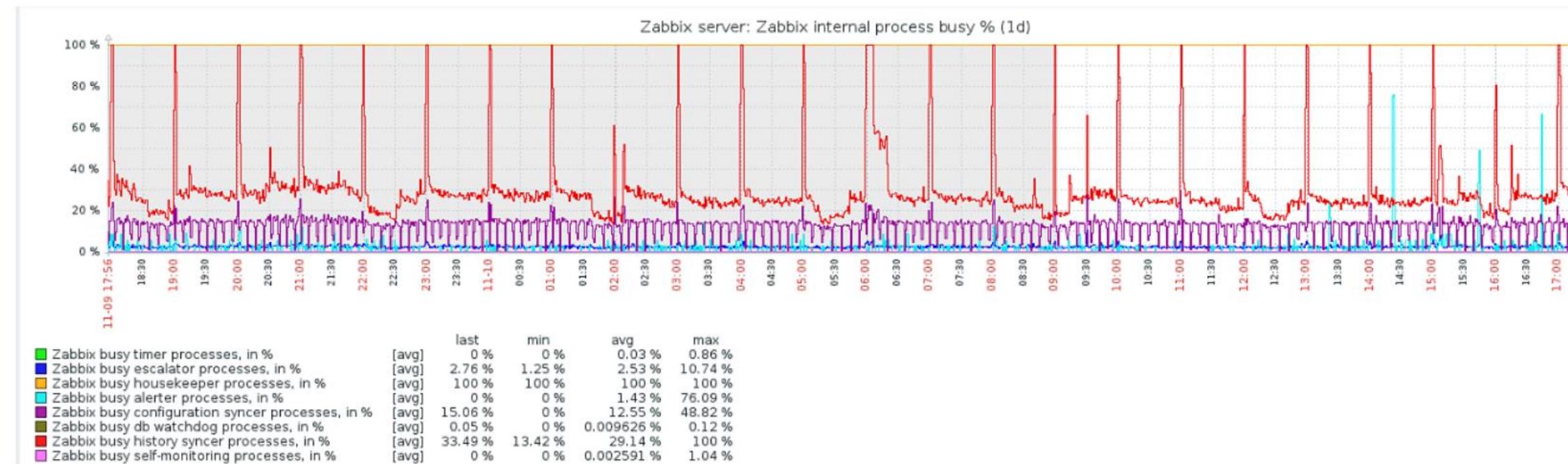


Zabbix performance tuning

Improve

How to know when it is time to apply partitioning?

- › Trigger “Zabbix housekeeper processes more than 75% busy” is in problem state for hours or days
- › The performance of housekeeper is dropping



Zabbix performance tuning

Improve

I still need better performance

- › Run Zabbix components on separate servers!

Zabbix server & Web-interface

8 core CPU

8GB RAM



Database

16 core CPU

64GB RAM

Fast repository



Zabbix performance tuning

Improve

I still need better performance

- › Run Zabbix components on separate servers!

Zabbix server
8 core CPU
4GB RAM



Web-interface
2 core CPU
4GB RAM



Database
16 core CPU
64GB RAM
Fast repository

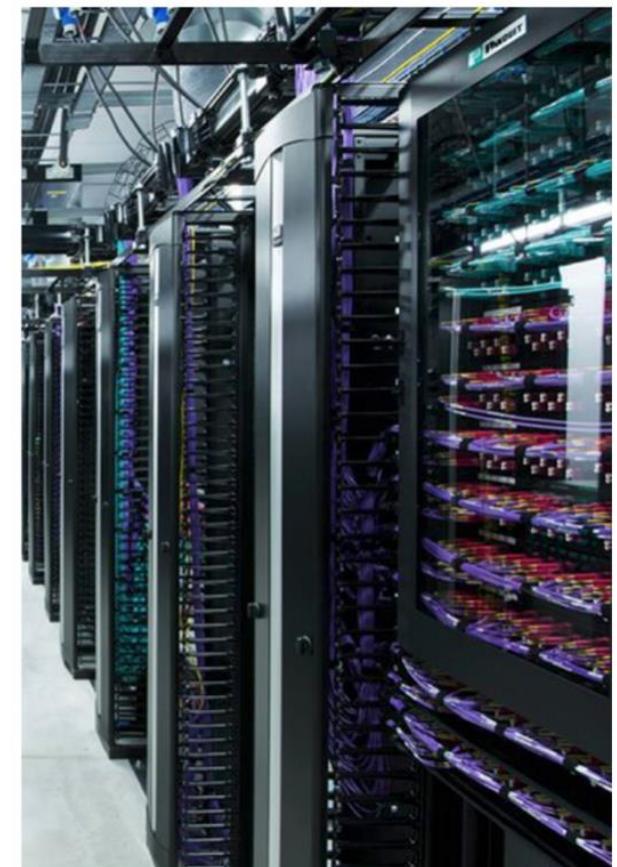
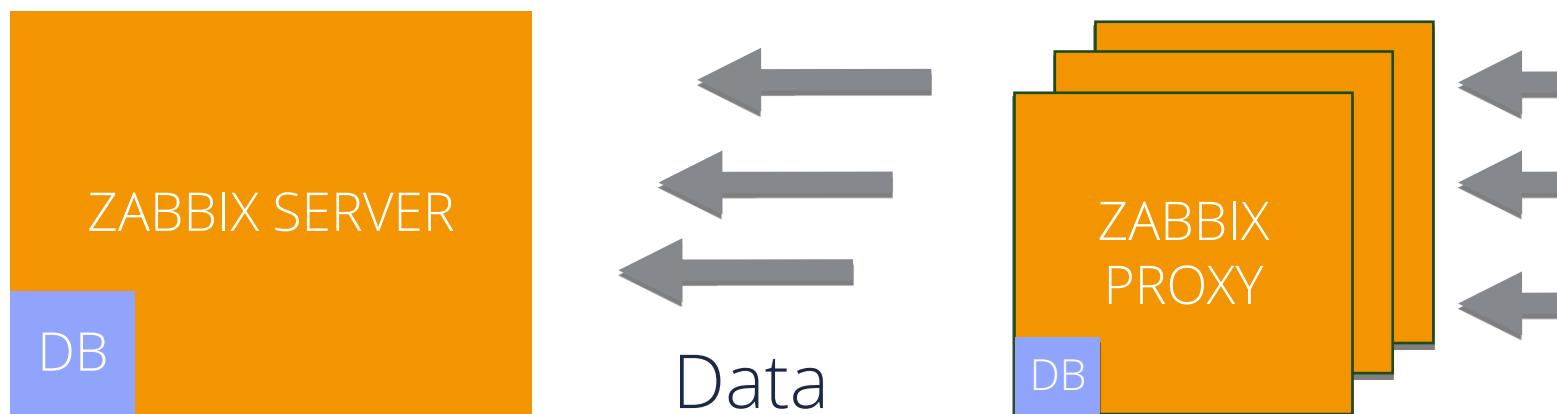


Zabbix performance tuning

Improve

I still need better performance

- All data collection is done using a proxy



Improve

Why to use proxy?

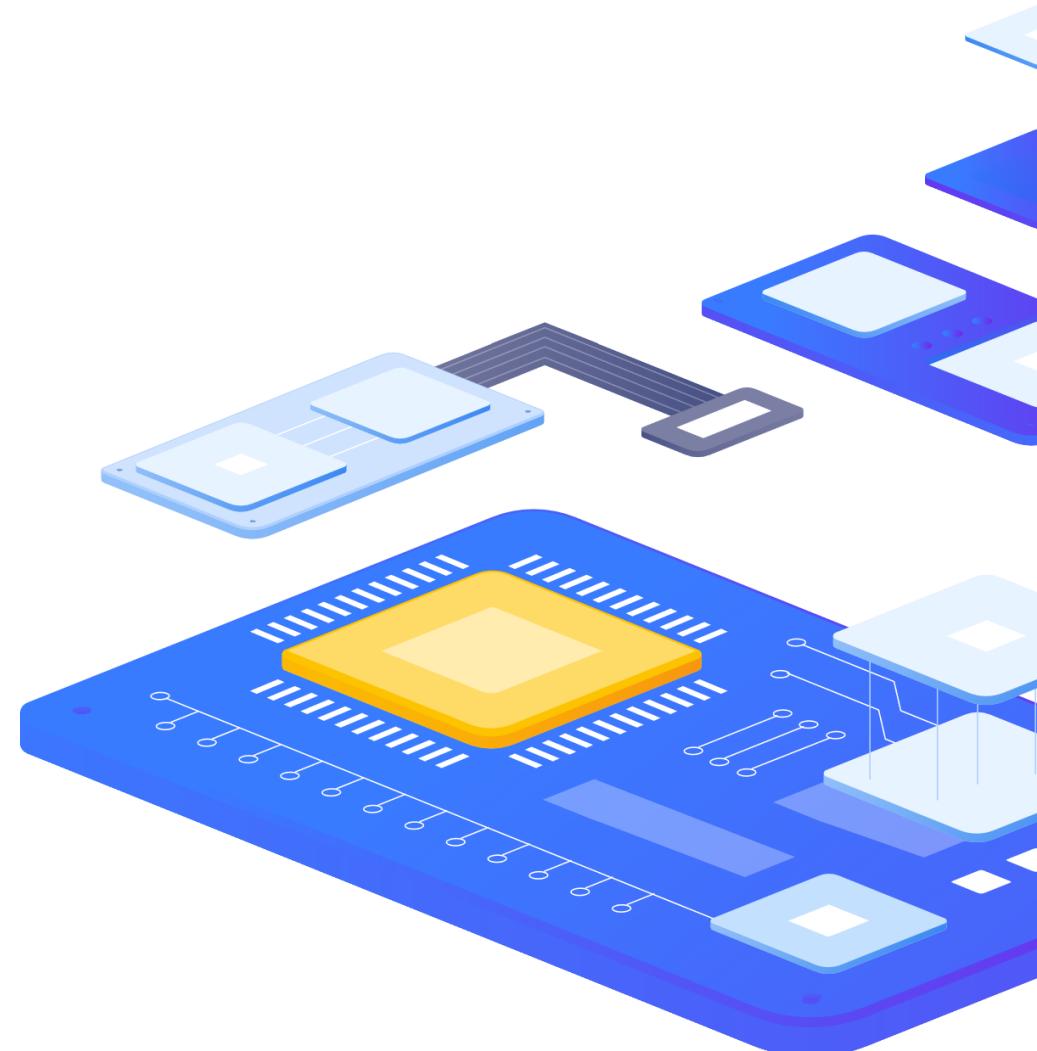
- › Zabbix Proxy "converts" passive checks into active
- › The load is distributed between the proxies
- › If one proxy is overloaded, network nodes can be moved to another proxy
- › Easy maintenance
- › Caching data when Zabbix server is not available

Zabbix performance tuning

Improve

Checklist

- › Zabbix internal checks are done
 - › Otherwise, you don't know anything about Zabbix health!
- › Zabbix configuration is tuned
- › Database performance is tuned
- › Removing history is not used for history tables



Zabbix performance tuning

Improve

Additional reading

Performance Optimization Guide:

- › Mysql: <https://www.percona.com/blog/2014/11/14/optimizing-mysql-zabbix/>
- › PostgreSQL: https://wiki.postgresql.org/wiki/Tuning_Your_PostgreSQL_Server
- › PostgreSQL: <https://pgtune.leopard.in.ua/>

Partitioning tables in Zabbix:

- › MySQL: http://zabbix.org/wiki/Docs/howto/mysql_partitioning
- › PostgreSQL: [https://www.zabbix.org/wiki/Docs/howto/zabbix2_postgresql_partitioning \(OLD\)](https://www.zabbix.org/wiki/Docs/howto/zabbix2_postgresql_partitioning_(OLD))
- › PostgreSQL: <https://www.zabbix.com/documentation/current/manual/appendix/install/timescaledb>

Zabbix internal checks

- › <http://blog.zabbix.com/monitoring-how-busy-zabbix-processes-are>
- › <https://www.zabbix.com/documentation/current/manual/config/items/itemtypes/internal>

5

Demonstration





Questions?



Zabbix performance tuning

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