initMAX

Webinar

Zabbix performance tuning

all your microphones are muted

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

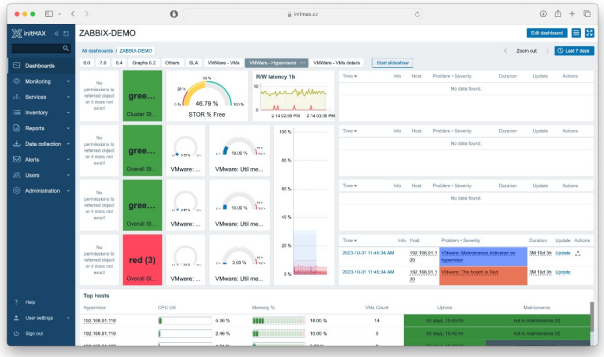
use Chat for discussion, networking or applause

1

Performance tuning

Zabbix performance tuning

Zabbix data flow



Visualization

Notifications

Database

History

ZABBIX Server

Analysis

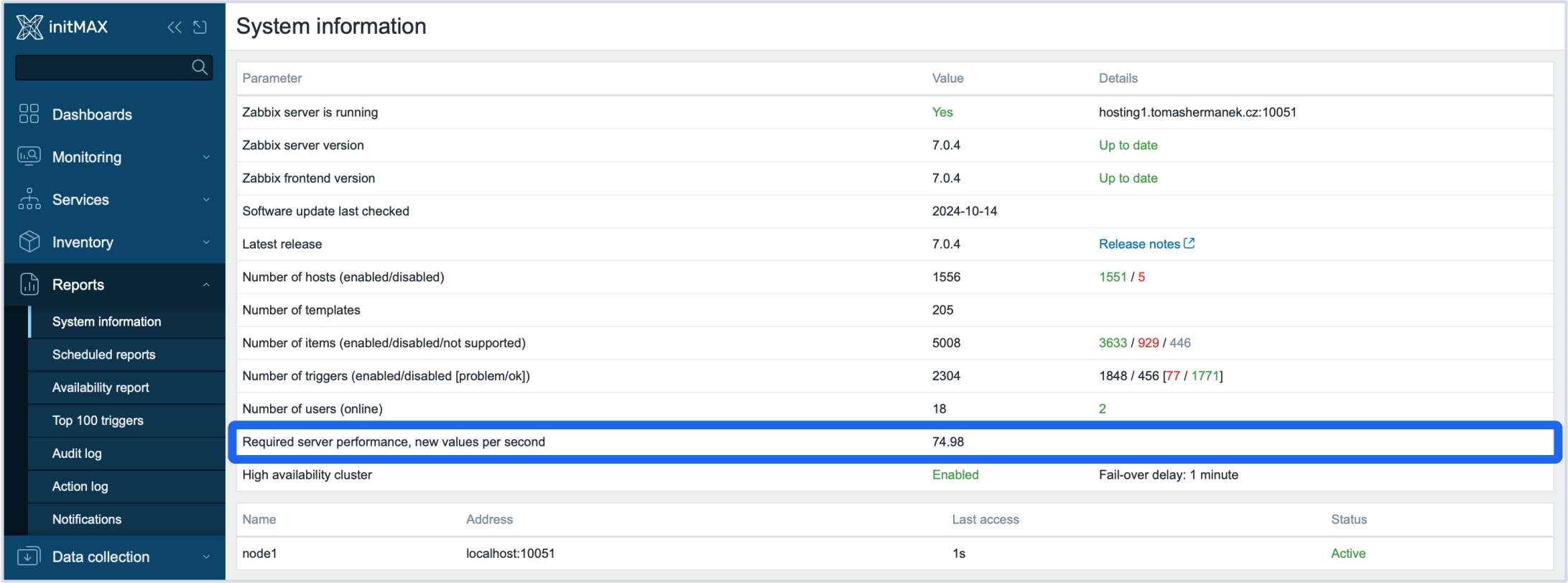
Data collection

initMAX

How to measure performance

Number of values processed per second (NVPS)

A rough estimate of NVPS is visible in Zabbix

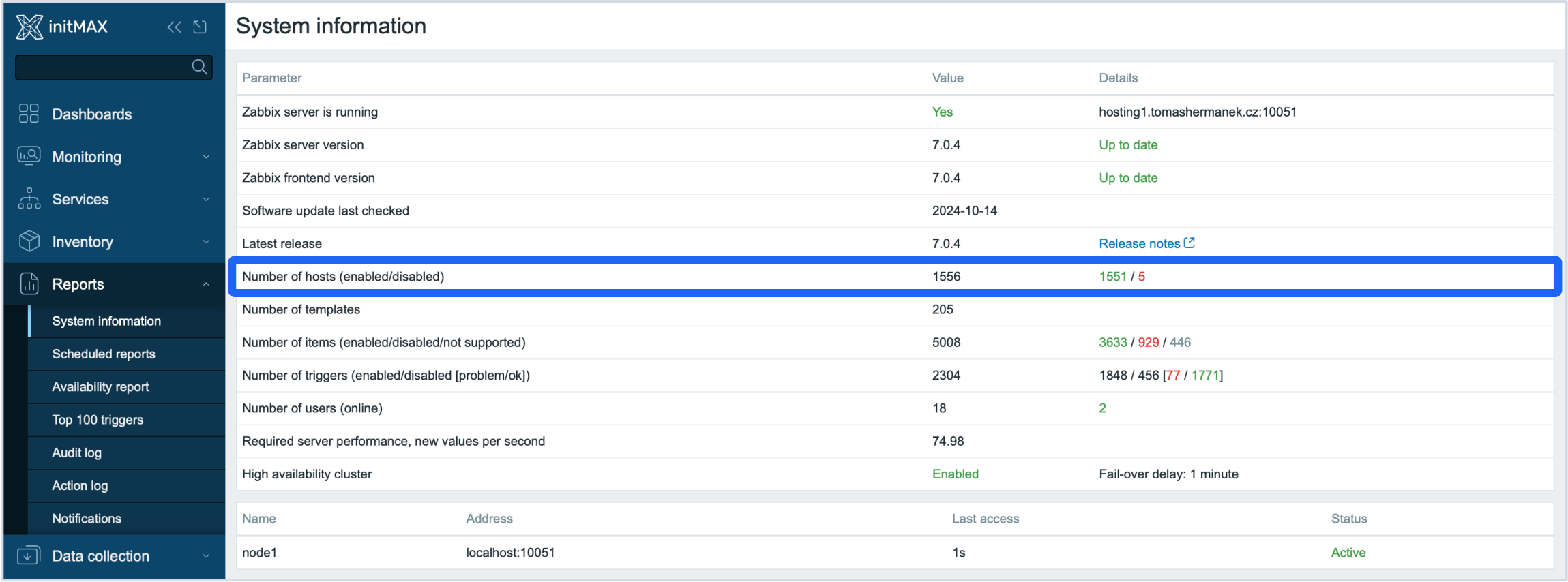


Parameter	Value	Details
Zabbix server is running	Yes	hosting1.tomashermanek.cz:10051
Zabbix server version	7.0.4	Up to date
Zabbix frontend version	7.0.4	Up to date
Software update last checked	2024-10-14	
Latest release	7.0.4	Release notes
Number of hosts (enabled/disabled)	1556	1551 / 5
Number of templates	205	
Number of items (enabled/disabled/not supported)	5008	3633 / 929 / 446
Number of triggers (enabled/disabled [problem/ok])	2304	1848 / 456 [77 / 1771]
Number of users (online)	18	2
Required server performance, new values per second	74.98	
High availability cluster	Enabled	Fail-over delay: 1 minute

Name	Address	Last access	Status
node1	localhost:10051	1s	Active

How to measure performance

Why the number of devices is not an indicator?

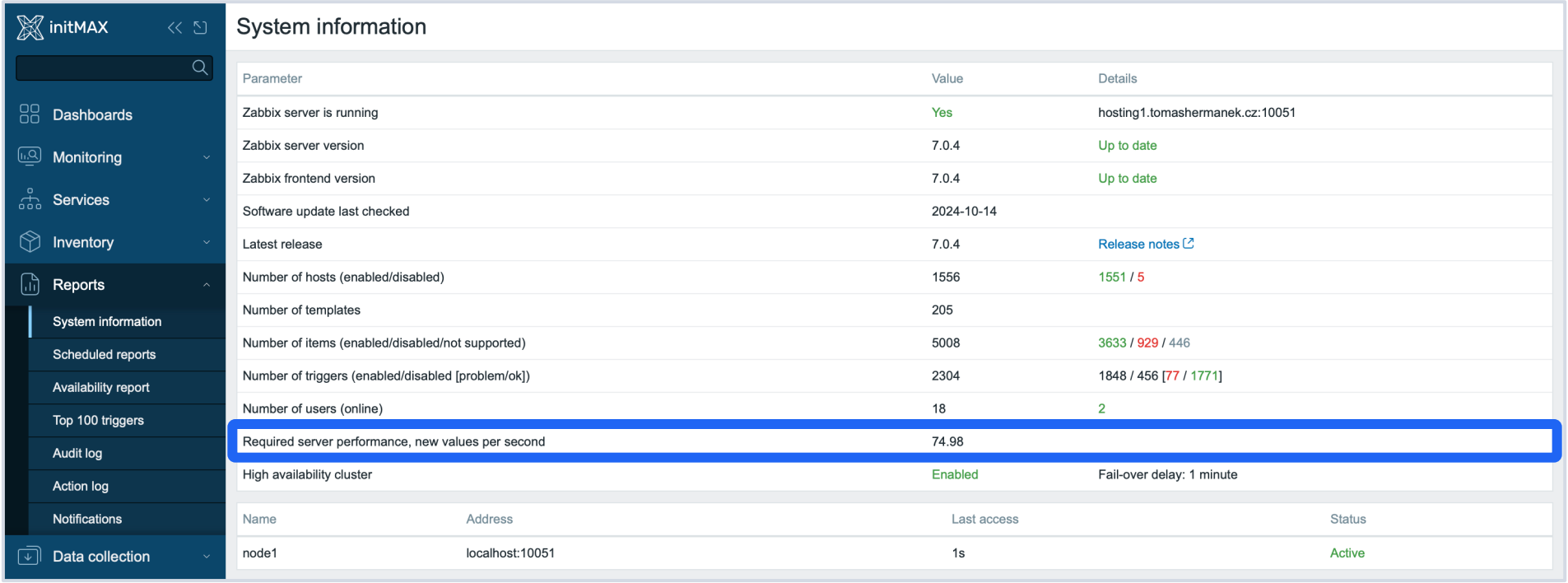


Parameter	Value	Details
Zabbix server is running	Yes	hosting1.tomashermanek.cz:10051
Zabbix server version	7.0.4	Up to date
Zabbix frontend version	7.0.4	Up to date
Software update last checked	2024-10-14	
Latest release	7.0.4	Release notes
Number of hosts (enabled/disabled)	1556	1551 / 5
Number of templates	205	
Number of items (enabled/disabled/not supported)	5008	3633 / 929 / 446
Number of triggers (enabled/disabled [problem/ok])	2304	1848 / 456 [77 / 1771]
Number of users (online)	18	2
Required server performance, new values per second	74.98	
High availability cluster	Enabled	Fail-over delay: 1 minute

Name	Address	Last access	Status
node1	localhost:10051	1s	Active

initMAX

How to measure performance



- 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.

initMAX

How to measure performance

Parameter	Value	Details
Zabbix server is running	Yes	[redacted]:10051
Zabbix server version	7.0.4	Up to date
Zabbix frontend version	7.0.4	Up to date
Software update last checked	2024-10-14	
Latest release	7.0.4	Release notes
Number of hosts (enabled/disabled)	30820	24973 / 5847
Number of templates	1668	
Number of items (enabled/disabled/not supported)	3379343	2707388 / 542754 / 129201
Number of triggers (enabled/disabled [problem/ok])	1380469	1150804 / 229665 [30750 / 1120054]
Number of users (online)	10214	32
Required server performance, new values per second	38637.6	
High availability cluster	Enabled	Fail-over delay: 1 minute

initMAX

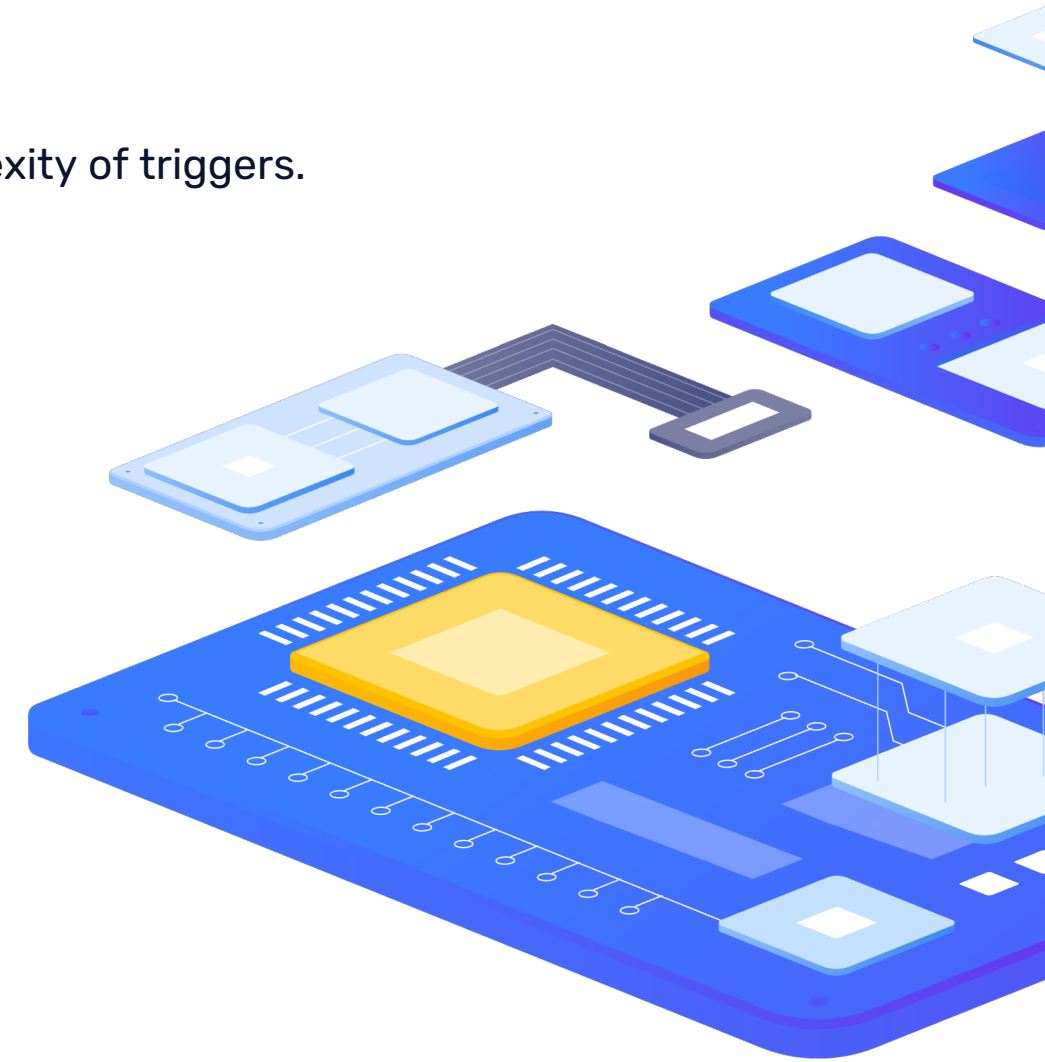
Performance

Hardware: 10 Core CPU, 64GB, 2x1TB NVMe SSD (RAID1), 2x1Gbps NIC
Budget: ~ 4K EUR

- Zabbix can deliver 2,7 million of values per minute or around 45.000 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.
- Speed of data gathering (network)
- Disk performance for Zabbix Database
- Old versions and un-tuned environment
- API requests (scripts, Grafana, history.push)
- Encryption



initMAX

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

initMAX

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

initMAX

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?

Performance

Common problems of initial setup

Default database settings

- Tune database for the best performance (https://github.com/hermanekt/Zabbix_MYSQL_tunned_for_40k)
- TimescaleDB tuner **timescaledb-tune** (https://docs.timescale.com/self-hosted/latest/configuration/timescaledb-tune/)

Not optimal configuration of Zabbix Server

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

Housekeeper settings do not match hardware spec

- (Use partitions in DB)

Use of default templates

- Make your own smarter templates

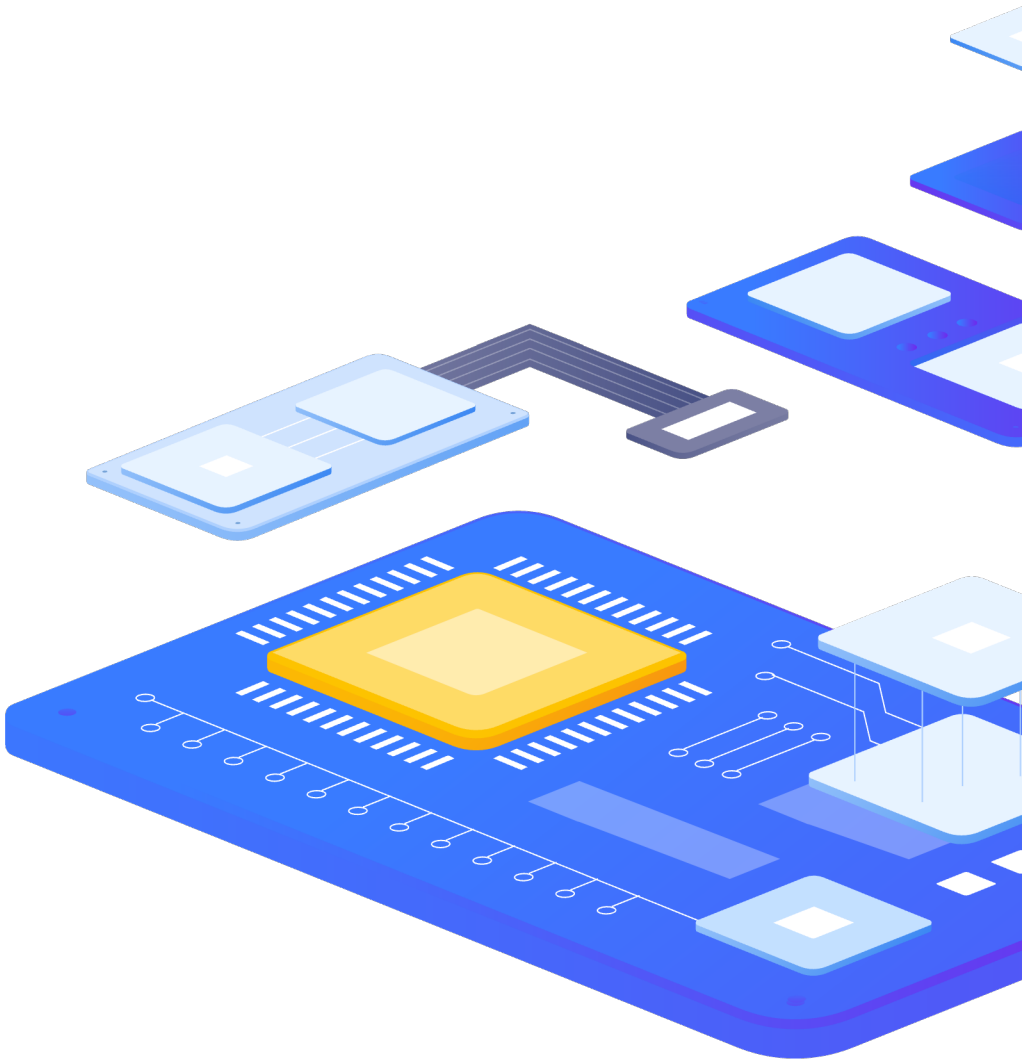
Use of older releases

- **Always use the latest one!**

Performance

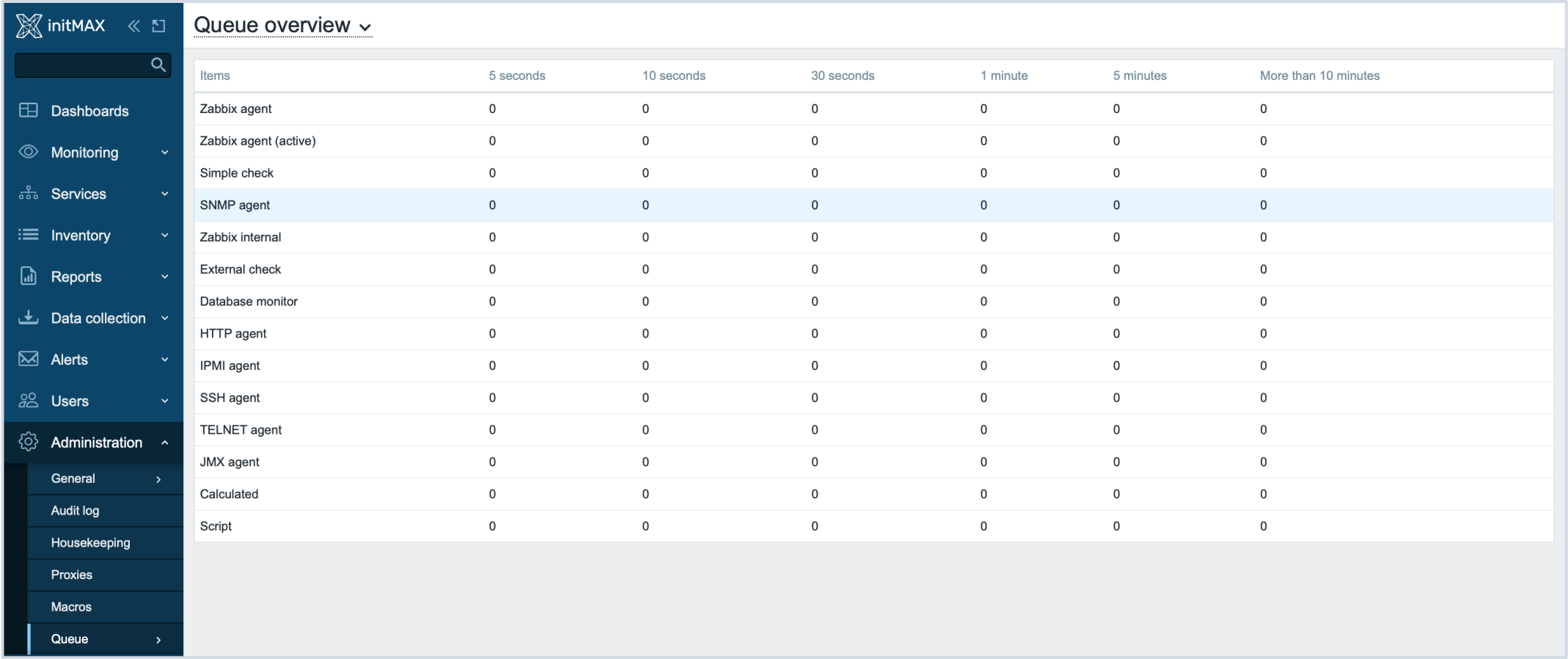
Visible symptoms of bad performance

- 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
- Delayed notifications for already resolved problems
- Grafana have problem to get data from Zabbix via API or DB
- Unsupported items and nodata triggers
- Peak in gathering data caused by Scheduled intervals



Performance

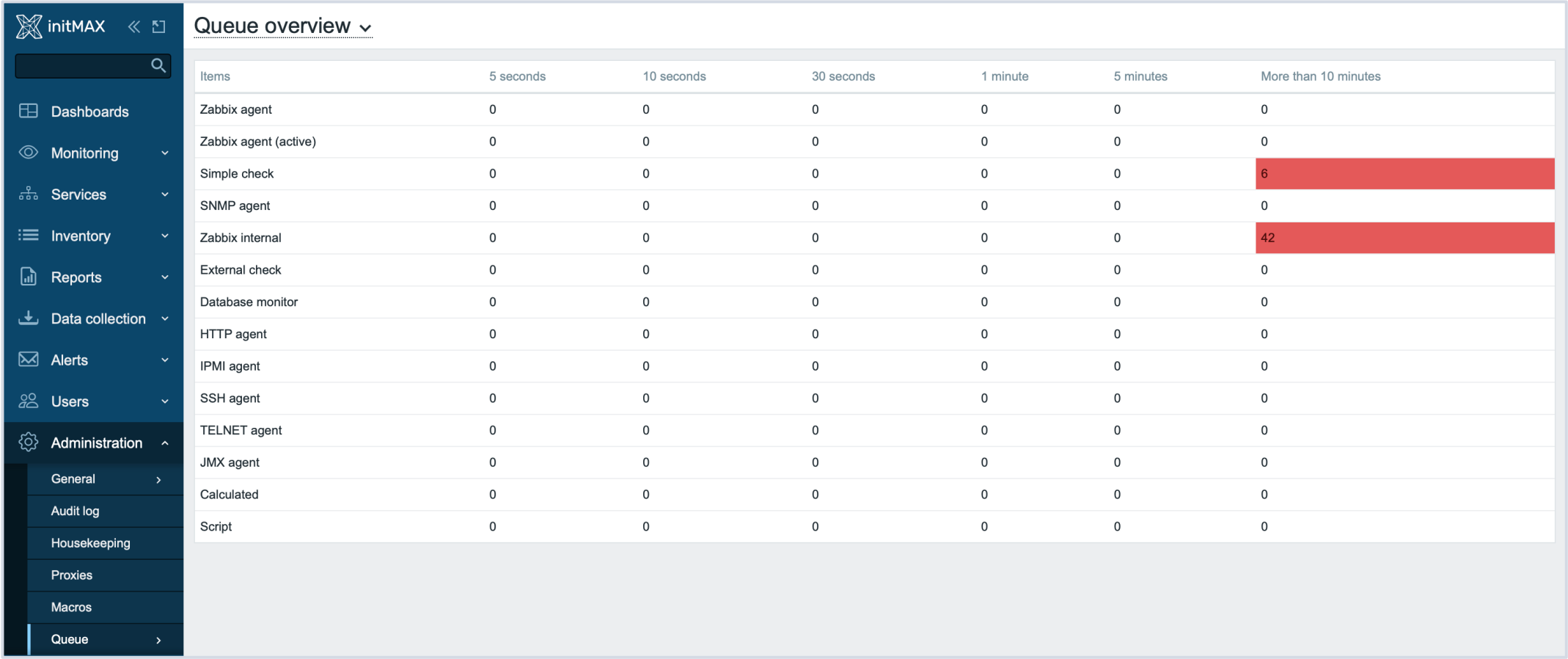
Nice view of queue of items



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

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	0
Zabbix agent (active)	0	0	0	0	0	0
Simple check	0	0	0	0	0	6
SNMP agent	0	0	0	0	0	0
Zabbix internal	0	0	0	0	0	42
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

initMAX

Zabbix performance tuning

Performance

Step 1
Identify

Step 2
Tune

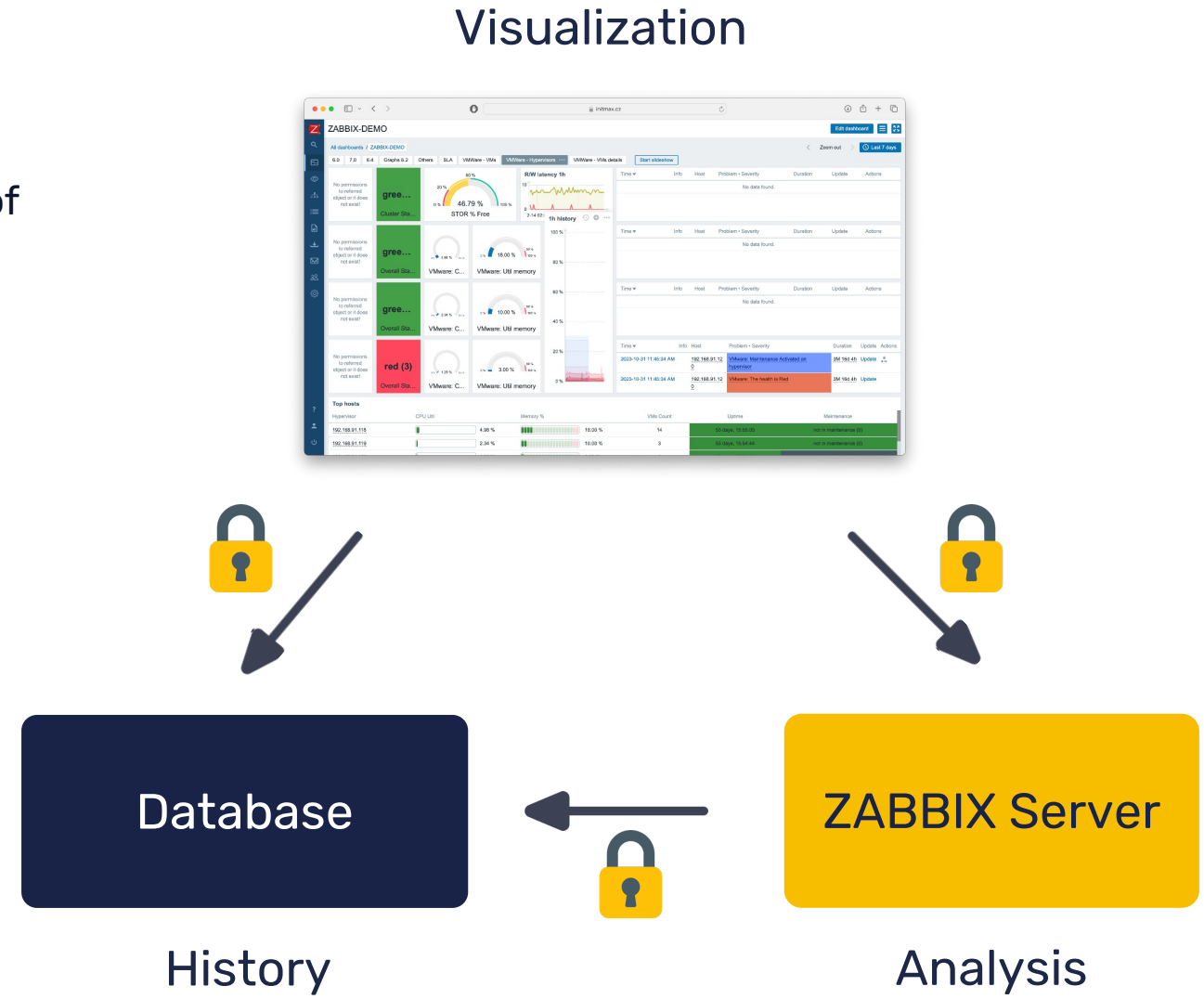
Step 3
Improve

2

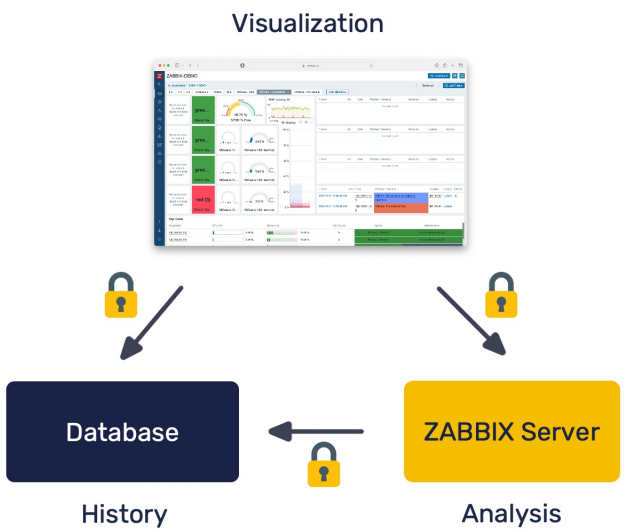
Identify

Identify

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



Identify



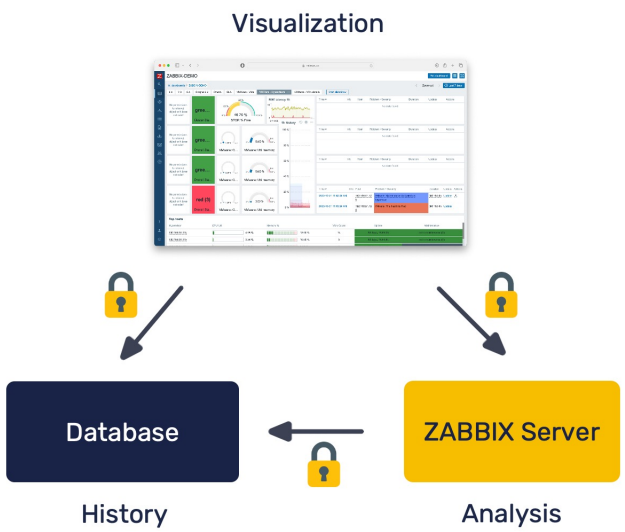
Main utilities

- 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?

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?

initMAX

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.

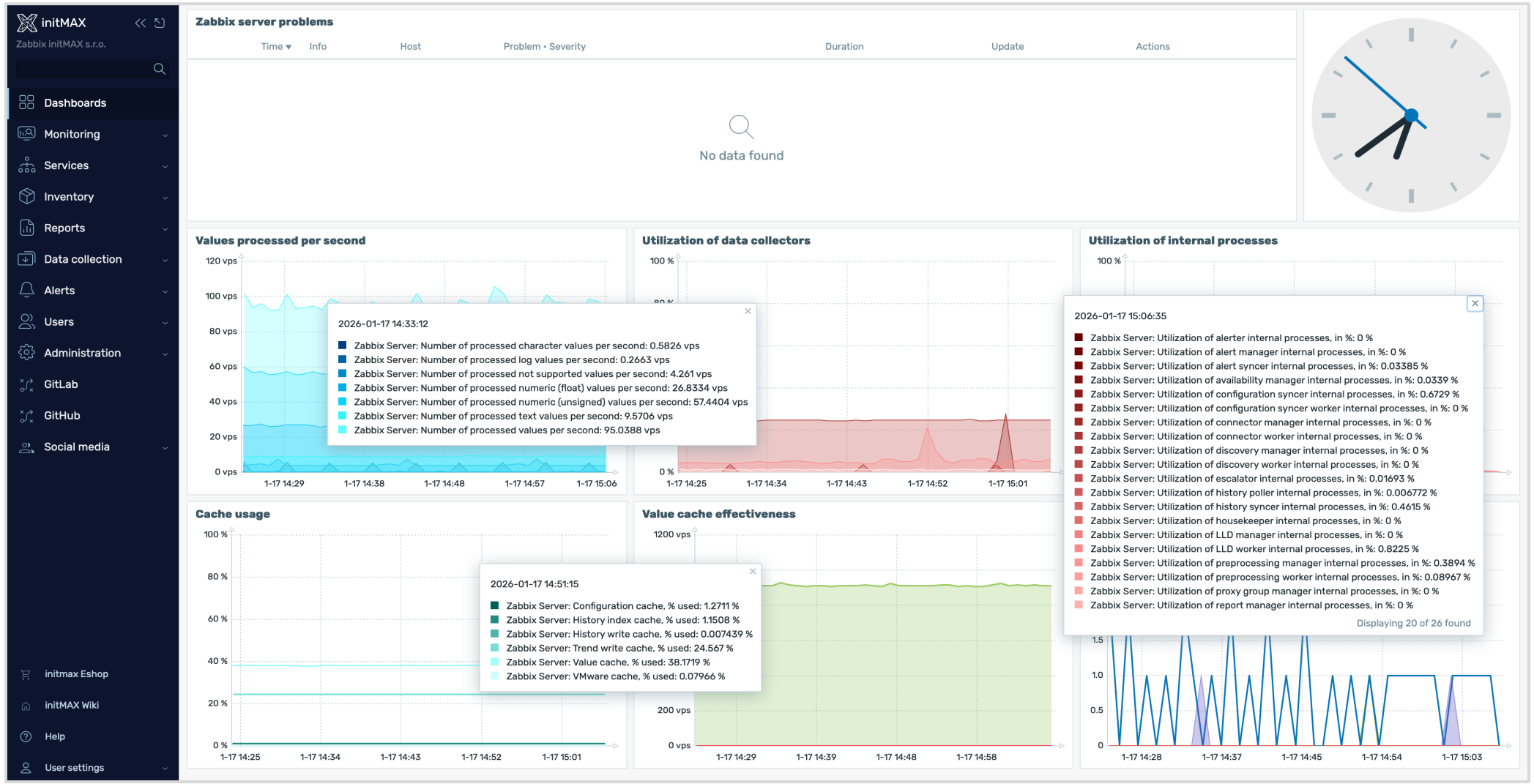
Ready templates:

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

initMAX

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
- Analyze diaginfo - Log internal diagnostic information of the section

  # diaginfo=section
- Processing time is too high
  # ps xauf | grep zabbix_server

Identify

```
# strace –s256 –ttt –p 2005 (history_syncer #1) -o (output)
strace: Process 2005 attached
```

- **-s256** (string size) Sets the maximum string size to print to 256 characters.
- **-ttt** (Microsecond Timestamps)
- **-p** (Process ID)
- **-o** `/tmp/strace` (Output File)

initMAX

Identify

```
1768819737.762553 epoll_pwait(15, [], 32, 0, NULL, 8) = 0
1768819737.762593 rt_sigprocmask(SIG_BLOCK, [INT QUIT USR1 USR2 TERM], [], 8) = 0
1768819737.763195 futex(0x7fbda17df2a8, FUTEX_WAKE, 1) = 1
1768819737.763282 mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7fbd9d314000
1768819737.763330 mmap(NULL, 9000020, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7fbd9ca7e000
1768819737.763367 mmap(NULL, 4096, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7fbda17d3000
```

```
== locks diagnostic information ==
Locks:
  ...
  ZBX_RWLOCK_CONFIG:0x7fbda17df2a8
  ZBX_RWLOCK_CONFIG_HISTORY:0x7fbda17df2e0
  ZBX_RWLOCK_VALUECACHE:0x7fbda17df318
==
```

Identify

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

- Zabbix server configuration file, zabbix_server.conf

LogSlowQueries=3000

initMAX

Identify

Main utilities

- top, ntop, iostat, vmstat, sar
- DB statistics, innotop, **pg_top**

```
last pid: 4161158;  load av  0.53,  0.27,  0.26;       up 102+22:02:42
102 processes: 102 sleeping
CPU states:  2.5% user,  0.0% nice,  1.9% system, 95.6% idle,  0.1% iowait
Memory: 15G used, 140M free, 16K buffers, 10G cached
DB activity:  91 tps,  0 rollbs/s,  27 buffer r/s, 99 hit%,    496 row r/s, 1402 row w/s
DB I/O:    20 reads/s,  1102 KB/s,    25 writes/s,  2866 KB/s
DB disk: 490.3 GB total, 260.6 GB free (46% used)
Swap: 73M used, 7987M free, 2708K cached

  PID USERNAME PRI NICE  SIZE   RES STATE   TIME   WCPU    CPU COMMAND
3581700 postgres  20    0 3363M   31M sleep  43:23  0.25%  0.80% postgres: zabbixdb: zabbix_server zabbix [redacted] (41916) idle
3581704 postgres  20    0 3363M   31M sleep  42:48  0.25%  0.80% postgres: zabbixdb: zabbix_server zabbix [redacted] (41946) idle
3581701 postgres  20    0 3363M   34M sleep  42:36  0.19%  0.80% postgres: zabbixdb: zabbix_server zabbix [redacted] (41912) idle
3581698 postgres  20    0 3363M   31M sleep  42:22  0.24%  0.80% postgres: zabbixdb: zabbix_server zabbix [redacted] (41904) idle
 1860 postgres  20    0 3340M 8436K sleep 343:49  0.14%  0.60% postgres: zabbixdb: checkpointer
4158428 postgres  20    0 3346M   20M sleep   0:02  0.07%  0.40% postgres: zabbixdb: zabbix_web zabbix [redacted] (41080) idle
3385676 postgres  20    0 3337M 8408K sleep  78:12  0.05%  0.20% postgres: zabbixdb: walsender repl [redacted] (62544) streaming 110D/2DA0AC98
3400490 postgres  20    0 3337M 8144K sleep  76:03  0.05%  0.20% postgres: zabbixdb: walsender repl [redacted] (46496) streaming 110D/2DA0AC98
3581719 postgres  20    0 3344M   18M sleep   1:28  0.02%  0.20% postgres: zabbixdb: zabbix_server zabbix [redacted] (42084) idle
3581729 postgres  20    0 3344M   18M sleep   1:25  0.02%  0.20% postgres: zabbixdb: zabbix_server zabbix [redacted] (42176) idle
3581718 postgres  20    0 3344M   18M sleep   1:25  0.02%  0.20% postgres: zabbixdb: zabbix_server zabbix [redacted] (42070) idle
3581654 postgres  20    0 3342M   17M sleep   0:50  0.02%  0.20% postgres: zabbixdb: zabbix_server zabbix [redacted] (54664) idle
3385664 postgres  20    0 3340M 7680K sleep   0:44  0.02%  0.20% postgres: zabbixdb: pg_cron launcher
3581745 postgres  20    0 3344M   18M sleep   0:44  0.02%  0.20% postgres: zabbixdb: zabbix_server zabbix [redacted] (42340) idle
3581742 postgres  20    0 3344M   18M sleep   0:43  0.02%  0.20% postgres: zabbixdb: zabbix_server zabbix [redacted] (42302) idle
3581762 postgres  20    0 3344M   18M sleep   0:43  0.02%  0.20% postgres: zabbixdb: zabbix_server zabbix [redacted] (42506) idle
4157855 postgres  20    0 3346M   20M sleep   0:02  0.09%  0.20% postgres: zabbixdb: zabbix_web zabbix [redacted] (55444) idle in transaction
```

initMAX

Identify

```
[root@vbox]# sar -d -wp 1 10
Linux 5.14.0-427.13.1.el9_4.x86_64 (vbox)      01/19/26       _x86_64_       (1 CPU)

13:00:00        tps    rkB/s    wkB/s    dkB/s   areq-sz    aqu-sz     await     %util DEV
13:00:01       6.00     0.00    24.00     0.00      4.00      0.01      1.17      1.90 sda
13:00:01       6.00     0.00    24.00     0.00      4.00      0.02      2.67      1.90 almalinux-root
13:00:01       0.00     0.00     0.00     0.00      0.00      0.00      0.00      0.00 almalinux-swap
```

- Ignore %util unless it stays at 100% AND await starts climbing.
- Watch await: If your History Syncer is slow but await is only 2ms, disk is not the issue

initMAX

Identify

Main utilities

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

```
# 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...
```

Tune

Innotop shortcuts

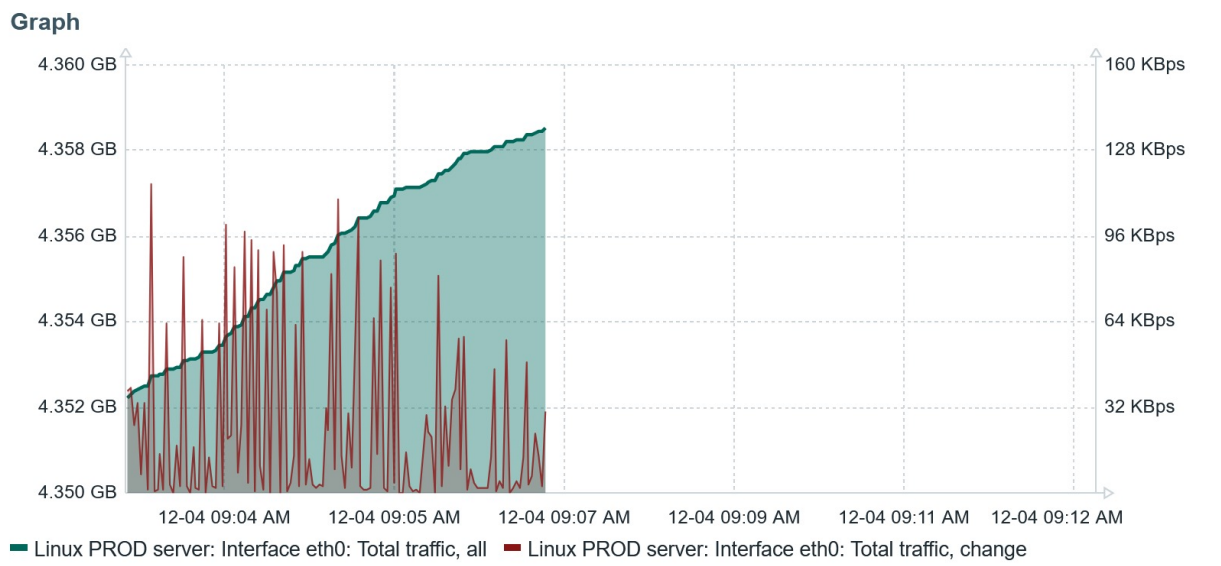
- **Q** – Query List – Standard processlist to see what queries are running right now and for how long.
- **T** – Transactions – Critical for finding locked transactions.
- **D** – Deadlocks – SHows the details of the last detected InnoDB deadlock. Including the queries and locks.
- **I** – InnoDB I/O - Displays I/O thread activity and pending I/O operations

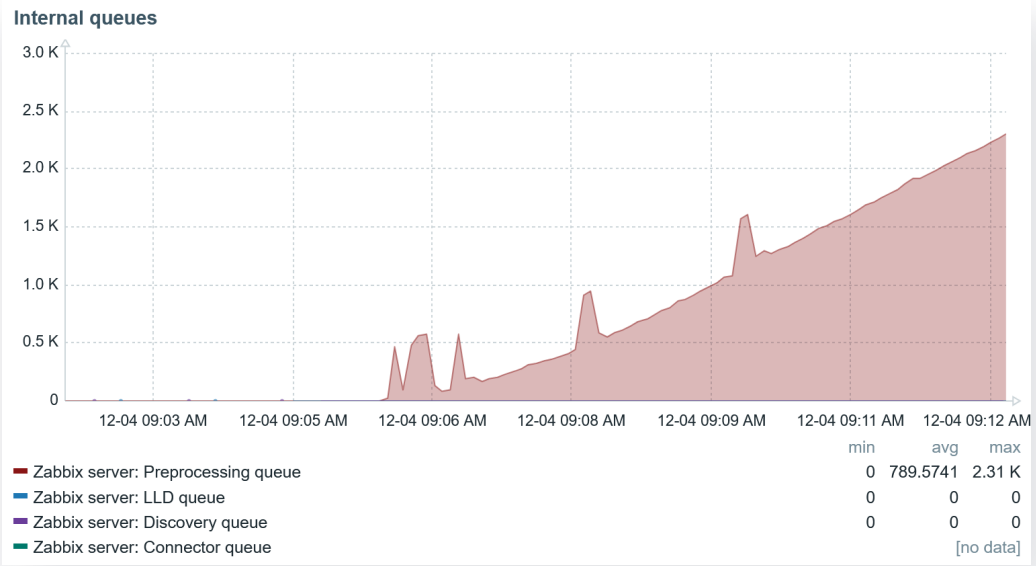
- Change the refresh internal (default is usually 5 seconds) - **d**
- Freeze the screen so you can inspect a specific line – **p**

Identify

Slow DB?

- Missing data
- Data waiting to be written
- Data gaps

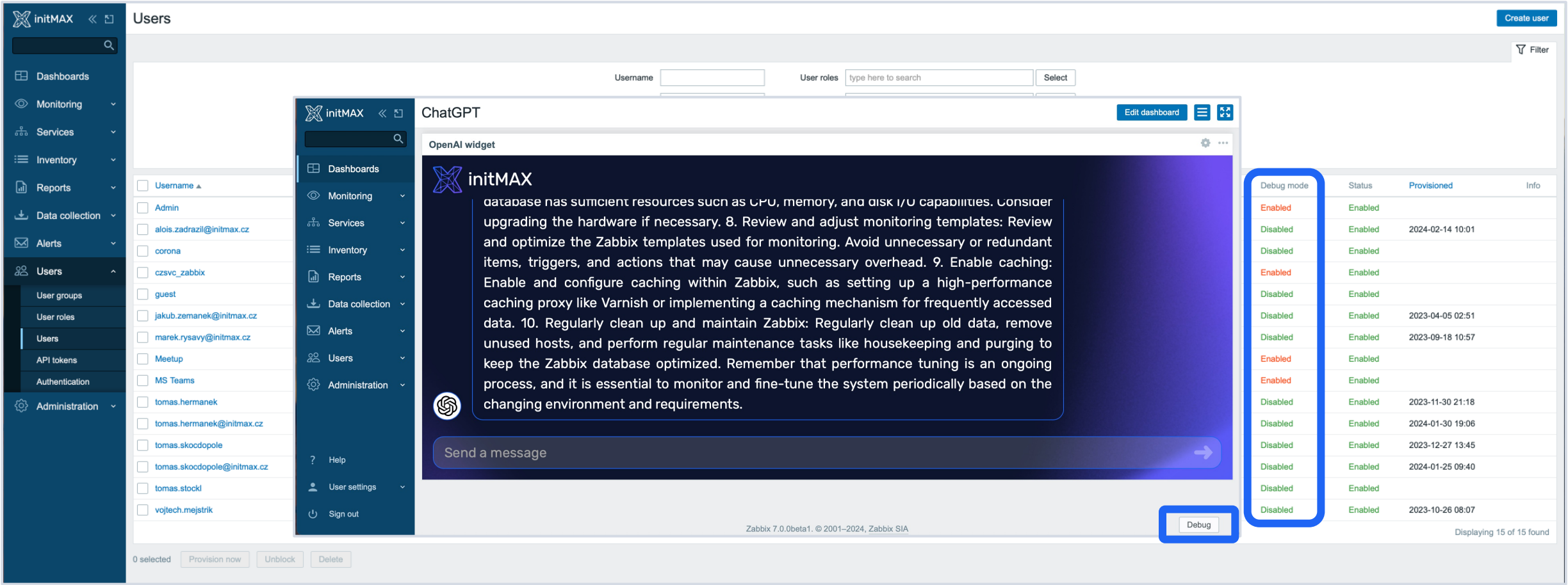




Zabbix performance tuning

Identify

Debug mode can be optionally enabled at the user group level and is visible on all pages



Identify

Debug mode

Load speed less than a second

```
******************** 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
```

Identify

Debug mode

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
```

Identify

Debug mode

Problem with DB

```
******************** 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
```

3

Tune

initMAX

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
```

initMAX

Tune tips

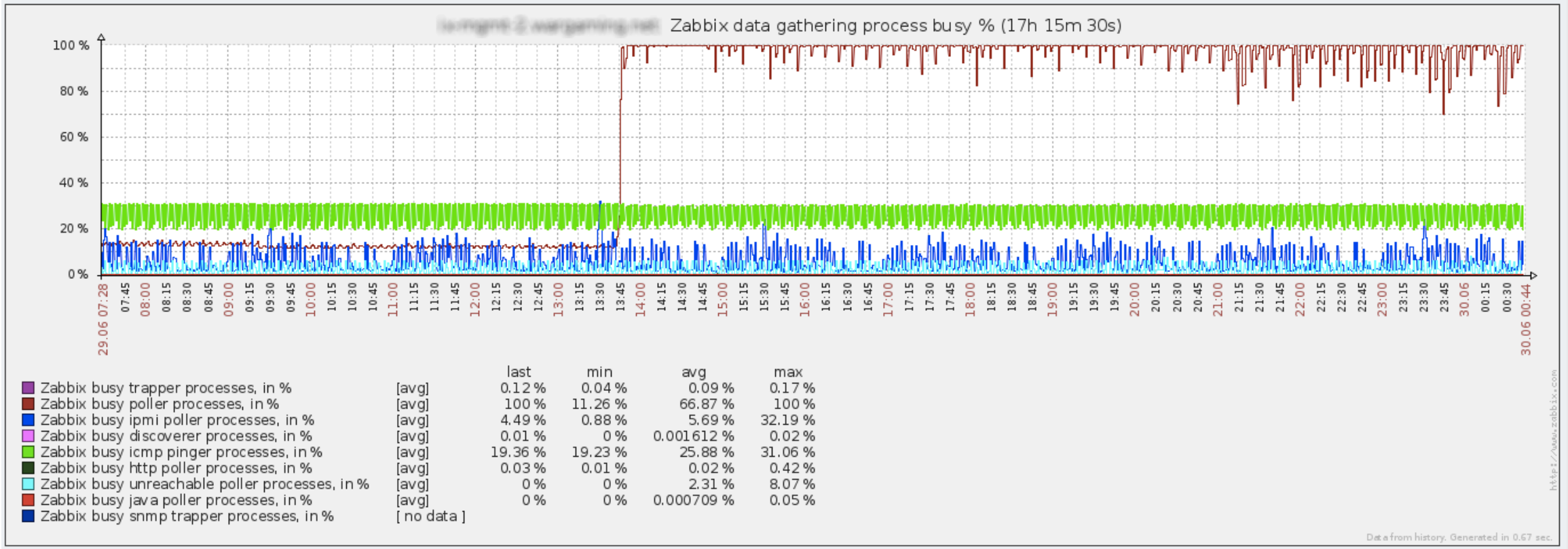
Tune number of processes

- Starting with version 7.0, StartPollers can be decreased because Zabbix Server and Proxy now have dedicated pollers for Zabbix Agent, SNMP Agent, and HTTP agents
  - Zabbix Agent and HTTP Agent checks work without changes. **For SNMP, you must upgrade your templates to use the new get[] and walk[] keys**. Legacy OID items still run on the old poller, but migration is strongly recommended.
- An unreachable poller means that **Zabbix is unable to connect to the device and retrieve data**
  - This is usually an interface issue caused by configuration problems or network issues
- Unsupported items on a host may unnecessarily consume system resources and should be reviewed
  - This can be easily monitored using the internal check **zabbix[host,,items_unsupported]**, which returns the number of enabled unsupported items on the host. https://www.zabbix.com/documentation/7.0/en/manual/config/items/itemtypes/internal
- Critical caches
  - CacheSize= (configuration cache)
  - HistoryIndexCacheSize= (indexing history cache)
- Timeout from version 7.0

Tune

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

- Failures in graphs or 100% load



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

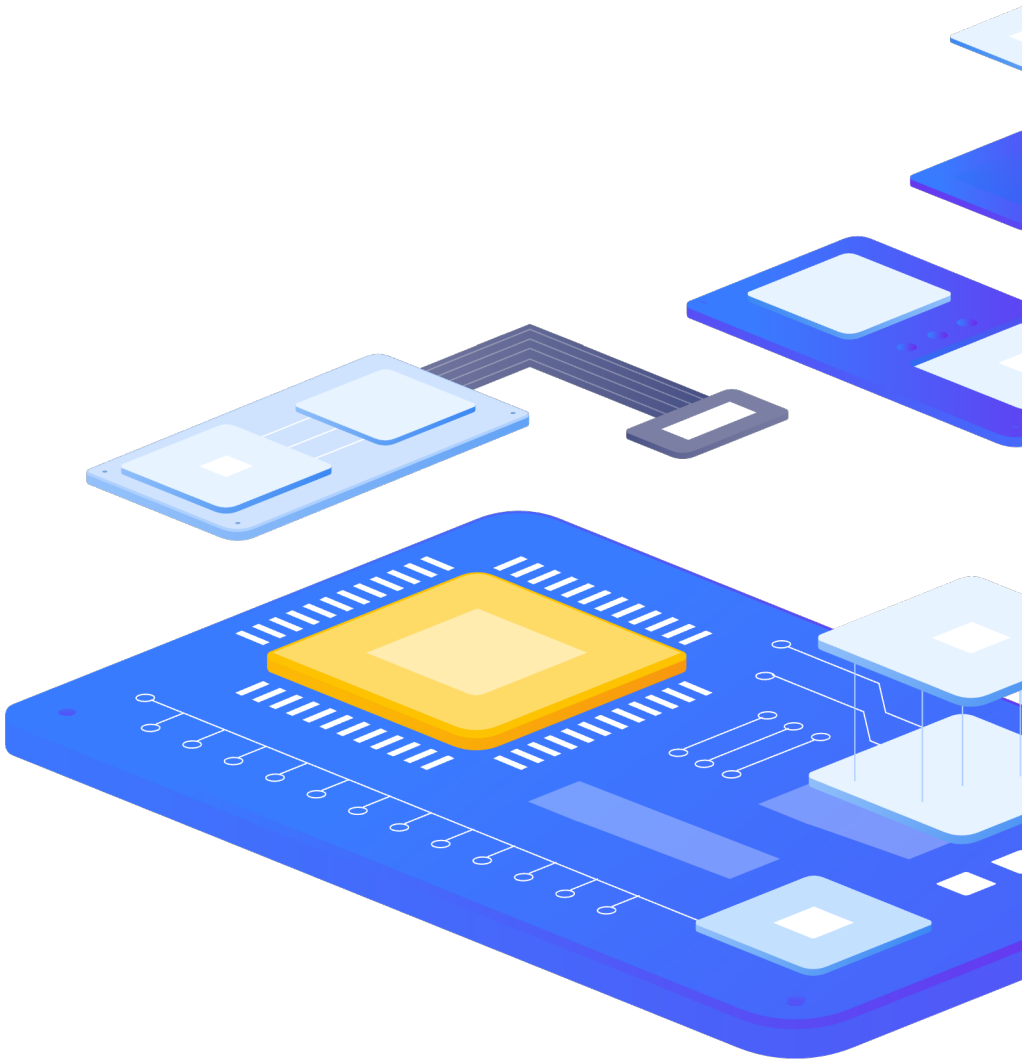
  innodb_flush_log_at_trx_commit = 2

  innodb_flush_method = O_DIRECT

  innodb_log_file_size = 256M

- Do not use

  Query history



initMAX

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

Apache	nginx
Total time: 6.47	Total time: 1.02

4

Improve

Improve

Table partitioning

- It is a way to split large tables into smaller partitions.
- Make sense for historical tables:

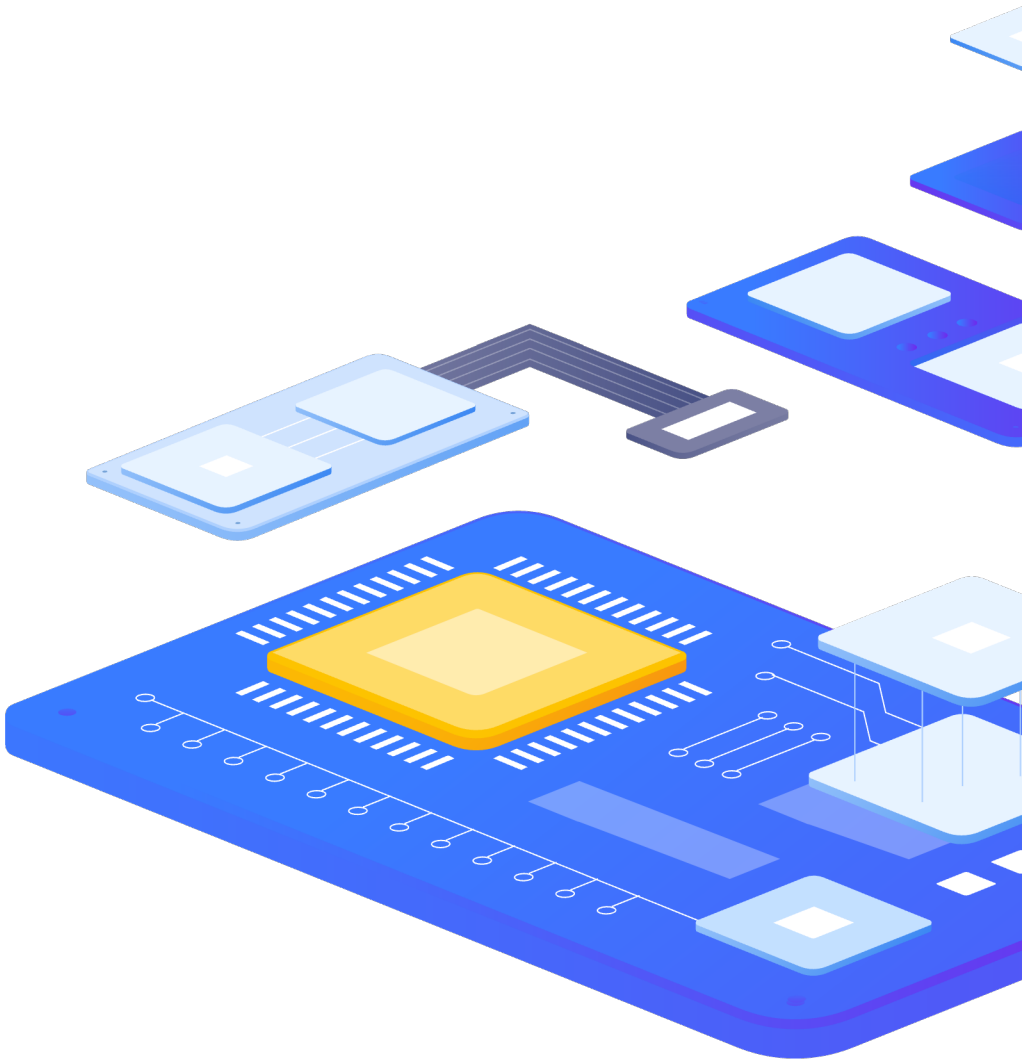
  history_*, trends* and auditlog
- Benefits:

  Easy to remove older data

  Significantly better performance
- Downsides:

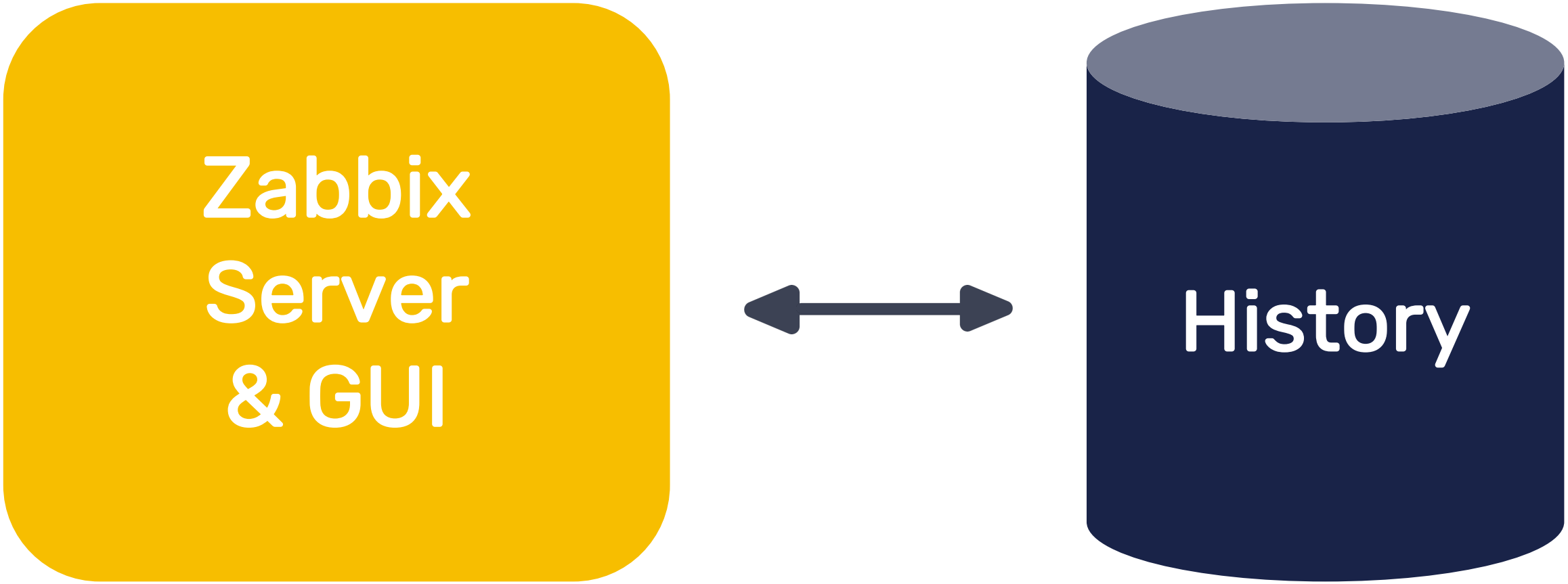
  No per item History storage configuration

  More complicated setup then simple Housekeeper



Improve

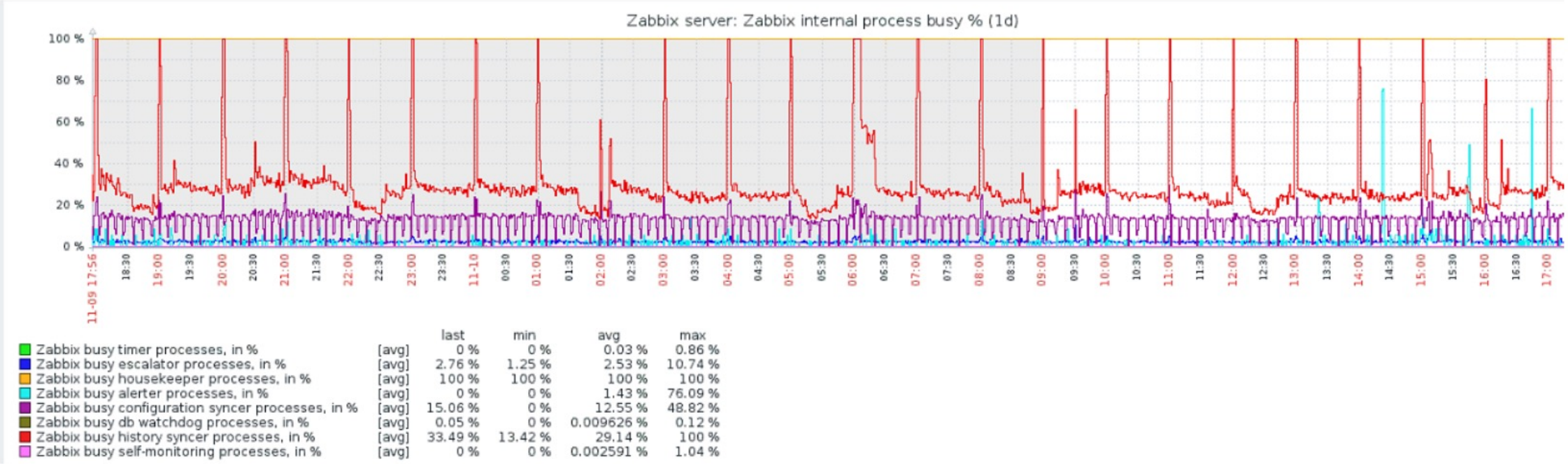
No table partitioning



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



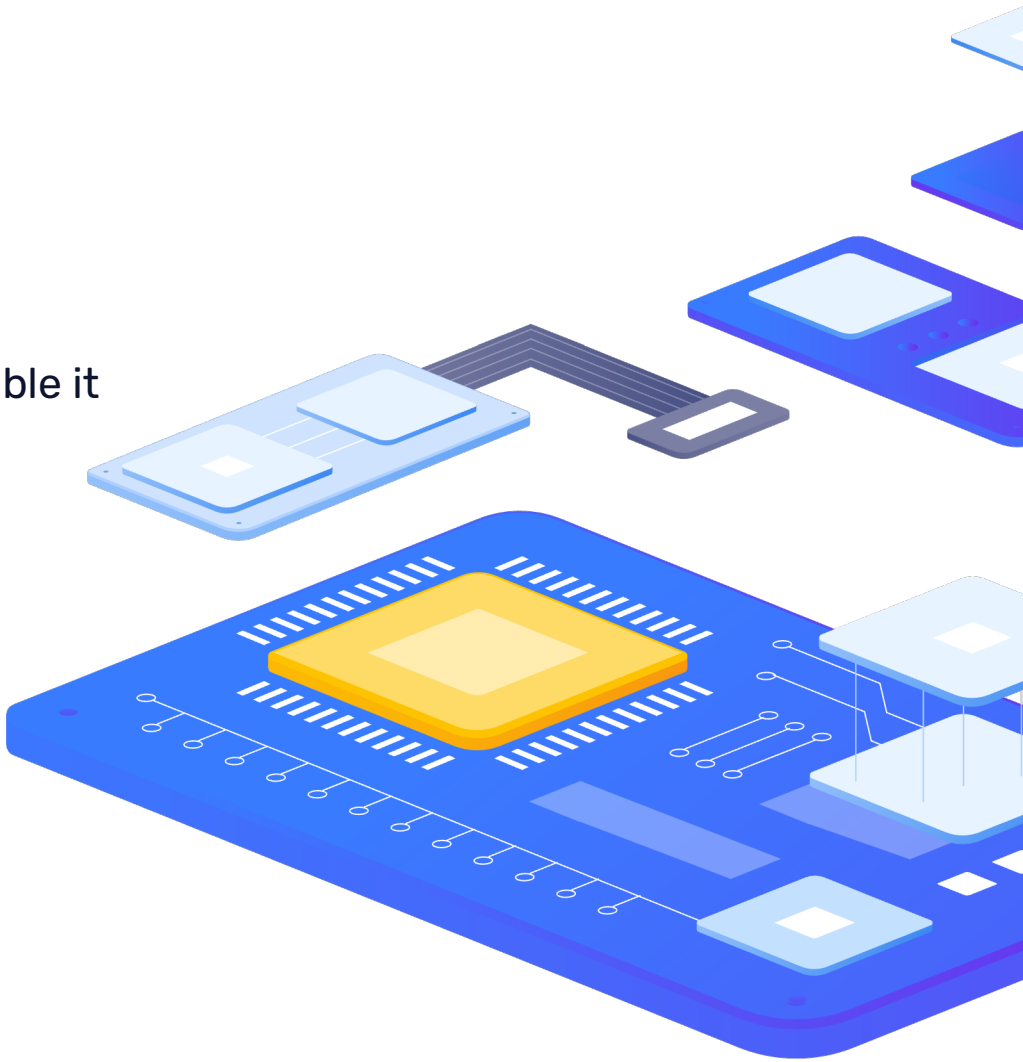
		last	min	avg	max
Zabbix busy timer processes, in %	[avg]	0 %	0 %	0.03 %	0.86 %
Zabbix busy escalator processes, in %	[avg]	2.76 %	1.25 %	2.53 %	10.74 %
Zabbix busy housekeeper processes, in %	[avg]	100 %	100 %	100 %	100 %
Zabbix busy alerter processes, in %	[avg]	0 %	0 %	1.43 %	76.09 %
Zabbix busy configuration syncer processes, in %	[avg]	15.06 %	0 %	12.55 %	48.82 %
Zabbix busy db watchdog processes, in %	[avg]	0.05 %	0 %	0.009626 %	0.12 %
Zabbix busy history syncer processes, in %	[avg]	33.49 %	13.42 %	29.14 %	100 %
Zabbix busy self-monitoring processes, in %	[avg]	0 %	0 %	0.002591 %	1.04 %

Improve

Typical flow of issues caused by Housekeeper

- Housekeeper starts to run on 100%
- Housekeeper starts to affect performance of whole Zabbix
- Engineers think if Housekeeper is starting to cause issues.. Let's disable it
- Uncontrolled growth of disk space
- Engineer understand the mistake and re-enables the Housekeeper
- System can't recover anymore and disk space is not regained.

Why?

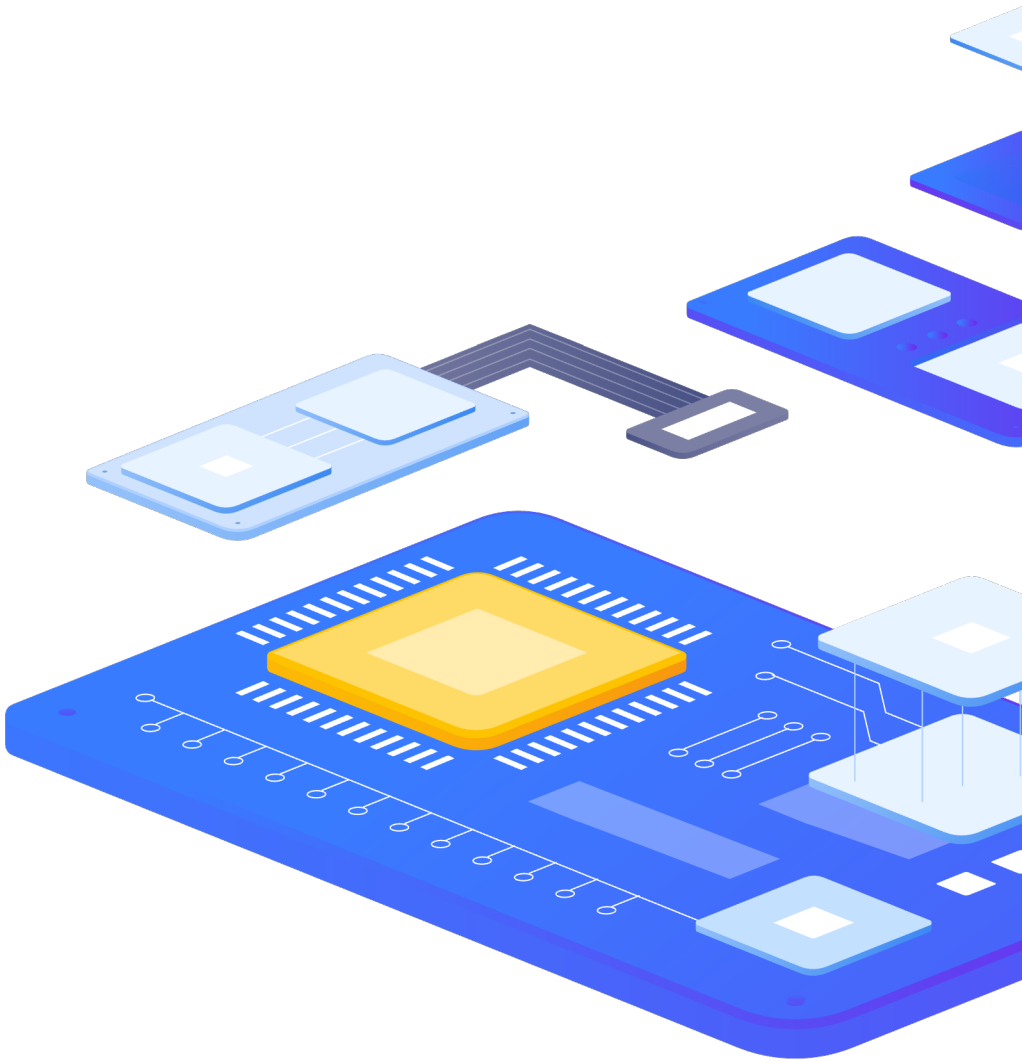


Improve

How to introduce partitioning?

- Much easier to start with partitioning then move to it later
- Old historical data should be stored in partitions

- MySQL / MariaDB require external partitioning scripts
- PostgreSQL -> Use TimescaleDB for native partitioning
  Compression comes as added value



Improve

I still need better performance

- Run Zabbix components on separate servers!

Zabbix server & Web-interface
8 core CPU
16GB RAM

Database
16 core CPU
64GB RAM
Fast repository

Improve

I still need better performance

- Run Zabbix components on separate servers!
- Starting with version 7.4, communication between the frontend and the server can be encrypted

Zabbix server
8 core CPU
12GB RAM

Web-interface
4 core CPU
8GB RAM

Database
16 core CPU
64GB RAM
Fast repository

Improve

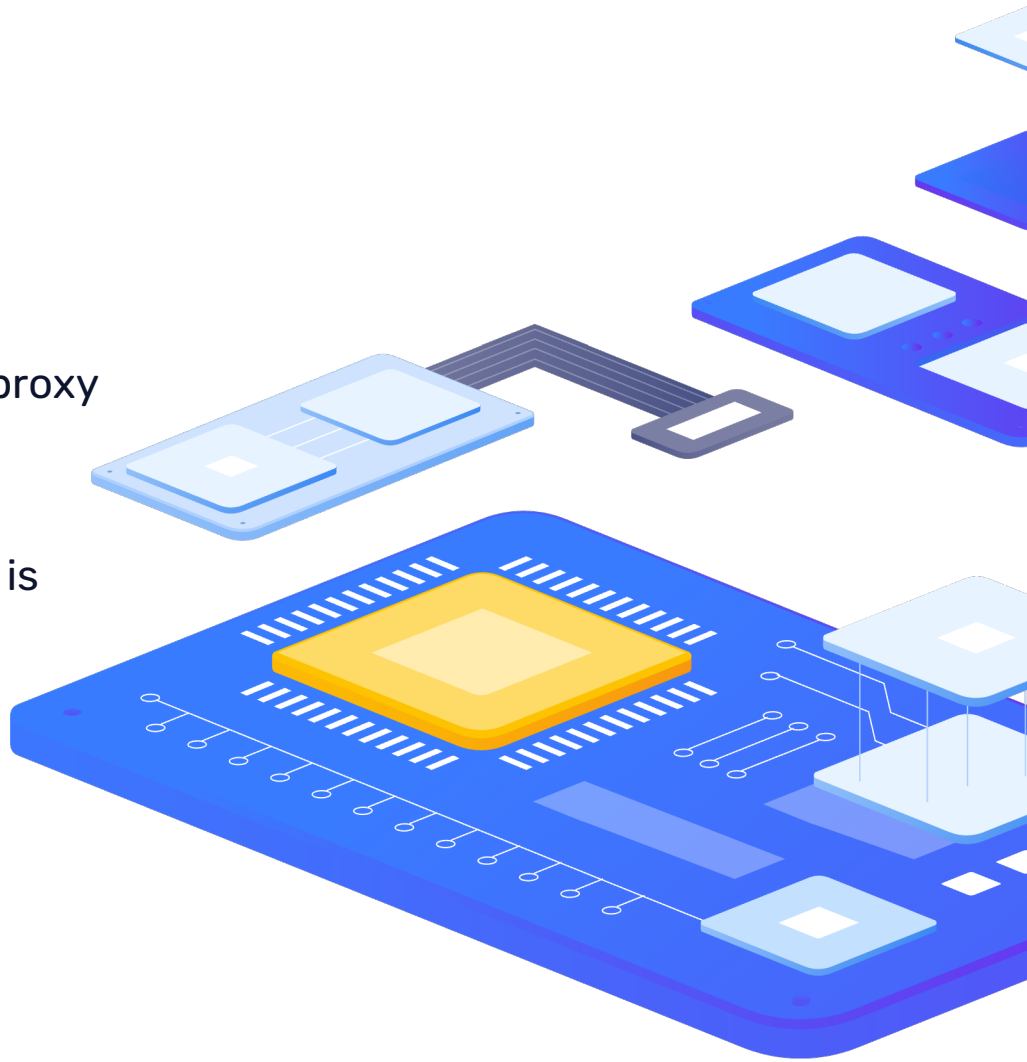
I still need better performance

- All data collection is done using a proxy
- Preprocessing is also performed here
- LLD data is collected here, but final processing is done only by the Zabbix Server

Improve

Why to use proxy?

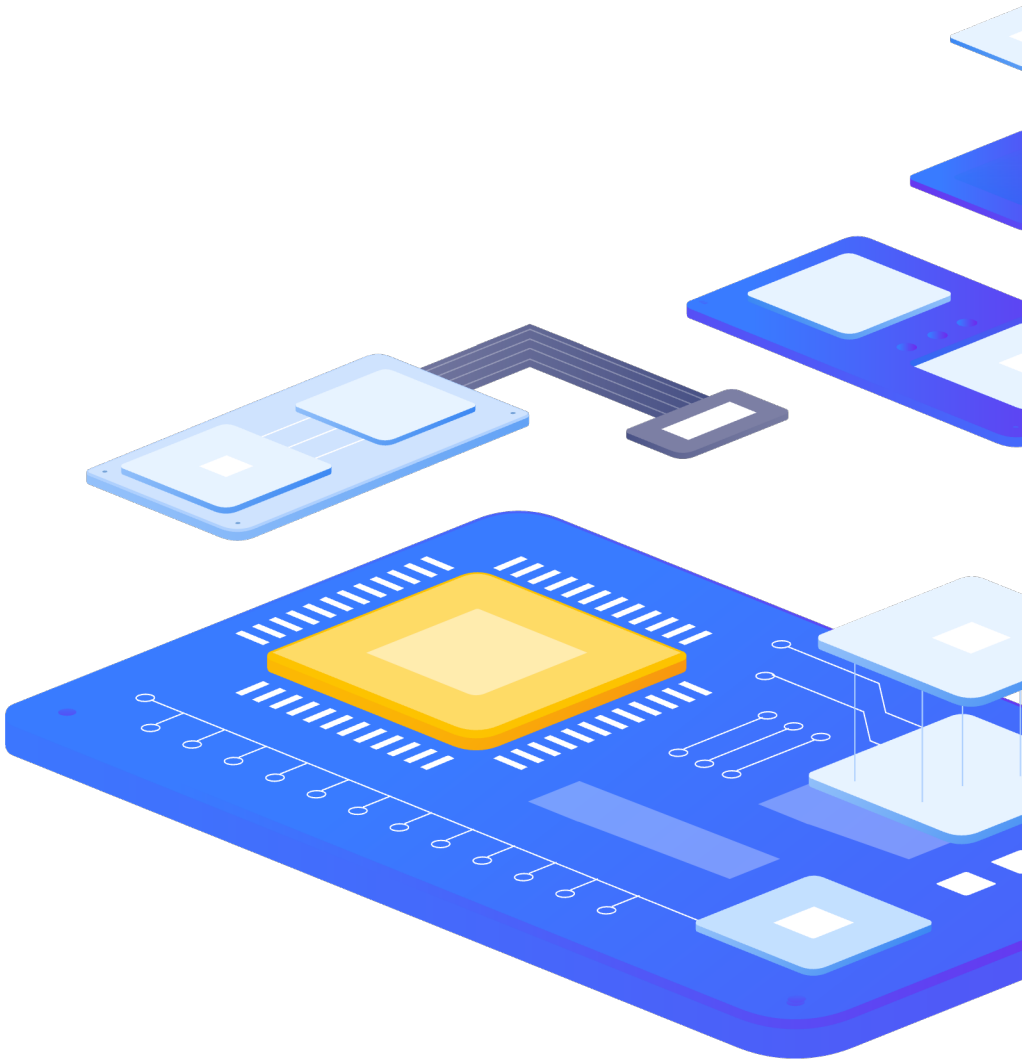
- Zabbix Proxy "converts" passive checks into active
- The load is distributed between the proxies
- If one proxy is overloaded, network nodes can be moved to another proxy
- Starting with version 7.0, you can use proxy groups not only for high availability (HA), but also for load balancing
- Don’t forget to use the new memory-based buffering methods—disk is the default if no buffer is configured in zabbix_proxy.conf
- Easy maintenance
- Caching data when Zabbix server is not available



Improve

Checklist

- Zabbix internal checks are done
  - Otherwise, you don't know anything about Zabbix health!
- Zabbix configuration is tuned
- Database performance is tuned
- Database is monitored
- Partitioning instead of Housekeeper
- API calls are limited



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:

- **PostgreSQL:** https://www.initmax.com/wiki/implementation-of-timescaledb-in-zabbix/

Zabbix internal checks

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

5

Highlighting of latest versions

initMAX

Highlighting of latest versions

Zabbix 7.0

- **Asynchronous pollers**

  Agent poller

  HTTP Agent poller

  SNMP poller (for walk[OID] and get[OID] items) – do not forget to change old SNMP items

- **Proxy memory buffer**

  A memory buffer has been developed for Zabbix proxy. The memory buffer allows to store new data (item values, network discovery, host autoregistration) in the buffer and upload to Zabbix server without accessing the database.

- **Enhanced item timeout configuration possibilities**

  Timeout configuration is now available for more item types. In addition to setting the timeout values on the item level, it is possible to define global and proxy timeouts for various item types.

- **Enhanced preprocessing**

  Each script written in JavaScript has a 512-megabyte heap limit. Preprocessing has been adjusted so that it no longer waits for the completion of write operations from previous steps, which previously caused delays when the first preprocessing step was not finished, but others were.

initMAX

Highlighting of latest versions

Zabbix 7.0

- **Faster permission checks**

  Permission checks have been made much faster by introducing several intermediary tables for checking non-privileged user permissions.
- **Auditlog converted to hypertable on TimescaleDB**
- **New binary type also in hypertable on TimescaleDB**
- **Separate database table for proxies**
- **The default period of storing audit log records before those are deleted by the housekeeper has been changed from 365 days to 31 days.**
- https://support.zabbix.com/browse/ZBXNEXT-5878 **(Enhance permission checking/handling)**
- https://support.zabbix.com/browse/ZBX-23064 **(select distinct)**
- https://support.zabbix.com/browse/ZBX-23979 **(Trends recalculation)**
- https://support.zabbix.com/browse/ZBX-23973 **(Avoid retrieving trends from database for new items)**

initMAX

Highlighting of latest versions

Zabbix 8.0 (Coming Soon)

- Optimized storage engine for telemetry (clickhouse)
- Elasticsearch improvements
- DBHost now automatically selects the first read-write PostgreSQL host
- Bulk fetch
- OpenTelemetry data collection Support
- Log based observability
- Zabbix mobile application
- Event correlation and enterprise alarm console
- NetFlow data collection and visualization
- Permissions for proxies and proxy Groups
- Upload of SSO certifications through Web UI
- Inherited tags
- New Widgets
- Dashboard Import/Export

6

Tips and tricks

Tips and tricks

From time to time check our wiki or social networks

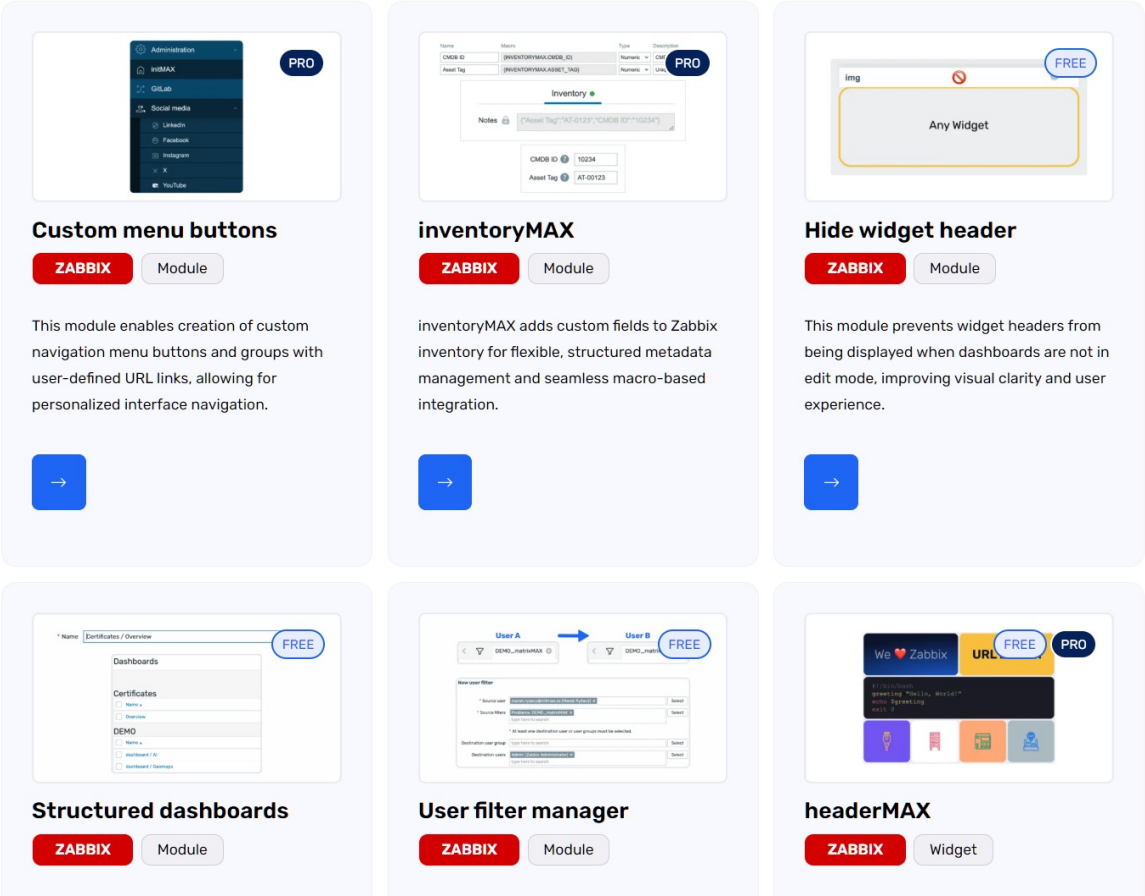
- Throtling, PosgreSQL tune,..
- https://www.initmax.com/wiki/zabbix-java-gateway-installation-with-tomcat-monitoring/
- https://www.initmax.com/wiki/zabbix-7-0-instructions-for-installation-in-5-minutes/
- https://www.initmax.com/wiki/zabbix-7-0-and-increasing-system-limits/
- https://www.initmax.com/wiki/zabbix-migration-from-mysql-to-postgresql/
- https://www.initmax.com/wiki/how-to-set-up-snmp-trap-in-zabbix/
- https://www.initmax.com/wiki/microsoft-teams-integration-in-five-steps/
- https://www.initmax.com/wiki/reporting-in-zabbix-7-0/

Zabbix performance tuning

initMAX E-Shop

- Custom visualization widgets
- UX Improvement Modules
- AI Integration with Zabbix
- Both **FREE** and PRO Versions

- initMAX eshop link
  https://www.initmax.com/eshop/



- Video explanation of widget and modules
  https://www.youtube.com/watch?v=fpW6TR7DQdU&list=PLF7Hh_ikyQDpHiHhXwLtw57OCDF9jn7zL

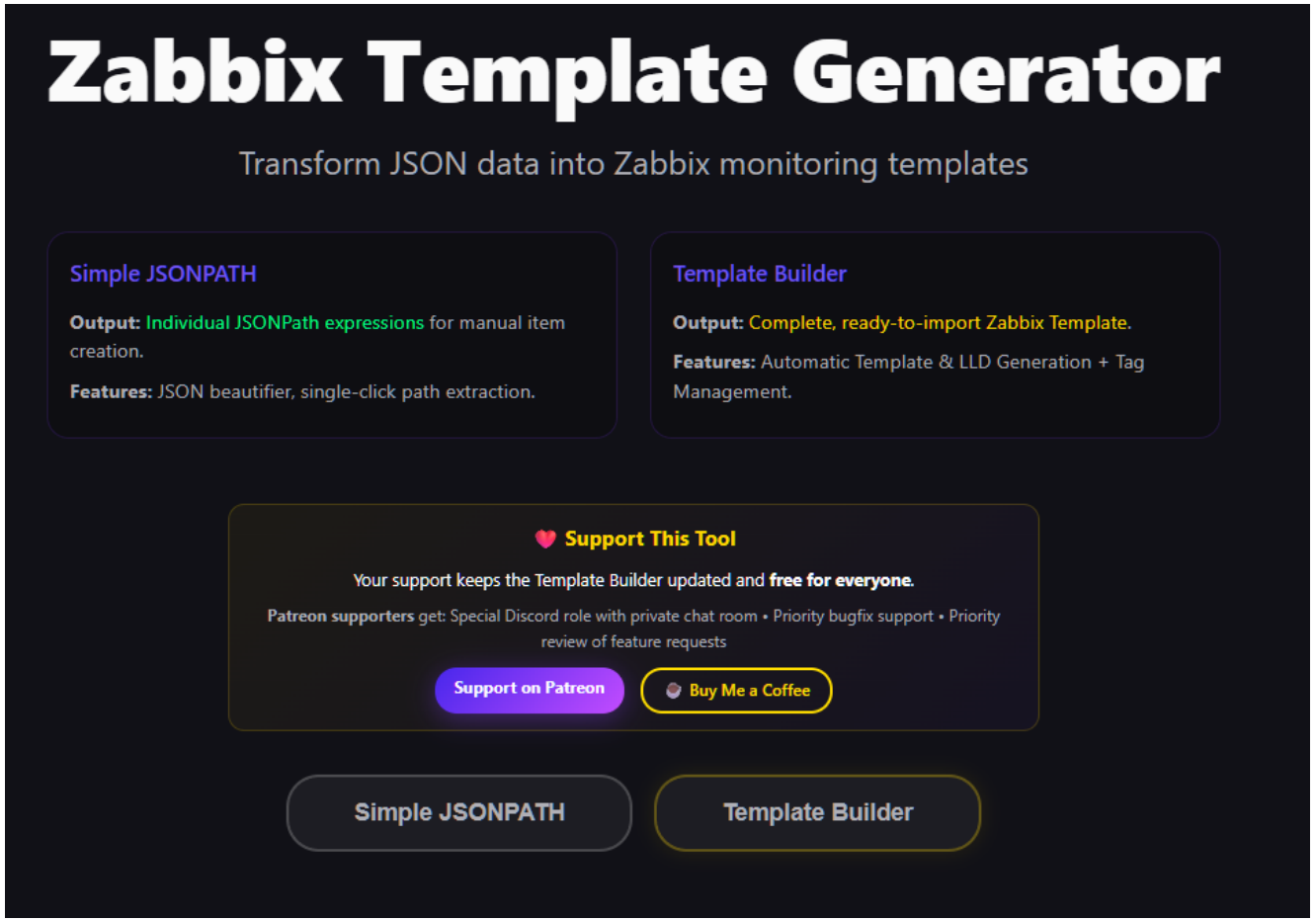
initMAX

Zabbix performance tuning

dmitrylambert.com

- FREE Template builder out of JSON
- Tag support
- Low Level Discovery support
- Zabbix 7.0 / 7.2 / 7.4 version support
- Extract Simple JSONPATH
- Download ready to apply Template

- www.dmitrylambert.com



initMAX

Questions?

initMAX

Contact us:

Phone:	+420 800 244 442
Web:	https://www.initmax.com
Email:	tomas.hermanek@initmax.com
LinkedIn:	https://www.linkedin.com/company/initmax
Twitter:	https://twitter.com/initmax
Tomáš Heřmánek:	+420 732 447 184