NEW FEATURES IN **ZABBIX 5.0**

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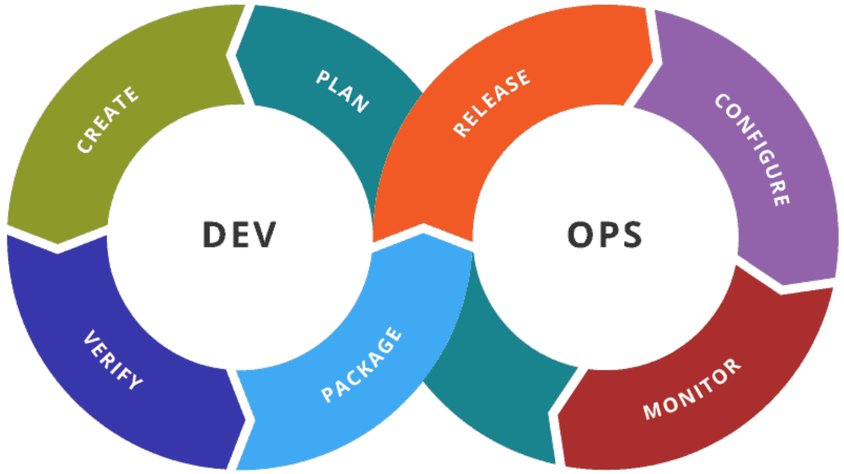
ZABBIX 2020 Conference BENELUX

zabbix

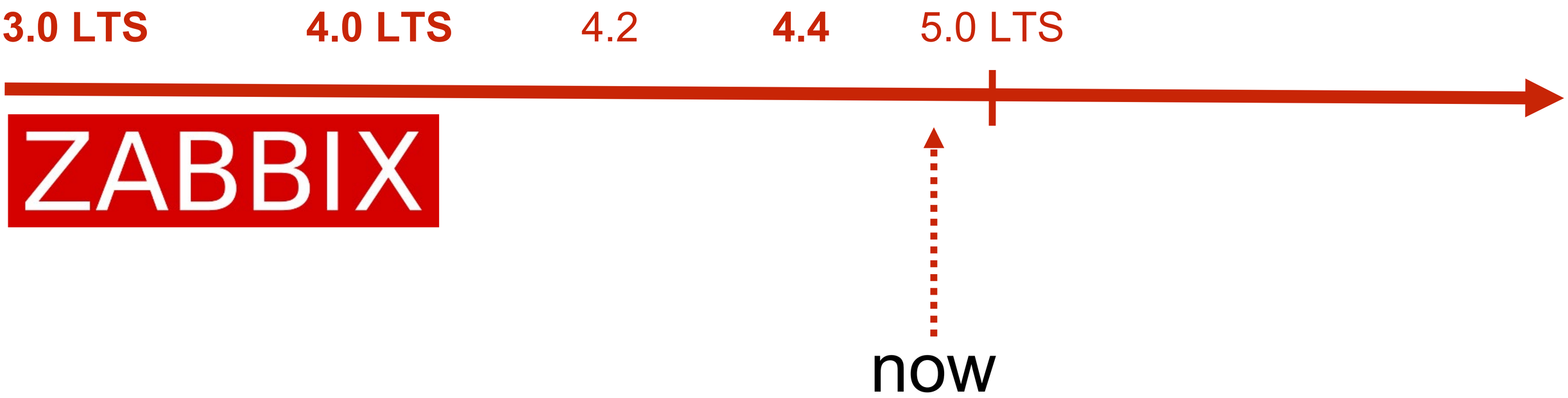
Zabbix is a Universal Open Source enterprise-level monitoring solution



ZABBIX

Zabbix is a Universal Open Source enterprise-level monitoring solution

Where we are currently



Quick recap of Zabbix 4.2 and 4.4

Zabbix 4.2

April, 2019

High frequency monitoring with throttling

Data collection: HTTP agent, Prometheus

Preprocessing: validation and JavaScript!

Preprocessing by Proxies

Enhanced tag management

Zabbix 4.4

April, 2019

New Zabbix Agent: plugins, scheduler and more

Web hooks for alerting and notifications

Support of TimescaleDB

Built-in knowledge base for metrics and triggers

Standard for Zabbix Templates

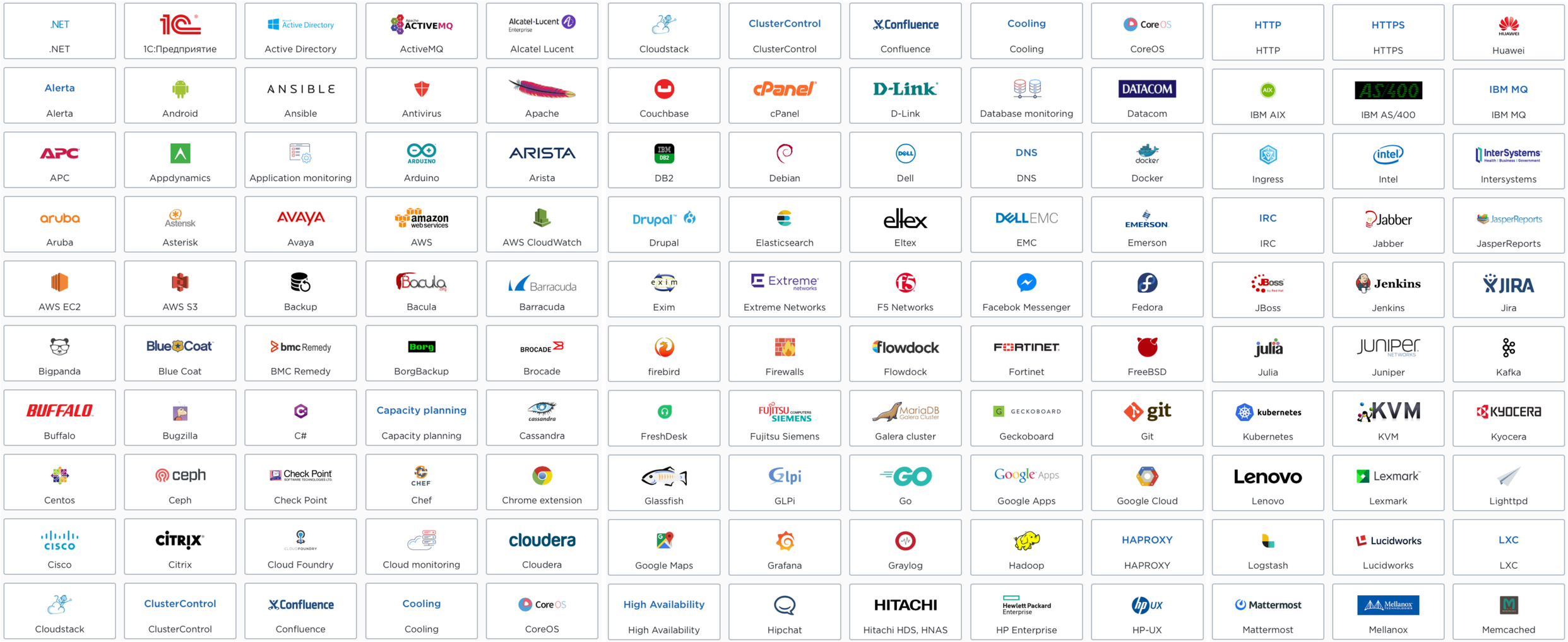
5.0

LTS release

ETA: early April

Available integrations

ZABBIX



https://www.zabbix.com/integrations

Making a platform for high quality solutions

ZABBIX

MONITORING PLUGINS

TPS
TPS
Huawei
400
AS/400
IBM MQ
IBM MQ
ntel
ntel
InterSystems
Intersystems
abber
bber
JasperReports
JasperReports
enkins
nkins
JIRA
Jira
niper
niper
Kafka
KVM
VM
KYOCERA
Kyocera
exmark
tmark
Lighttpd
cidworks
dworks
LXC
LXC
Mellanox
lanox
Memcached

Zabbix Agent 2

Data

Notifications

Incidents

Events

WEBHOOK BASED INTEGRATIONS

.NET
.NET
1C:Предп
Alerta
Alerta
Andr
APC
APC
Appdyn
aruba
Aruba
Aste
AWS EC2
AWS
Bigpanda
Blue
BUFFALO
Buffalo
Bugz
Centos
Cep
CISCO
Cisco
citr
Cloudstack
Cluster

Out of the box!

ZABBIX

Ticketing

Alerting

Monitoring

Want to contribute?

3 simple steps

Sign Zabbix Contributor Agreement (ZCA)
https://www.zabbix.com/developers

Make Zabbix Pull Request
https://git.zabbix.com

Zabbix Dev Team will review and accept if everything is fine

Available everywhere

Linux distributions and containers

RHEL and CentOS 6, 7 and 8
Debian 8, 9, 10
SuSE 12, 15
Ubuntu 14.04 (Trusty), 16.04 (Xenial) and 18.04 (Bionic)
Raspbian 9 (Stretch), 10 (Buster)
Docker

Linux appliance images

ISO
VMWare, VirtualBox
Microsoft Hyper-V
KVM
XEN
LiveCD

Public clouds

AWS	Azure	DigitalOcean	Google Cloud
Zabbix Server 4.4	Zabbix Server 4.4	Zabbix Server 4.4	Zabbix Server 4.4
Mysql + Nginx	Mysql + Nginx	Mysql + Nginx	Mysql + Nginx

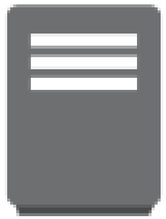
Lowest cost

1

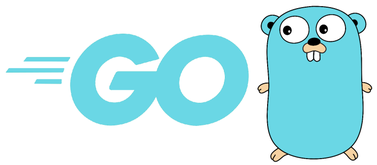
Official support of Zabbix Agent2 for Linux and Windows

https://support.zabbix.com/browse/ZBXNEXT-5609

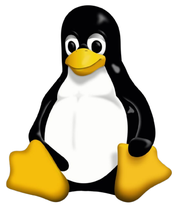
Most advanced monitoring agent on the market!



New Zabbix Agent
(zabbix_agent2)

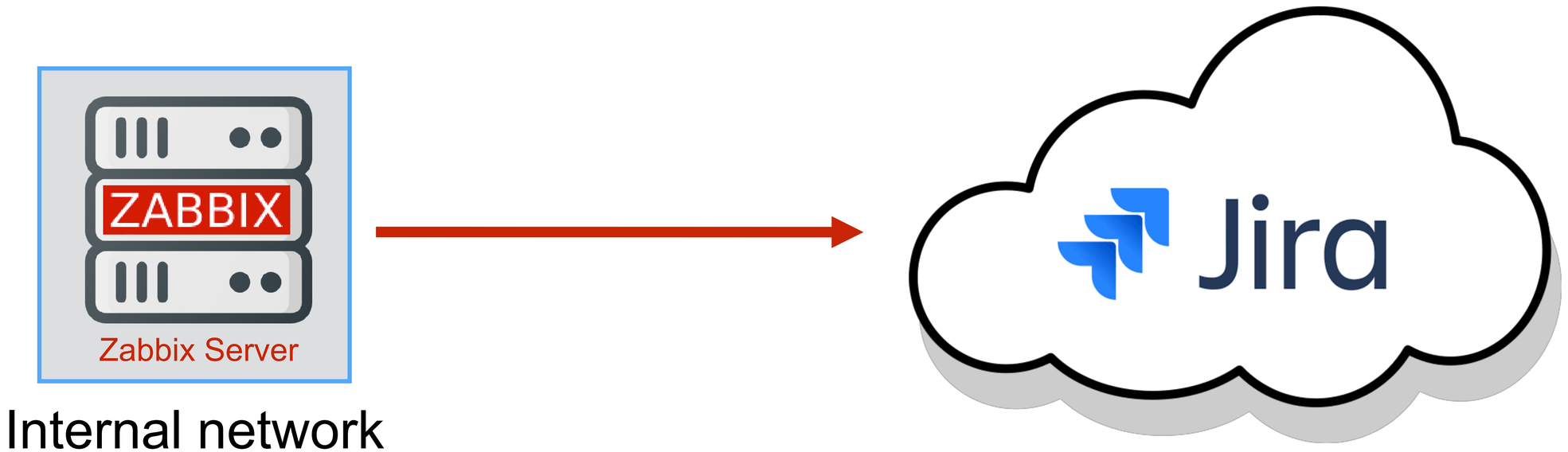


- Plugin infrastructure
- Support of long running scripts
- Parallel active checks
- Support of flexible intervals for all checks
- Support of persistent connections (DB connections)
- Accepting incoming traps and events (MQTT subscribe, listening TCP/UDP ports, etc)
- Monitoring of systemd services out of the box
- Drop-in replacement of the existing agent!

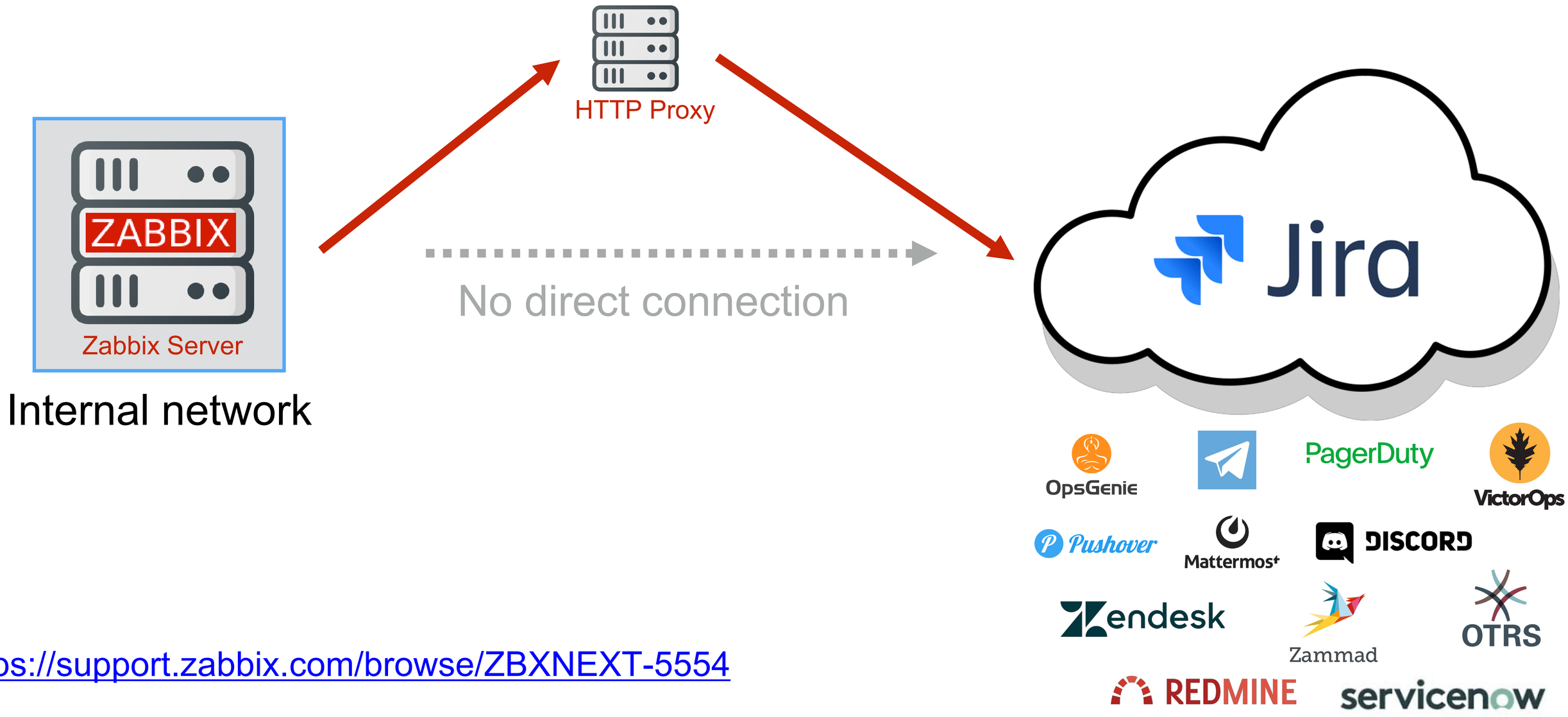


2 Better security

Webhooks over HTTP proxy

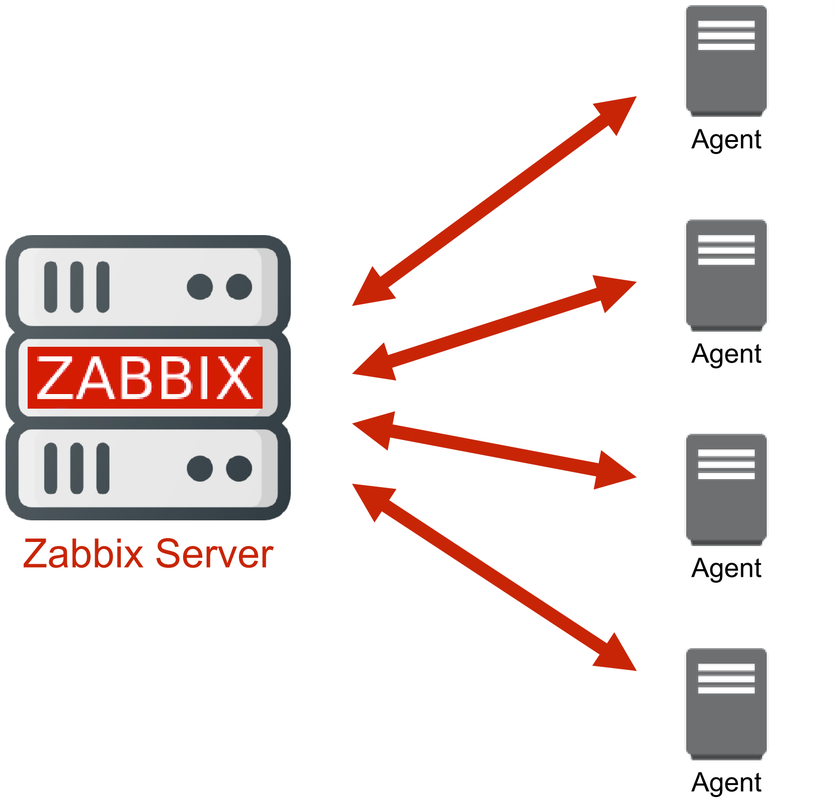


Webhooks over HTTP proxy



https://support.zabbix.com/browse/ZBXNEXT-5554

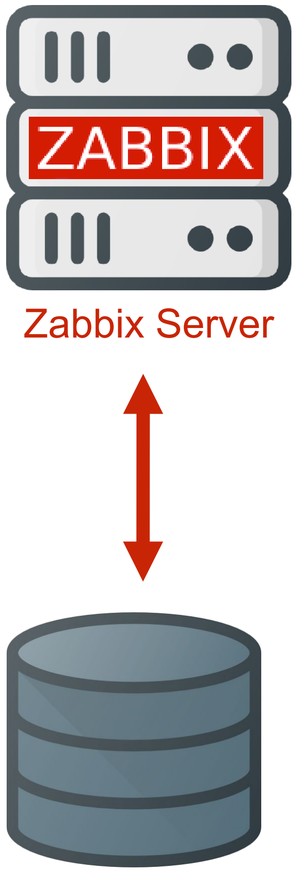
Restrict available checks on agent side



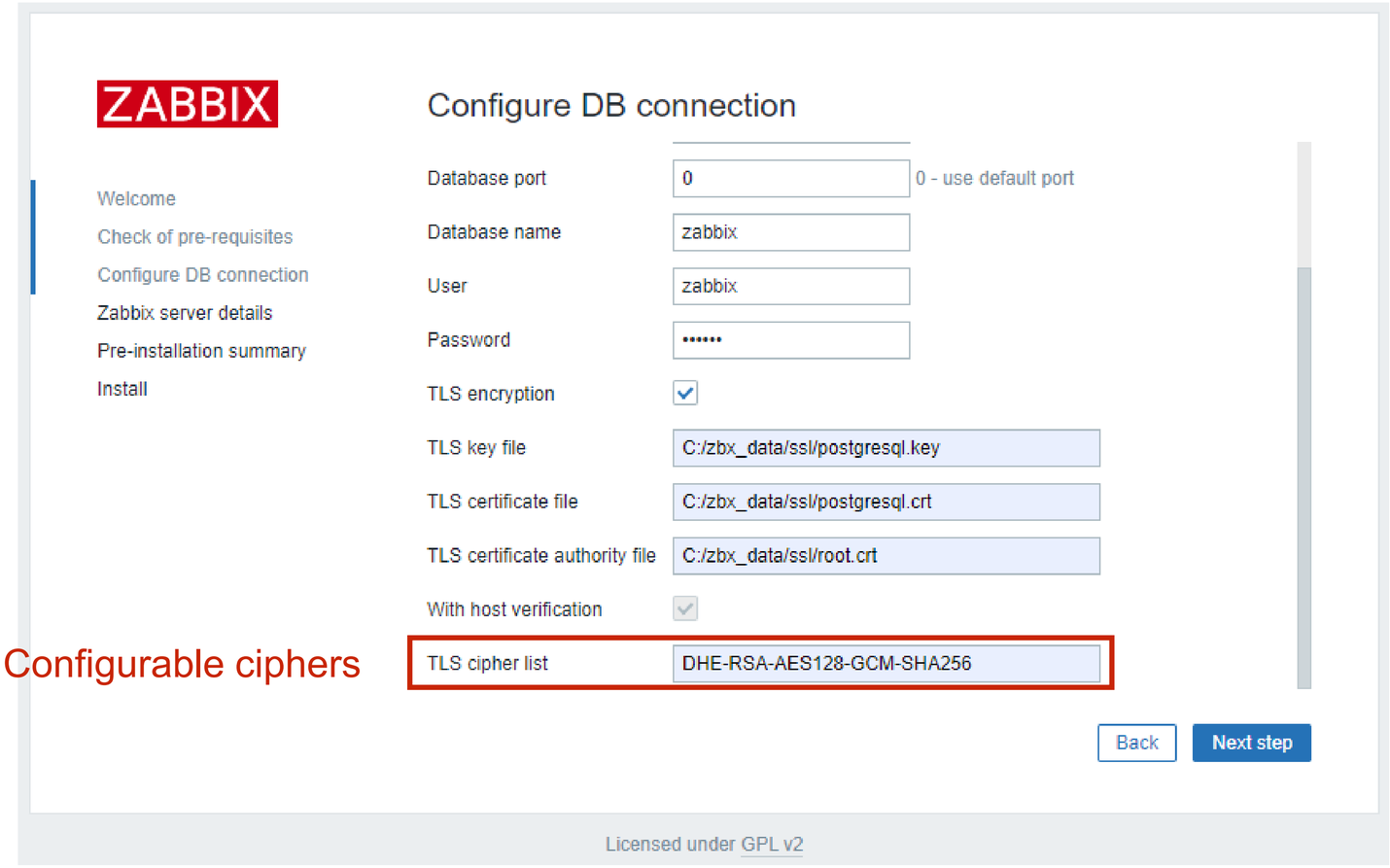

```
# Whitelist for MySQL related checks
AllowKey=mysql[*]
DenyKey=*

# Blacklist to deny all shell scripts
DenyKey=system.run[*]

# Blacklist to deny access to /etc/passwd
DenyKey=vfs.file.contents[/etc/passwd,*]
```

https://support.zabbix.com/browse/ZBXNEXT-1085

Encrypted connection to database



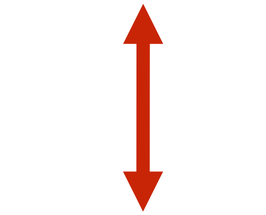
Configurable ciphers



https://support.zabbix.com/browse/ZBXNEXT-2753

Strong encryption for password hashes

Zabbix Server



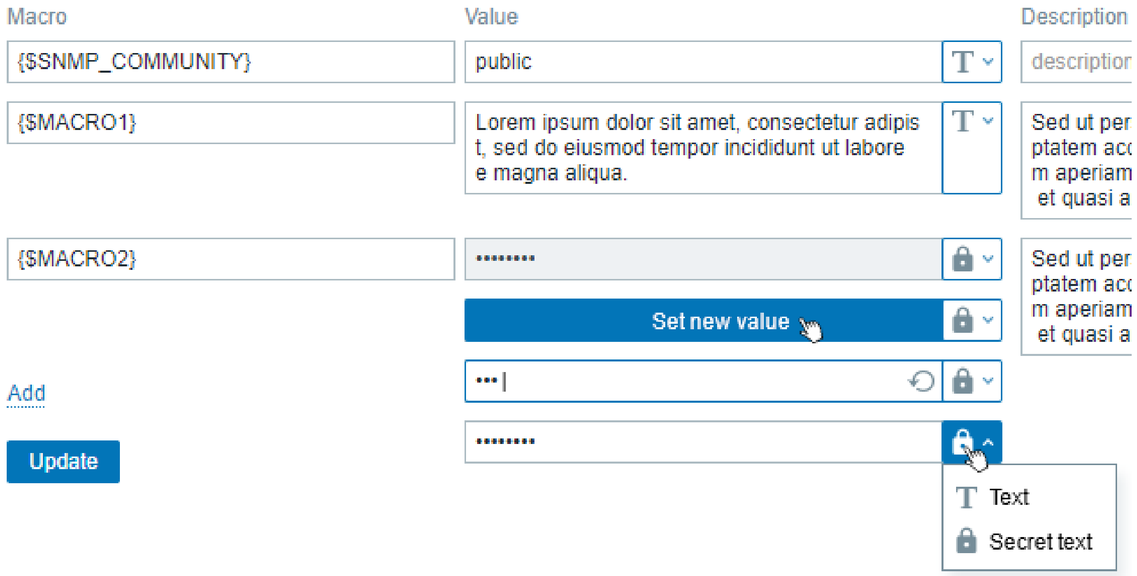
Database

SHA256 instead of MD5

User password hash is updated on password change

https://support.zabbix.com/browse/ZBXNEXT-1898

Ability to mask user macros



Use cases:

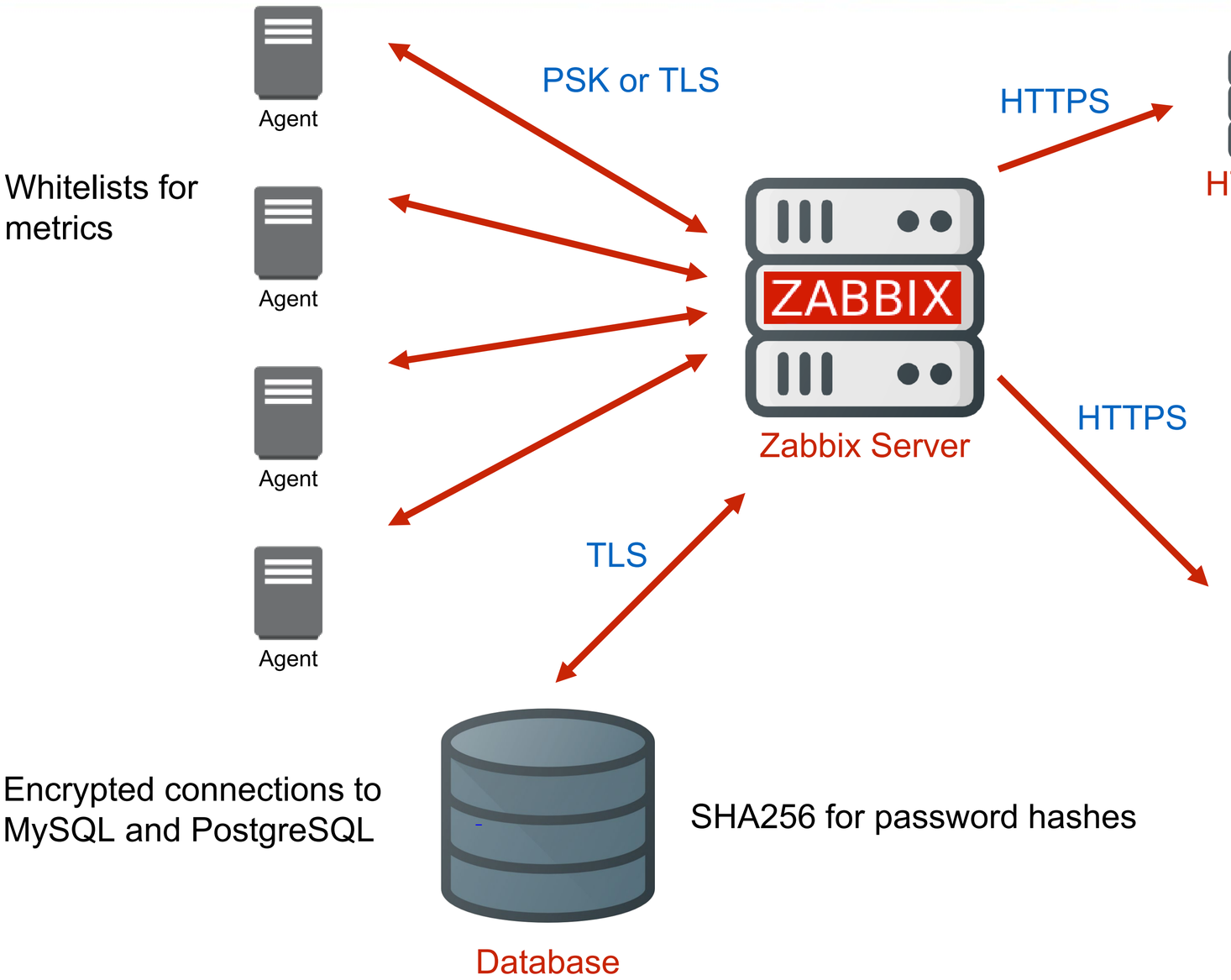
Hide any secrets: passwords, tokens

Secret text cannot be retrieved in UI and alerts, masked with ******

Can only replaced with a new value

https://support.zabbix.com/browse/ZBXNEXT-2957

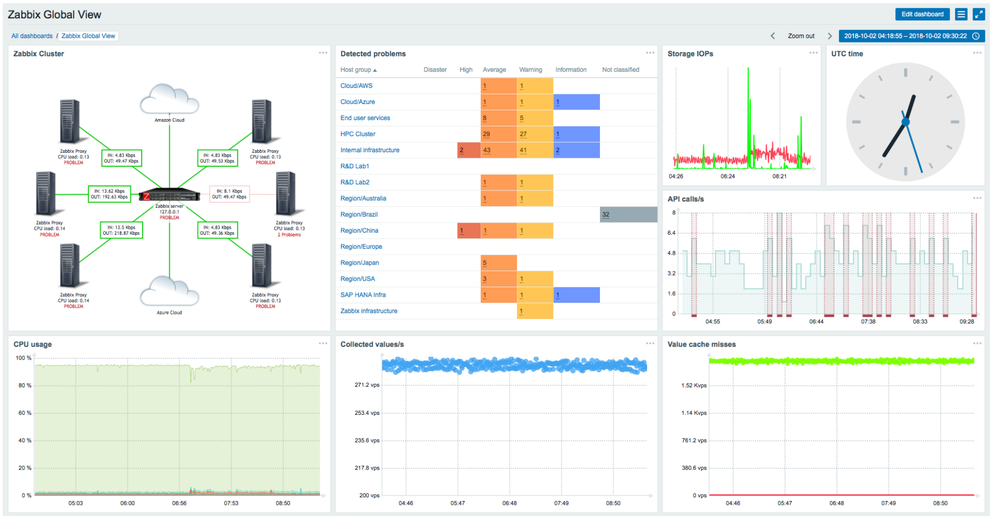
All communications are safe & encrypted



Whitelists for metrics

Encrypted connections to MySQL and PostgreSQL

SHA256 for password hashes



Masking secrets in UI and alerts

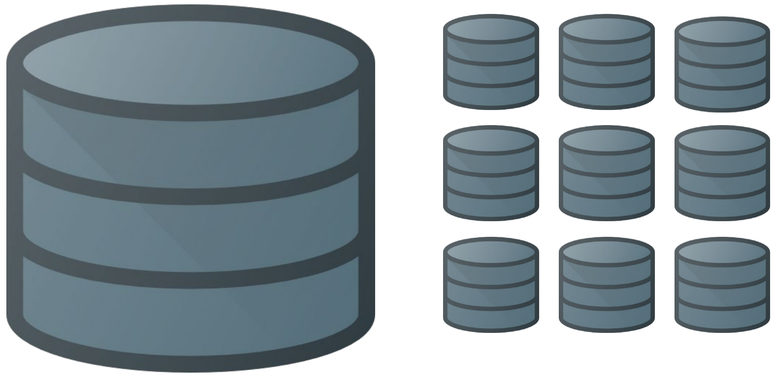
3

Compression for TimescaleDB

https://support.zabbix.com/browse/ZBXNEXT-5676

TimescaleDB = PostgreSQL + Extension

TimescaleDB



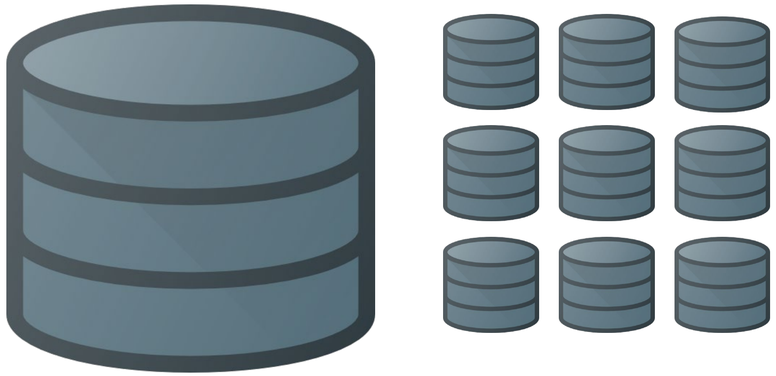
TIMESCALE

Advantages

- Automatic partitioning
- Zabbix manages removal of old data
- Performance oriented DB
- Compression!

Compression HOWTO

ZABBIX



TIMESCALE

Administration->General->Housekeeping

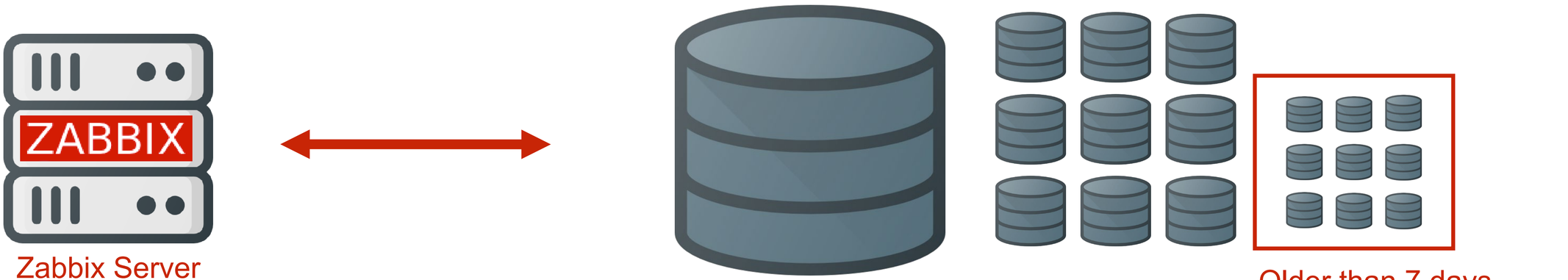
History and trends compression

Enable compression

* Compress records older than 7d

Update Reset defaults

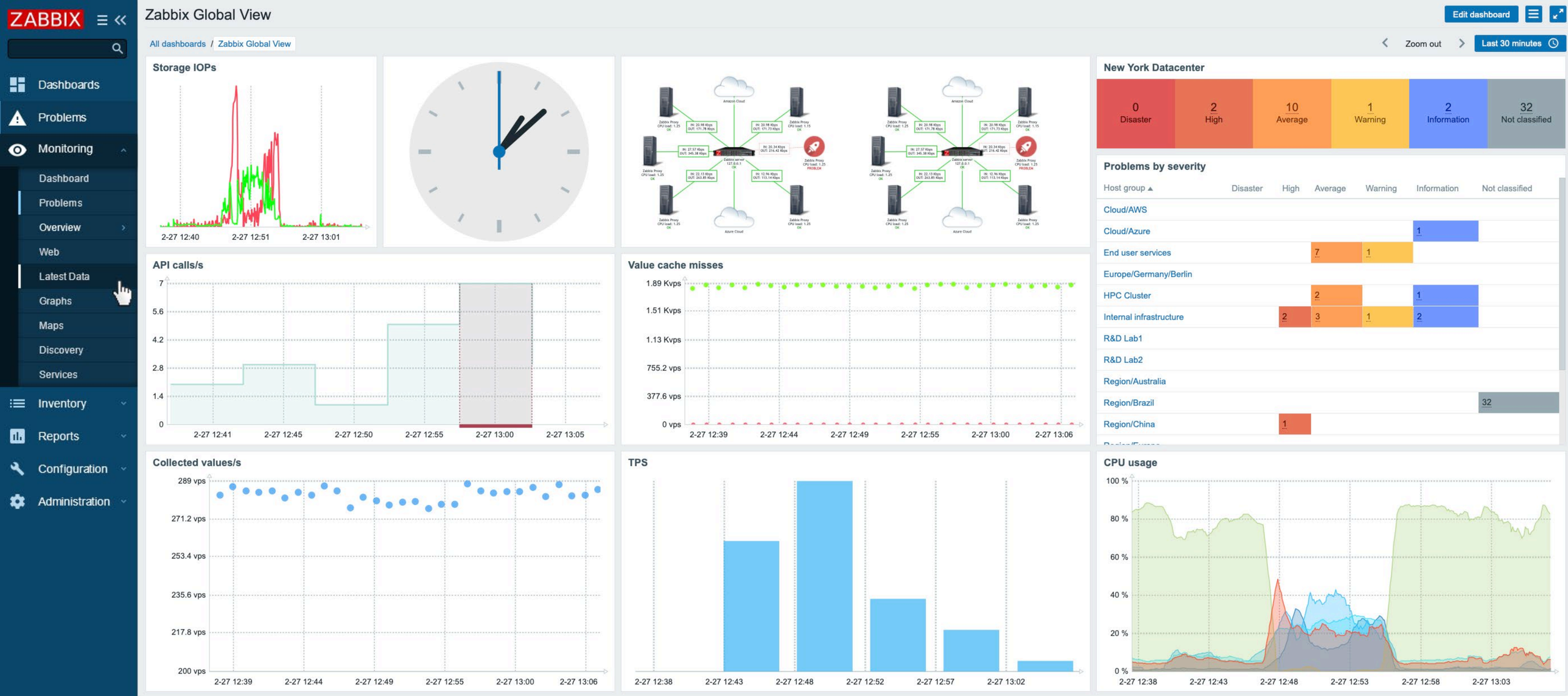
Lower storage cost



TIMESCALE

4

UI and usability improvements



Better layout

https://support.zabbix.com/browse/ZBXNEXT-5569

UI modules

Extend functionality of Zabbix UI

New menu entries

3rd party modules

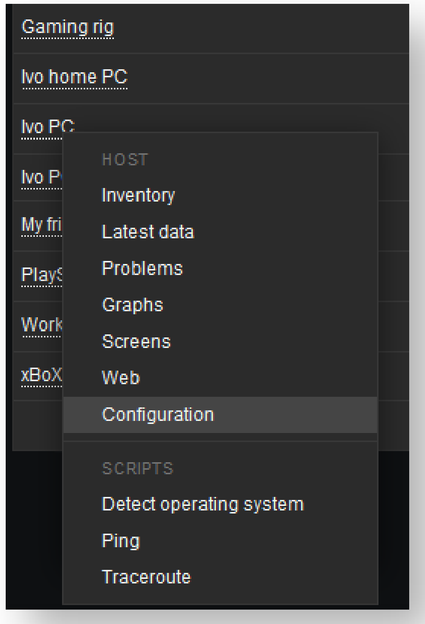
New dashboard widgets (5.2?)

List of monitored devices

Monitoring->Hosts

Name ▲	Interface	Availability	Tags	Problems	Status	Latest data	Problems	Graphs	Screens	Web
BoomBox	127.0.0.1: 20050	ZBX SNMP JMX IPMI	{HOST.HOST}: tagval_...	3 5 1	Enabled	Latest data	Problems 9	Graphs 4	Screens 2	Web 3
DB	127.0.0.1: 20050	ZBX SNMP JMX IPMI		3 1	Enabled	Latest data	Problems 4	Graphs 3	Screens	Web 1
Gaming rig	192.168.6.73: 32050	ZBX SNMP JMX IPMI	{HOST.NAME}	1	Enabled	Latest data	Problems 1	Graphs	Screens 1	Web
Ivo home PC	home: 12345	ZBX SNMP JMX IPMI	{$USRMCRTG}: tagval2 {HOST.HOST}: tagval1	1	Enabled	Latest data	Problems 1	Graphs	Screens 2	Web
Ivo PC	192.168.6.73: 32050	ZBX SNMP JMX IPMI		1 4	Enabled	Latest data	Problems 5	Graphs 1	Screens 1	Web 1
Ivo PC, another	192.168.6.73: 32050	ZBX SNMP JMX IPMI			Disabled	Latest data	Problems	Graphs	Screens	Web
My friends PC	friend: 4567	ZBX SNMP JMX IPMI		1	Enabled	Latest data	Problems 1	Graphs	Screens	Web
PlayStation	127.0.0.1: 20050	ZBX SNMP JMX IPMI		1	Enabled	Latest data	Problems 1	Graphs 2	Screens 1	Web 2
Work PC	127.0.0.1: 11111	ZBX SNMP JMX IPMI	{HOST.CONN} {HOST.ID}: tagval3 {HOST.NAME} •••	1	Enabled	Latest data	Problems 1	Graphs	Screens	Web
xBoX	127.0.0.1: 333	ZBX SNMP JMX IPMI	{HOST.NAME}		Enabled	Latest data	Problems	Graphs 4	Screens	Web 5

Displaying 10 of 10 found

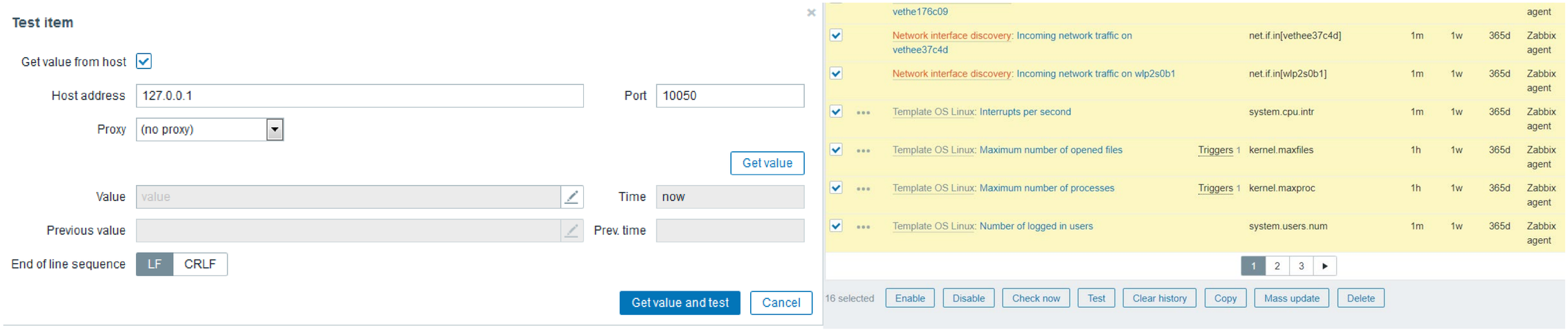


No more Monitoring->WEB and Monitoring->Graphs

https://support.zabbix.com/browse/ZBXNEXT-5694

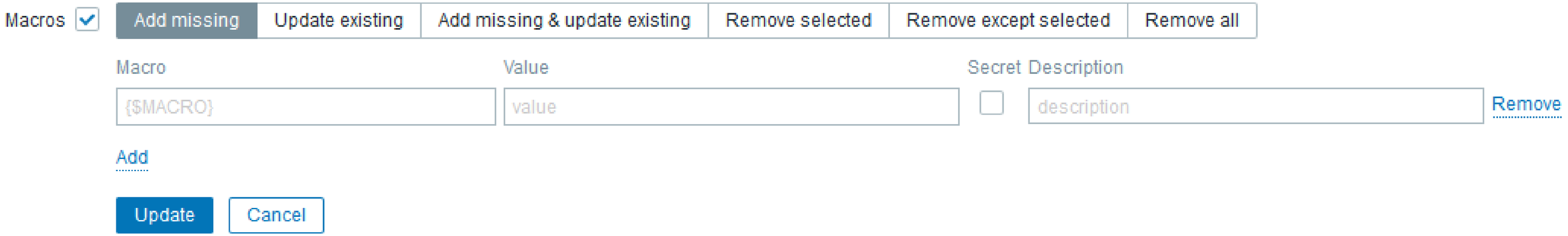
Test item before creation

Test item even on template level



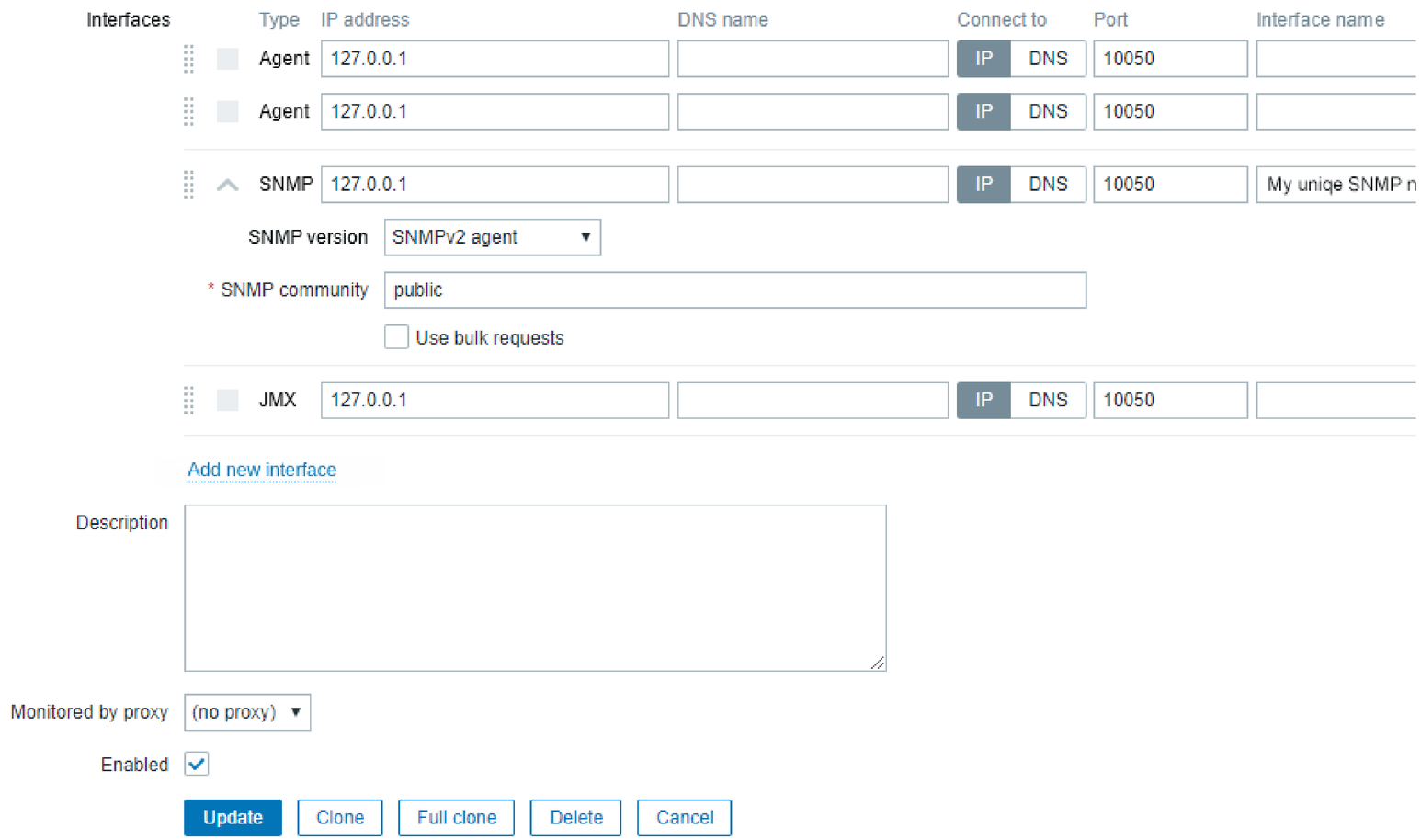
https://support.zabbix.com/browse/ZBXNEXT-5287

Mass update for macros



https://support.zabbix.com/browse/ZBXNEXT-617

SNMP settings on host level



https://support.zabbix.com/browse/ZBXNEXT-2613

ODBC connection parameters in items key

ZABBIX

No more odbc.ini

Flexibility

Works on all proxies without additionall configuration.

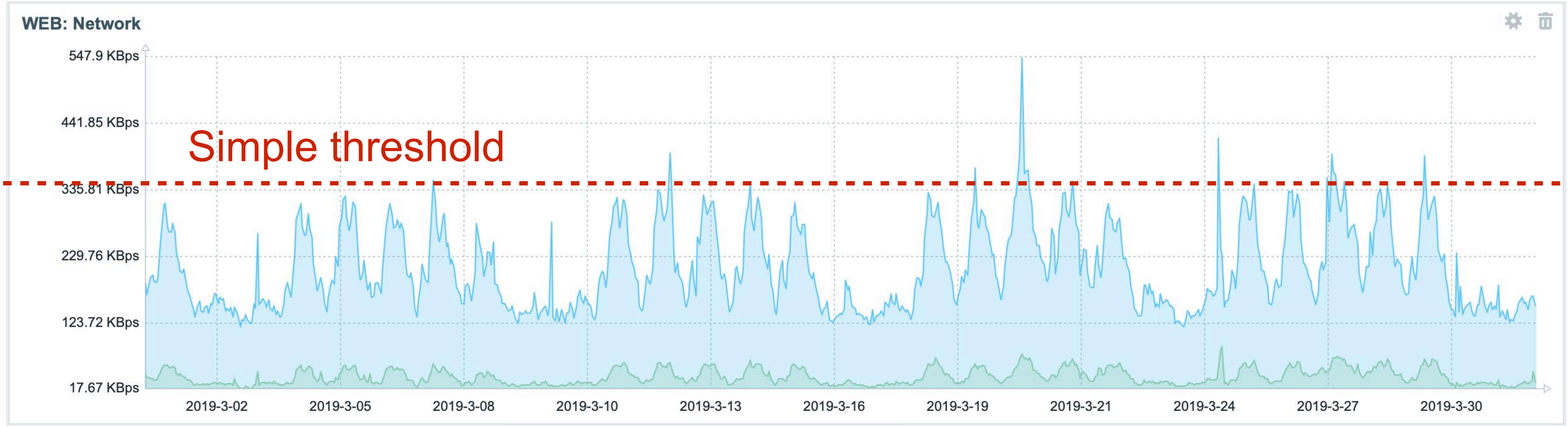
db.odbc.select[MySQL db check,,"DRIVER=mysqla;SERVER=127.0.0.1;PORT=3306;UID=zabbix;PWD=zabbix;DATABASE=master;OPTION=3;"]

https://support.zabbix.com/browse/ZBXNEXT-1961

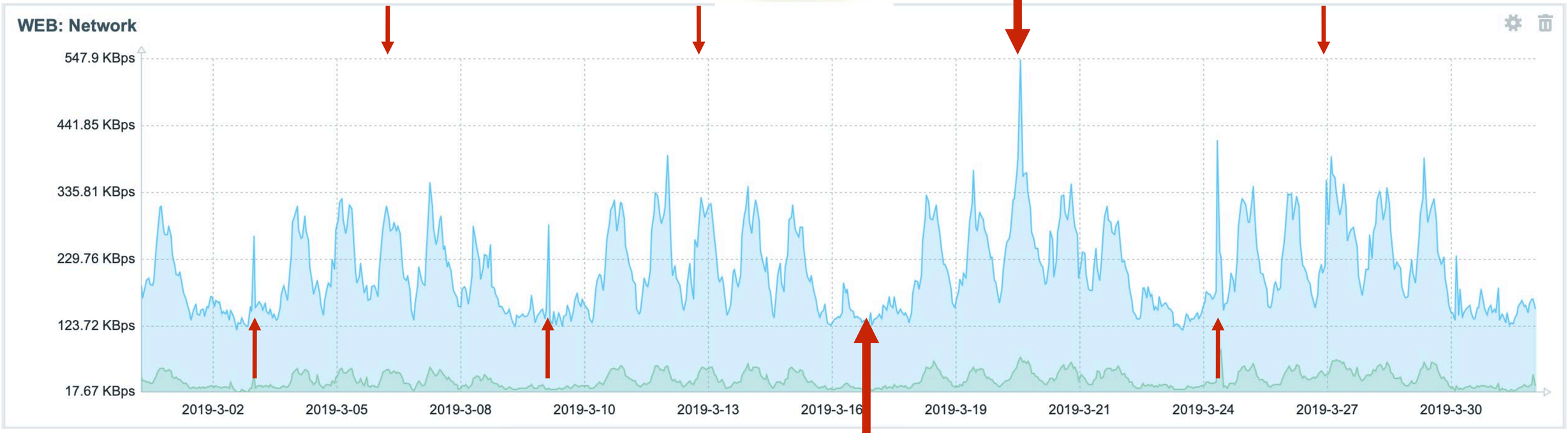
5

Machine learning

Problem detection

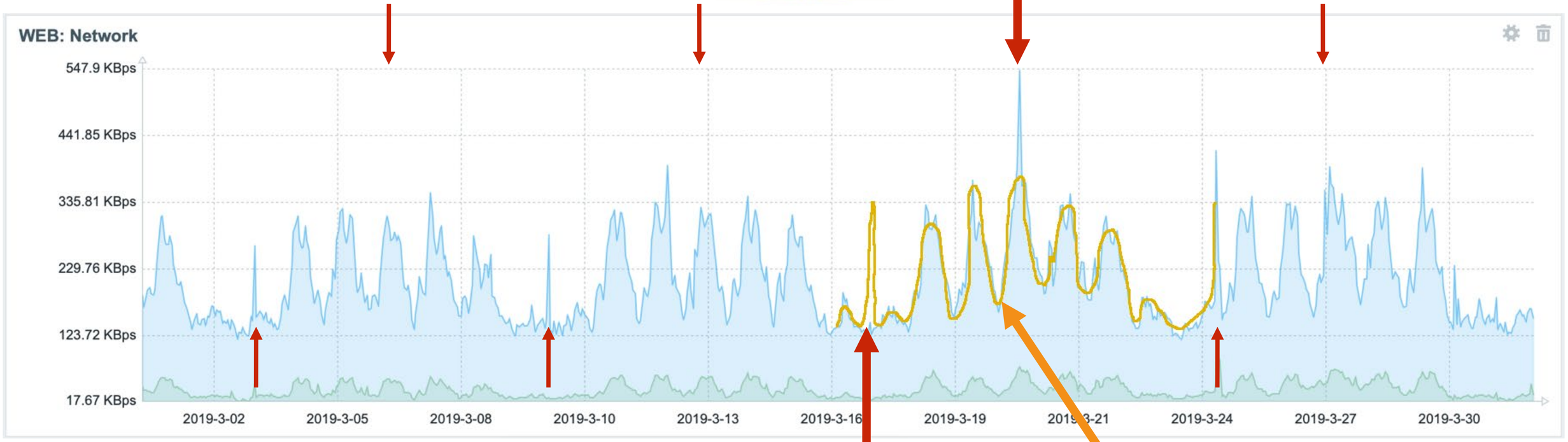


Anomaly #2



Anomaly #1

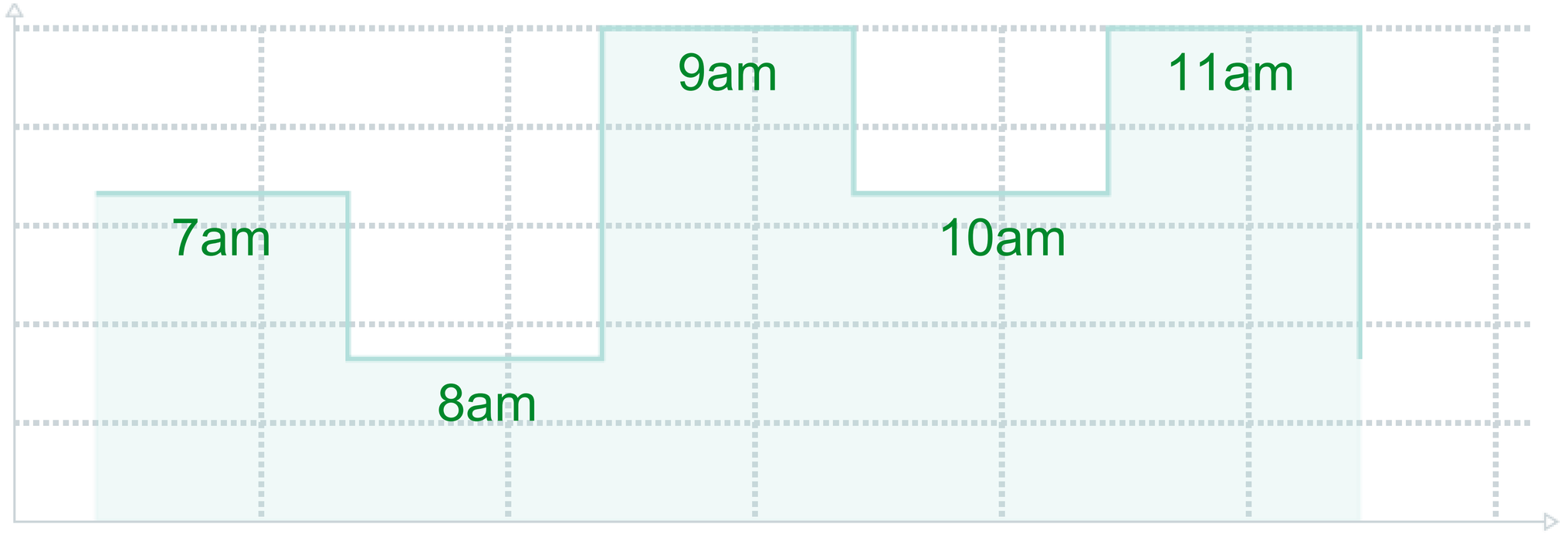
Anomaly #2



Anomaly #1

Baseline based on historical data

Baseline is an automatically adjusted threshold



Hourly baseline

Why baseline monitoring?

ZABBIX

Easy to configure and maintain

Automatic anomaly detection

More universal than time-shift functions

Design decisions

Priority on usability and flexibility:

- global configuration

- automatic management of triggers for baseline monitoring (creation, removal)

- multiple baselines per metric, multiple algorithms

- machine learning algorithms are defined in JavaScripts and fully configurable

Problem reporting

ZABBIX

Traditional threshold-based

“Number of transactions per hour is lower than 1000”
“Daily network utilisation exceeded 90%”
“Rate of new user registrations is less than 10 per hour”

Machine learning

“Number of transactions per hour is 2x lower than expected”
“Daily network utilisation is 20% higher than expected”
“Rate of new user registrations per hour dropped 50%”

Use tags to differentiate ML generated problems

And more than 30 other improvements!
Stay tuned!

Roadmap

V 5.0 LTS

Zabbix 5.0 LTS

ETA: March, 2020

Out of the box monitoring and alerting

- Set of templates and integrations with alerting and ITSM systems
  Zabbix will include enhanced set of templates for monitoring of various operating systems, applications and network devices, also with ready to use media types for integration with popular alerting, notification and ITSM systems.
- Monitoring of Kubernetes
  Out of the box solution for monitoring of Kubernetes clusters.

Smart problem and anomaly detection

- Baseline monitoring
  New algorithms for data processing will allow automatic problem and anomaly detection based on analysis of historical data. No manual setting of thresholds is needed anymore!

Security and compliance monitoring

- Standard templates will be enhanced to contain security- and compliance-related monitoring

Usability and user experience

- Redesign of navigation and other front-end improvements to make Zabbix more user friendly
- Ability to test metrics from Zabbix UI

QUESTIONS?
THANK YOU!

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ZABBIX Technical Support Engineer

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zabbix