

**ZABBIX** 7.0

# ZABBIX 7.0 LTS AND BEYOND

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Founder, CEO



## Our mission

We help businesses deliver  
flawless services for a  
better world and happier people

Our vision

ZABBIX

A single pane of glass

IT & OT

The ultimate **monitoring and observability** solution

Extremely adaptable to any use cases

Lowest TCO

Superb visualization and reporting

Highly scalable (downscaling and upscaling)



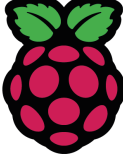
# Staying open-source

An inclusive solution

# GPLv2 -> AGPLv3

Does it make any difference?

# ON-PREMISE



# IN THE CLOUD





# Sustainability

Long-term thinking

# 24x7 professional services for end-users and MSPs





# Steady growth



150+  
Zabbix **team** members



250+  
**partners** around the world

# Zabbix 7.0 LTS

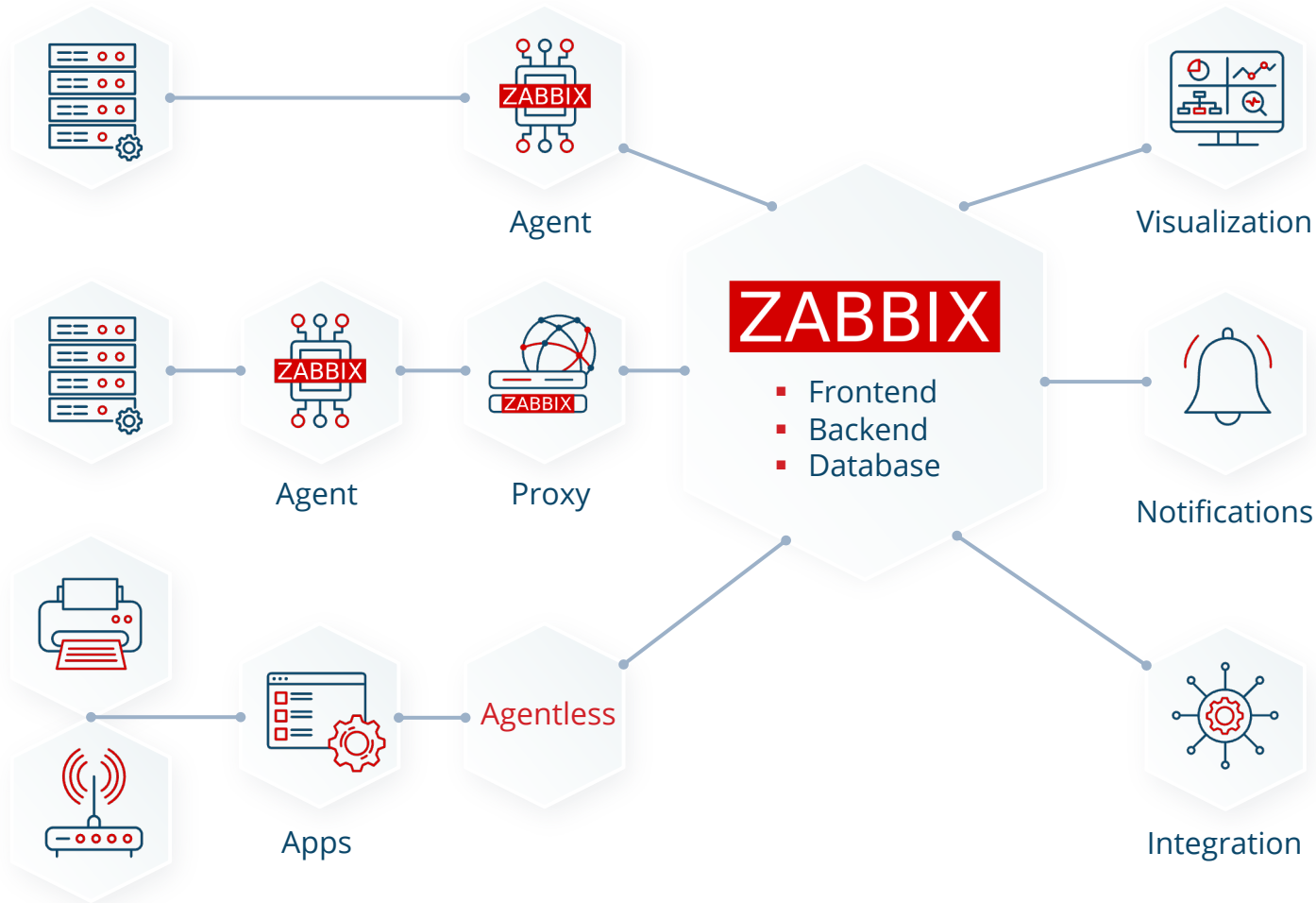
More than 110 new features and improvements



# An all-in-one solution

One product to cover it all

# Collect → Analyze → React and Visualize



High-quality data, also for AIOps

Proxies for DM and Edge computing

API for automation and integrations

Auto-remediation

Anomaly detection

# All levels: from infrastructure to business

**IT & OT**  
 Business services  
 SLA/SLI  
 Synthetic  
 Cloud  
 K8S  
 OpenShift  
 Containers  
 APIs  
 WEB  
 User experience  
 Applications  
 Processes  
 OS  
 Environment  
 Hardware  
 Industrial  
 Network devices  
 IoT and sensor data

.NET	IC.Предприятие	Active Directory	ActiveMQ	Alcatel Lucent	Cloudstack	ClusterControl	Confluence	Cooling	CoreOS	HTTP	HTTPS	Huawei
Alerta	Android	Ansible	Antivirus	Apache	Couchbase	cPanel	D-Link	Database monitoring	Datacom	IBM AIX	IBM AS/400	IBM MQ
APC	Appdynamics	Application monitoring	Arduino	Arista	DB2	Debian	Dell	DNS	Docker	Ingress	Intel	InterSystems
Aruba	Asterisk	Avaya	AWS	AWS CloudWatch	Drupal	Elasticsearch	Eltex	EMC	Emerson	IRC	Jabber	JasperReports
AWS EC2	AWS S3	Backup	Bacula	Barracuda	Exim	Extreme Networks	F5 Networks	Facebook Messenger	Fedora	JBoss	Jenkins	Jira
Bigpanda	Blue Coat	BMC Remedy	BorgBackup	Brocade	firebird	Firewalls	Flowdock	Fortinet	FreeBSD	Julia	Juniper	Kafka
Buffalo	Bugzilla	C#	Capacity planning	Cassandra	FreshDesk	Fujitsu Siemens	Galera cluster	Geckboard	Git	Kubernetes	KVM	Kyocera
Centos	Ceph	Check Point	Chef	Chrome extension	Glassfish	GLPI	Go	Google Apps	Google Cloud	Lenovo	Lexmark	Lighttpd
Cisco	Citrix	Cloud Foundry	Cloud monitoring	Cloudera	Google Maps	Grafana	Graylog	Hadoop	HAProxy	Logstash	Lucidworks	LXC
Cloudstack	ClusterControl	Confluence	Cooling	CoreOS	High Availability	Hipchat	Hitachi HDS, HNAS	HP Enterprise	HP-UX	Mattermost	Mellanox	Memcached





















[zabbix.com/integrations](https://zabbix.com/integrations)

# More templates and integrations!

ZABBIX

Search

- Dashboards
- Monitoring
- Services
- Inventory
- Reports
- Data collection
  - Template groups
  - Host groups
  - Templates**
  - Hosts
  - Maintenance
  - Event correlation
  - Discovery
- Alerts
- Users
- Administration

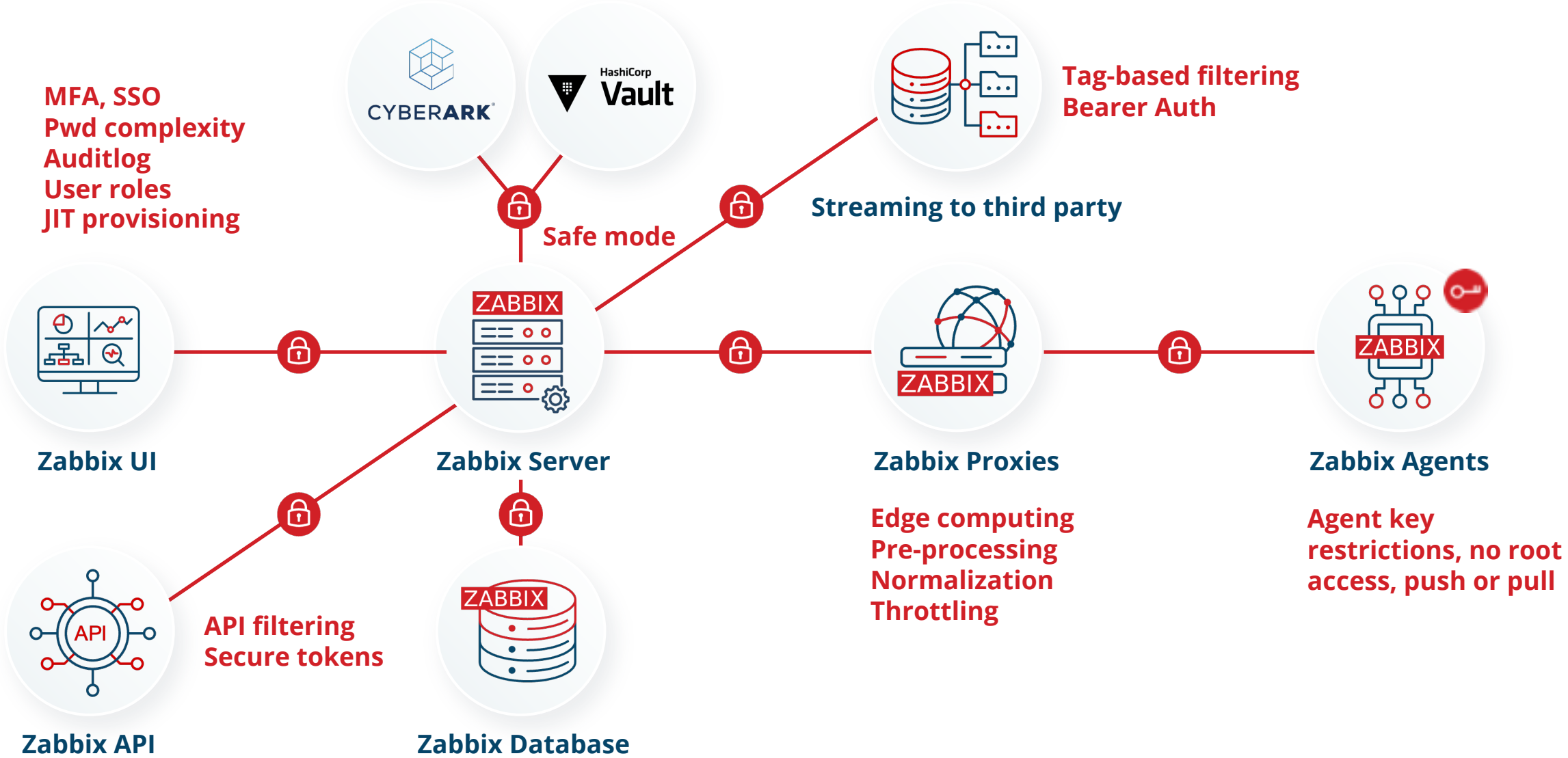
 Google Cloud Platform	 Microsoft Azure Cost Management	 Microsoft Azure Cosmos DB for MongoDB	 Amazon Elastic Container Service	 AWS ELB Application Load Balancer
 Oracle Cloud Infrastructure	 Microsoft SQL by Zabbix agent 2	 Microsoft SQL by ODBC template improvements	 CheckPoint Quantum Security Gateway	 Nextcloud
 Fortinet FortiGate	 HPE iLO	 Cisco SD-WAN	 HashiCorp Nomad	 PostgreSQL by ODBC
 OpenStack Nova	 Acronis Cyber Protect Cloud	 YugabyteDB	 Event-Driven Ansible Webhook	 Mantis Bug Tracker



# Quality and security

Our top priority

# The highest security standards





# Enterprise grade MFA

Time-Based One-Time Password authentication

Duo Universal Prompt authentication

Scan this QR code

Please scan and get your verification code displayed in your authenticator app.

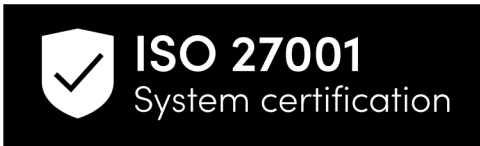


Unable to scan? You can use SHA1 secret key to manually configure your authenticator app:  
BBK2557F77D25HNDIZZSW6QYKPSKPG5

Verification code

Sign in

# Verified by independent researchers



Bounties paid in 2023: ~\$17K

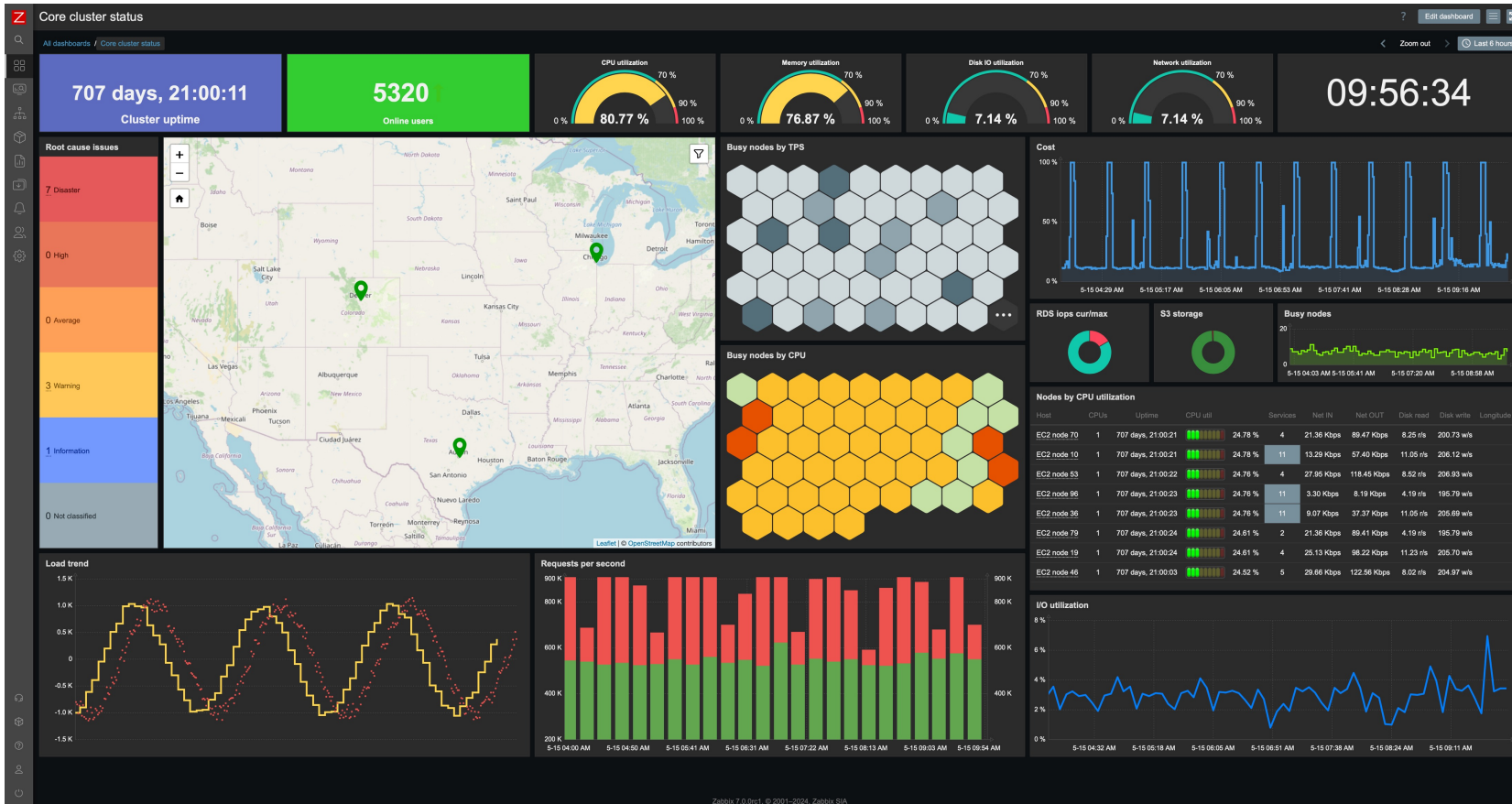
Zabbix ID	CVE number	CVSS score	Zabbix severity	Synopsis
ZBV-2023-07-27-9	CVE-2023-29458	5.9	Medium	Duktape 2.6 bug crashes JavaScript putting too many values in valstack.
ZBV-2023-07-27-8	CVE-2023-29457	6.3	Medium	Insufficient validation of Action form input fields
ZBV-2023-07-27-7	CVE-2023-29456	5.7	Medium	Inefficient URL schema validation
ZBV-2023-07-27-6	CVE-2023-29455	5.4	Medium	Reflected XSS in several fields of graph form
ZBV-2023-07-27-5	CVE-2023-29454	5.4	Medium	Persistent XSS in the user form

Security advisories and CVE database

# A single pane of glass

Total visibility and transparency

# Visualization and reporting



## Zabbix 7.0 LTS

All widgets for host and global dashboards and reporting

Stable framework for widget devs

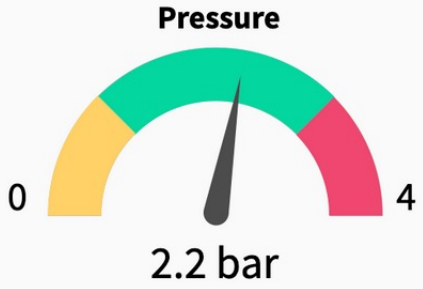
A new set of advanced widgets

Dynamic dashboards for drill-down and specific use cases

# New widgets for real-time viewing and reporting

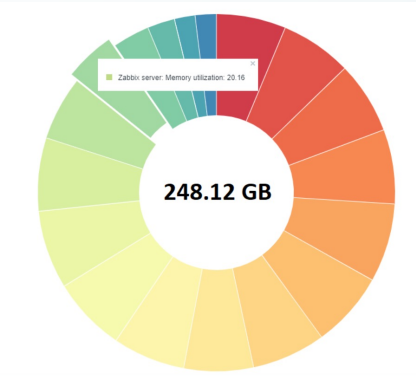
## Core widgets

- Pie & donut charts
- Gauge charts
- Item history



## Reporting

- Capacity reports
- Management reports



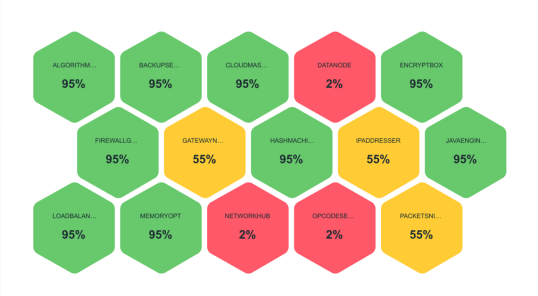
## Widgets navigators

- Host navigator
- Item navigator

Countries	
▶ Estonia	12 105
▼ Germany	3 3
Berlin	3 3
▶ Latvia	9 103
▶ USA	12 105

## Advanced visualization

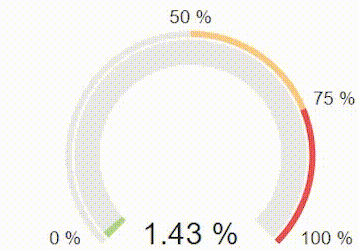
- Honeycombs
- Service trees
- Topology



Resource utilization

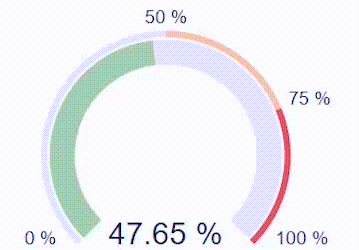


MySQL Node 1: Linux: CPU utilization



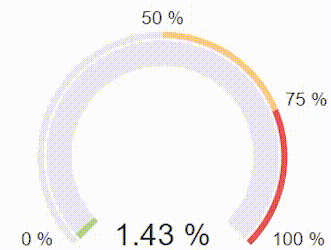
Linux: CPU utilization

MySQL Node 1: Linux: Memory utilization



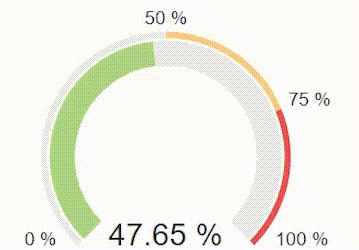
Linux: Memory utilization

MySQL Node 1: Linux: CPU utilization



Linux: CPU utilization

MySQL Node 1: Linux: Memory utilization

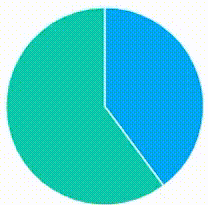


Linux: Memory utilization

Top hosts

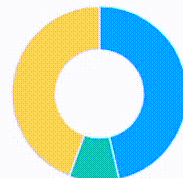
Host	CPU Utilization	Memory Utilization
Docker node 2	3.09 %	70.98 %
Docker node 1	3.09 %	60.83 %
Docker node 3	2.77 %	72.33 %
Web Nginx node 1	2.04 %	78.84 %
Web Apache node 1	1.93 %	57.73 %
Web Nginx node 2	1.93 %	47.55 %
Primary application node	1.88 %	44.50 %
Web Apache node 2	1.85 %	63.23 %
MySQL Node 2	1.48 %	65.38 %
MySQL Node 1	1.43 %	47.65 %

App Node memory usage



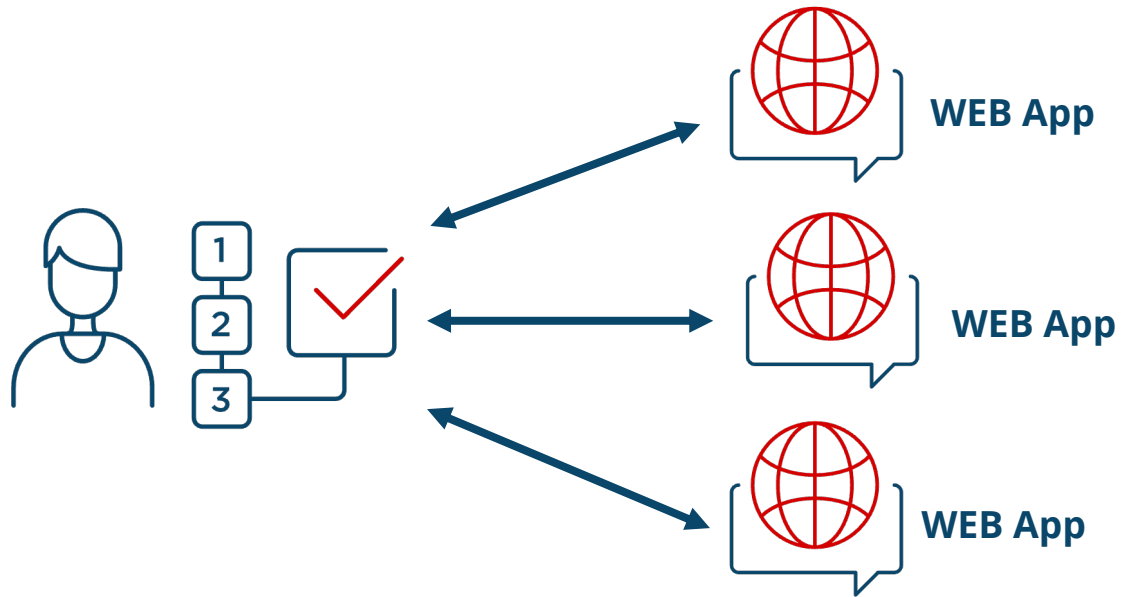
Category	Value
Primary application node: Linux: Total memory	3.56 GB
Primary application node: Linux: Available memory	2.14 GB

App Node CPU time



Category	Value
Primary application node: Linux: CPU user time	0.4958 %
Primary application node: Linux: CPU iowait time	0.09843 %
Primary application node: Linux: CPU system time	0.4745 %

# End-user synthetic WEB monitoring



## Monitoring user experience

End-user experience monitoring for WEB apps

Business scenario monitoring

Multi-step complex monitoring scenario with IF/THEN logic

Get a screenshot of each step

Monitoring of performance, availability and content

New item

Item Tags Preprocessing

\* Name

Type

\* Key

Type of information

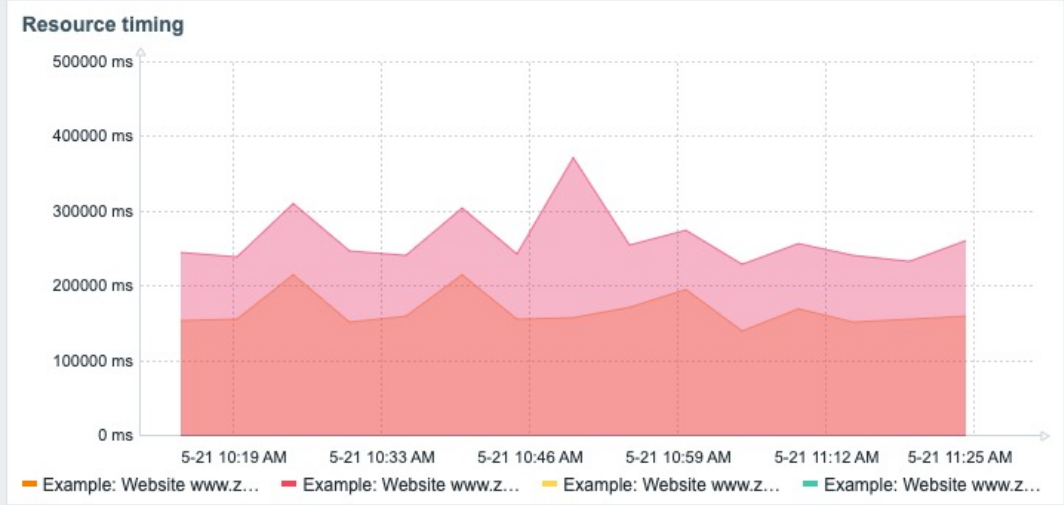
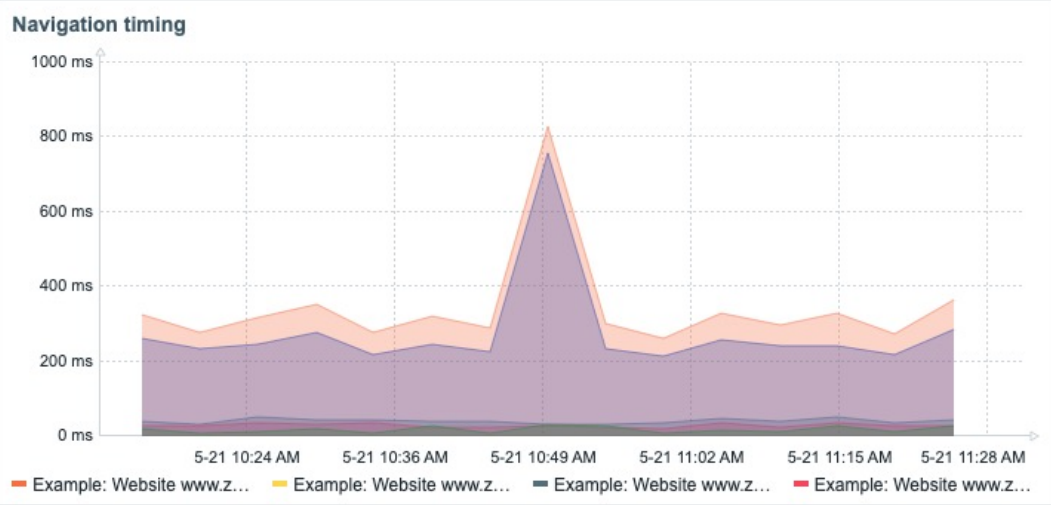
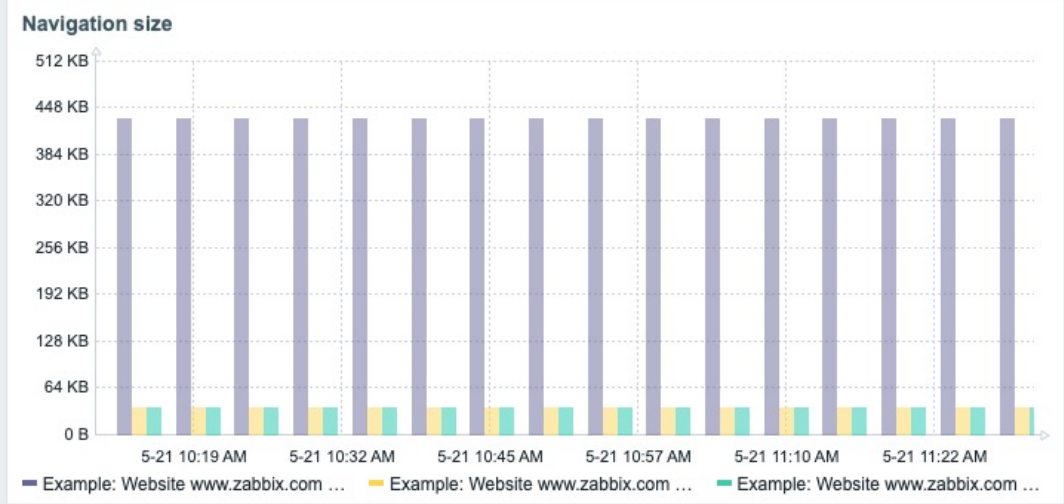
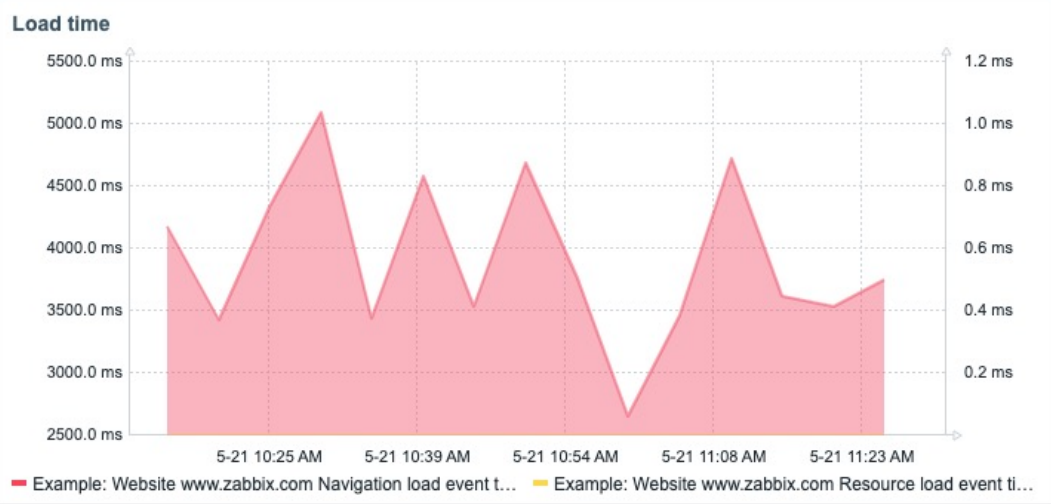
Name	Value	Action
<input type="text"/>	<input type="text"/>	<input type="button" value="Remove"/>

\* Script



# End-user synthetic WEB monitoring

Timestamp	Screenshot
2024-05-21 11:45:05 AM	
2024-05-21 11:40:06 AM	
2024-05-21 11:35:05 AM	
2024-05-21 11:30:05 AM	
2024-05-21 11:25:05 AM	
2024-05-21 11:20:05 AM	
2024-05-21 11:15:04 AM	
2024-05-21 11:10:07 AM	
2024-05-21 11:05:04 AM	





# A single pane of glass

Dashboards

Scheduled PDF reporting

Business service monitoring (BSM)

User roles

Metric processing

Data processing

APM and tracing functionality

OpenTelemetry

Topology data

Processing of streaming data

**Tracing, events, logs, binary**

Visualization and reporting

Visualization of complex data: tracing, flows, etc

Widgets for advanced visualization

Massive usability improvements of Zabbix UI

Custom UI for any use case

Framework for widget development

Zabbix 7.0 LTS

Zabbix 8.0 LTS

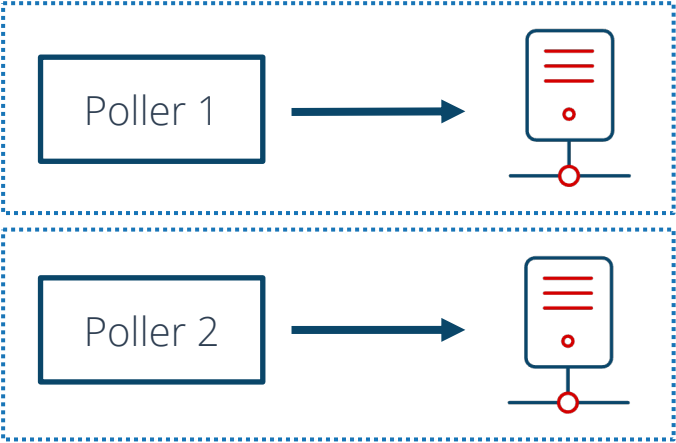
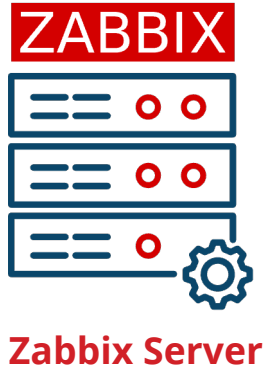


# Scalability and performance

Lower TCO

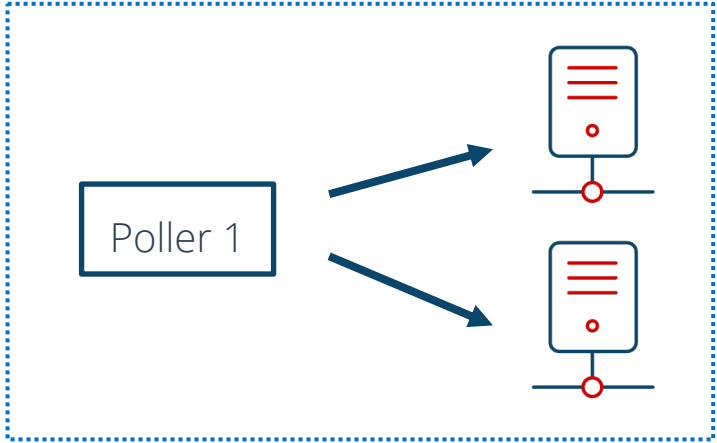
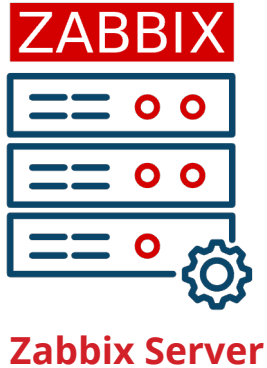
# Performance: transition to async and threads

Now



One connection per poller

7.0 LTS



Thousands of connections per poller

One poller/discoverer to handle **thousands of connections**

Much lower resource usage = lower costs and energy use

Enables **auto-scaling** in the future

# Performance: faster front-end for larger scale



Super admin

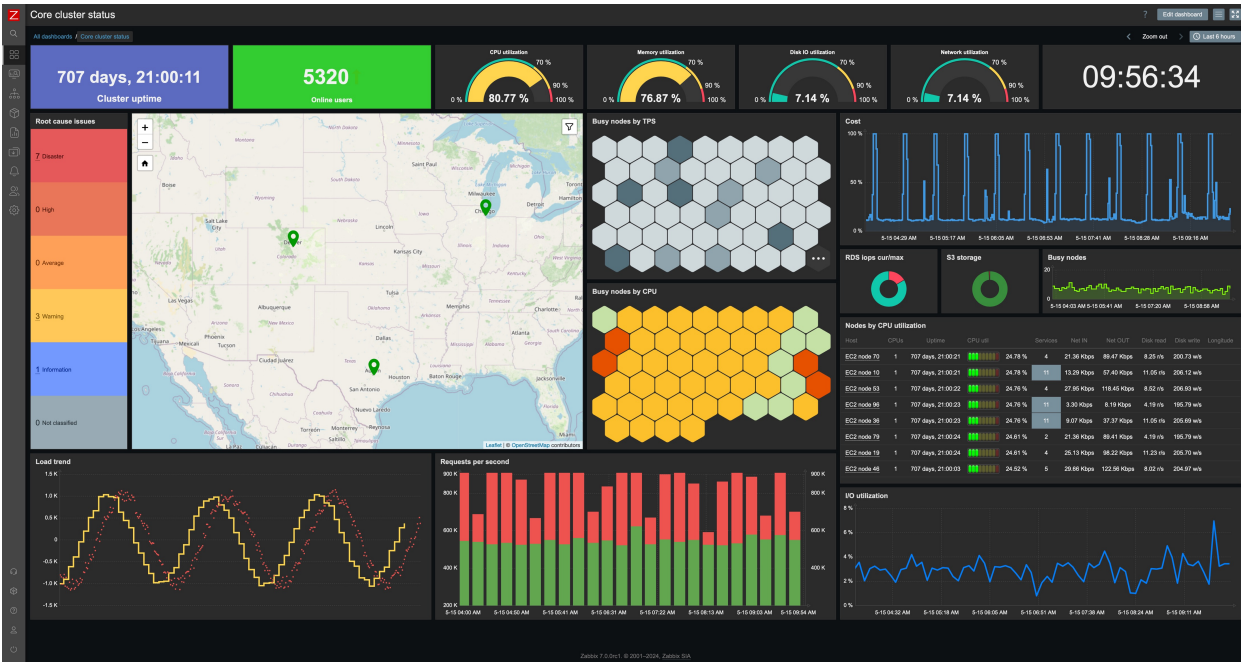
Now

← 0.2s



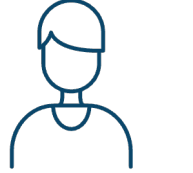
User

← 2-3s  
(too much!)



7.0 LTS

→ 0.2s



Super admin

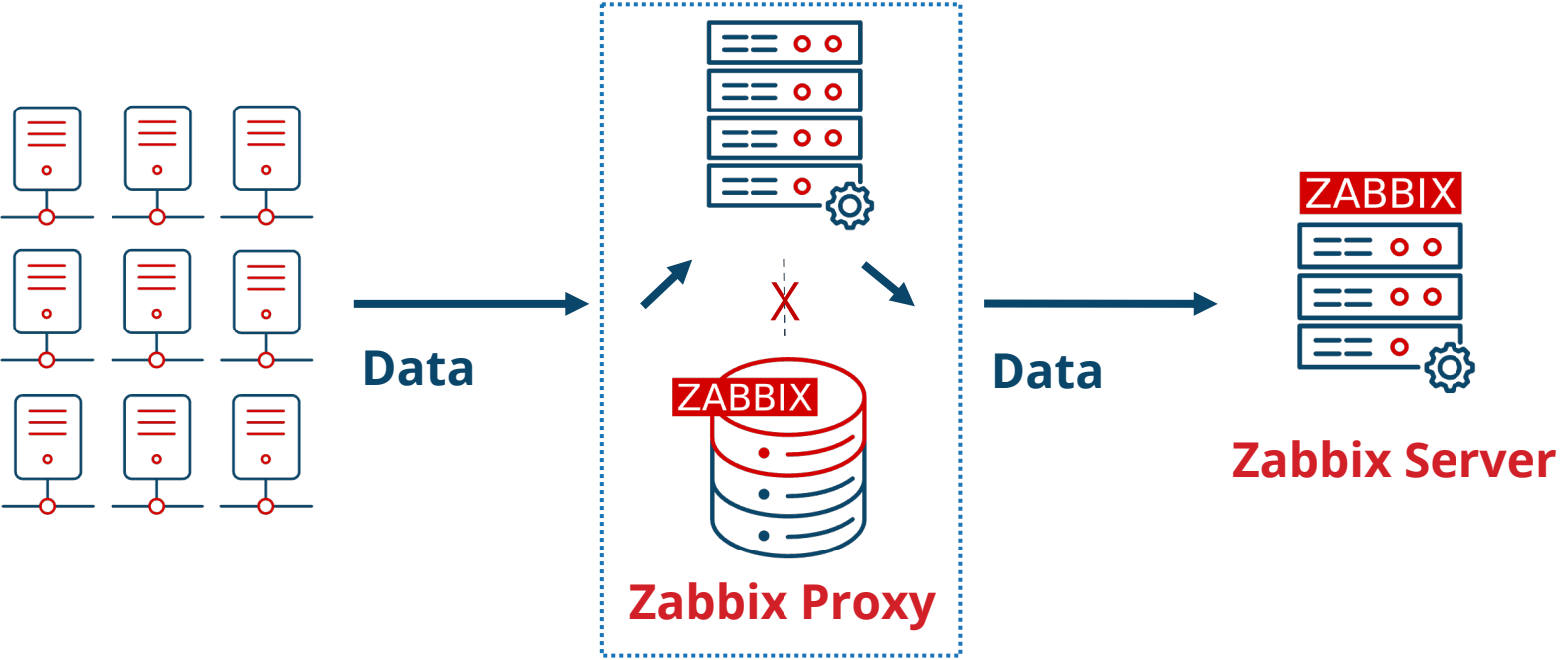
→ 0.2-0.3s



User

10x faster Zabbix UI for non-superadmins

# In-memory data collection mode for proxies

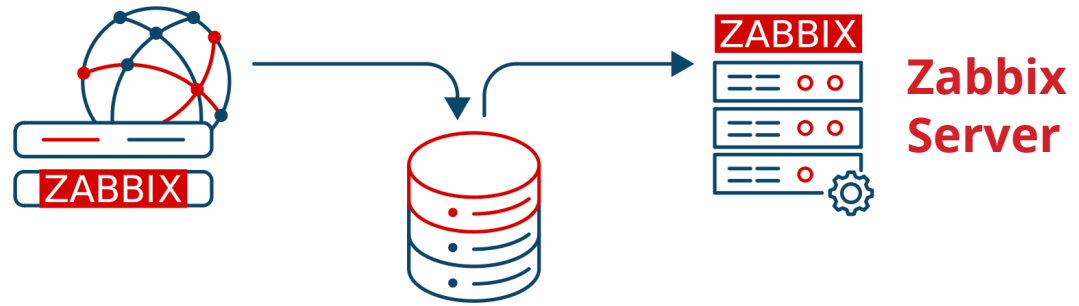


- Less IOPS
- Faster
- Cheaper
- Less energy

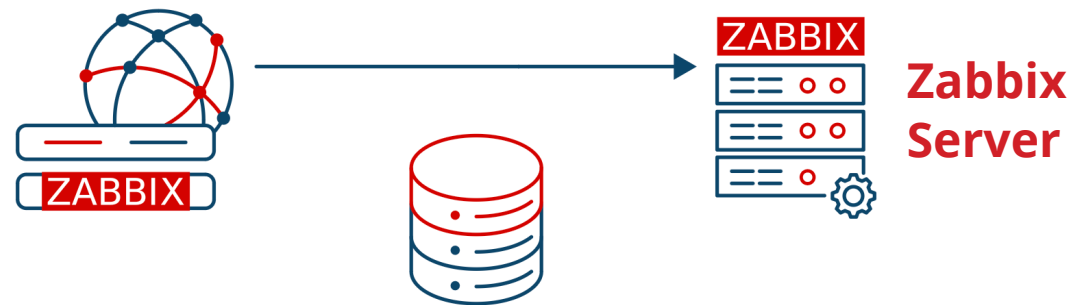


# Various modes

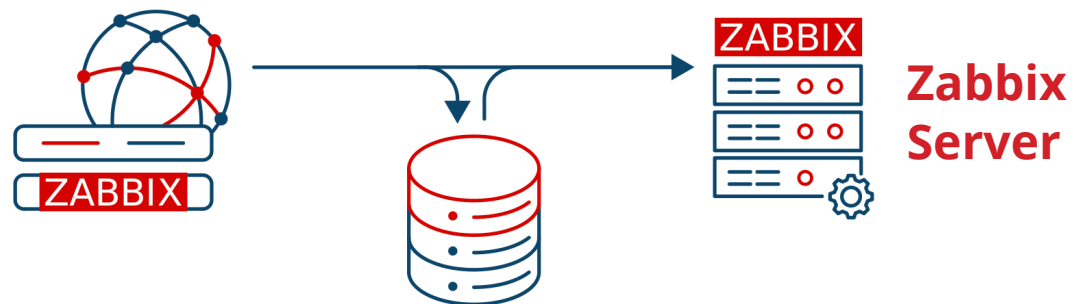
Disk  
mode



Memory  
mode



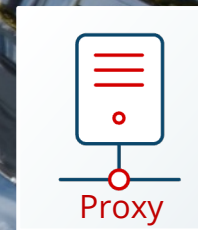
Hybrid  
mode



# Zabbix Proxy in the space



European Space Agency

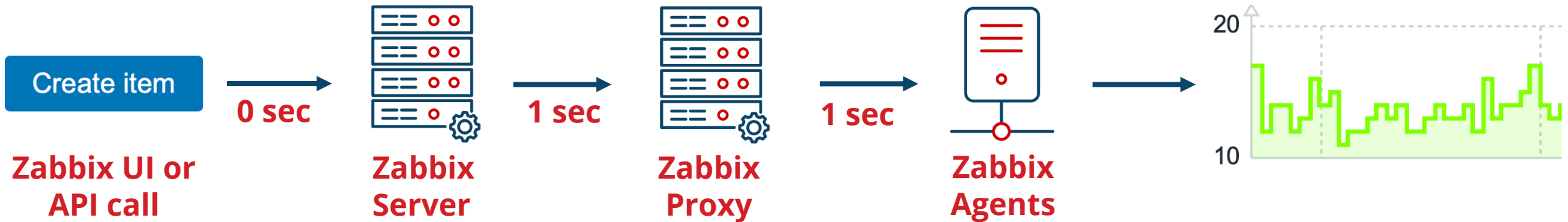


# Instant configuration update

Incremental updates of configuration changes

New items are now checked **within a minute** after creation

Extreme responsiveness!





# Centralized management of ITEM timeouts

- GUI
- Autoregistration
- Timeouts**
- Images
- Icon mapping
- Regular expressions
- Trigger displaying options
- Geographical maps
- Modules
- Connectors
- Other

Timeouts for item types

- \* Zabbix agent 4s
- \* Simple check 4s
- \* SNMP agent 4s
- \* External check 4s
- \* Database monitor 4s
- \* HTTP agent 4s
- \* SSH agent 4s
- \* TELNET agent 4s
- \* Script 4s

Network timeouts for UI

- \* Communication 3s
- \* Connection 3s
- \* Media type test 65s
- \* Script execution 60s
- \* Item test 60s
- \* Scheduled report test 60s

[Update](#) [Reset defaults](#)

Proxy Encryption Timeouts

Timeouts for item types [Global](#) [Override](#) [Global timeouts](#)

- \* Zabbix agent 4s
- \* Simple check 4s
- \* SNMP agent 4s
- \* External check 4s
- \* Database monitor 4s
- \* HTTP agent 4s
- \* SSH agent 4s
- \* TELNET agent 4s
- \* Script 4s

Custom intervals

Type	Interval
<a href="#">Flexible</a> <a href="#">Scheduling</a>	50s

[Add](#)

Timeout	3s	<a href="#">Change Timeouts</a>
---------	----	---------------------------------

\* History storage period [Do not keep history](#) [Storage period](#) 7d

Global

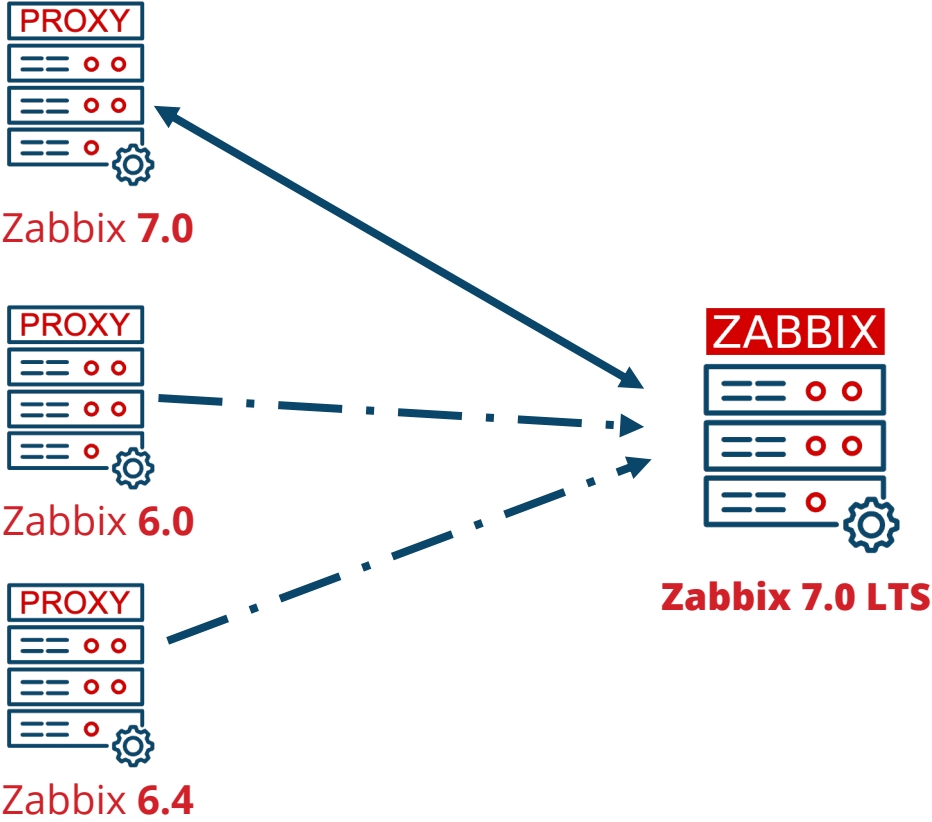
Proxy

Item

Global, proxy, and item-level timeouts managed from Zabbix UI

More secure - no need to deal with \*.conf

# Zero-downtime upgrade of proxies



<input type="checkbox"/>	Name ▲	Mode	Encryption	Version	Last seen (age)	Host count
<input type="checkbox"/>	proxy-dmz	Passive	PSK	6.4.0 <i>i</i>	0	153

Proxy version is outdated, only data collection and remote execution is available with server version 7.0.0.

### Zabbix 6.4:

Older proxies will continue to process data

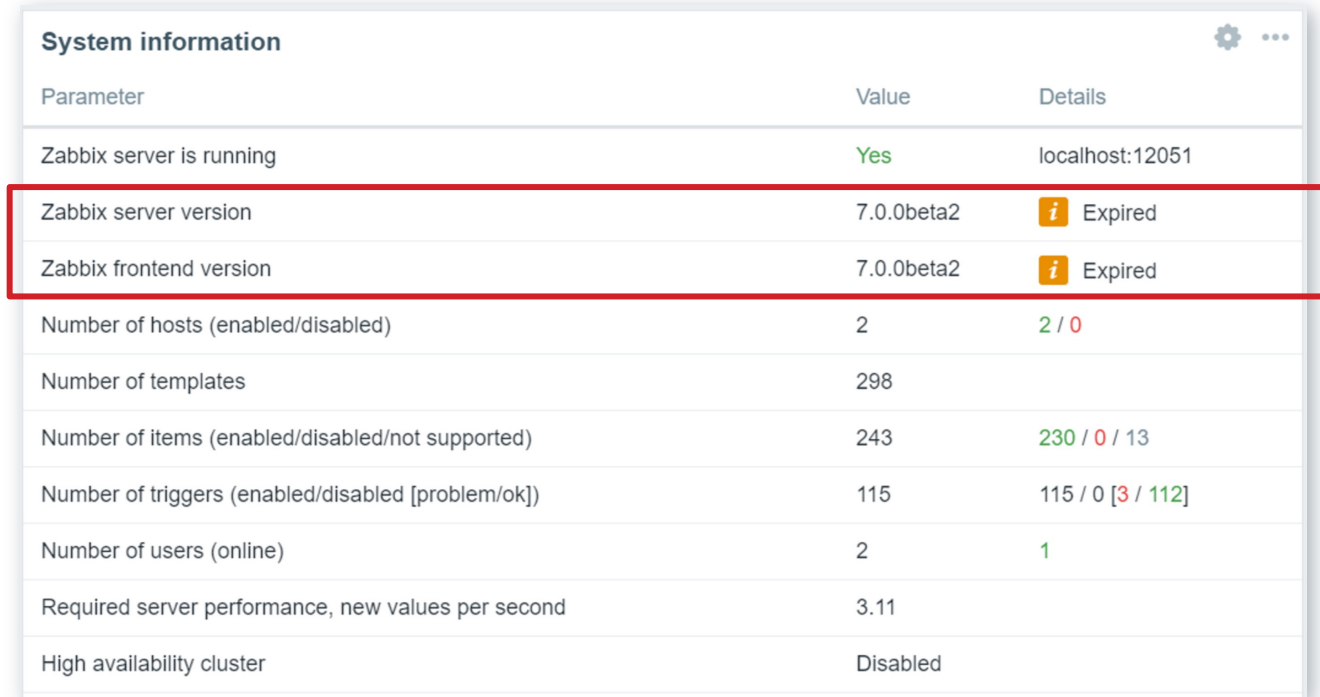
Creates a longer time window for upgrade





You can observe versions of your proxies in UI

# Informing users about available upgrades

Support state

Available upgrades



System information  		
Parameter	Value	Details
Zabbix server is running	Yes	localhost:12051
Zabbix server version	7.0.0beta2	 Expired
Zabbix frontend version	7.0.0beta2	 Expired
Number of hosts (enabled/disabled)	2	2 / 0
Number of templates	298	
Number of items (enabled/disabled/not supported)	243	230 / 0 / 13
Number of triggers (enabled/disabled [problem/ok])	115	115 / 0 [3 / 112]
Number of users (online)	2	1
Required server performance, new values per second	3.11	
High availability cluster	Disabled	

# Reducing operating costs

Network discovery

Auto-registration

Low-level discovery (LLD)

JIT user provisioning

and much more!

## **Reduce maintenance costs**

Zero-downtime upgrade of proxies

Template versioning

Automatic up/down-scaling

## **Centralized management**

**A gentle learning curve, better UI/UX**

## **Performance**

Transition to threads

Perfect vertical and horizontal scalability

## **A more efficient history storage engine**

Lower HW (CPU, memory, storage) requirements

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**Zabbix 8.0 LTS**

# Real-time data streaming

Connectors for real-time streaming of metrics and events



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Zabbix 8.0 LTS

# Pushing metrics to Zabbix

Integrate your scripts and application with Zabbix



# Python library zabbix\_utils

## pip install Zabbix\_utils

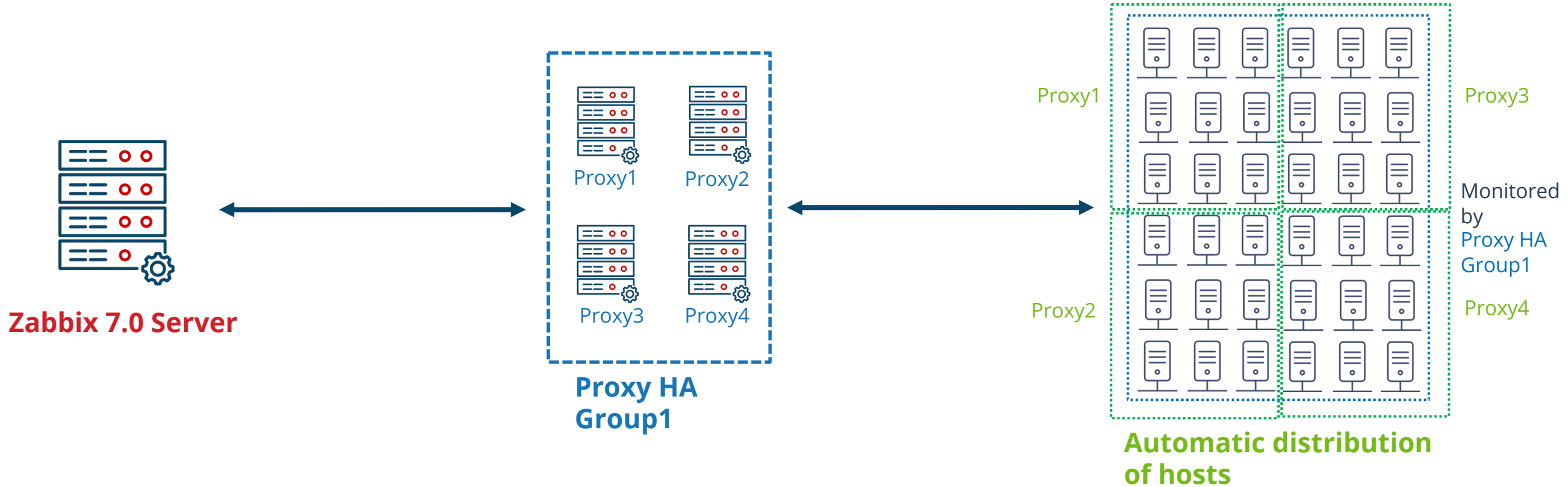
```
# Use an authentication token generated via the web interface or
# API instead of standard authentication by username and password.
ZABBIX_AUTH = {
    "url": "127.0.0.1",
    "token": "8jF7sGh2Rp4TlQ1ZmXo0uYv3Bc6AiD9E"
}

# Create an instance of the ZabbixAPI class with the specified authentication details
api = ZabbixAPI(**ZABBIX_AUTH)

# Retrieve a list of users, including their user ID and name
users = api.user.get(
    output=['userid', 'name']
)

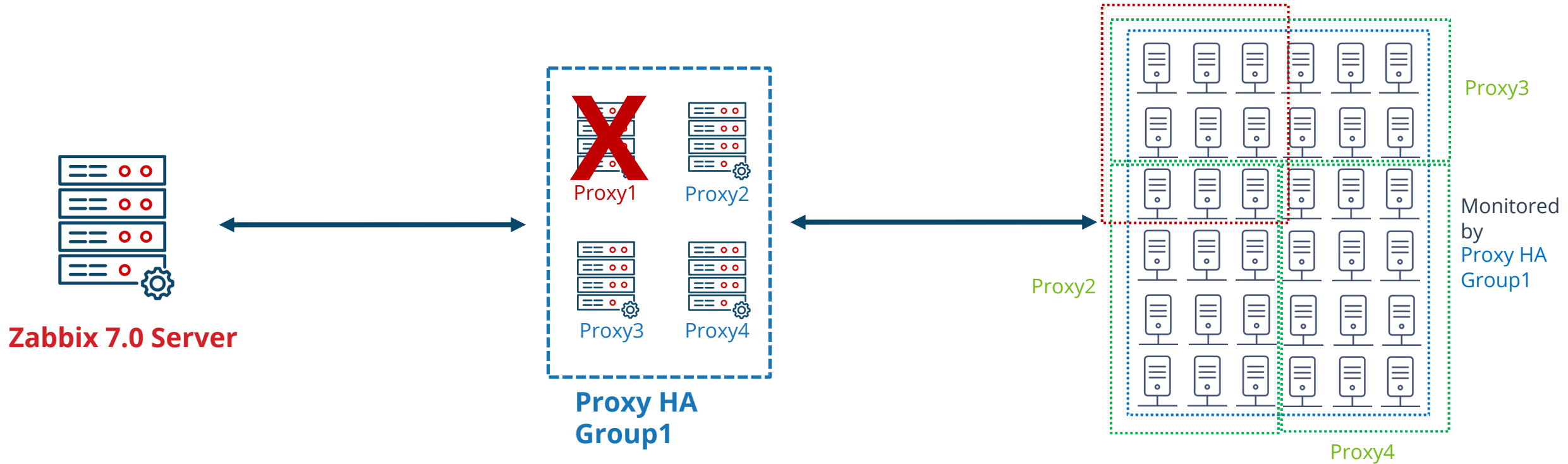
# Print the names of the retrieved users
for user in users:
    print(user['name'])
```

# Proxy load balancing and HA





# Proxy load balancing and HA



High availability of proxies

Load balancing: automatic distribution of hosts across a group of proxies

Auto-scaling of proxies in a K8S environment



Create proxy group

Filter

Name

State **Any** Online Degrading Offline Recovering

Apply Reset

<input type="checkbox"/>	Name ▲	State	Failover period	Online proxies	Minimum proxies	Proxies
<input type="checkbox"/>	Amsterdam		1m	0	3	
<input type="checkbox"/>	Berlin	Unknown	1m	0	1	1 proxy08
<input type="checkbox"/>	London	Offline	3m	0	1	1 proxy09
<input type="checkbox"/>	Paris	Recovering	5m	2	3	3 proxy10, proxy11, proxy12
<input type="checkbox"/>	Riga	Online	5m	5	5	6 proxy01, proxy02, proxy03, proxy04, proxy05, proxy06
<input type="checkbox"/>	Warsaw	Degrading	5m	3	3	3 proxy13, proxy14, proxy15

Displaying 6 of 6 found

0 selected

# Advanced DNS monitoring

**net.dns.get**

**net.dns.perf**

DNS and DNSSEC

response time

availability

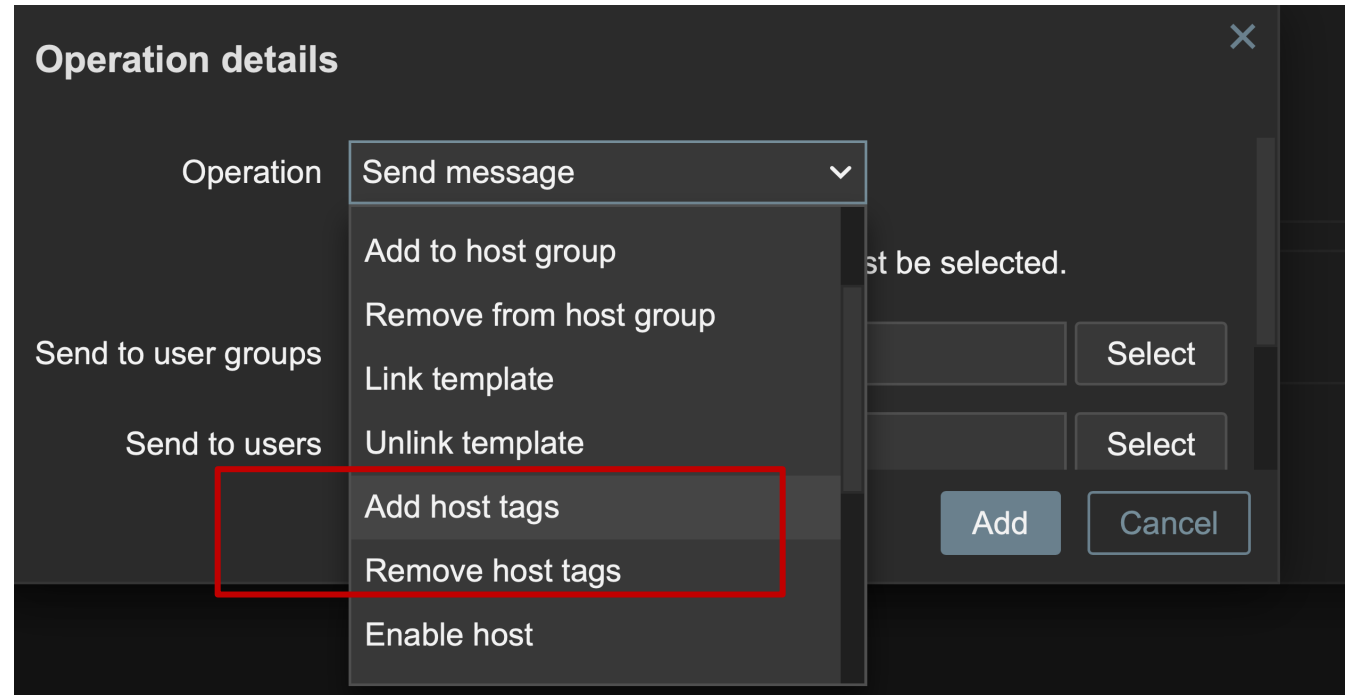
DNS record details

```
{
  "answer_section": [
    {
      "class": "IN",
      "name": "example.com.",
      "rdata": {
        "expire": 1209600,
        "mbox": "noc.dns.example.org.",
        "minttl": 3600,
        "ns": "ns.example.org.",
        "refresh": 7200,
        "retry": 3600,
        "serial": 2022091378
      },
      "rdlength": 44,
      "ttl": 1205,
      "type": "SOA"
    }
  ],
  "flags": [
    "RA"
  ],
  "query_time": "0.02",
}
```

# Manage tags for discovered hosts

Different tags for different:

- services
- networks
- devices classes



# User input for scripts

Asking user for options:

- select operation
- select additional parameters
- enter a string  
(regexp validated)

Advanced configuration

Enable user input

\* Input prompt

Input type

\* Dropdown options

Enable confirmation

Confirmation text

# Other notable enhancements

[ZBXNEXT-8702] Host groups created by LLD can be shared

[ZBXNEXT-5120] Support of macro functions for all user & built-in macros

[ZBXNEXT-8735] Filtering by value type and configurable retries for connectors

[ZBXNEXT-5380] New action “Add/remove host tag” for discovery and auto-reg actions

[ZBXNEXT-8760] Configurable media types for users provisioned by JIT

+ much more!

Check **Release Notes** for much more new features!



# Extremely adaptable

Solution for any use case

# More ways to adapt and extend



Agent plugins, scripts

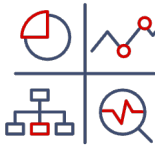
\* Name

Protocol

Data type

\* URL

Streaming data and events



Process any data types: events, tracing, logs, binary

- GUI
- Autoregistration
- Timeouts
- Images
- Icon mapping
- Regular expressions
- Trigger displaying options
- Geographical maps
- Modules
- Connectors
- Other

UI modules

Scope

Type

Scripts, manual and automatic actions



Custom UI

\* Name

Protocol

Data type

Data ingestion

1:

2:

3:

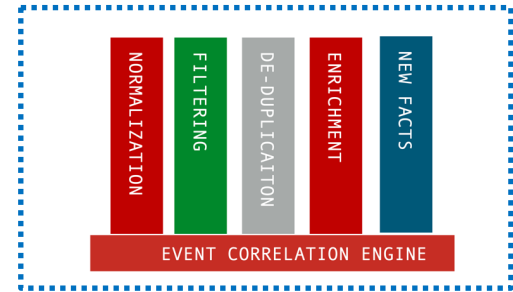
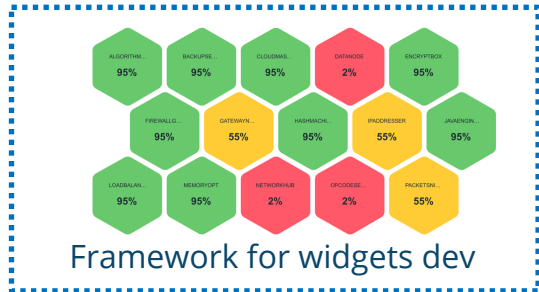
Pre-processing

Media type

\* Name

Type

Webhooks





# 7.0 LTS

Dynamic dashboards

Data publishing

Next-generation  
visualization

Synthetic WEB monitoring

Proxy load balancing

# 7.x

Advanced event correlation

OpenTelemetry and tracing

Streaming data

Custom inventory

Custom UI

# 8.0 LTS

Ultimate observability platform

APM and compliance monitoring

Event and Log management

Management functions

**ZABBIX** 7.0

**THANK YOU!**

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