

Zabbix: current state and the future

ZABBIX '23

CONFERENCE

JAPAN



Zabbix SIA

ALEXEI VLADISHEV
FOUNDER, CEO

#ZabConfJp2023

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

ZABBIX

A Universal Free and Open Source
Enterprise-level Monitoring Solution

Single pane of glass for IT and OT

An ultimate monitoring and observability solution

Extremely adoptable for all possible use cases

Lowest TCO

Superb visualization and reporting

Built-in ML and AI for anomaly detection and operations

Highly scalable (downscaling and upscaling)

Strategy



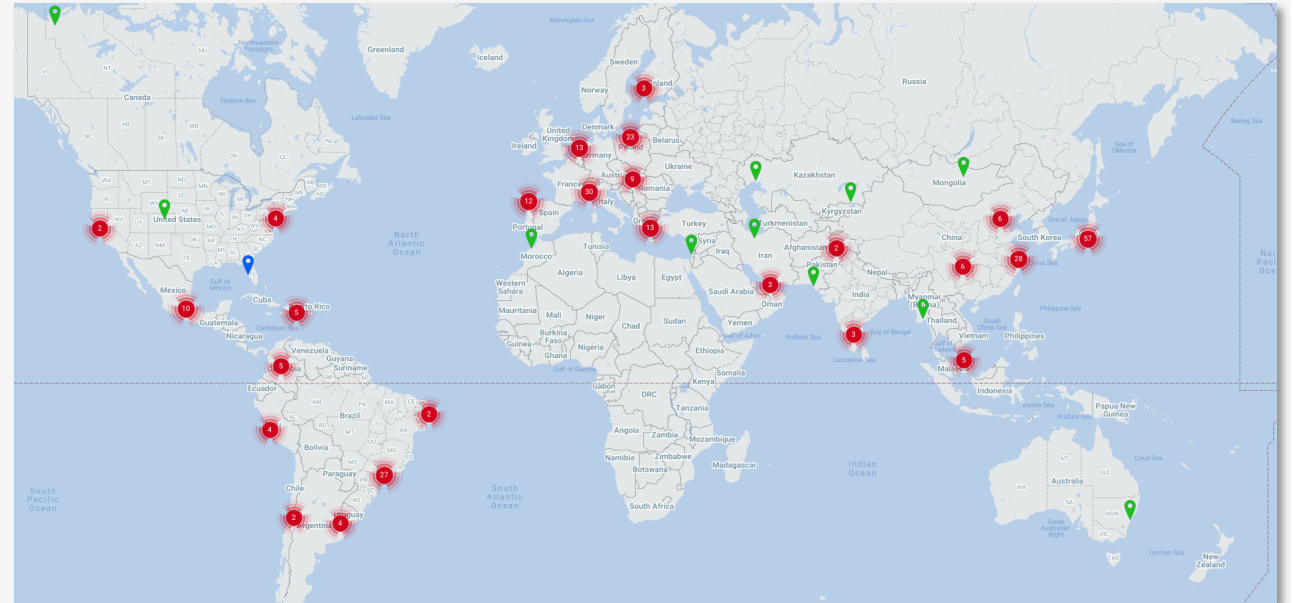
Staying Open Source

Inclusive solution

STEADY GROWTH



150+ Zabbix Team members

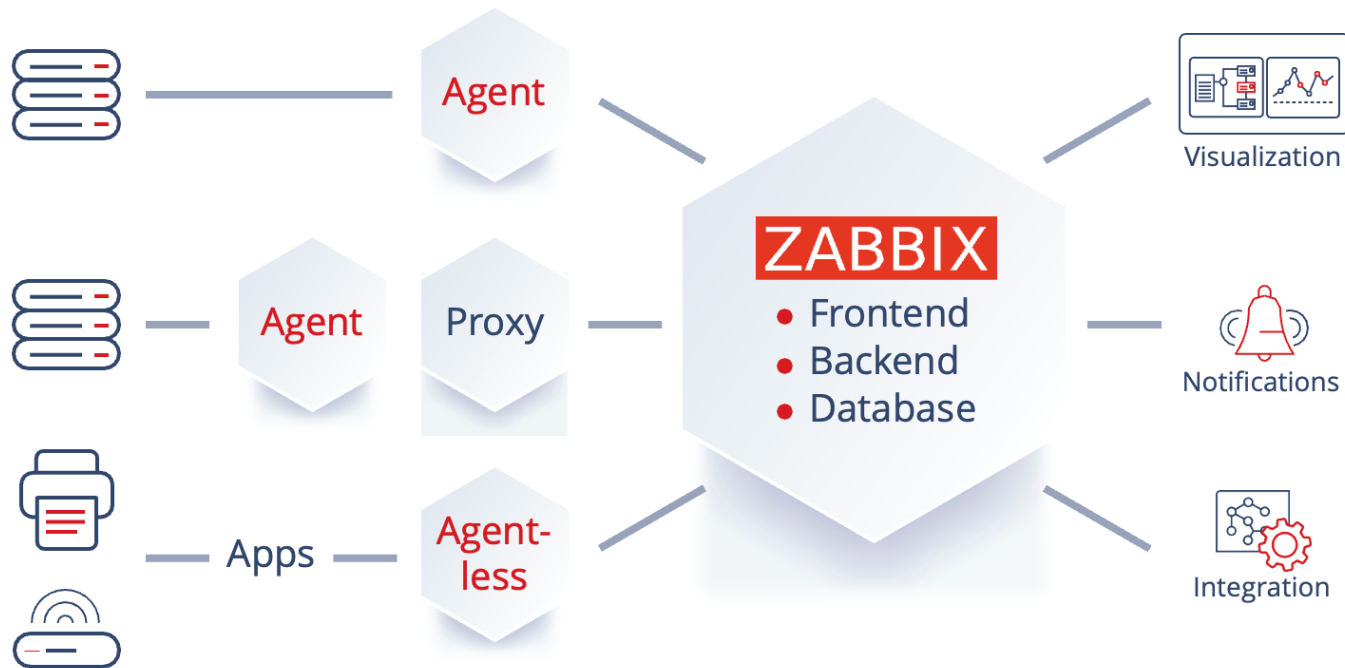


250+ Partners around the World

All-in-one platform

One product to cover it all

Collect → Analyze → React & 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

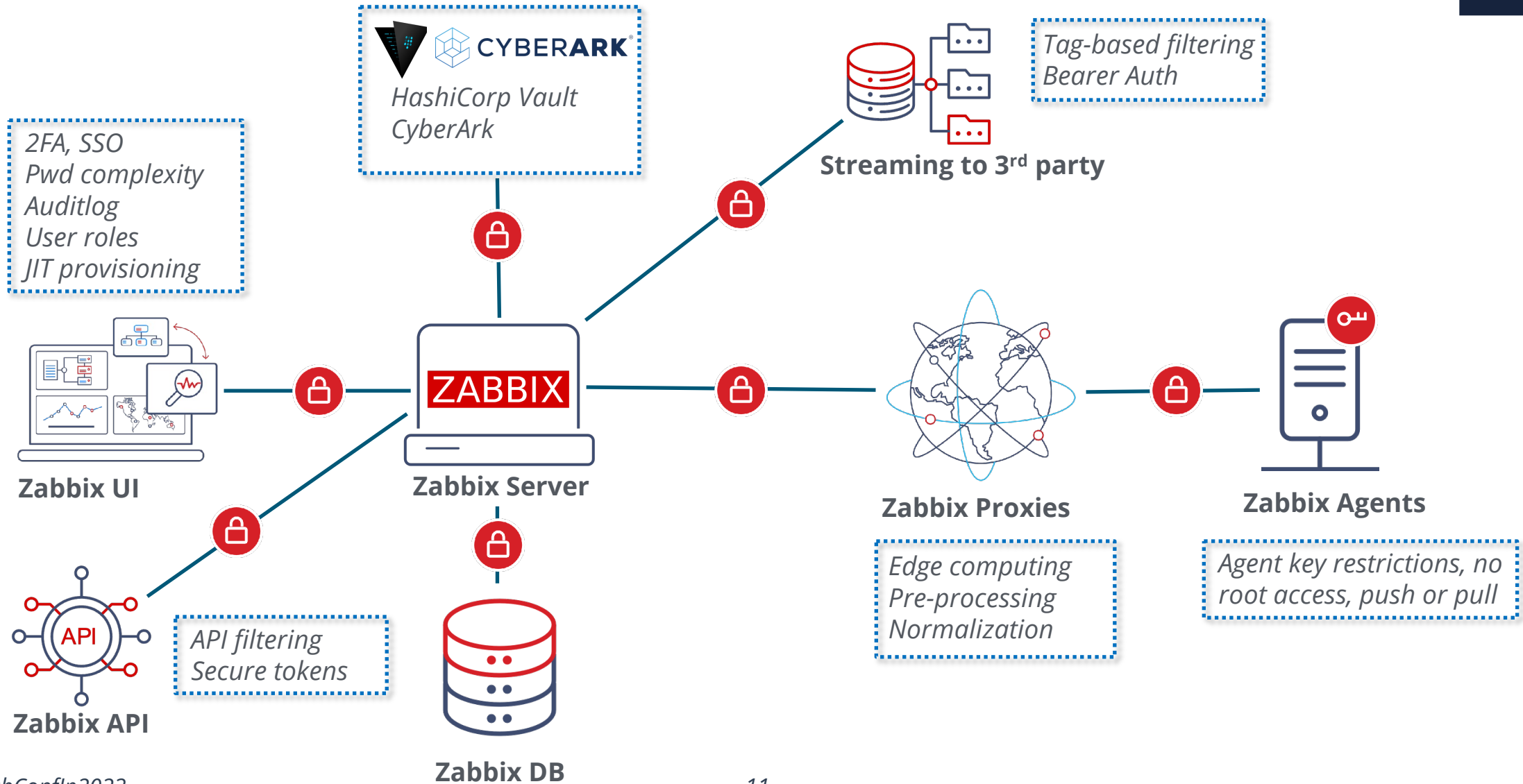
Business services
SLA/SLI
Synthetic
Cloud
K8S
OpenShift
Containers
APIs
WEB
User experience
Applications
Processes
OS
Environment
Hardware
Industrial
Network devices
IoT and sensor data

zabbix.com/integrations

Quality and security

Top priority

HIGHEST SECURITY STANDARDS



VERIFIED BY INDEPENDENT RESEARCHERS

ISO 27001



Bounties paid in 2023: **\$16K**

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

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

New set of advanced widgets

Dynamic dashboards for drill down and specific use cases



NEW WIDGETS FOR REAL-TIME AND REPORTING

Core widgets

Pie and donut charts

Gauge charts

Reporting

Capacity reports

Management reports

Widgets navigators

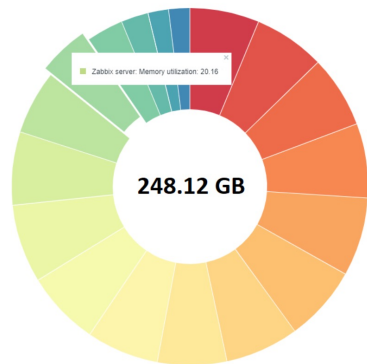
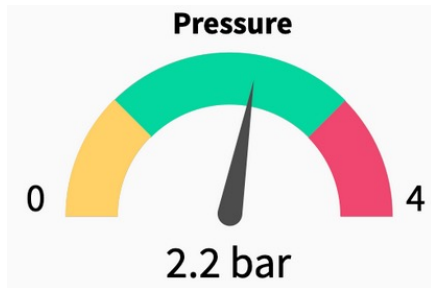
Host navigator

Item navigator

Advanced visualization

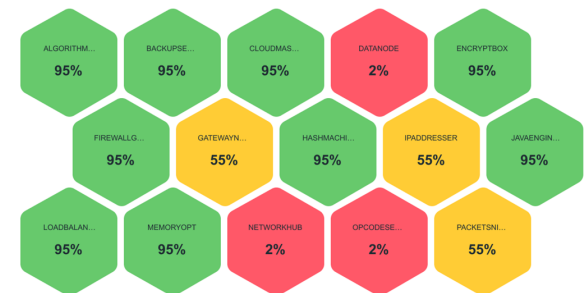
Honeycombs

Service trees



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

Topology



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 6.0 LTS

Zabbix 7.0 LTS

Zabbix 8.0 LTS

Reducing operating costs

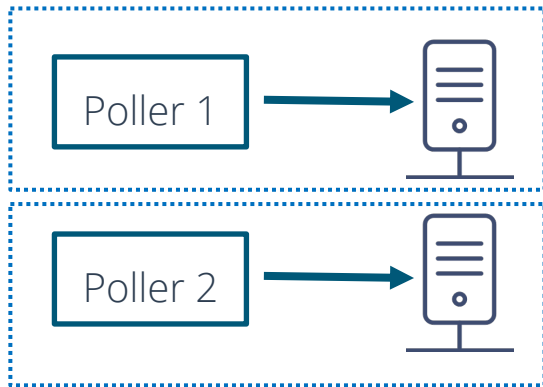
It is not only about performance!

PERFORMANCE: TRANSITION TO ASYNC AND THREADS

Now



Zabbix Server

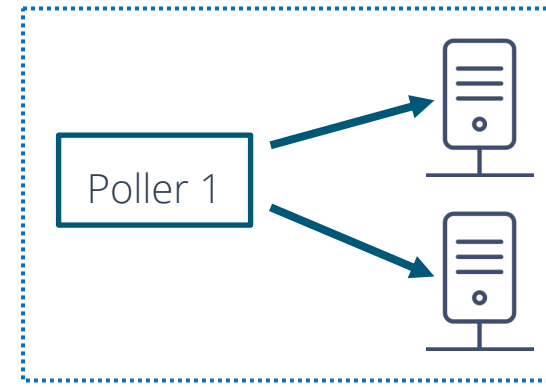


One connection per poller

7.0 LTS



Zabbix Server



Thousands of connections per poller

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

Much lower resource usage thus lower cost and energy use

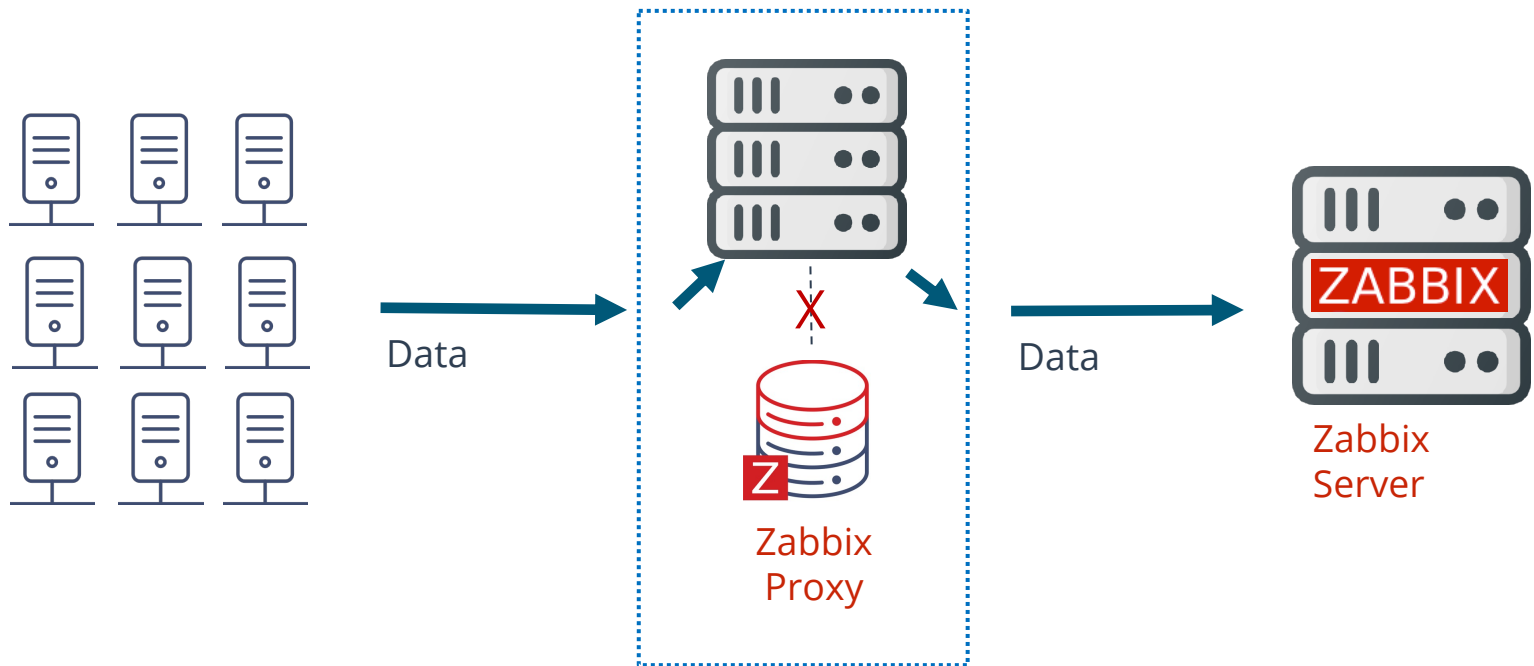
Enables **auto-scaling** in the future

PERFORMANCE: FASTER FRONT-END FOR LARGE SCALE

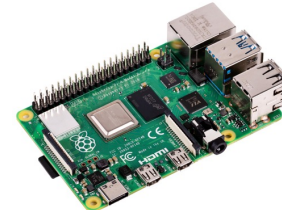


10x faster permission checks for non-superadmins

IN-MEMORY DATA COLLECTION MODE FOR PROXIES



Less IOPS
Faster
Cheaper
Less energy



CENTRALISED 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
- * Simple check
- * SNMP agent
- * External check
- * Database monitor
- * HTTP agent
- * SSH agent
- * TELNET agent
- * Script

Network timeouts for UI

- * Communication
- * Connection
- * Media type test
- * Script execution
- * Item test
- * Scheduled report test

Proxy

Proxy Encryption Timeouts

Timeouts for item types Global **Override** Global timeouts

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

Item

Custom intervals

Type	Interval
Flexible Scheduling	50s
Add	
Timeout	3s Change Timeouts
* History storage period	Do not keep history Storage period 7d

Global
Global, Proxy and Item level timeouts managed from Zabbix UI

More secure: no need to deal with configuration files

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 and SSO
A gentle learning curve, better UI/UX

Performance
Transition to threads
Perfect vertical and horizontal scalability
More efficient history storage engine
Lower HW (CPU, memory, storage) requirements

Zabbix 6.0 LTS

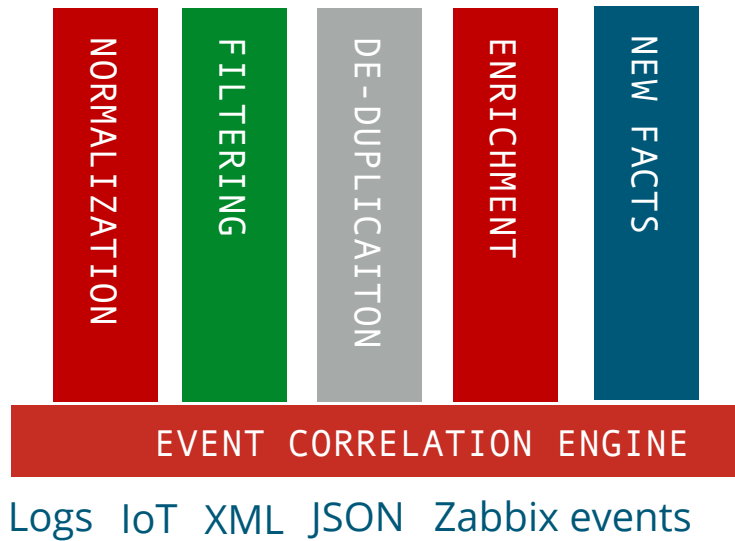
Zabbix 7.0 LTS

Zabbix 8.0 LTS

Complex event processing

Root cause analysis and noise reduction

ADVANCED EVENT CORRELATION



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Normalization and noise reduction

Tag based event pre-processing

Time window filtering & de-duplication

Generation of new facts

Event correlation

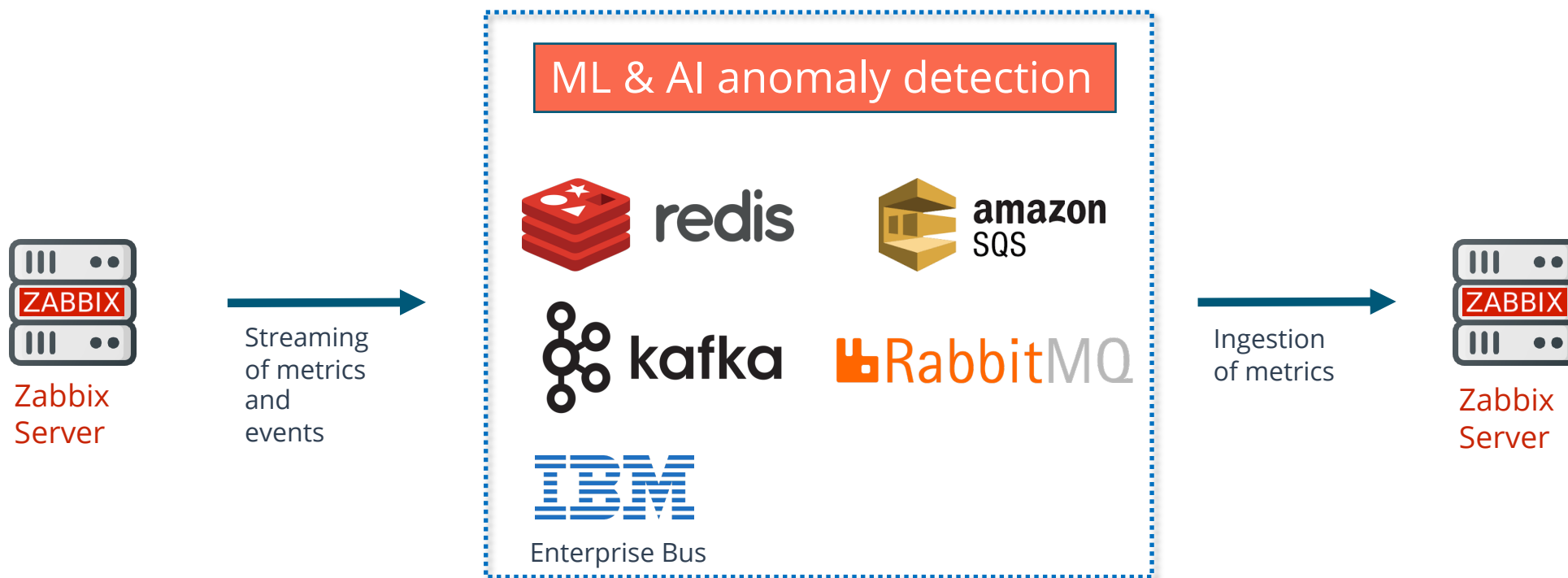
Automatic classification of events

Root-cause analysis

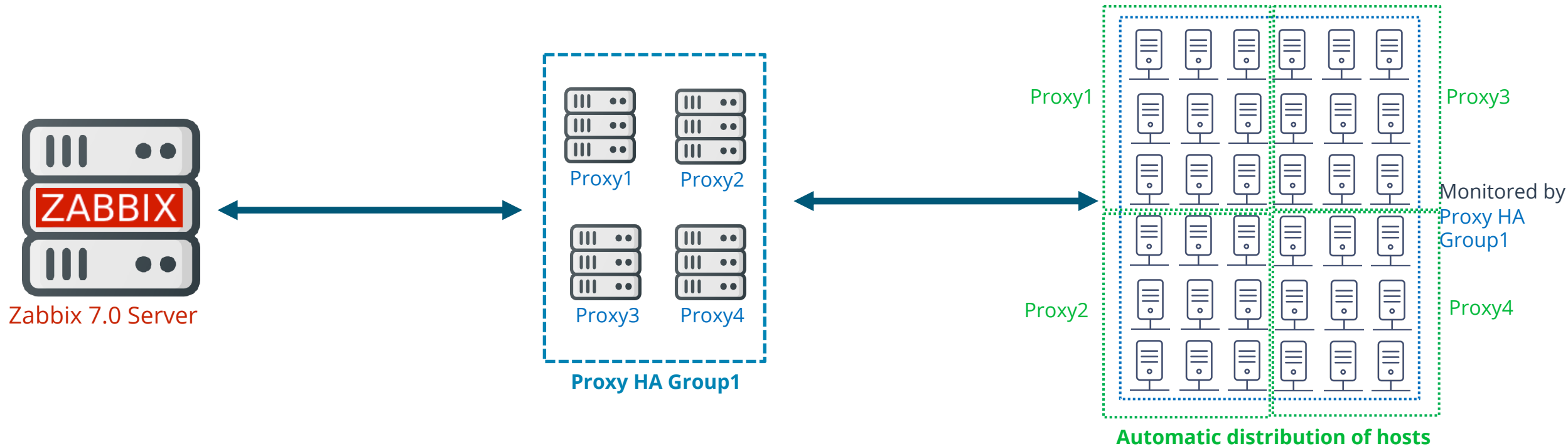
Time and topology-based correlation

REAL-TIME DATA **STREAMING AND INGESTION**

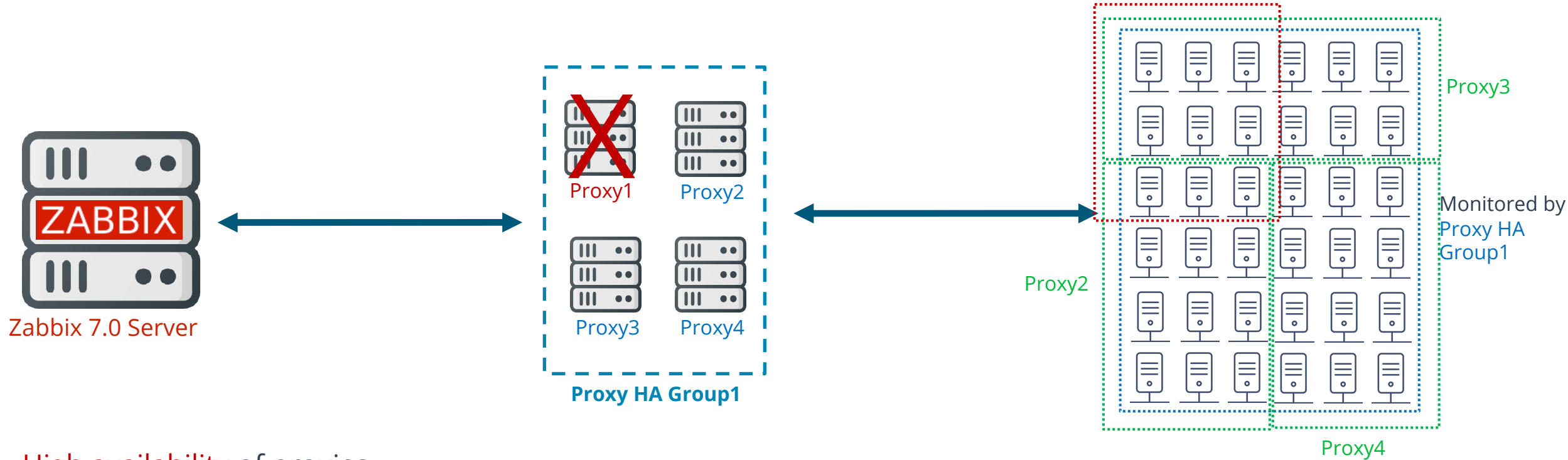
Connectors and webhooks for real-time streaming and ingestion of metrics and events



PROXY LOAD BALANCING AND HA



PROXY LOAD BALANCING AND HA



High availability of proxies


Load balancing: automatic distribution of hosts across group of proxies

Auto-scaling of proxies in K8S environment

Extremely adoptable

Solution for any use case

MORE WAYS TO ADOPT 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:

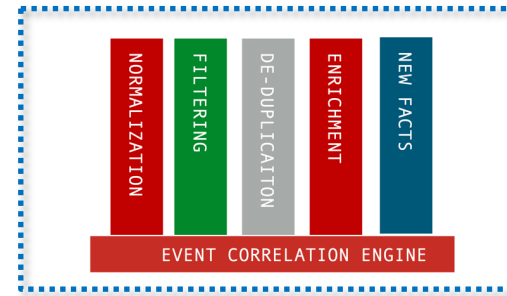
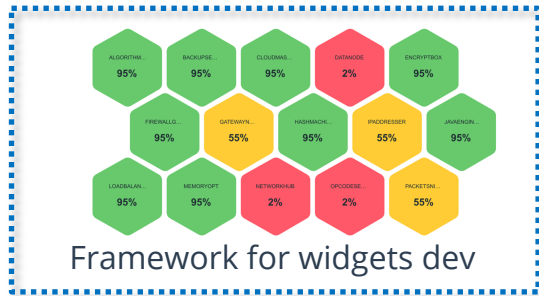
Pre-processing

Media type Options

* Name

Type

Webhooks



Zabbix 6.0 LTS

Zabbix 7.0 LTS

Zabbix 8.0 LTS



7.0 LTS

Dynamic dashboards
Data ingestion
Event correlation engine
Synthetic monitoring
Proxy load balancing

7.x

Next generation visualization
Advanced event correlation
OpenTelemetry and tracing
Custom inventory
Custom UI

8.0 LTS

Ultimate observability platform
APM and compliance monitoring
Event and Log management
Use of AI and ML for advanced anomaly detection and operations
Management functions

Thank you!

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