ZABBIX

Zabbix product overview

ZABBIX

ZABBIX is an open source enterprise-level monitoring solution designed to monitor millions of metrics in real time, collected from tens of thousands of servers, virtual machines, network devices and applications

- ✓ Over 300 000+ installation worldwide.

- ✓ ZABBIX is trusted by customers all over the globe.

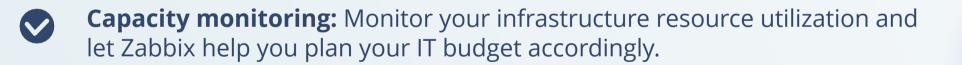# WHAT TO MONITOR?

ZABBIX

Solutions for different industries, application areas and use cases

✓ **Access control:** Monitor changes in room temperature, use of access cards and other sensors and logs.

✓ **KPI monitoring:** Use collected metrics to create dashboards for your business KPI monitoring: number of web visitors, number of purchases, amount of devices manufactured per hour, etc.

✓ **Capacity monitoring:** Monitor your infrastructure resource utilization and let Zabbix help you plan your IT budget accordingly.

✓ **Configuration monitoring:** Use Zabbix to enable monitoring of software versions, keep track of installed applications and updates

✓ **Inventory monitoring:** Utilize Zabbix to manage the inventory of your devices – hardware , software serial numbers and much more!
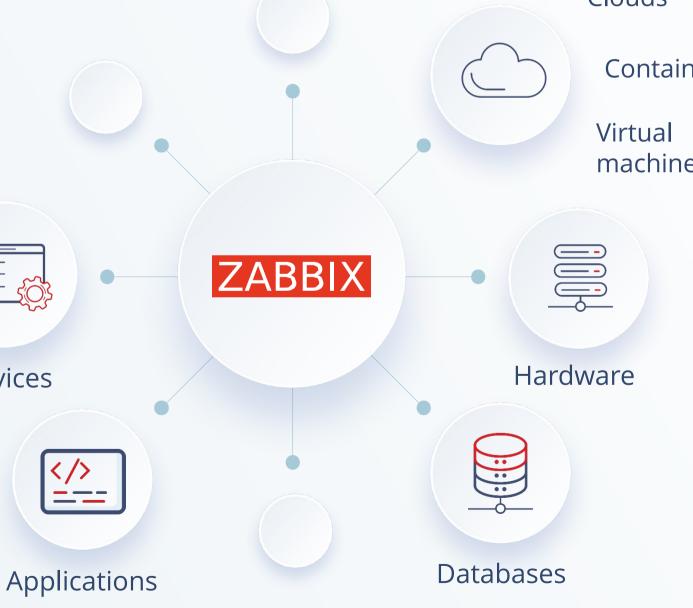
✓ **Security monitoring:** Monitor security risks by monitoring network ports, malicious software, password files and other security entities.

Clouds

Containers

Virtual machines

ZABBIX

Services

Hardware

Applications

Databases

BASIC ARCHITECTURE

ZABBIX

ZABBIX SERVER BACKEND

- ✓ Core process responsible for data collection and analysis
- ✓ Can be deployed on Linux, BSD, Raspbian and other Unix-like operating systems
- ✓ Native Zabbix server high availability cluster

DATABASE

- ✓ Data and configuration storage
- ✓ MySQL and Community forks
- ✓ PostgreSQL + TimescaleDB
- ✓ Oracle

FRONTEND

PHP frontend for configuration management and data visualization.

Agent

Agent   Proxy

Apps   Agent-less

ZABBIX
- Frontend
- Backend
- Database

Visualization

Notifications

Integration

DISTRIBUTED MONITORING

ZABBIX

Deploy Zabbix proxies in remote sites for added redundancy and ease of configuration

- Select the direction of communication between Zabbix server and Zabbix proxies Zabbix
- Zabbix supports unlimited number of proxies

- Scale up your monitoring by adding extra Zabbix proxies to your environment

Active proxy

Australia

ZABBIX

ZABBIX

Passive proxy

USA

ZABBIX

ZABBIX

DISTRIBUTED MONITORING

ZABBIX

Collect data from thousands of monitored devices:

- ✓ Data compression

- ✓ Monitor behind the firewall, DMZ

- ✓ Collect data even in case of network issues

- ✓ Remotely run custom scripts on monitored hosts

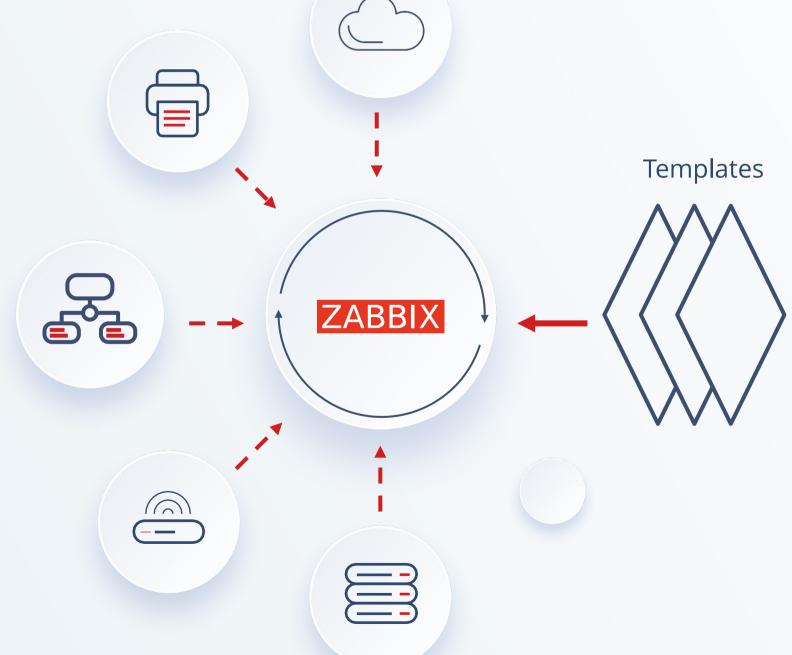- ✓ Control all Zabbix proxies from a single pane of glass

EFFORTLESS DEPLOYMENT

ZABBIX

Save your time:

✓ Install Zabbix in minutes

✓ Use out-of-the-box templates for most of the popular platforms

✓ Automatically discover and create your hosts in Zabbix

✓ Deploy any Zabbix component by using packages, docker containers, cloud images or compile it from the source code.

✓ Receive Zabbix alerts by using out-of-the box media type integrations

ZABBIX

Graphs

Templates   Discovery Rules

Triggers

Metrics

Dependencies

STAY IN CONTROL OF YOUR DATA

ZABBIX

- ✓ All of the collected metrics, problem history, trends remain in your control

- ✓ In addition to collecting history, Zabbix provides the ability to store hourly trend data – min, max, avg and count of collected values per hour.

- ✓ Define flexible data storage periods for History, Trends, Events and other data

- ✓ None of the data or telemetry gets transferred to Zabbix or any other 3rd party

History   Events   Trends

Example: Store **1 year of history, 6 months for events, 2 years for trends.**

DATA COLLECTION: AGENTLESS

ZABBIX

- Simple ping and port checks
- SNMP(v1, v2c, v3), HTTP, IPMI and SSH checks
- Database monitoring via ODBC
- Java applications monitoring
- Web APIs and HTTP endpoints
- Custom metrics/scripts
- Aggregations and calculated checks
- VMware monitoring
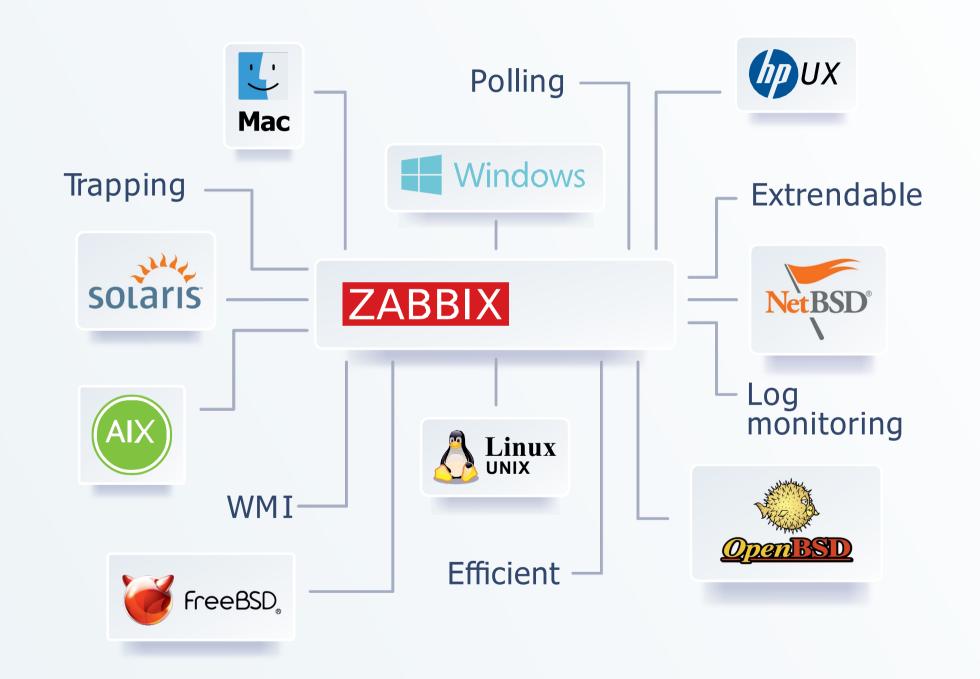- Web monitoring
- Synthetic monitoring

DATA COLLECTION: ZABBIX AGENT

ZABBIX

Zabbix Agent can be deployed on any Unix-like or Windows platforms and collect metrics from any device or application.

COLLECT DATA FROM THOUSANDS OF MONITORED DEVICES:

- ✔ Collect OS level performance and availability metrics
- ✔ Supports polling and sending traps
- ✔ Provides native log monitoring
- ✔ Create your own custom metrics

Mac

hp UX

Polling

Trapping

Windows

Extrendable

solaris

ZABBIX

NetBSD

AIX

Log monitoring

WMI

Linux UNIX

OpenBSD

freeBSD

Efficient

DATA COLLECTION: PREPROCESSING

ZABBIX

Zabbix offers a variety of approaches to transform the data before storing it in the database

12 C	➡ Right trim ➡	Temperature: **12**
{"user": **10004**}	➡ jSON ➡	User count: **10004**
"GET /index.html HTTP/1.0" **200 28083**	➡ Regexp ➡	Response code: **200** Size: **28083**
Unstructured text	➡ Regexp ➡	Version: **Apache 2.2.15 (Unix)** DNS lookup treads: **10**

DATA COLLECTION: PREPROCESSING

Zabbix offers a variety of approaches to transform the data before storing it in the database

| Temperature in F: **32** | ➡ | JavaScript | ➡ | Temperature in C: **0** |

| Repeating values: **v1=1, v2=1, v3=1** | ➡ | Throttling | ➡ | Discard value, if it duplicates the previous value: **v1=1** |

| Prometheus data: jvm_buffer_memory_used_ bytes{id= "direct",} **81920** | ➡ | Prometheus pattern | ➡ | Buffer memory used: **81920** |

PROBLEM DETECTION

ZABBIX

Detect problems from the incoming data flow automatically

- ✓ Flexible problem definitions
- ✓ Multiple problem severity levels
- ✓ Correlation/root cause analysis
- ✓ Anomaly detection
- ✓ Baseline monitoring
- ✓ Data trend analysis

Problems by severity

3 Disaster	
4 High	
26 Average	
23 Warning	
2 Information	
0 Not classified	

Problems

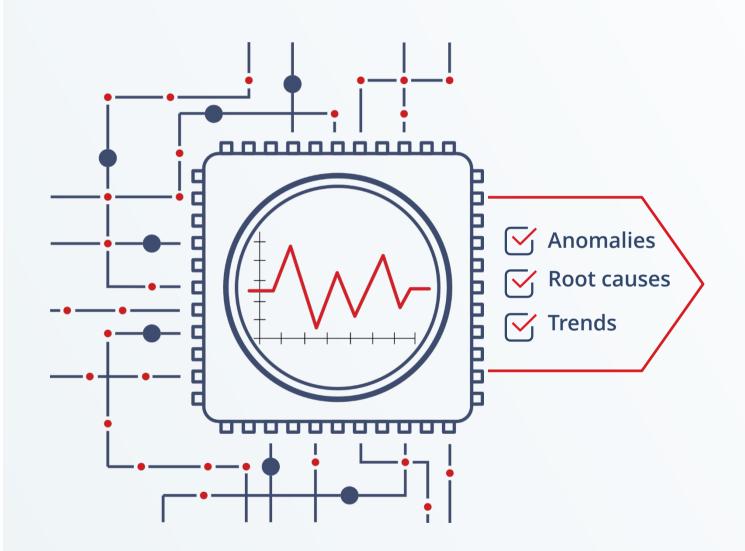| Time ▼	Recovery time	Status	Info	Host	Problem • Severity	Duration	Ack	Actions
03:38:00		PROBLEM		Oracle DB 19c	Oracle: Shared pool free is too low (less 5% for 5m)	16h 40m 5s	No	
2021-04-27 17:36:39		PROBLEM		Oracle ODBC 01	Oracle: Port 1521 is unavailable	9d 2h 41m	No	
2021-04-27 17:36:32		PROBLEM		Oracle DB 19c	Oracle: Port 1521 is unavailable	9d 2h 41m	No	
2021-04-27 17:36:31		PROBLEM		Oracle ODBC 03	Oracle: Port 1521 is unavailable	9d 2h 41m	No	
2020-12-07 20:44:01		PROBLEM		Oracle DB 19c	Oracle: Number of REDO logs available for switching is too low (less 3 for 5 min)	4m 29d 22h	No	
2020-11-19 11:39:00		PROBLEM		Oracle ODBC 03	Oracle: Number of REDO logs available for switching is too low (less 3 for 5 min)	5m 18d 7h	No	

PROBLEM DETECTION

Use trend prediction to react proactively and prevent the impact of the problem.

- ✓ What is the value of the data item after a certain time?
  Example: how much free space will there be on the server in a week's time?

- ✓ When will the value of the data item approach the threshold?
  Example: when will the server reach less than 1GB of free space?

☑ Anomalies
☑ Root causes
☑ Trends

ALERTING & NOTIFICATIONS

ZABBIX

Get notified in case of any issues using different channels:

- ✓ Send messages via E-mail, SMS, Webhooks

- ✓ Remediate issues automatically by executing commands/scripts on agent or core server

- ✓ Escalate problems according to flexible user-defined Service Levels

- ✓ Customize messages based on recipient's role

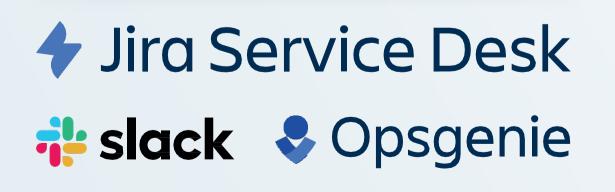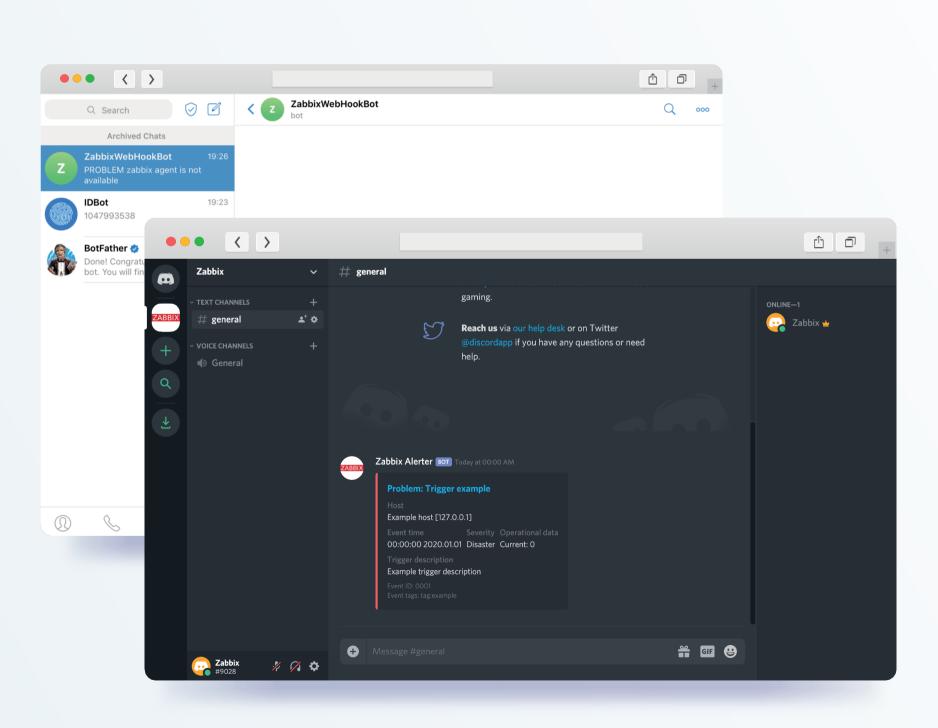- ✓ Customize messages with runtime and inventory information

Problem

Remediate   **Notify**   **Escalate**

ITSM AND MESSAGING SYSTEM
INTEGRATIONS

ZABBIX

- JavaScript webhooks are open for customization and sharing

- Vast selection of official integrations with the option to import custom community integrations

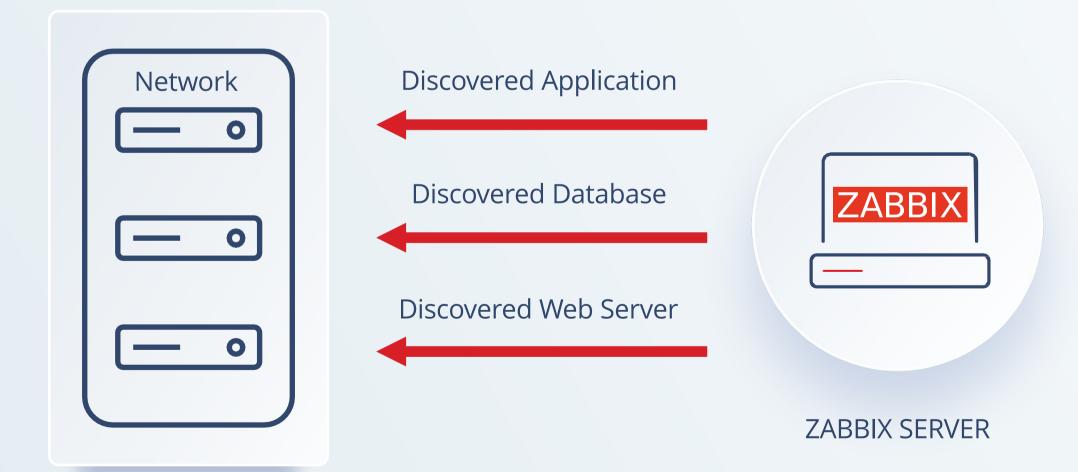- Out of the box integrations for solutions such as Jira ServiceDesk, Slack, Opsgenie and many more.

⚡ Jira Service Desk

slack   📍 Opsgenie

HOST DISCOVERY

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NETWORK DISCOVERY:

periodically scans the network to detect changes and performs user specified actions.

Network

Discovered Application

Discovered Database

Discovered Web Server

ZABBIX

ZABBIX SERVER

Scan network for new hosts

- ✓ Create a new host in Zabbix
- ✓ Assign host to a host group
- ✓ Assign the corresponding templates
- ✓ Notify a user
- ✓ Execute a script

HOST DISCOVERY

ZABBIX

AGENT AUTO-REGISTRATION:

configure automated monitoring of new equipment with Zabbix agents installed. Newly deployed agents will send their metadata to the Zabbix server and an autoregistration request will be received.

Network

I am a new Server
Metadata: Linux/MySQL

ZABBIX

ZABBIX SERVER

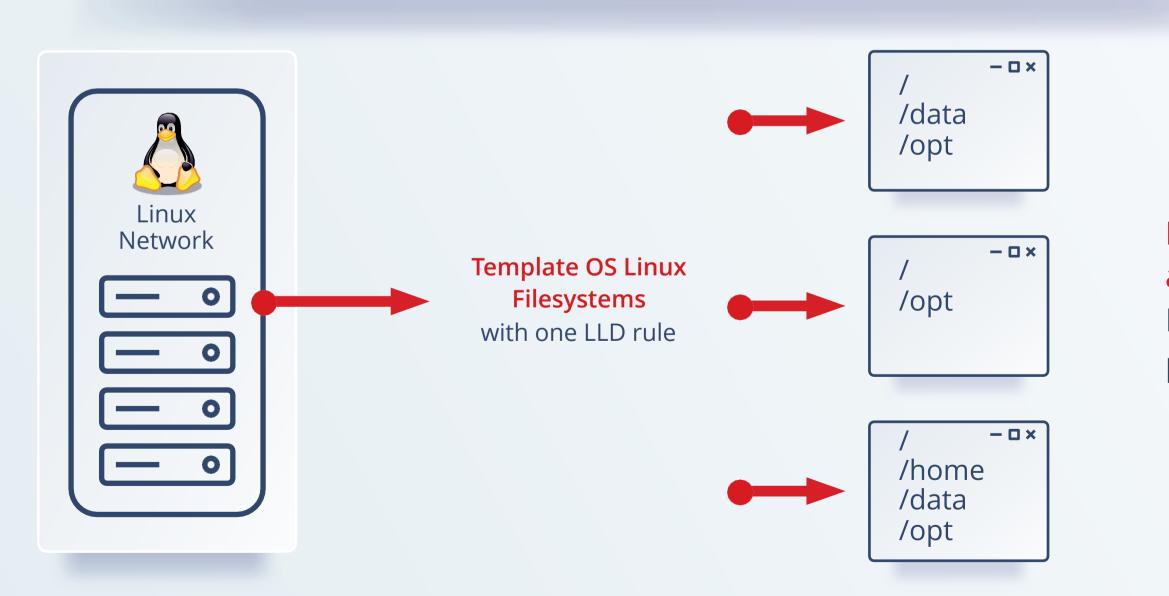## Automate host creation - example

- ✓ New MySQL hosts created and linked to Linux/MySQL templates

- ✓ Assign a host to the DB server host group

- ✓ Notify the DB admin

- ✓ Execute an onboarding script on the host

LOW LEVEL DISCOVERY

ZABBIX

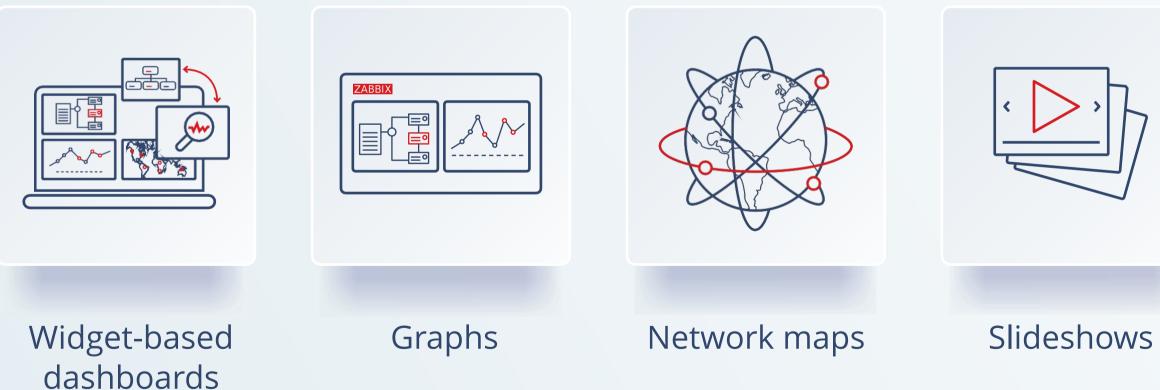Let Zabbix automatically create items, triggers and graphs on your hosts, depending on the host entities

Linux
Network

Template OS Linux Filesystems
with one LLD rule

/
/data
/opt

/
/opt

/
/home
/data
/opt

Discover, monitor and alert on Filesystem partitions per host

DATA VISUALIZATION

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Present your IT environment on Web interface using:

Widget-based
dashboards

Graphs

Network maps

Slideshows

Scheduled
reports

VISUALIZATION: DASHBOARDS

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Zabbix Dashboard is a central place in the web frontend that provides personalized details about the monitored environment:
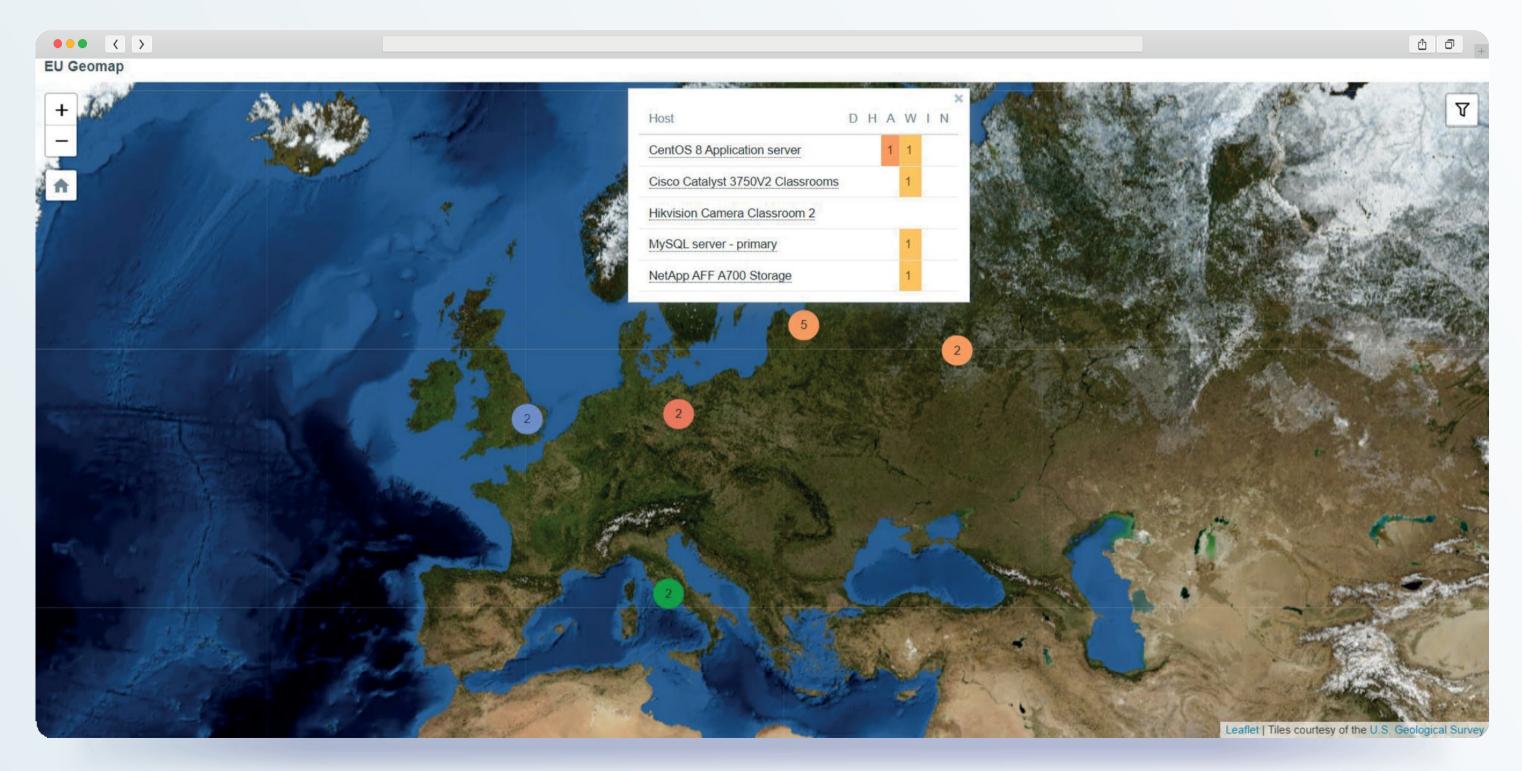
- ✓ Top or bottom hosts sorted by metric

- ✓ Item values

- ✓ Network and geographical maps

- ✓ Graphs

- ✓ Problem lists

- ✓ Host status

- ✓ SLA reports
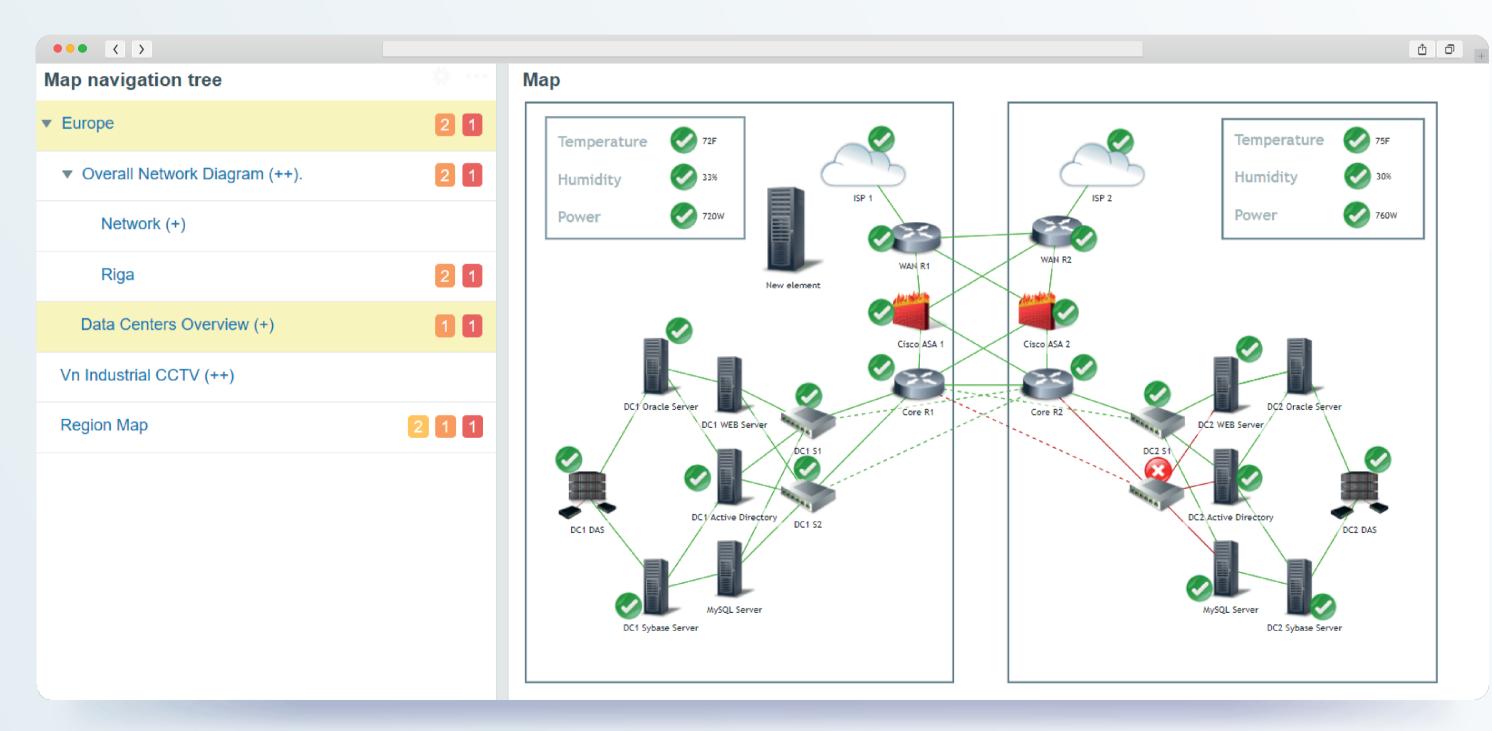
VISUALIZATION: GEOMAPS

Zabbix geomaps enable Zabbix administrators to view the state of their infrastructure displayed on a geographical map.

VISUALIZATION: NETWORK MAPS

Create an interactive overview of your environment on multiple levels by using nested maps. Zabbix maps are capable of displaying real-time status and values received by your monitored entities.

VISUALIZATION: REPORTS

Schedule an e-mail report based on any of your existing dashboards

- ✔ Daily/Weekly/Monthly/Yearly reports

- ✔ Select the period for which the data should be provided in the report – previous D/Week/Month/Year

- ✔ Send reports to individual users or members of a user group

- ✔ Send reports with either the report recipient or report creator permissions

- ✔ Customize report message and subject

Name ▲	Owner	Repeats	Period	Last sent
Customer "Bank" daily report	Melanie	Daily	Previous day	2023-02-01 09:00
Customer "Bank" management report	Melanie	Monthly	Previous month	2023-02-01 12:00
Customer "MSP" daily report	Lars	Daily	Previous day	2023-02-01 09:00
Customer "MSP" management report	Lars	Monthly	Previous month	2023-02-01 12:00
Daily customer report	Admin (Zabbix Administrator)	Daily	Previous day	2023-02-01 12:00
Weekly customer statistics report	Admin (Zabbix Administrator)	Weekly	Previous week	2023-02-01 12:00

BUSINESS SERVICE MONITORING

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With Zabbix you can monitor your business services and receive alerts about business service status change, receive root cause analysis and monitor business service SLAs.

SECURITY

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PROTECT YOUR DATA

- ✓ Strong encryption between all Zabbix components

- ✓ PSK and certificate encryption support

- ✓ TLS v. 1.2 and 1.3 support

- ✓ Option to store all of your sensitive credentials in an external vault

- ✓ Multiple authentication methods: Open LDAP, Active Directory

- ✓ Flexible user permission and role schema

- ✓ Full isolation between user groups and host groups for multi-tenant deployments

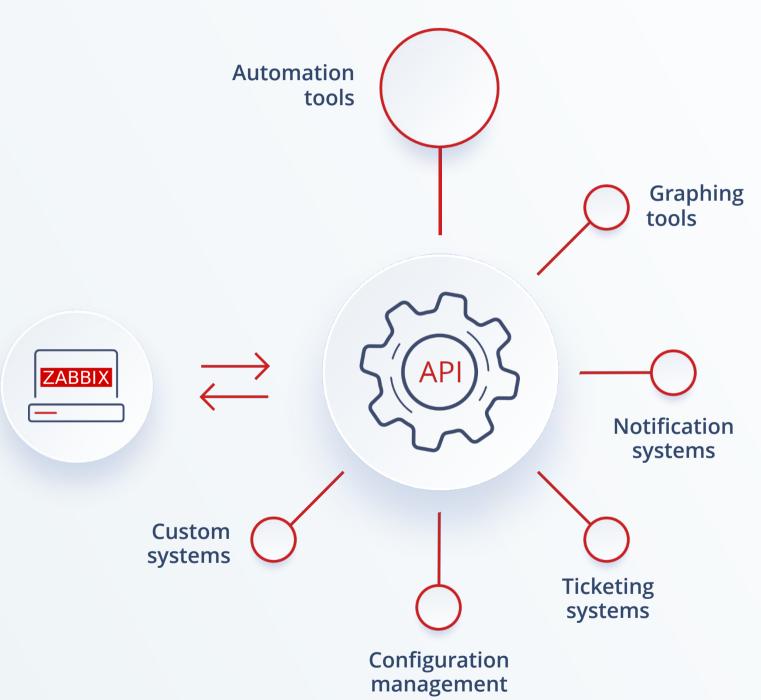- ✓ Zabbix code is open for security audits

CyberArk Vault

HashiCorp Vault

Command-line utilities

Granular permissions and roles

Zabbix web interface

Agent key restrictions

Zabbix agents

bcrypt user passwords

Zabbix database

Zabbix proxies

ZABBIX API

ZABBIX

Integrate Zabbix with any part of your IT environment

Get access to all Zabbix functionality from external applications through Zabbix API:

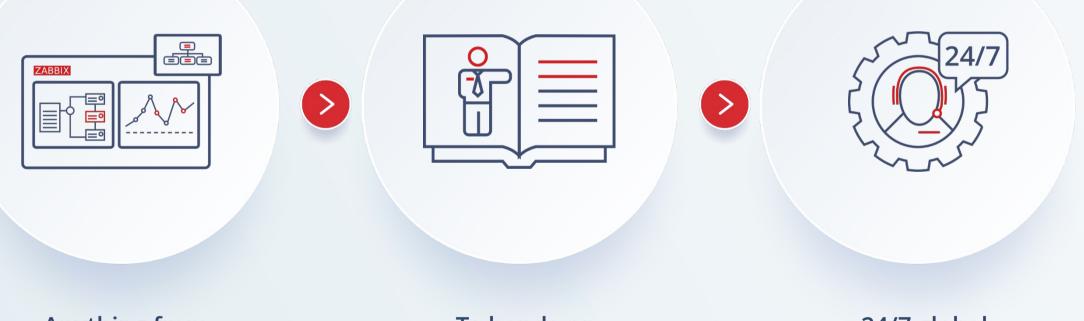- ✔ Uses JSON-RPC 2.0 protocol

- ✔ Requests and responses are encoded using JSON format

- ✔ Automate Zabbix management via API

- ✔ Integrate Zabbix with third party software: Configuration management, ticketing systems

- ✔ Retrieve and manage configuration and historical data

Automation tools

Graphing tools

ZABBIX

API

Notification systems

Custom systems

Ticketing systems

Configuration management

BACKED BY PROFESSIONAL SERVICES

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Delivered by Zabbix or Zabbix official partners – regardless of time zone or your preferred language.

Anything from deployment or migration

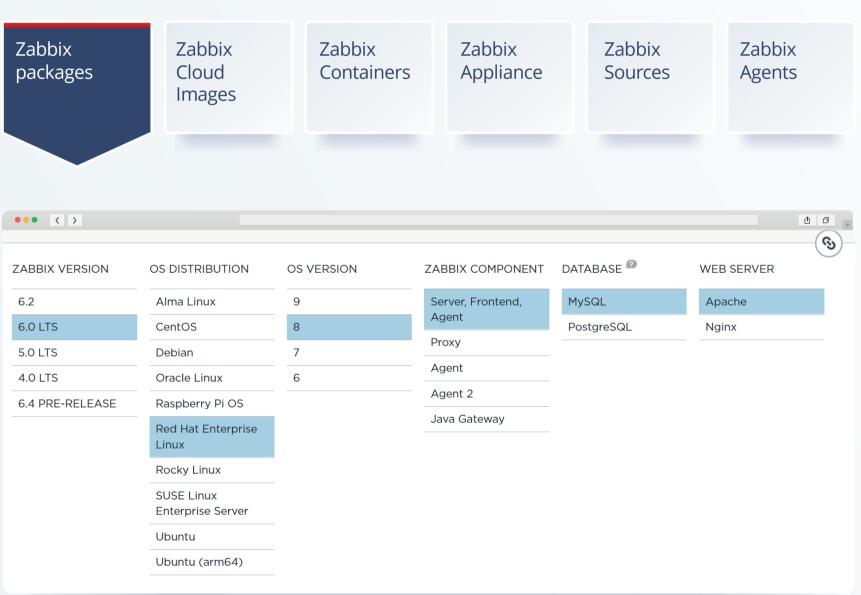**To hands-on Professional Training**

24/7 global technical support

And everything else Zabbix related

DOWNLOAD & GET STARTED IN 10 MINUTES

- **Choose your platform for Zabbix server**

- **Install and configure Zabbix server**

- **Configure Zabbix frontend**

- **Start using Zabbix**

Zabbix packages	Zabbix Cloud Images	Zabbix Containers	Zabbix Appliance	Zabbix Sources	Zabbix Agents

ZABBIX VERSION	OS DISTRIBUTION	OS VERSION	ZABBIX COMPONENT	DATABASE	WEB SERVER
6.2	Alma Linux	9	Server, Frontend, Agent	MySQL	Apache
6.0 LTS	CentOS	8	Proxy	PostgreSQL	Nginx
5.0 LTS	Debian	7	Agent		
4.0 LTS	Oracle Linux	6	Agent 2		
6.4 PRE-RELEASE	Raspberry Pi OS		Java Gateway		
	Red Hat Enterprise Linux				
	Rocky Linux				
	SUSE Linux Enterprise Server				
	Ubuntu				
	Ubuntu (arm64)				

ZABBIX

THANK YOU!