# ZABBIX

# Where we currently stand and the road ahead

**Alexei Vladishev** Founder, CEO

### MONITORING CHALLENGES

### **The Multiple Tools Problem**

- Missing Single Pane of glass
- Lack of centralized visualisation and reporting
- Missing total visibility

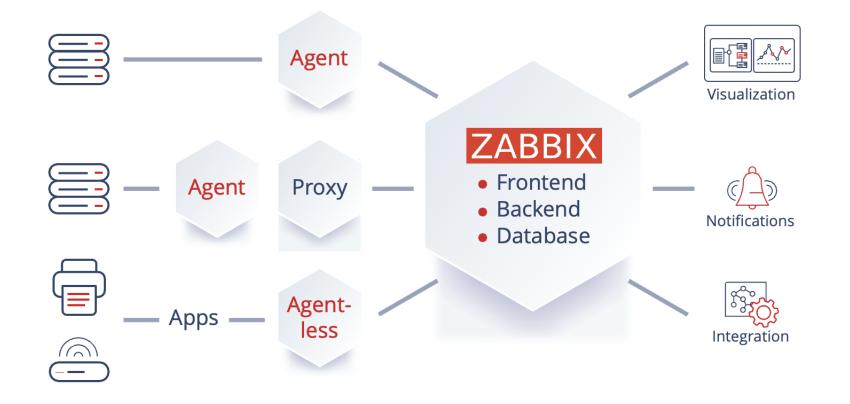
#### Security, scalability and high availability

- Growing number of devices, networks, increasing complexity
- **Pro-active problem resolution is critical**
- Cost effectiveness



# Zabbix is a Universal Open Source enterprise-level monitoring solution

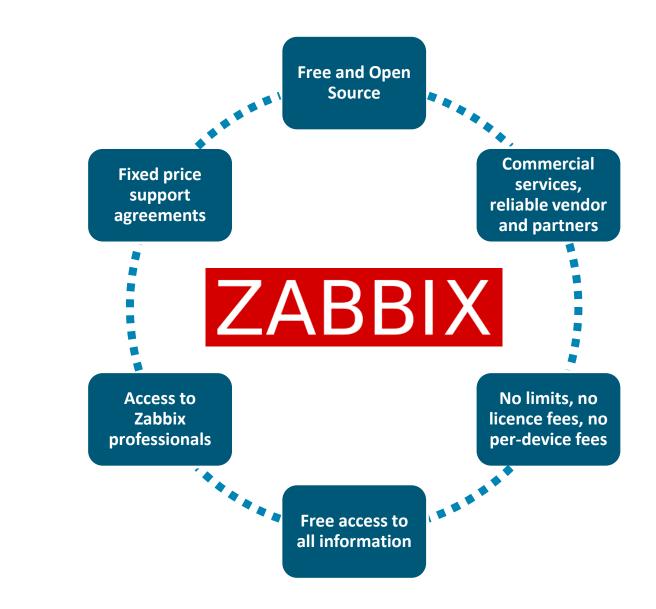
# All-in-one monitoring platform



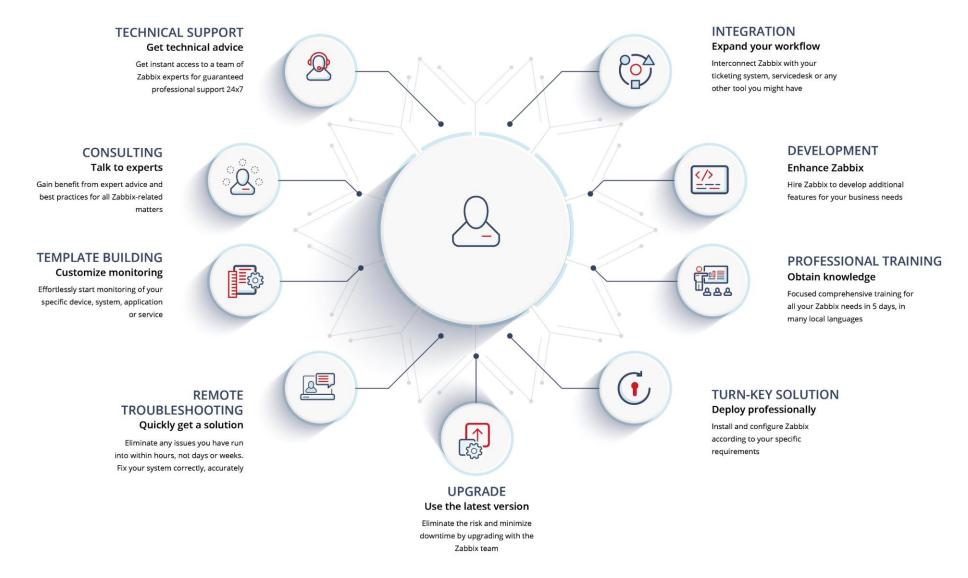
**Data collection** -> **Real-time data processing** -> [Actions & Visualization]

### COST OF ZABBIX

Exceptionally low TCO

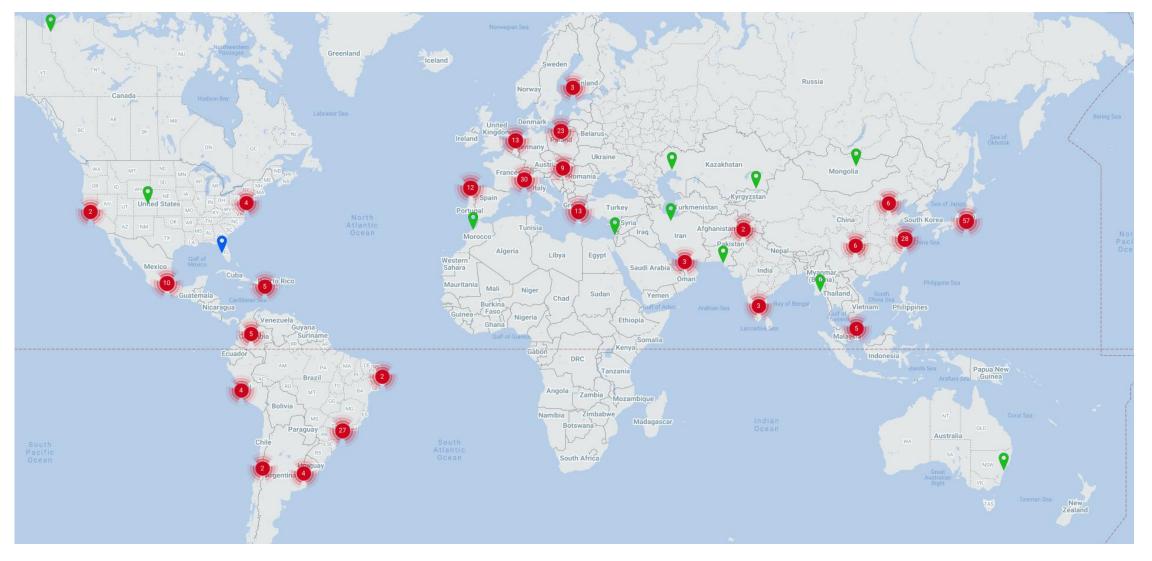


### YOU'RE COVERED: 24X7 PROFESSIONAL SERVICES





### 250 PARTNERS AROUND THE WORLD



### ZABBIX SCALABILITY



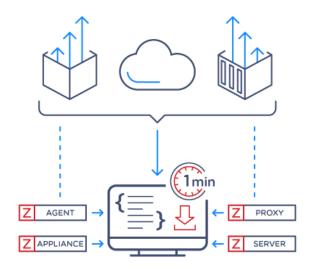
# 550K+ of devices

30K+ proxies

### Single Zabbix server

10M+ items





# Deploy anywhere

### **DEPLOY ON-PREMISE**



### **DEPLOY IN THE CLOUD**





# Monitor anything

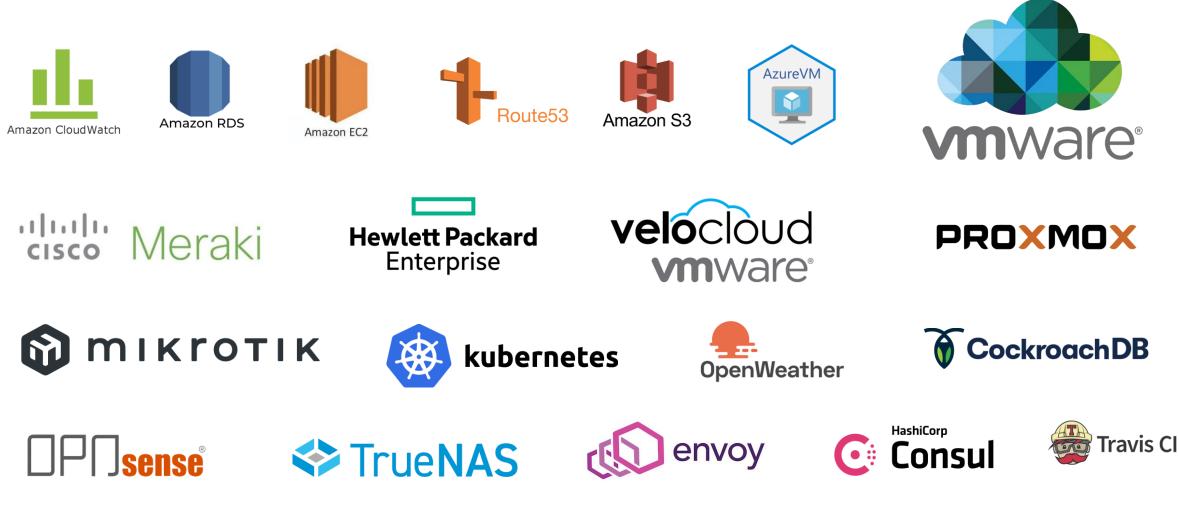
Legacy and modern systems, ready for the future

### OUT OF THE BOX MONITORING

					26.							
.NET	1@	Active Directory	ÂĊŢĬVEMQ	Alcatel·Lucent 🕖	æ	ClusterControl	<b>X</b> Confluence	Cooling	Core OS	нттр	HTTPS	HUAWEI
.NET	1С:Предприятие	Active Directory	ActiveMQ	Alcatel Lucent	Cloudstack	ClusterControl	Confluence	Cooling	CoreOS	НТТР	HTTPS	Huawei
Alerta		ANSIBLE	•	*		cPanel"	D-Link		DATACOM		AS/400	IBM MQ
Alerta	Android	Ansible	Antivirus	Apache	Couchbase	cPanel	D-Link	Database monitoring	Datacom	IBM AIX	IBM AS/400	IBM MQ
ΔΡС				ARISTA	IBM DB2	0	Dell	DNS	docker		intel	InterSystems" Health: Buildness   Government
APC	Appdynamics	Application monitoring	Arduino	Arista	DB2	Debian	Dell	DNS	Docker	Ingress	Intel	Intersystems
aruba	Astensk	Αναγα	webservices	Ļ	Drupal" 👶	•	elex	DØLLEMC	EMERSON	IRC	Jabber	saperReports
Aruba	Asterisk	Avaya	AWS	AWS CloudWatch	Drupal	Elasticsearch	Eltex	EMC	Emerson	IRC	Jabber	JasperReports
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AWS EC2	AWS S3	Backup	Bacula	Barracuda	Exim	Extreme Networks	F5 Networks	Facebok Messenger	Fedora	JBoss	Jenkins	Jira
<b>S</b>	Blue	bmc Remedy	Borg	BROCADE	2		flowdock	F©RTINET.	<b>*</b>	juliå	JUNIPEC.	<b>%</b>
Bigpanda	Blue Coat	BMC Remedy	BorgBackup	Brocade	firebird	Firewalls	Flowdock	Fortinet	FreeBSD	Julia	Juniper	Kafka
<b>BUFFALO</b> .	È	0	Capacity planning	cassandra	0		MariaDB Galera Cluster	G GECKOBOARD	🚸 git	kubernetes	"KVM	<b>K</b> YDCERa
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Centos	Ceph	Check Point	Chef	Chrome extension	Glassfish	GLPi	Go	Google Apps	Google Cloud	Lenovo	Lexmark	Lighttpd
cisco	CITRIX	CLOUDFOUNDRY		cloudera		Ø	<b>(</b> )	1 top	HAPROXY		Lucidworks	LXC
Cisco	Citrix	Cloud Foundry	Cloud monitoring	Cloudera	Google Maps	Grafana	Graylog	Hadoop	HAPROXY	Logstash	Lucidworks	LXC
28-	ClusterControl	X Confluence	Cooling	Core OS	High Availability	Q	HITACHI	Hewlett Packard Enterprise	ων	(4) Mattermost	Mellanox HEEMOLADUKS	
Cloudstack	ClusterControl	Confluence	Cooling	CoreOS	High Availability	Hipchat	Hitachi HDS, HNAS	HP Enterprise	HP-UX	Mattermost	Mellanox	Memcached

zabbix.com/integrations

### **RECENT ADDITIONS**





CMDB AND TICKETING

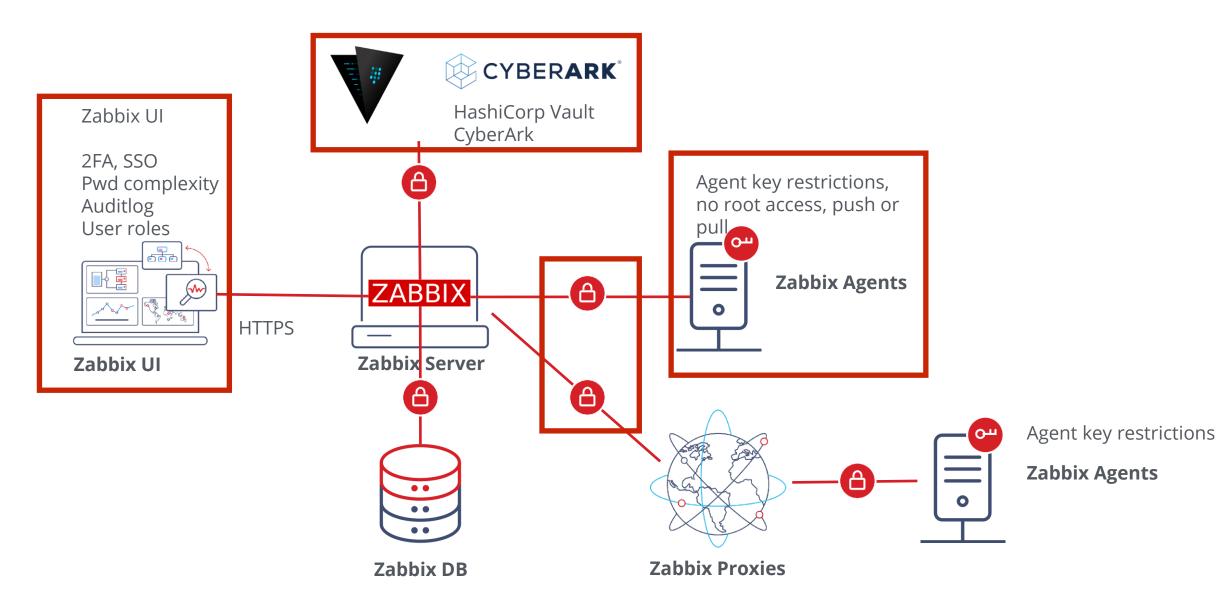




# Security on all levels

Highest security standards, verified by independent researchers

### SECURE BY DESIGN



# lackerone



Nintendo<sup>®</sup> PayPal

### Bug bounty

AT&T

# ISO/IEC 27001

Home / Product /

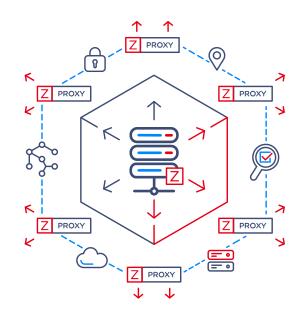
### Zabbix Security Advisories and CVE database

#### How to report a security issue?

Zabbix versions (7) 🗸

Zabbix ID	CVE numbe	er <u>CVSS 7a</u>	<u>hhix Svnonsis</u>				<u>Component/s</u>	Affected rsion/s	Published	
		CVE/Advisory number	r: CVE-2022-43516							
ZBV-2022-12-1	CVE-2022	Synopsis:	Zabbix Agent instal	ler adds "allow all TCP any any" fi	rewall rule			il pkg.	2022 Nov 30	
		Description:		A Firewall Rule which allows all incoming TCP connections to all programs from any source and to all ports is created in Windows Firewall after Zabbix agent installation (MSI)						
		Known Attack Vectors	: An attacker can cor	nnect to all TCP services running o	on the machine wit	h Zabbix Agent				
ZBA-2022-10-1	-	Resolution:	To remediate this vu or use the workarou	ulnerability, apply the updates list and	ed in the 'Fixed Ver	rsion' section to app	propriate products	v6.0.8 plaris) versions	2022 Oct 31	
		Workaraunds:	If an immediate upc	late is not possible, change the ap	plied local firewall	rule to allow the ag	ent port only.	31/Oct/2022		
		Acknowledgements:	Joshua PowellNishiy	/ama						
ZBV-2022-10-1	CVE-2022-	Component/s	Affected version/s	Fix version/s	CVSS score	Zabbix severity	Tickets	).0-4.0.44 ).0-5.0.29 ).0-6.0.9	2022 Oct 18	
		Agent, Agent2	MSI pkg. (29.oct.22 - 2	.dec.22) MSI pkg. => 3.dec.22	6.5	Medium	ZBX-22002	.0-6.2.4		
ZBV-2022-09-1	CVE-2022							).0-6.0.11	2022 Sep 2	
			Generation				generation	6.2.0-6.2.5		
ZBA-2022-07-1	-	-	Zabbix prod OpenSSL	ducts are not affected by CVE-2	022-2068 vulnera	bility in	-	-	2022 Jul 26	
ZBV-2022-07-1	CVE-2022-40	0626 <mark>4.8</mark> Me	edium Reflected X	SS in action configuration windo	w of Zabbix Fron	tend	Frontend	6.0.0-6.0.6 6.2.0	2022 Jul 08	

### zabbix.com/security\_advisories



# Solution for MSPs

Better QoS, additional revenue stream

### EARLY PROBLEM DETECTION, USEFUL INSIGHTS



Baseline: New user registrations is down 12% last week

Anomaly: Sudden anomaly detected in S3 usage

Trend prediction: Running out of EC2 instances next week

### **USER ROLES**

Granular control of user permissions

<u>Z</u> /	ABBIX «	< 5	User roles				
		Q	* Name	Customers			
<b>,</b>	Monitoring		User type	User 🜲			
■	Inventory			Access to UI elements			
	Reports		Monitoring	✓ Dashboard	✓ Problems	Hosts	
	Configuration	I ~		Overview	Latest data	Screens	
•				Maps	Discovery	Services	
2	Administratio	n ^	Inventory	Overview	Hosts		
	General		Reports	System information	Availability report	Triggers top 100	
	Proxies			Audit	Action log	Notifications	
	Authentication		Configuration	Host groups	Templates	Hosts	
	User groups			Maintenance	Actions	Event correlation	
	User roles			Discovery	Services		
	Users		Administration	General	Proxies	Authentication	
	Media types			User groups	User roles	Users	
				Media types	Scripts	Queue	
	Scripts			* At least one UI element m	nust be checked.		
	Queue		Default access to new UI elements	$\checkmark$			
				Access to modules			
				No enabled modules found	L		
			Default access to new modulos				
			Default access to new modules				
)	Support			Access to API			
7	Chara		Enabled	$\checkmark$			
Z	Share		API methods	Allow list Deny list			
?	Help			host.get 🗙 item.get 🗙			Select
	User settings			type here to search			
				Access to actions			
לי	Sign out			Create and edit dashbo	ards and screens		

### SCHEDULED PDF REPORTS

Can be applied to any dashboard

Accessible to all users

Use user roles to restrict access

Daily, weekly, monthly or yearly

ZABBIX	≪ ≞	Scheduled reports					?	Create report
	Q							Filter 🍸
🗄 Dashboard	ls	Name	Sho	ow All Created by	me Status Any Enabled	Disabled Expired		
Monitoring				Apply	Reset			_
Services			0	Durante	Period	Last set	Status	Info
i≡ Inventory		Daily report	Owner alex (Alexei)	Repeats	Previous day	Last sent 2022-09-01 09:00	Enabled	
🗟 Reports		Monthly management report	alex (Alexei)	Daily	Previous month	2022-10-03 09:00	Enabled	8
🛓 Data collec	ction ~	Weekly operational report	alex (Alexei)	Weekly	Previous day	Never	Enabled	
⊠ Alerts							Displayi	ng 3 of 3 found
22 Users		0 selected Enable Disable Delete						
Administra	ition ~							
<b>ශ</b> Support								
Z Integrations								
? Help								
LUSer settings	s ~							
			-	Zabbix 6.4.0beta2. © 20	01–2022 Zabbix SIA			
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### BUSINESS SERVICE MONITORING (BSM)

Complex SLO definitions for 100K+ services

SLA real-time and scheduled reporting

Multi-tenancy using flexible user roles

Alerting, root cause and impact analysis

Z	Services					View Edit
Q	All services / External services					Info 🚯 Filter 🍸
$\odot$	External services					
:=	Parent services: Status: OK					
	SLA:					
عر	Tags: Type: External					
	Name	Status	Root cause	SLA	Tags	
	Zabbix Blog	ОК		99.9000	Type: External	
	Zabbix CDN	Warning	Free disk space is less than 20% on volume /mnt/cdn_volume_2, Free disk space is less than 20% on volume /var/www/cdn/zabbix, Nginx: Failed to fetch stub status page (or no data for 30m)	99.9000	Type: External	
	Zabbix Forum	ОК		99.9000	Type: External	
	Zabbix Repo	Disaster	Free disk space 4.75 % is less than 10% on volume /mnt/repo_volume, Free disk space 4.75 % is less than 10% on volume /var/www	99.9000	Type: External	
						Displaying 4 of 4 found



### MONITORING AS A REVENUE STREAM FOR MSP

Added-value service

Customer portal, a combination of

user roles for read-only access to dashboards and customized UI

re-branding options

SLA reporting

scheduled reports

Professional services tailored to MSPs







Real-time data collection and processing

### **ZABBIX FEATURES**

All benefits of Zabbix in one place

Use as a reference

Answers many FAQs

### zabbix.com/features

#### Keep control of your infrastructure by collecting any metric from any source

Collect From Any Source	Flexible Metric Collection	Zabbix Agent	Agent-Less Monitoring	Synthetic Monitoring	Custom Collection Methods	Data Transformation
Collect metr	rics from any s	source				
Zabbix enables yo	ou to collect metrics	s but isn't limited	d to:		<u> </u>	
<ul> <li>Network devices</li> </ul>	5	<ul> <li>Services</li> </ul>				
<ul> <li>Cloud services, or</li> </ul>	containers, virtual	<ul> <li>IoT sensors</li> </ul>				
machines		🗸 Web page mo	onitoring			
🗸 OS level monitor	ring	✓ HTTP/HTTPS	endpoint monitoring	g		
<ul> <li>Log files</li> </ul>			ull range of industry		\ MII	
<ul> <li>Databases</li> </ul>		standard prot				
<ul> <li>Applications</li> </ul>		<ul> <li>Collect data f end-points</li> </ul>	rom external API			



# 6.0 LTS 6.2 6.4 7.0 LTS





A huge step ahead

### ZERO-DOWNTIME UPGRADE OF PROXIES

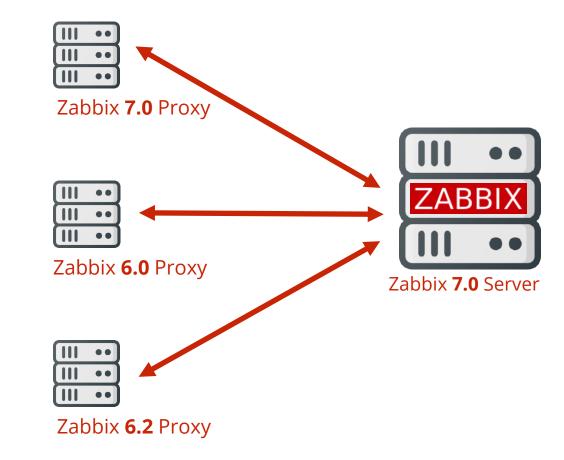
#### **Before Zabbix 6.4:**

All Zabbix components (except agents) must be upgraded simultaneously

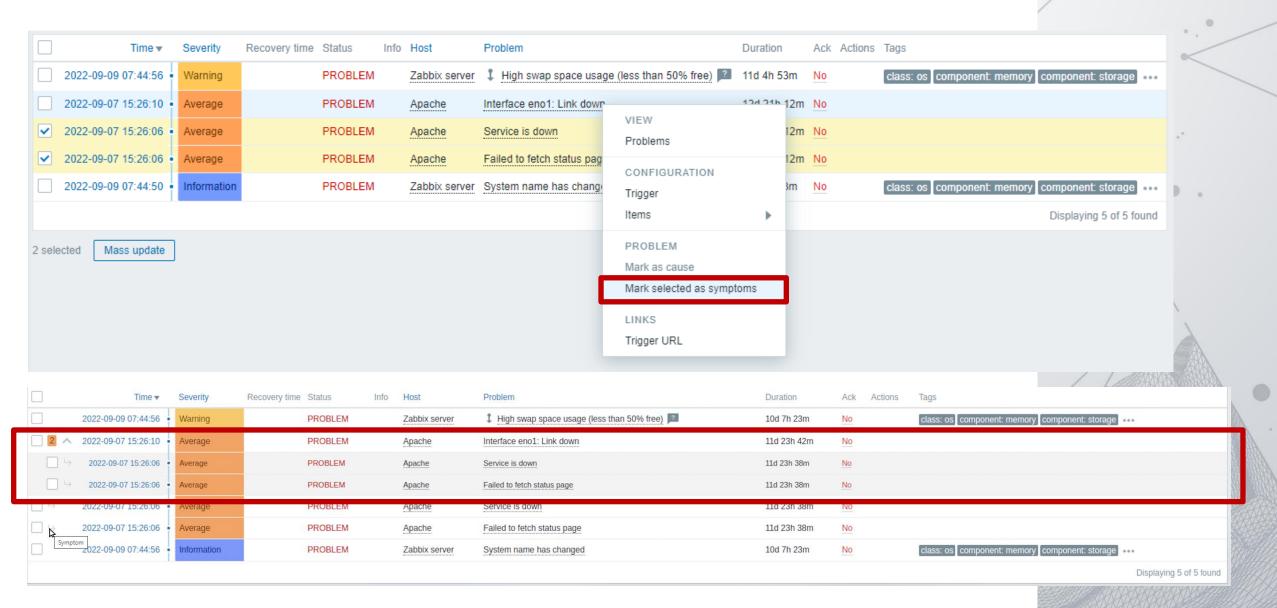
#### Zabbix 6.4:

Older proxies will continue to process data

Creates a longer time window for upgrade



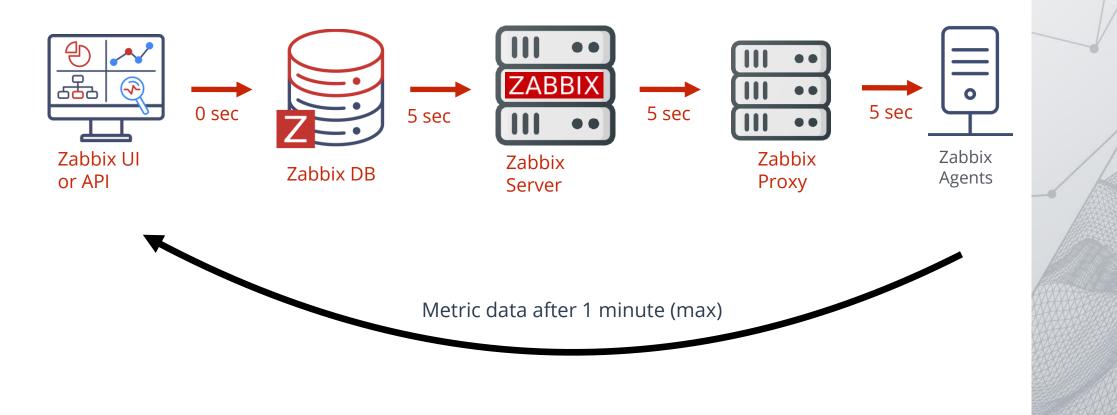
### THE CONCEPT OF CAUSE AND SYMPTOM EVENTS



### INSTANT CONFIGURATION UPDATE

Configuration sync will support incremental updates

New items are now checked within a minute after creation



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### JIT USER PROVISIONING

Automatic user provisioning

Auto-creation of users for LDAP and SAML

Management of users and their rights

Automatic mapping of user rights to user groups



### **REAL-TIME DATA STREAMING**

Connectors for real-time streaming of metrics and events



nnecto	or					?	×
	* Name						
	Protocol	Zabbix Streamin	g Protocol v1	.0		_	
	Data type	Item values	Trigger eve	nts			
	* URL						
	Tag filter	And/Or Or					
		tag		Equals	✓ value	Remove	
		Add			149755 To-1554		

### TEMPLATE VERSIONING

Information about Vendor and Version

Templ	ates										
	Template gro	ups	type here to	search			Select				
	Linked templa	ates	type here to	search			Select				
	Na	me									
	Ven	dor	Zabbix								
	Vers	sion									
								Apply	Reset		
Nan	me⊾ Ho	osts	Items	Triggers	Graphs	Dashb	oards	Discovery	Web	Vendor	Version
	by Zabbix agent He	osts	Items 44	Triggers 10	Graphs 4	Dashb	oards 1	Discovery 2	Web	Zabbix	6.4-0
Linu	ux by Prom Ho	osts	Items 34	Triggers 12	Graphs 7	Dashb	oards 2	Discovery 3	Web	Zabbix	6.4-0





# What's next?

Zabbix 7.0 LTS and more

# Main vectors

More value for the enterprise

General usability: UX and UI, ease of use

Cloud monitoring, visualization and reporting

Event and problem handling and processing

Extending scope of monitoring: compliance monitoring, APM, IoT, advanced log monitoring, public and hybrid cloud monitoring

Extendability on all levels: pluggable storage engines, agent plugins+UI modules+3rd party widgets, webhooks

HA, scalability and load balancing

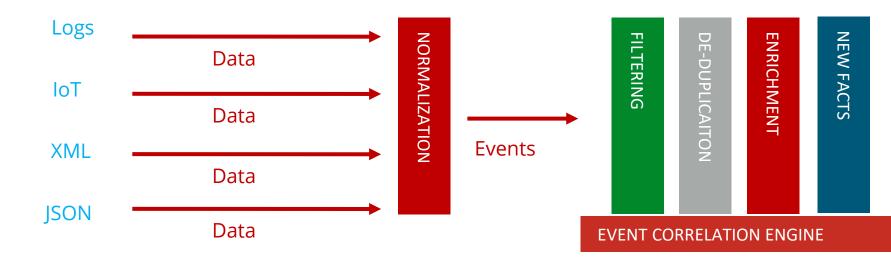
### ADVANCED EVENT CORRELATION

Tag based event pre-processing and correlation

Event filtering, de-duplication, enrichment

Normalization and noise reduction

Generation of new facts



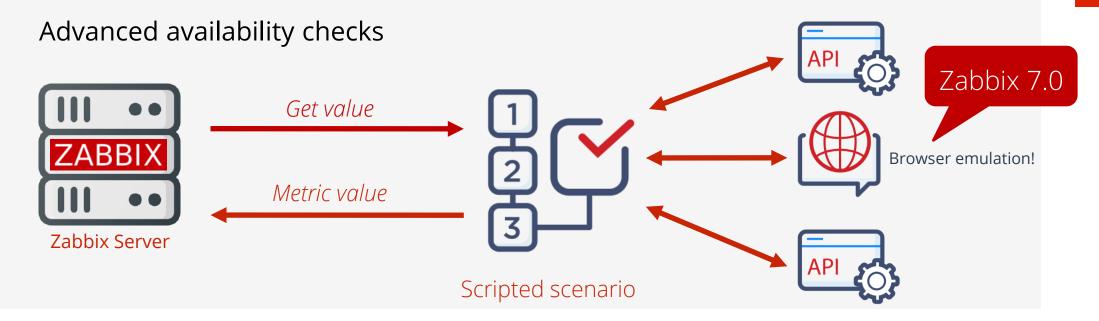
Zabbix events



### ADVANCED SYNTHETIC MONITORING

Complex interaction with Cloud APIs over HTTPS: AWS, Azure, GCP

Multi-step scripted data collection



### SINGLE PANE OF GLASS: VISUALIZATION

New set of widgets

Dashboards navigation

Advanced widgets:

SLA Topology

Widget navigation

Stable framework for widget devs

Full transition to vector graphs



### CENTRALISED MANAGEMENT OF TIMEOUTS



### **Now,** zabbix\_server.conf:

Global Timeout=3

#### Zabbix 7.0 LTS:

Global, Proxy and item level timeouts

Managed from Zabbix UI

Item Tags Preprocessing	
* Name	HTML content
Туре	HTTP agent
* Key	site.content
Type of information	Text ~
* URL	https://www.example.com/r/{\$FEED}/
Query fields	Name Value
	name  arr value
	Add
Request type	GET ~
* Timeout	10s

### **REAL-TIME DATA INGESTION**

Connectors for real-time ingestion of metrics



Zabbix 7.0

### **CUSTOM** INVENTORY FIELDS

Now:

Fixed fields

Zabbix 7.0 LTS:

Extend using templates

lew host	
Host IPMI Tags Macro	s Inventory Encryption Value mapping
	Disabled Manual Automatic
Туре	
Type (Full details)	
Name	
Alias	
OS	
OS (Full details)	
OS (Short)	
Serial number A	
Serial number B	
Tag	
Asset tag	

### BACKLOG AND USABILITY IMPROVEMENTS



#### **Other improvements**

- Get rid of awkward usability issues
- Remote commands for active agents
- Transition to threads for better scalability

User group	Template permissions	Host permis	sions 🔵	ns  Problem tag filter										
		Permissions	Host gr	oup	Permissions									
			All grou	groups None		None								
			Zabbix	infrastructure	Read-write	Read	Deny	None						
			type h	ere to search						Select	Read-write	Read	Deny	None
				ude subgroups										
			Add											
			Updat	e Delete Ca	ncel									

### ZABBIX 7.0 LTS ROADMAP IN A NUTSHELL

New ways of Cloud & K8S visualization

End-user synthetic monitoring

Receiving metrics from 3<sup>rd</sup> party systems

Custom inventory

Event correlation engine

Framework for new widgets

Advanced visualization

Usability improvements

New templates and integrations

### LATER

**Observability:** APM + tracing, Open Telemetry integration

Cloud native: HA, performance and scalability

Log management

Security and compliance monitoring

#### Roadmap

This page contains an incomplete list of planned functionality that can be updated anytime without prior notice

Zabbix 7.0 LTS

Zabbix 7.4

Zabbix 8.0 LTS

#### Zabbix 7.0 LTS

Zabbix 7.2

Planned release date: Q4 2023

#### Enhanced interoperability

• Time-series data ingestion from 3rd party systems New Flexible data gateway for ingesting time-series data in various formats using various protocols

📩 Top voted!

zabbix.com/roadmap

 Custom inventory fields New Ability to customise inventory fields ZBXNEXT-336 + Top voted!

#### Advanced visualization and reporting

Communication framework for widgets In dev
 Widgets will be able to talk to each other enabling creation of new types of
 widgets and dynamic next-generation dashboards

#### New widgets for dashboards and reporting

- Gauge chart widget In dev ZBXNEXT-743 \* Top voted!
- Pie and donut chart widget
- TopN item widget Displaying data table view for items from a single of multiple hosts, also for LLD items

ZBXNEXT-4036

- Top100 triggers widget
   ZBXNEXT-6973
- Host tree navigation widget New
- Item tree navigation widget New

## New In design

Status

In dev

Ready

# ZABBIX

# THANK YOU!