# ZABBIXRELEASE5.4DAY!Spanish

## WHAT'S NEW

#### LUCIANO ALVES CEO ZABBIX LATAM







- New functionality of Zabbix 5.4  $\bigcirc$
- What we are working on now  $\bigcirc$





# Zabbix 5.4

#### Zabbix 5.4.0 was released in May 17





# Reporting and Visualization



### **REPORTING AND VISUALIZATION**

Zabbix 5.2: pre-defined views for Monitoring->Problems  $\bigcirc$ 

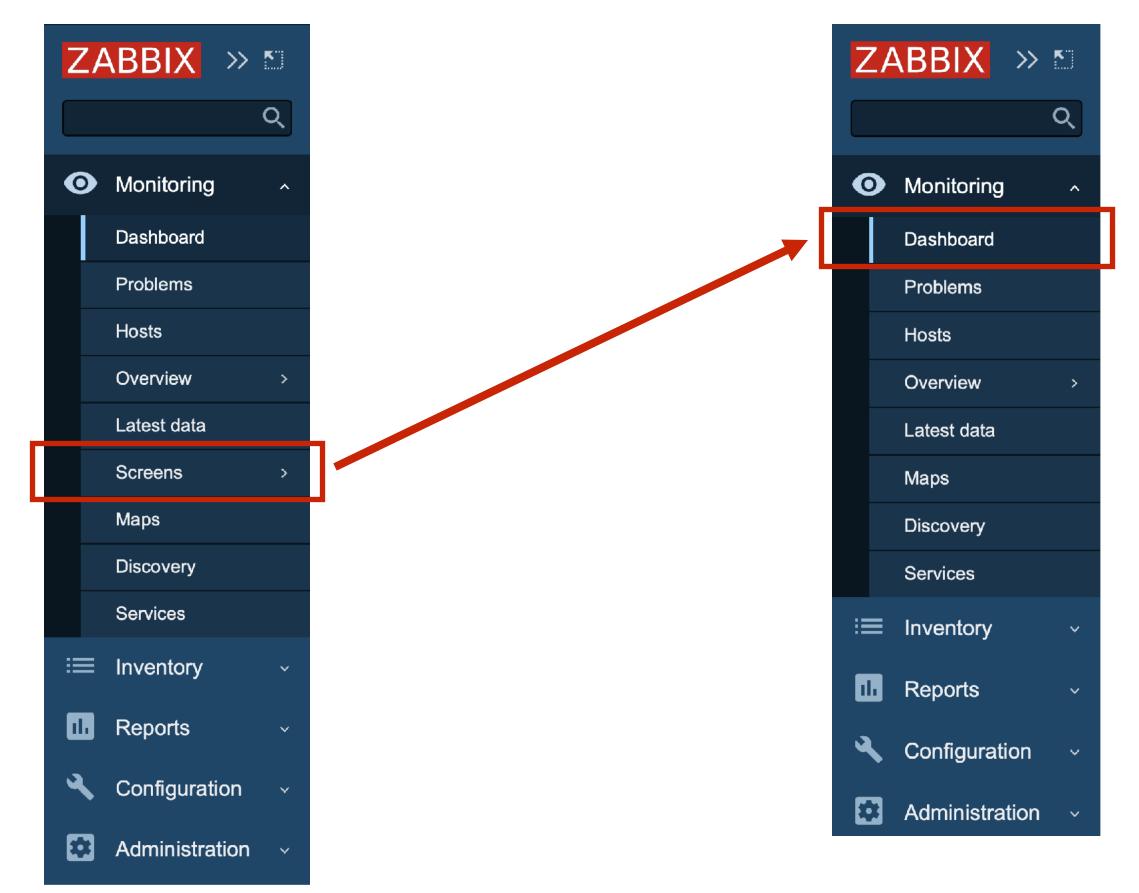
Ζ	Problems			
Q		problems 212 Services 9 High severity problems 13		
$\odot$	Show	Recent problems Problems History		
≔	Host groups	type here to search Select		
	Hosts	type here to search Select		
3	Triggers	type here to search Select		
	Problem			
	Severity	Not classifiedWarningHighInformationAverageDisaster		
	Age less than	14 days		





### **UNIFICATION OF SCREENS AND DASHBOARDS**

Unification of screens and dashboards, no screens anymore!  $\bigcirc$ 







### **TEMPLATES FOR DASHBOARDS**

#### Configuration->Templates:

Ζ	Dashboards
Q	All templates / App Nginx by Zabbix agent Items 17 Triggers 6 Graphs 4 Dashboards 1 Discovery rules Web scenarios
$\odot$	Name ▲
≔	Nginx performance

#### Monitoring->Hosts:

Ζ	Hosts					
Q						
$\odot$	Name 🔺	Interface	Availability	Tags	Problems	Status
	cdn.example.com	1.2.3.4.5:32050	ZBX	Service: CDN	2	Enabled

Create dashboard

Displaying 1 of 1 found

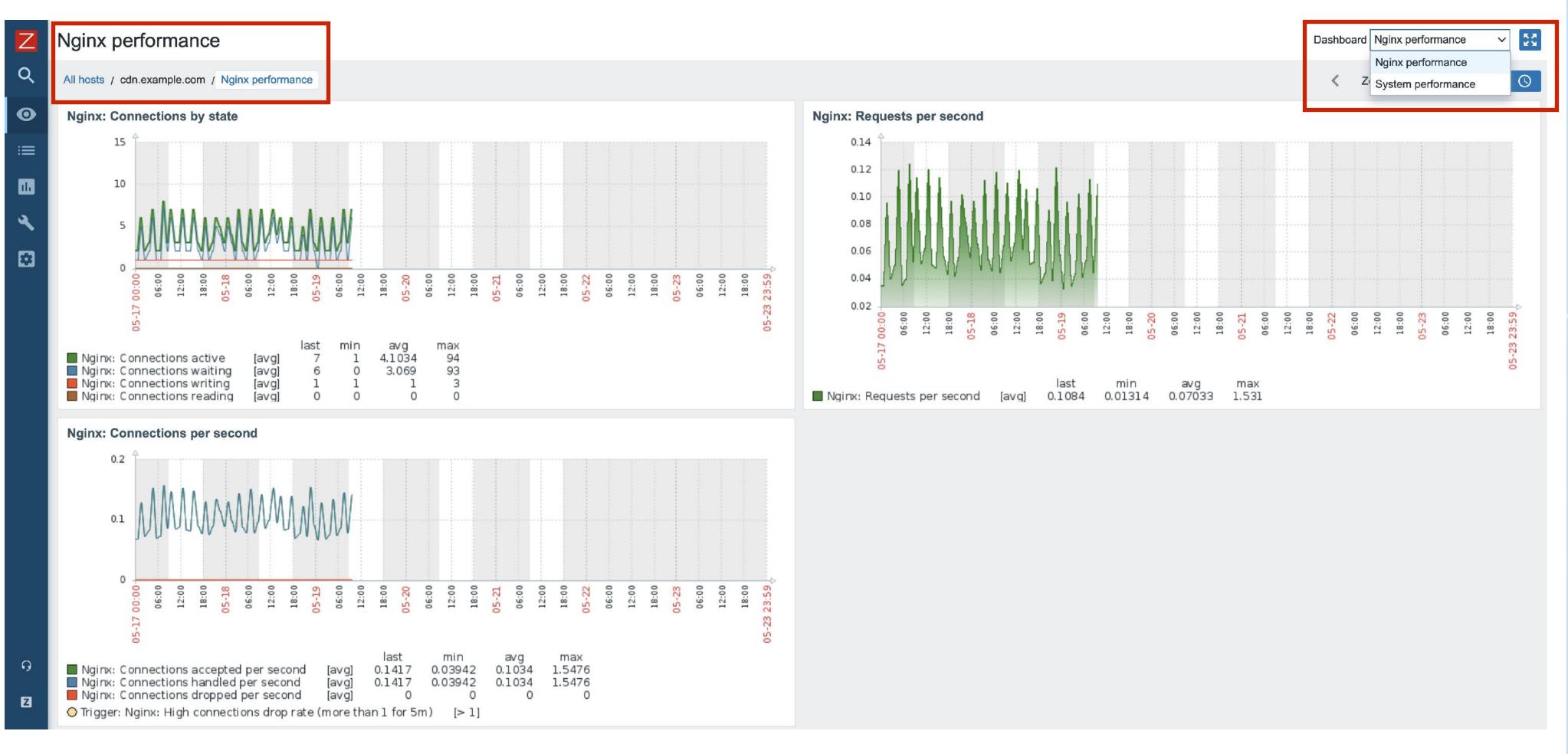
#### K X K X

				$\checkmark$
Latest data	Problems	Graphs	Dashboards	Web
Latest data	Problems 2	Graphs 12	Dashboards 2	Web
			Displaying	1 of 1 found





### DASHBOARDS FOR HOSTS

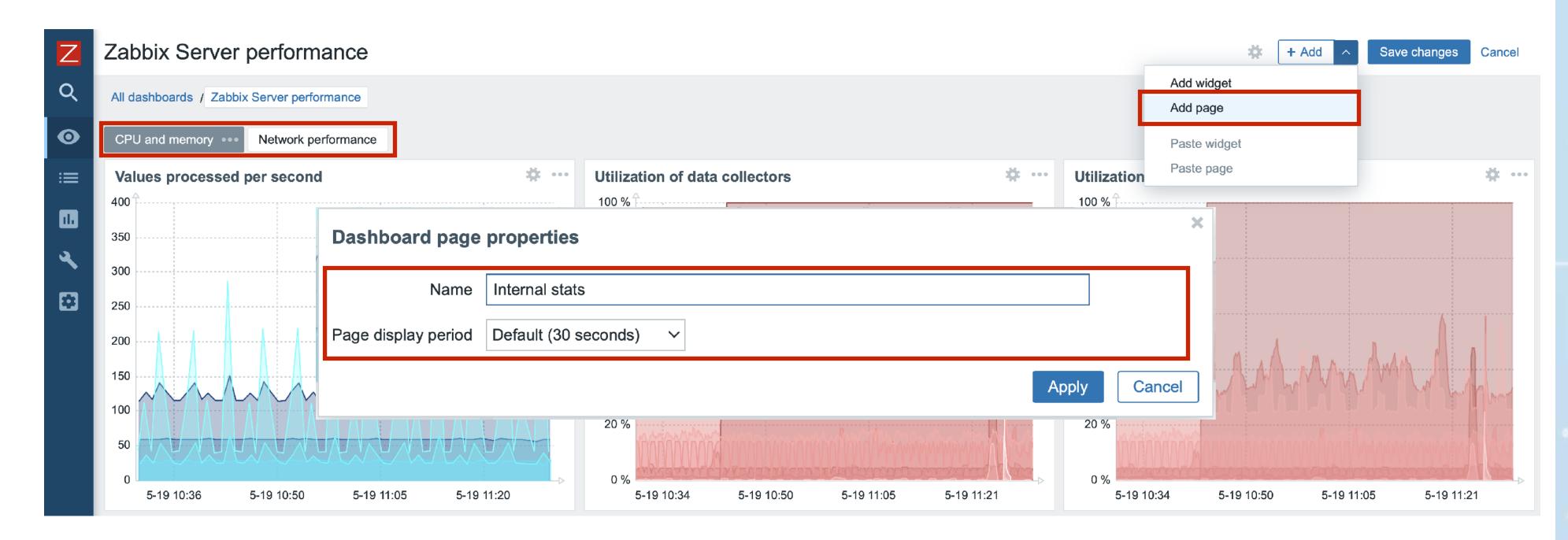








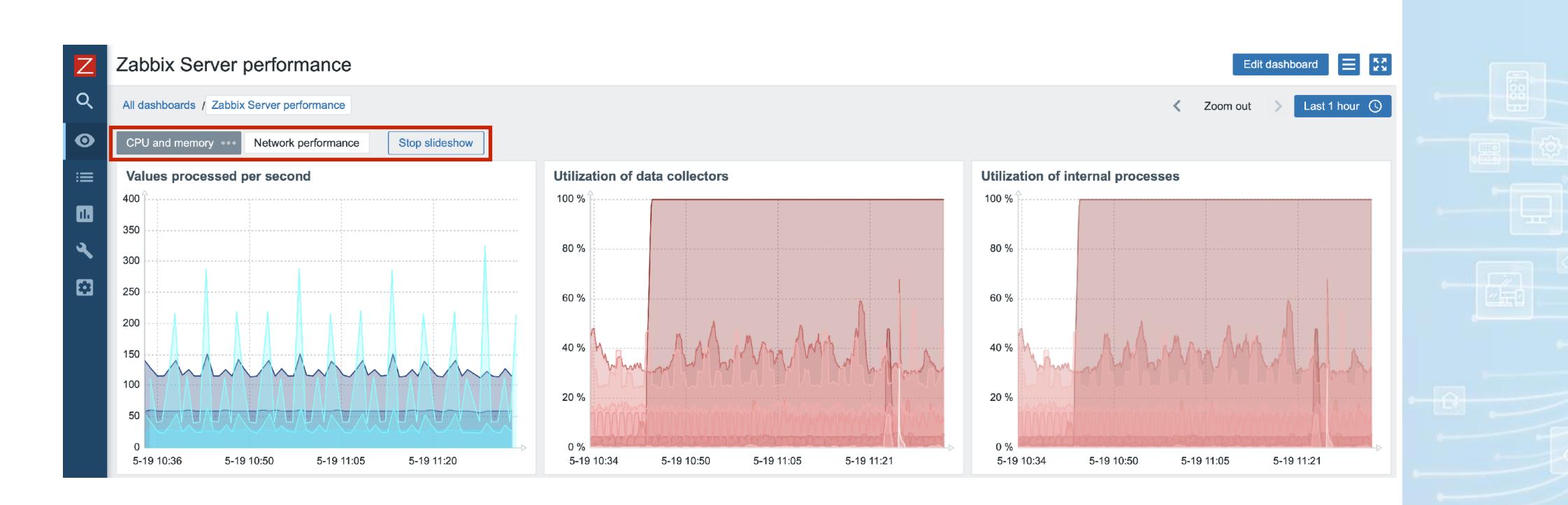
### **MULTI-PAGE DASHBOARDS**







#### **MULTI-PAGE DASHBOARDS**







### **SCHEDULED PDF REPORTS**

#### Reports->Scheduled reports

Ζ	ABBIX « 🗈	Scheduled reports						Create report
	Q							Filter 🍸
O	Monitoring ~		Name St	how All Created by me Status An	y Enabled Disabled Expired			
∷≡	E Inventory ∽			Apply Reset				
11.	Reports ^							
		Name ▲	Owner	Repeats	Period	Last sent	Status	Info
		CEO KPIs report	alex (Alexei Vladishev)	Daily	Previous day	Never	Enabled	8
	Scheduled reports	Weekly management report	james (James Smith)	Weekly	Previous week	Never	Enabled	
	Availability report							_
	Triggers top 100	Zabbix health daily report	james (James Smith)	Daily	Previous day	Never	Enabled	8
	Audit						Displa	aying 3 of 3 found

- Centralised management of reports  $\bigcirc$
- Zabbix converts a dashboard to PDF and sends by email  $\bigcirc$
- Works with any dashboard  $\bigcirc$
- Accessible to all users but can be restricted by a new user role  $\bigcirc$





### SCHEDULED PDF REPORTS

#### Scheduled reports

Q	* Owner	james (James Smith) 🗙	Select	$\bigcirc$
$\odot$				$\bigotimes$
	* Name	Weekly management report		
≣	* Dashboard	CEO X	Select	
1	Period	Previous day Previous week Previous month Previous year		
عر	Cycle	Daily Weekly Monthly Yearly		
<b>E</b>	Start time	07 : 00		
	* Repeat on	<ul> <li>Monday</li> <li>Thursday</li> <li>Saturday</li> <li>Sunday</li> <li>Wednesday</li> </ul>		
	Start date	2021-05-17		
	End date	YYYY-MM-DD :::		
	Subject	Weekly management report	]	
	Message	Good morning!		
		Here is a new management report for the last week attached.	2	
	* Subscriptions	RecipientGenerate report byStatusAction <b>ames (James Smith)</b> RecipientIncludeRemove		
		Add user Add user group		
	Description	Weekly management report showing KPIs for the last week.		
ŋ				
2				
?			,	
	Enabled			
*		Update Clone Test Delete Cancel		

Reports->Scheduled reports

## Scheduled daily, weekly, monthly, or yearly PDF reports





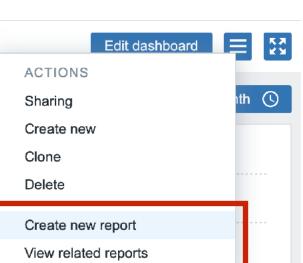


### **SCHEDULED PDF REPORTS**

#### Also accessible from dashboards! $\bigcirc$

#### Monitoring->Dashboards

Ζ	CEO				
Q	All dashboards / CEO	ACTIONS Sharing	th 🕓		
$\odot$	New accounts New leads and customers				
: <b>=</b>	1.2 accounts	1.2 leads	Clone Delete		
	1.0 accounts	1.0 leads	Create new report		
3	0.8 accounts	0.8 leads	View related reports		







# More simple and more powerful



### **TAGS FOR ITEMS**

- Tags for templates, hosts, host prototypes, triggers  $\bigcirc$
- Zabbix 5.4: Now introduced for items, no more app  $\bigcirc$

Ζ	Items					
Q	All hosts / development Enabled	BX Items 598 Triggers 212	Graphs 1	Discovery rules 2	Web scenarios	
$\odot$	Item Tags 2 Preprocessing					
≔		Item tags Inherited and item	i tags			
11.		Name		Value		Action
		Service		Jira		Remove
4		Class		CPU		Remove
<b>\$</b>		Add				
		Add Test Cancel				

Automatically transformed into tag "Application: <app name>" during upgrade  $\bigcirc$ 

bl	ications!	





### **OLD SYNTAX**

- TRIGGERS: {host:key.func(params)}>0  $\bigcirc$
- CALCULATED: 100\*last("vfs.fs.size[/,free]/last("vfs.fs.size[/,total]")  $\bigcirc$
- AGGREGATE: grpsum["MySQL Servers","vfs.fs.size[/,total]",last]  $\bigcirc$

### **NEW UNIFIED SYNTAX**

- TRIGGERS: func(/host/key, params)>0  $\bigcirc$
- CALCULATED: sum(/host/vfs.fs.size[\*,free], 10m)  $\bigcirc$
- AGGREGATE: min(avg\_foreach(/\*/qps?[group="PostgreSQL" and tag="Env:Production"], 5m))  $\bigcirc$







### **ADVANTAGES**

- Much more simple unified syntax for everything: triggers, calculated items  $\bigcirc$
- Support of absolute time periods like last day, previous hour, etc  $\bigcirc$
- Free of any limitations of the old syntax  $\bigcirc$
- Powerful aggregations with selection of items by tags, wildcards, etc.  $\bigcirc$
- Function can be applied to result of other function: func1(func2(item))  $\bigcirc$
- It is possible to have multiple items as function arguments: min(item1, item2)  $\bigcirc$
- No more aggregated metrics: calculated metrics for everything!  $\bigcirc$







### **NEW SET OF FUNCTIONS**

Function group	Functions
Aggregate functions	avg, count, countunique, kurtosis, mad, max, min, skewness, stdde
Bitwise functions	bitand, bitlshift, bitnot, bitor, bitrshift, bitxor
Date and time functions	date, dayofmonth, dayofweek, now, time
History functions	change, first, fuzzytime, last, logeventid, logseverity, logsource, per
Mathematical functions	abs, acos, asin, atan, atan2, avg, cbrt, ceil, cos, cosh, cot, degrees, e, rand, round, signum, sin, sinh, sqrt, sum, tan, truncate
Operator functions	between, in
Prediction functions	forecast, timeleft
String functions	ascii, bitlength, bytelength, char, concat, find, insert, left, length, ltri

#### https://www.zabbix.com/documentation/current/manual/appendix/functions

evpop, stddevsamp, sum, sumofsquares, varpop, varsamp

rcentile, trendavg, trendcount, trendmax, trendmin, trendsum

e, exp, expm1, floor, log, log10, max, min, mod, pi, power, radians,

rim, mid, repeat, replace, right, rtrim, trim





### **API TOKENS**

- Per-user named API tokens with expiry date  $\bigcirc$
- New user role: access to API tokens  $\bigcirc$
- Can be managed globally by super-admins  $\bigcirc$

្	Support	API tokens ~				Create API token
_						Filter T
Z	Share		Name Expires in less than 14 days	Status Any	Enabled Disabled	
?	Help			Apply Reset		
•	User settings	Name ▲	Expires at	Created at	Last accessed at	Status
	User settings	Customer portal token	2021-03-16 00:00:00	2021-03-15 11:12:27	Never	Enabled
	Profile	History export token	2021-03-25 18:47:08	2021-03-25 18:47:09	Never	Enabled
						Displaying 2 of 2 found
	API tokens					
ባ	Sign out					





### **API TOKENS**

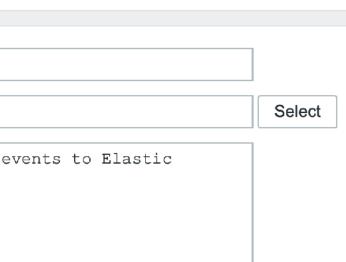
#### Any user having permissions can create it $\oslash$

ZA	ABBIX «	<b>K</b>	API tokens ~	
		Q		
			* Name	Token for export of events
$\odot$	Monitoring	~		
			* User	james (James Smith) 🗙
≣	Inventory	~	Description	The token will be used for export of e
-	<b>_</b> /			
11.	Reports	~		
4	Configuration	~		
	Comgaration			
	Administration	~	Set expiration date and time	
	- · ·			
	General	>	* Expires at	2022-01-01 00:00:00
	Proxies		Enabled	
	Authentication			Add Cancel
	User groups			

 $\bigcirc$ 

#### Can be managed globally by super-admins

		U	0	<u> </u>	<u> </u>	1					
Ζ	API tokens ~										Create API token
Q											Filter 🏹
Ο	Name ▲		User			Expires at	Created at	Created by user	Last accessed at	5	Status
:=	Customer portal token		alex (Alexei VI	ladishev)		2021-03-16 00:00:00	2021-03-15 11:12:27	alex (Alexei Vladishev)	Never	E	Enabled
	History export token		alex (Alexei VI	ladishev)		2021-03-25 18:47:08	2021-03-25 18:47:09	alex (Alexei Vladishev)	Never	Ĩ	Disabled
	Token for export of events		james (James	Smith)		2022-01-01 00:00:00	2021-05-19 12:22:54	alex (Alexei Vladishev)	Never	E	Enabled
<b>~</b>										Displ	aying 3 of 3 found







### EASY TO MANAGE TEMPLATES

Each template element got a unique ID that helps to perform template  $\bigcirc$ updates in a safe way



It also enables the ability to keep templates in the Git repository and push it  $\bigcirc$ to Zabbix by CI/CD pipeline using Zabbix API







### **BETTER IMPORT**

When importing a new template, Zabbix will clearly show you a difference  $\bigcirc$ with the existing template

<pre>v Updated v Templates</pre>	
<pre>v Templates parameters:</pre>	_
Memcached	
<pre>vitems parameters:</pre>	- \$.conn_yields
Memcached: Throttled       master_item: key: 'memcached.stats["{\$MEMCACHED.CO         tags:       -         -       tag: Application         -       value: Memcached         +       tag: Service         +       value: Memcached         +       tag: Class	
tags:  - tag: Application - value: Memcached + - + tag: Service + value: Memcached + - + tag: Class	
- tag: Application - value: Memcached + - + tag: Service + value: Memcached + - + tag: Class	
	<pre> tag: Application - value: Memcached + - + tag: Service + value: Memcached + - + tag: Class</pre>

		×
CONN.URI}"]'		
		1
	Import	Cancel







### **SCALABILITY IMPROVEMENTS**

- Zabbix Server and Proxy poller processes do not require database  $\bigcirc$ connection anymore
- In-memory cache for trend data, significant speedup for trend-related  $\bigcirc$ functions
- Graceful startup of Zabbix Server  $\bigcirc$
- Better parallel data processing on Zabbix Server side for heavy loads  $\bigcirc$







### **UNIVERSAL GLOBAL SCRIPTS**

- Support of JavaScript Webhooks for easy integrations with 3rd party alerting  $\bigcirc$ and ticketing systems
- Global scripts can be used for: auto-remediation, alerting, integrations and  $\bigcirc$ manual actions for hosts and events

Z	Scripts				Ζ	Actions					
ର ତ		Open a ticket in ServiceNow			ର ତ	Action Operations		On anotion, dataila			\$
i≡ 	Scope Type	Action operationManual host actionWebhookScriptSSHTelnet				* Default operation step duration Pause operations for suppressed problems		Operation details Operation	Send message	~	
ा २	Parameters	eventid {E	Iue EVENT.ID}	Action Remove		Operations	Step Add	Steps Step duration	Send message Open a ticket in ServiceNow 0 (0	finitely) - use action default)	
₿		tags {E	EVENT.SEVERITY} EVENT.TAGSJSON}	Remove		Recovery operations	Deta Add	Send to user groups	* At least one user or user grou User group	ip must be selected.	Action
	* Script	Add return 0				Update operations	Deta Add	Send to users	Add	Action	
	* Timeout Description					* At least Add	one o Ca	Quadanta	Add		
Ģ								Send only to Custom message			
Z	Host group	All V		&	о 2			Conditions	Label Na Add	ime	Action
?			Cancel		?						Add Cancel





### **POWERFUL VALUE MAPS**

- Exact match  $\bigcirc$
- By range  $\bigcirc$

 $\bigcirc$ 

By r	Tegular expression				
Q	All hosts / Zabbix server Enabled ZBX Items 126	Triggers 65 Graphs 24 Discor	very rules 3 Web scenarios		
Ο	Host Templates 2 IPMI Tags Macros Invento	ory Encryption Value mapping			
=	Name Add	Value		Action	
	Update Clone	Full clone Delete Ca	incel		
<b>A</b>	Value map	ping			×
	* Name	Service state			
	* Mappings	Туре	Value	Mapped to	Action
		in range v	0-31,64-127 ⇒	Up	Remove
		default ~	] ⇒	Down	Remove
		Add			
		-		Add	Cancel





### VALUES MAPS FOR TEMPLATES AND HOSTS

- No more global value maps! Now only for templates and hosts  $\bigcirc$
- Advantages:  $\bigcirc$ 
  - Flat self-contained templates without any references to global objects  $\bigcirc$
  - Better multi-tenancy  $\bigcirc$
- Mass-update operations for easier management  $\bigcirc$

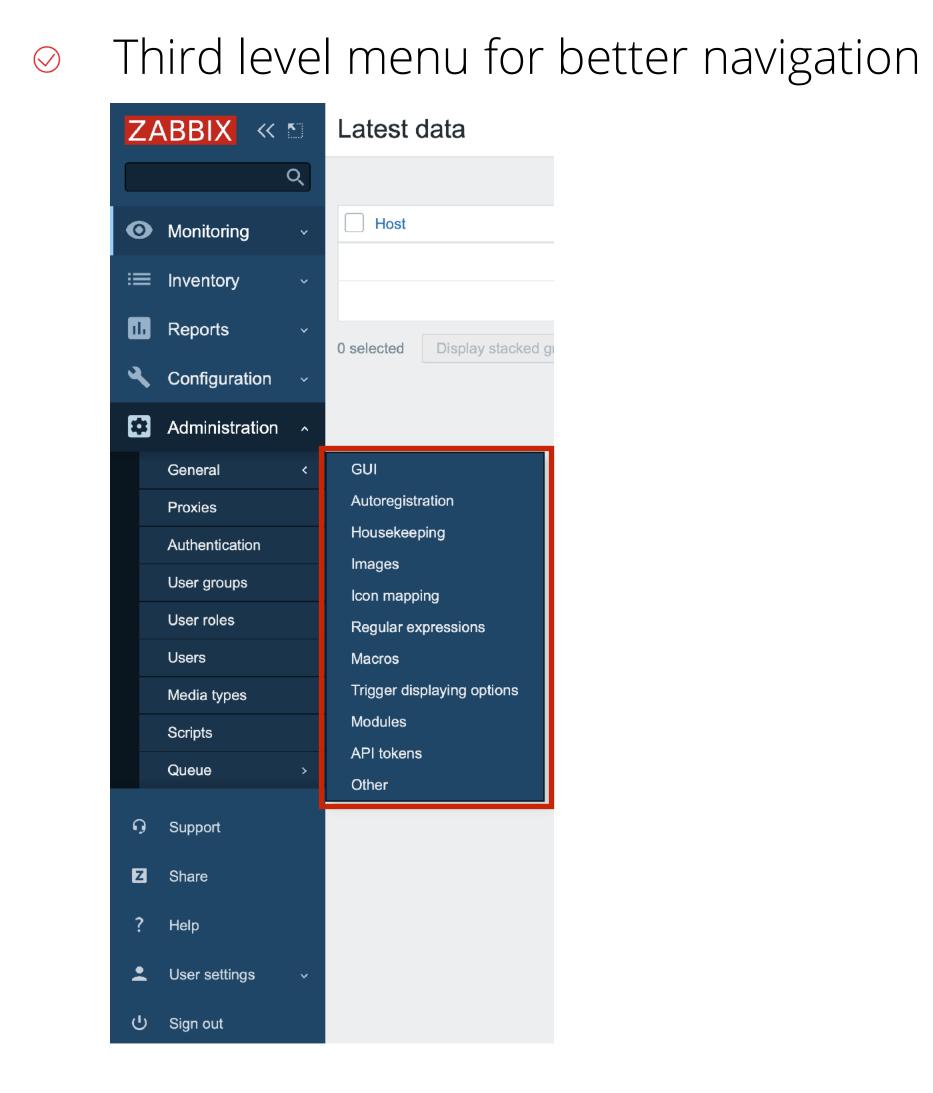
I	U	
Mass update		×
Host Templates	IPMI Tags Macros Inventory Encryption	Value mapping
Value mapping 🔽	Add Update Rename Remove Remove	e all
	Name Value	Action
	Add Add from	
	Update existing	
		Update Cancel







### **USABILITY IMPROVEMENTS**







### **USABILITY IMPROVEMENTS**

#### Stay focused: modal windows for mass-update and import forms $\bigcirc$

Hosts						Create host Import
						Filter T
Name ▲         Applications	Items Triggers Graphs	Discovery Web	Interface Proxy	Templates	Status Availability	Agent encryption Info Tags
Zabbix server Applications 18	Items 126 Triggers 65 Graphs 24	Discovery 3 Web	127.0.0.1:10050	Linux by Zabbix agent (Linux block devices by Zabbix agent, Linux CPU by Zabbix agent, Linux filesystems by Zabbix agent, Linux generic by Zabbix agent, Linux memory by Zabbix agent, Linux network interfaces by Zabbix agent, Zabbix agent), Zabbix Server	Enabled ZBX	None
_						Displaying 1 of 1 found
-	Host Templates IPMI Tags   Host groups Original   Description Original   Monitored by proxy Original   Status Original	Macros Inven	tory Encryption Val	ue mapping		









### **USABILITY IMPROVEMENTS**

Negated filtering by tags  $\oslash$ 

Ζ	Problems	
Q	< free Excluding staging 🏶 All issues	
$\odot$	Show Recent problems Problems History	
≔	Host groups type here to search	Select
	Hosts type here to search	Select
عر	Triggers type here to search	Select
•	Problem	
-		igh isaster
	Age less than 14 days	

S			
			✓ ➤ This year so far
Host inventory	Type Add	~	Remove
Tags	And/Or Or		
	Env	Does not equal V	Staging Re
	Add	Exists	
Show tags	None 1 2 3	Equals Contains	rtened None
Tag display priority	comma-separated list	Does not exist	
Show operational data	None Separately W	Does not equal Does not contain	
Show suppressed problems	Show unack	nowledged only	

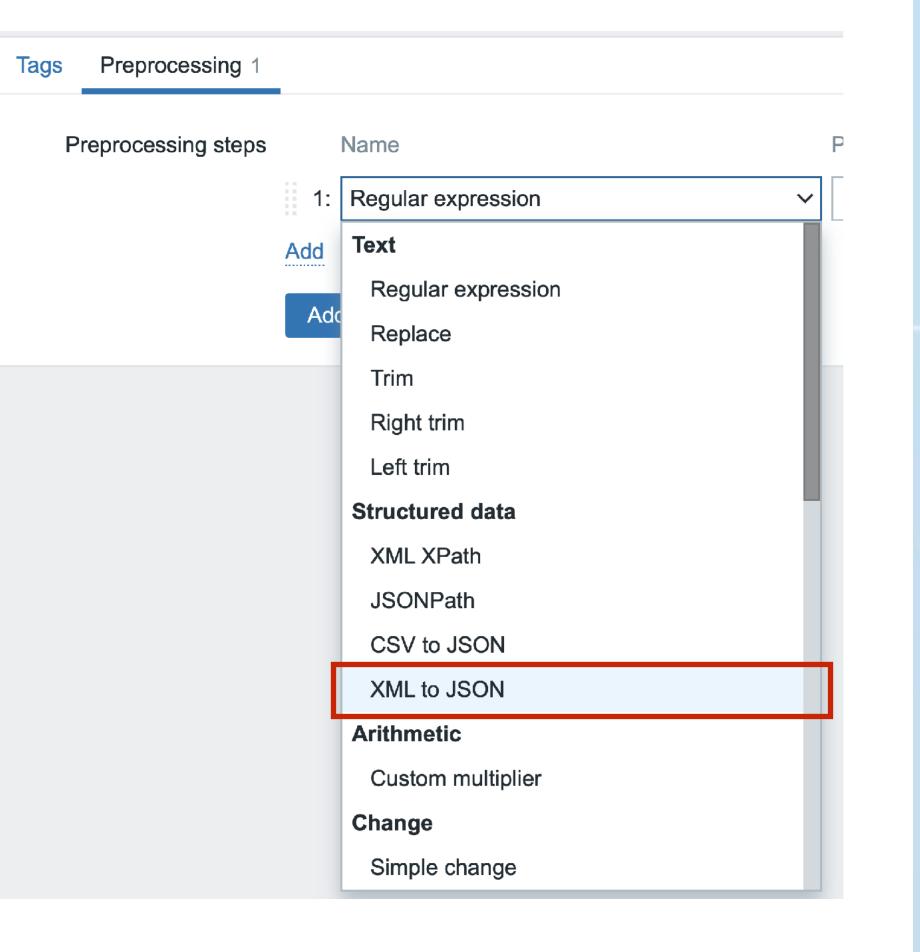




### **BETTER SUPPORT OF XML PREPROCESSING**

ltem

- ⊘ XML XPath
- ⊘ Now also XML to JSON conversion









### **AND MORE!**

#### ⊘ Security related

- ⊘ Support of all SNMPv3 encryption protocols
- ⊘ Unified error messages in case of unsuccessful login
- ⊘ Disabled autocomplete for password fields in Zabbix UI

#### Real-time export $\oslash$

- ⊘ Information about event severity is included in real-time export files
- ⊘ More granular configuration of real time export

#### ⊘ Also

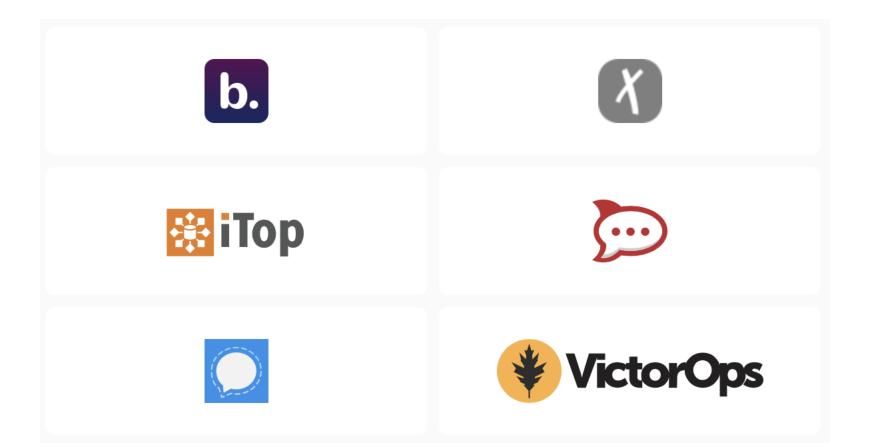
- ⊘ Support of VMWare cluster monitoring
- ◎ Support of filtering by the presence of LLD macro for low-level discovery
- ◎ Support of macro {ITEM.VALUETYPE} for notifications
- ◎ Support of service name lookup for Oracle for HA setups
- ◎ Support of NTLM authentication for JavaScript Webhooks
- Support of multiple JMX metrics having same key on one host
- ◎ Increased size of memory available to JavaScript Webhooks and preprocessing
- ⊘ CurlHttpRequest renamed to HttpRequest in Webhooks
- ◎ "Alias" renamed to "Username" in user configuration
- O American English is a default language of Zabbix UI and also Zabbix documentation

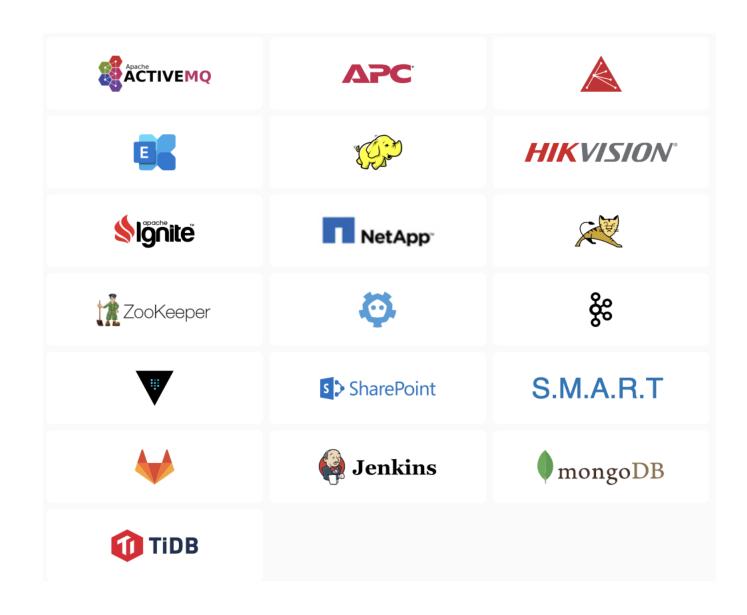




### **NEW INTEGRATIONS AND TEMPLATES**

- Integrations with iTOP, VictorOps, Rocket.Chat, Signal, Express.ms, and other  $\bigcirc$ solutions
- New templates for monitoring of APC UPS hardware, Hikvision cameras, etcd,  $\bigcirc$ Hadoop, Zookeeper, Kafka, AMQ, HashiCorp Vault, MS Sharepoint, MS Exchange, smartclt, Gitlab, Jenkins, Apache Ignite, and more applications and services



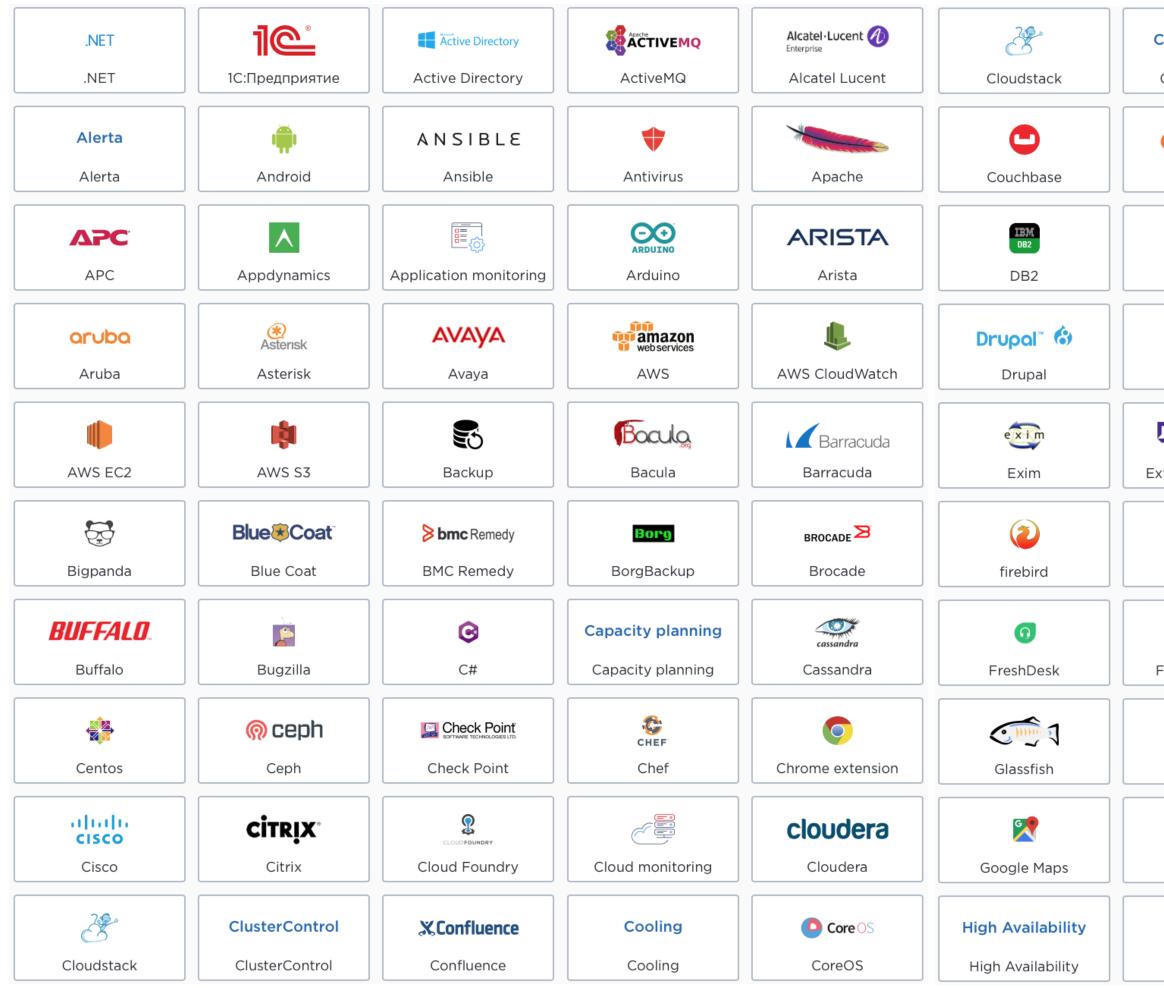








### **OFFICIAL SOLUTIONS FOR MONITORING AND ALERTING**



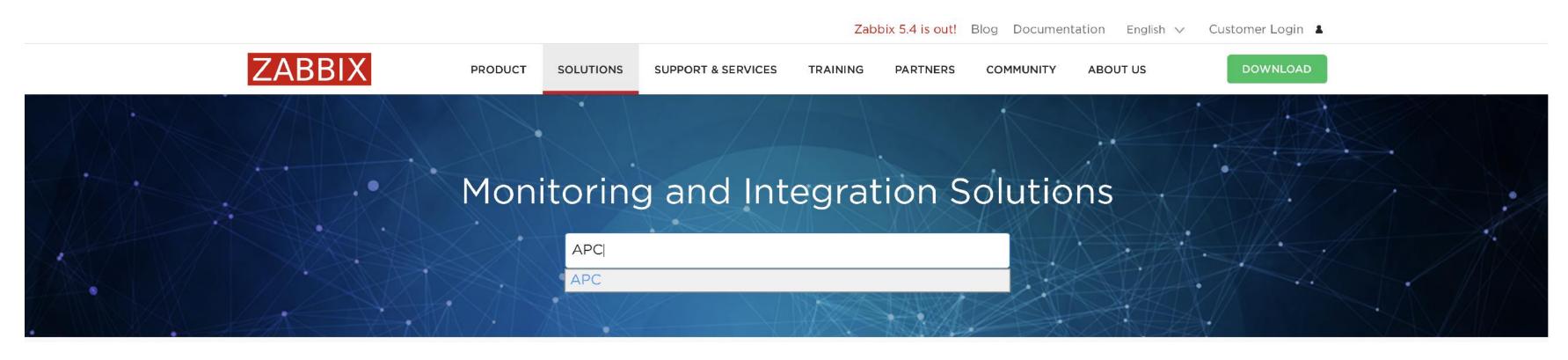
#### https://www.zabbix.com/integrations

ClusterControl	X Confluence	Cooling	Core OS	НТТР	HTTPS	HUAWEI
ClusterControl	Confluence	Cooling	CoreOS	HTTP	HTTPS	Huawei
cPanel"	D-Link		DATACOM		A\$/400	IBM MQ
cPanel	D-Link	Database monitoring	Datacom	IBM AIX	IBM AS/400	IBM MQ
୍	Deell	DNS	docker		intel	InterSystems
Debian	Dell	DNS	Docker	Ingress	Intel	Intersystems
•	elex	DELLEMC	EMERSON	IRC	Jabber	🐸 JasperReports
Elasticsearch	Eltex	EMC	Emerson	IRC	Jabber	JasperReports
	(E)		Ð	Boss by Red Hat	<b>Jenkins</b>	<b>ŸJIRA</b>
Extreme Networks	F5 Networks	Facebok Messenger	Fedora	JBoss	Jenkins	Jira
	flowdock	FURTIDET	<b>W</b>	juliå	JUNIPEC.	<b>č</b> ę
Firewalls	Flowdock	Fortinet	FreeBSD	Julia	Juniper	Kafka
	Galera Cluster	G GECKOBOARD	🔶 git	kubernetes	ЖVМ	KYOCERa
Fujitsu Siemens	Galera cluster	Geckoboard	Git	Kubernetes	KVM	Kyocera
Glpi	=GO	Google Apps	$\bigcirc$	Lenovo	🔰 Lexmark	
GLPi	Go	Google Apps	Google Cloud	Lenovo	Lexmark	Lighttpd
Ø		1 Contraction	HAPROXY		Lucidworks	LXC
Grafana	Graylog	Hadoop	HAPROXY	Logstash	Lucidworks	LXC
Q	HITACHI	Hewlett Packard Enterprise	ωυχ	🕑 Mattermost	Mellanox.	
Hipchat	Hitachi HDS, HNAS	HP Enterprise	HP-UX	Mattermost	Mellanox	Memcached





### **TEMPLATES FOR HARDWARE VENDOR DEVICES**







Manufacturer of power supply products designed to use with various electrical appliances. The company's power supply products are used in personal computers, engineering work stations, file servers, communications and inter networking equipment, enabling customers to get reliable power and physical IT infrastructure.

#### Available solutions

Official Templates	3rd Party Solutions
APC UPS GALAXY:	APC UPS Galaxy 3500 SNMP
APC SMART-UPS:	APC Smart-UPS 2200 RM SNMP APC Smart-UPS 3000 XLM SNMP APC Smart-U APC Smart-UPS RT 1000 XL SNMP APC Smart-UPS SRT 5000 SNMP APC Smart
APC UPS SYMMETRA:	APC UPS Symmetra LX SNMP APC UPS Symmetra RM SNMP APC UPS Symmetre
GENERAL TEMPLATE:	APC UPS SNMP

CISCO



UPS RT 1000 RM XL SNMP rt-UPS SRT 8000 SNMP

tra RX SNMP





### **DEPLOY ON-PREMISE**



### **DEPLOY IN THE CLOUD**





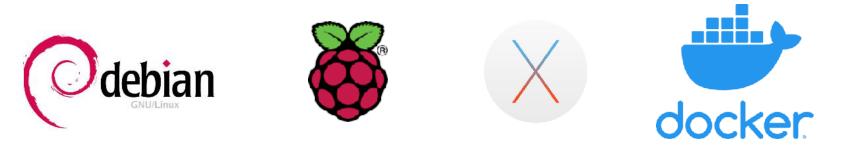




Google Cloud

















### **BREAKING CHANGES**

- No support of applications and screens  $\oslash$ 
  - Many API methods are affected  $\bigcirc$
- No support of global value maps  $\bigcirc$
- New syntax for trigger expressions and calculated metrics  $\bigcirc$ 
  - Aggregate metrics are merged into calculated metrics  $\bigcirc$

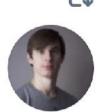




### **INTEGRATION WITH GRAFANA**

#### Broken at release day due to API changes $\bigcirc$

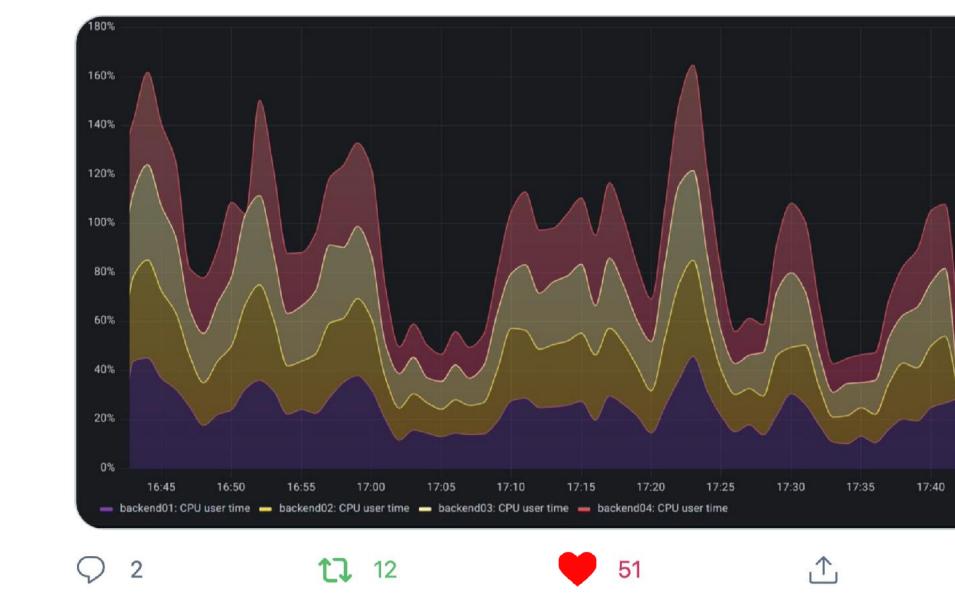
#### Quickly fixed by Alexander, thank you! $\bigcirc$



#### 17 You Retweeted

Alexander Zobnin @alexanderzobnin · 20h

Grafana-Zabbix 4.1.5 released! Fixed compatibility with Zabbix 5.4. Upgrade and enjoy your dashboards again! grafana.com/grafana/plugin...













### **UPGRADE NOTES**

- Install new binaries for Zabbix Server and Proxies, upgrade Zabbix UI  $\bigcirc$ 
  - Zabbix Server will upgrade your database automatically  $\oslash$
- All trigger expressions, calculated and aggregate metrics will be automatically  $\bigcirc$ converted
- Applications will be automatically converted to tags  $\bigcirc$ 
  - For example: "CPU" will be converted to tag "Application:CPU"  $\bigcirc$
- Global values maps will be moved to templates and host level  $\bigcirc$
- Screens will be automatically converted to Dashboards







# 6.0 LTS ETA: 2021, Q4

HA

Work in progress:

- HA for Zabbix Server
- Business Service Monitoring (BSM)



### ZABBIX ROADMAP: LONG TERM & UP-TO-DATE



#### Zabbix 6.0 LTS

Planned release date: Q4 2021

	form event filterin reprocessing rules	g, de-duplication a	and aggregation	
<ul> <li>Ability to man time</li> </ul>	nually hide and su	spend problems fo	or a period of	
<ul> <li>Problem view collaborative</li> </ul>		ter problem resolu	ution and	

#### Business service monitoring (BSM)

- Make Zabbix scale to 100K of business services In dev
- Support of alerting on service status changes
- Tag based mapping between problem events and services In dev [New]
- Support of complex service status calculation and propagation rules 🛽
- Support of multi-tenancy for Services In dev New ZBXNEXT-59 🌟 Top voted!
- New widgets for service tree and SLA reporting In desig
- Root cause analysis New
- Impact analysis New
- Import/export for service tree In design New
- New graphical visualization of service tree New

#### https://www.zabbix.com/roadmap





# ZABBIX 5.4

Thank you!

