

Webinar

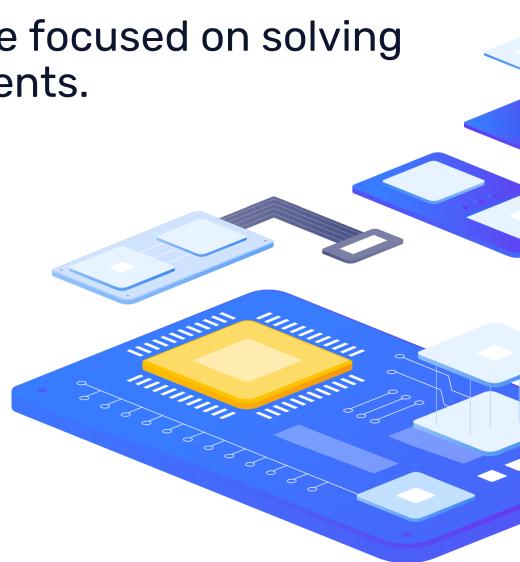
What's new in Zabbix 6.0 LTS

all our microphones are muted ask your questions in Q&A, not in the Chat use Chat for discussion, networking or applause



Zabbix 6.0 focuses on:

- Solving enterprise level security and redundancy requirements
- > Improving performance for large Zabbix instances
- Providing additional value to different types of Zabbix users – DevOps and ITOps teams, Business process owner, Managers
- Further extending Zabbix monitoring and data collection capabilities
- Continued delivery of official integrations with 3rd party systems



nitMAX



Zabbix server High availability Cluster





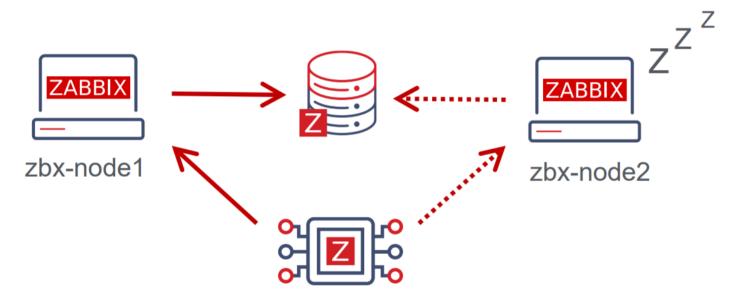
Zabbix Server high availability cluster

Zabbix administrators now have the ability to define Zabbix server HA clusters:

- > Define one or multiple redundant nodes
- > All nodes use the same database

Zabbix 6.0 LTS

- > Ability to define the failover delay period
- > The Zabbix server nodes send their heartbeat to the Zabbix database every 5 seconds





New parameter in Zabbix Server configuration file - HANodeName:

- > Empty by default
- > This parameter should contain an arbitrary name of the HA node
- > The parameter is mandatory for the node to start in the HA mode

Option: HANodeName
The high availability cluster node name.
When empty server is working in standalone mode.
HANodeName=zbx-node1



Zabbix Server high availability cluster

New parameter in Zabbix Server configuration file - NodeAddress:

> Empty by default

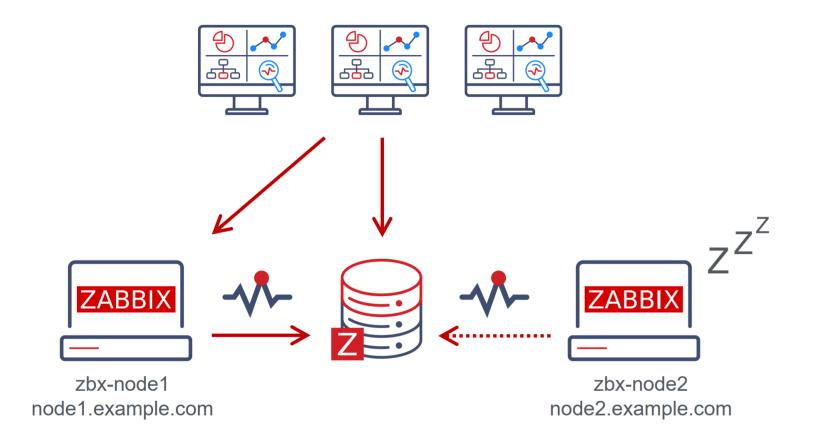
Zabbix 6.0 LTS

- > This parameter should contain the address of the HA node
- > Let's the Zabbix frontend know the address of the currently active node

Option: NodeAddress
IP or hostname to define hoe frontend should connect to the server.
Format: <address>[:port]
NodeAddress=node1.example.com



> Each frontend node will connect to the Zabbix database, obtain the active node address and start communicating with it.





System information

> Zabbix Server HA cluster status can be observed in System information section or in the System information dashboard widget

-			
Parameter		Value	Details
Zabbix server is running		Yes	192.168.1.91:10051
Number of hosts (enabled/disal	bled)	34	34 / 0
Number of templates		232	
Number of items (enabled/disal	bled/not supported)	1488	1412 / 1 / 75
Number of triggers (enabled/dis	sabled [problem/ok])	624	619 / 5 [<mark>52</mark> / 567]
Number of users (online)		5	1
Required server performance, r	new values per second	135.29	
High availability cluster		Enabled	Fail-over delay: 1 minute
Name	Address	Last access	Status
zbx-node1	192.168.1.91:10051	1s	Active
zbx-node3	192.168.1.19:10051	13d 3h 23m	Unavailable
zbx-node4	192.168.1.19:10051	13d 3h 22m	Stopped
zbx-node2	192.168.1.92:10051	2s	Standby



Many other new HA features:

- > Ability to set a custom failover delay
- > Ability to manually remove a node from the cluster

#zabbix_server -R ha_remove_node=ckyjydgop0001c1pvhaoz4o4e Removed node "zbx-node4" with ID "ckyjydgop0001c1pvhaoz4o4e"

- > Both active and passive agents can now communicate with HA nodes
- > Both active and passive proxies can now communicate with HA nodes
- > Cluster node LLD rule added to the Zabbix server health template



Business service monitoring





Business service monitoring

Business Service monitoring (BSM) enables Zabbix administrators to define services of varying complexity and monitor their status

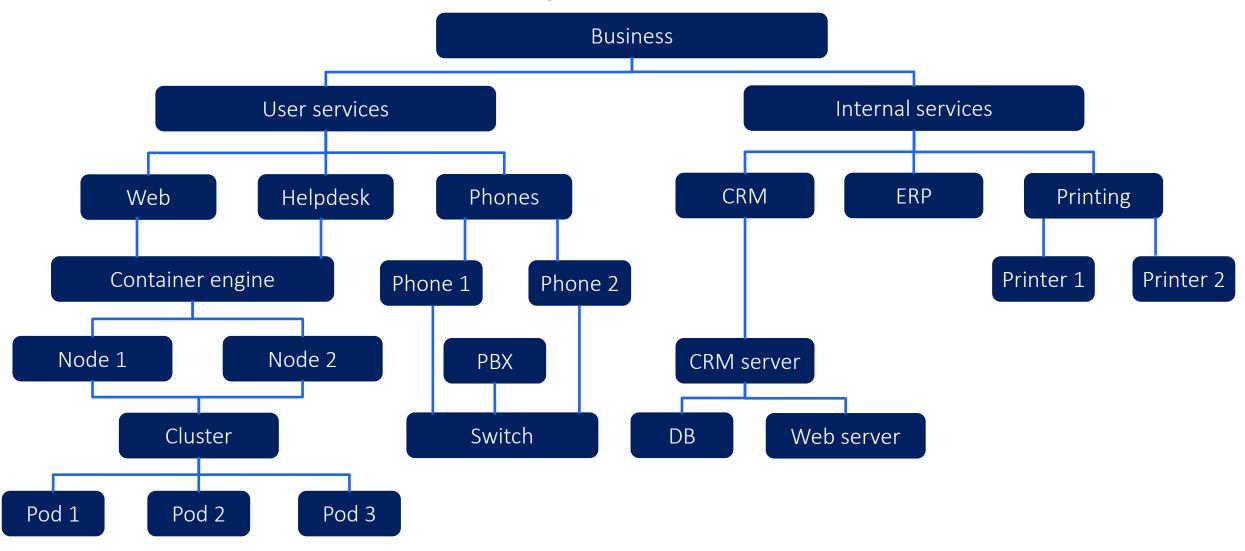
Most common use cases:

- Server clusters
- > Services that utilize load balancing
- Services which consist of a complex IT stack
- > Systems with redundant components in place

Business service monitoring is extremely scalable with support for over 100k services.



Business service example





Zabbix 6.0 LTS Calculating service status

There are multiple approaches to calculating service status

In case of a problem, the service state can be changed to:

- > The most critical problem severity based on the child service problem severities
- > The most critical problem severity based on the child service problem severities, only if all child services are in a problem state
- > The service is set to constantly be in an OK state

Most critical if all children have problems

Most critical if all children have problems

Set status to OK



Calculating service status – additional rules

New additional r	ule	×	
Set status to	High ~		
Condition	If at least N child services	have Status or above	
Status	High V	If at least N child services have Status status or above	\sim
Oldido	i igii	If at least N child services have Status status or above	
		If at least N% of child services have Status status or above	
		If less than N child services have Status status or below	
		If less than N% of child services have Status status or below	
		If weight of child services with Status status or above is at least W	
		If weight of child services with Status status or above is at least N%	
		If weight of child services with Status status or below is less than W	
		If weight of child services with Status status or below is less than N%	- 1



Business service monitoring - notes

Many other additional features and improvements:

- > Ability to define permissions on specific services
- > Business Service root cause analysis
- > SLA monitoring
- > Receive alerts and react on Business Service status change
- > Provide a list of root cause problems in service-based notifications and commands with **{SERVICE.ROOTCAUSE}**



Business service monitoring - SLA

	initMAX <<	5	ZABBIX-DEMO				2	Add ~	Save changes	Cancel
initMAX.cz		Q	All dashboards / ZABBIX-DEMO	Edit widget		×				
	Monitoring	~	6.0 SLA ••• Ostatni	Туре	SLA report ~	Show header 🗹				
		^	SLA report	Name	default					* …
	Dashboard			Refresh interval	Default (No refresh) V		2021-12	2022-01	2022-02	
	Problems		Service	* SLA	SLA:1 ×	Select	202	202	202	
	Hosts		www.initmax.cz		type here to search	Select	99.7826	100	100	
	Latest data		www.zabbix.com	4			99.8905	99.7811	99.6182	
	Maps			Show periods					Displaying 2 of	f 2 found
	Discovery			From	YYYY-MM-DD ::::					
Ō	Services	~		То	YYYY-MM-DD ::::					
≔	Inventory	~				Apply Cancel				
īĿ	Reports	~								
٩	Configuration	~								
-	Administration	~								



Business service monitoring - notes

Many other additional features and improvements:

> Define Business Service permissions for multi-tenant environments

Access to services

Read-write access to services	None All Service list	
	Agreements ×	Select
	type here to search	
Read-write access to services with tag	Customer Bank	
Read-only access to services	None All Service list	



New audit log schema





New Audit log schema – technical details

Many new changes had to be made under the hood when designing the new audit log

- > Zabbix 6.0 LTS introduces a new database structure for the Audit log
- > Collision resistant IDs (CUID) will be used for ID generation to prevent audit log row locks
- > Audit log records will be added in bulk SQL requests
- > Introducing Recordset ID column. This will help users recognize which changes have been made in a particular operation



New Audit log schema – Example

	🕻 initMAX < 🕾	Audit log									
initN	/AX.cz								< Zoom ou	ut > Last 12 hou	ırs 🕓 Filter 🍸
0	Q Monitoring ~					From	pw-12h	Last 2 days	Yesterday	Today	Last 5 minutes
Ō	-					To no	Apply	Last 7 days Last 30 days	Day before yesterday This day last week	Today so far This week	Last 15 minutes Last 30 minutes
:=	Inventory ~							Last 3 months Last 6 months	Previous month	This week so far This month	Last 1 hour Last 3 hours
1.	Reports ^							Last 1 year Last 2 years	Previous year	This month so far This year	Last 6 hours
	System information Scheduled reports									This year so far	Last 1 day
	Availability report	Time	User	IP	Resource	ID Actio	n Recordset ID	Deta	iils		
	Triggers top 100	2022-02-15 23:58:42	tomas.hermanek@initmax.cz	89.176.10.7	Dashboard	56 Upda	te ckzoq8l960000jxzmsf27x	k1t Desc	cription: ZABBIX-DEMO		Details
	Audit								nboard.pages[68]: Added nboard.pages[68].dashboard_	_pageid: 68	
	Action log Notifications	2022-02-15 15:20:58	tomas.hermanek@initmax.cz	89.176.10.7	Dashboard	56 Upda	te ckzo7qs5z0000zyzmqhle	ev5pj Desc	cription: ZABBIX-DEMOv2		
્ય	Configuration v							dash	board.name: ZABBIX-DEMC	Dv2 => ZABBIX-DEMO	
		2022-02-15 15:20:46	tomas.hermanek@initmax.cz	89.176.10.7	Dashboard	55 Dele	te ckzo7qik40000zyzmfqhh	rbla Deso	cription: ZABBIX-DEMO		
	Administration ~	2022-02-15 15:18:07	tomas.hermanek@initmax.cz	89.176.10.7	Dashboard	55 Upda	te ckzo7n3sa0000hczmhfq	zd5b7 Desc	cription: ZABBIX-DEMO		Details
									nboard.pages[63].widgets[318 nboard.pages[63].widgets[318		



Zabbix 6.0 LTS New Audit log schema

The goal of the Zabbix 6.0 LTS audit log rework is to make a reliable and detailed audit log which would provide logging for both Frontend and Zabbix server

- > Detailed logging of both Zabbix frontend and Zabbix server records
- > Designed with minimal performance impact in mind
- Accessible via Zabbix API
- Implementing the new audit log schema is an ongoing effort further improvements will be done throughout Zabbix update life-cycle



REALINE

Machine learning



X

Zabbix 6.0 LTS

Machine learning trend functions

The new baseline monitoring and anomaly detection trend functions allow you to avoid static threshold creation and detect problems in a dynamic manner:

New trend functions – baselinewma and baselinedev allow you to calculate baselines of your metrics as well as detect deviations from it

Condition

* Item	Apache Web Server: Apach	ne: Requests per second	Select
Function	baselinedev() - Returns the	number of deviations between data periods in seasons ar	nd the last data period
* Period (T)	1d	Time	
* Period shift	now/d	Period	
* Season	Month ~		
* Number of seasons	6		
* Result	> ~ 3		





Zabbix 6.0 LTS Machine learning trend functions

The new baseline monitoring and anomaly detection trend functions allow you to avoid static threshold creation and detect problems in a dynamic manner:

- > New trend function trendstl, allows you to detect anomalous metric behavior
- > Ability to specify anomaly detection deviation algorithm and seasonality

Condition

Condition			
* Item	Apache Web Server: Apach	ne: Requests per second	Select
Function	trendstl() - Anomaly detection	on for period T	~
* Evaluation period (T)	100h	Time	
* Period shift	now/h-10h	Period	
* Detection period	100h		
* Season	1h		
Deviations	3		
Algorithm	mad		
Season deviation window			
* Result	> 🗸 0.1		

×



Kubernetes monitoring





New templates for discovering and monitoring Kubernetes nodes and pods:

- > Automatic discovery of Kubernetes nodes and pods
- > Discover and monitor node capacity, information, request and other metrics
- > Discover and monitor pod condition metrics, status and uptime

Metrics are collected agentlessl by communicating with the Kubernetes API



X	initMAX < 🕾	Dis	Discovery rules									
initM	AX.cz	All t	All templates / Kubernetes API server by HTTP Items 24 Triggers 4 Graphs 1 Dashboards Discovery rules 10 Web scenarios									
0	Monitoring ~		Host gr		Select		Туреа	II	✓ Status all Enabled Dis	abled		
Ō	Services v	Template		type here to search	Select	Update interval Keep lost resources period						
≣	Inventory ~		Ν	ame								
1.	Reports v			Кеу								
4	Configuration ^					Apply Rese	t					
	Host groups		Template	Name 🔺	Items	Triggers	Graphs	Hosts	Кеу	Interval	Туре	Status
	Templates			Kubernetes API: Get API instance metrics: Authentication	Item	Trigger	Graph	Host	kubernetes.api.authentication_attempts.disco		Dependent	Enabled
	Hosts		HTTP	attempts discovery	prototypes 1	prototypes	prototypes	prototypes	very		item	
	Maintenance		Kubernetes API server by HTTP	Kubernetes API: Get API instance metrics: Authentication requests discovery	Item prototypes 1	Trigger prototypes	Graph prototypes	Host prototypes	kubernetes.api.authenticated_user_requests. discovery		Dependent item	Enabled
	Actions >		Kubernetes API server by	Kubernetes API: Get API instance metrics: Client certificate	Item	Trigger	Graph	Host	kubernetes.api.certificate_expiration.discover		Dependent	Enabled
	Event correlation		HTTP	expiration histogram	prototypes 1	prototypes	prototypes	prototypes	У		item	
	Discovery		Kubernetes API server by HTTP	Kubernetes API: Get API instance metrics: Etcd objects metrics discovery	Item prototypes 1	Trigger prototypes	Graph prototypes	Host prototypes	kubernetes.api.etcd_object_counts.discovery		Dependent item	Enabled
	Administration ~		Kubernetes API server by HTTP	Kubernetes API: Get API instance metrics: gRPC completed requests discovery	Item prototypes 1	Trigger prototypes	Graph prototypes	Host prototypes	kubernetes.api.grpc_client_handled.discovery		Dependent item	Enabled



New templates for discovering and monitoring Kubernetes components such as:

- > API servers
- Kubelet
- > Controller manager
- Replicasets
- Scheduler
- And more

Metrics are collected agentlessl by communicating with the Kubernetes API



	initMAX < 🗂	Templates				Create template Import	
initN	AX.cz					Filter T	
0	Monitoring ~	Host groups	type here to search	Select Tags And/Or Or			
		Linked templates	type here to search	Select	Contains ~ value	Remove	
ଁ	Services v	Name	Kubernetes	Add			
⊨≡	Inventory ~			Apply Reset			
11.	Reports -			прру			
ع	Configuration ^	Name ▲	Hosts Items Triggers Grap	hs Dashboards Discovery Web	Linked templates Linked to templates	Tags	
		Kubernetes API server by HTTP	Hosts Items 24 Triggers 4 Grap	hs 1 Dashboards Discovery 10 Web	[class: software target: kubernetes api	
	Host groups	Kubernetes cluster state by HTTP	Hosts Items 11 Triggers Grap	hs Dashboards Discovery 15 Web	1	class: software target: kubernetes state	
	Templates	Kubernetes Controller manager by HTTP	Hosts Items 13 Triggers 1 Grap	hs 2 Dashboards Discovery 1 Web	1	class: software target: kubernetes con	
	Hosts	Kubernetes kubelet by HTTP	Hosts Items 12 Triggers Grap	hs Dashboards Discovery 4 Web	1	class: software target: kubernetes kub	
		Kubernetes nodes by HTTP	Hosts Items 3 Triggers 1 Grap	hs Dashboards Discovery 3 Web		class: software target: kubernetes nodes	
	Actions >	Kubernetes Scheduler by HTTP	Hosts Items 23 Triggers 3 Grap	hs 5 Dashboards Discovery 3 Web		class: software target: kubernetes sch	
	Event correlation					Displaying 6 of 6 found	
	Discovery	0 selected Export V Mass update	Delete and clear				
	Administration ~						



New ways to visualize your data



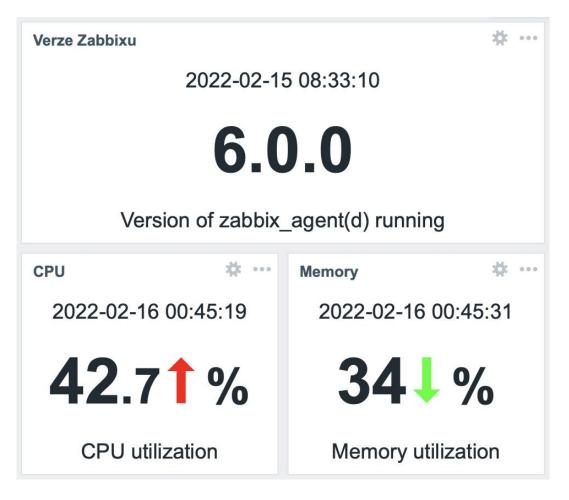


The new widgets introduced in Zabbix 6.0 grant you many new ways to display information about your environment:

- > New widgets such as Top hosts, Single item, Geomaps
- > The SLA report widget displays the current SLA for services filtered by service tags
- > All new widgets are highly customizable



> The single item widget allows you to display values for a single metric



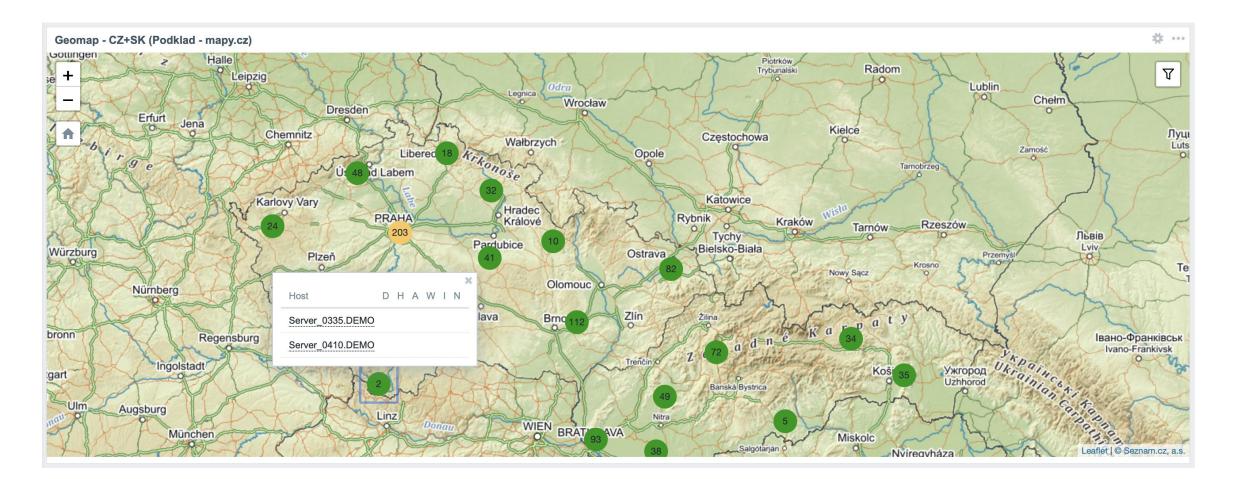


> The Top hosts widget can be used to display a list of Top N or Bottom N hosts sorted by an item value

Top Hosts					÷
Host	CPU	CPU BAR	MEM	Disk /	Zabbix Agent
DEMO-SERVER	42.6845 %	42.6845 %	33.7656 %	24.8984 %	Up (1)
Server_0003.DEMO	42.6639 %	42.6639 %	33.7896 %	24.8984 %	Up (1)
Server_0001.DEMO	42.6185 %	42.6185 %	33.784 %	24.8984 %	Up (1)
Server_0006.DEMO	42.2567 %	42.2567 %	33.8099 %	24.8984 %	Up (1)
Server_0008.DEMO	41.3816 %	41.3816 %	33.8315 %	24.8984 %	Up (1)
Server_0010.DEMO	40.5235 %	40.5235 %	33.8091 %	24.8984 %	Up (1)
Server_0009.DEMO	38.2109 %	38.2109 %	33.7908 %	24.8984 %	Up (1)
Server_0007.DEMO	36.8553 %	36.8553 %	33.7917 %	24.8984 %	Up (1)
Server_0004.DEMO	35.1001 %	35.1001 %	33.8048 %	24.8984 %	Up (1)
Server_0002.DEMO	33.5342 %	33.5342 %	33.8456 %	24.8984 %	Up (1)



Now Zabbix users have the ability to see their host location on a geographical map in their dashboard:





Now Zabbix users have the ability to see their host location on a geographical map in their dashboard:

- > The host coordinates are provided in the host inventory fields
- > Filter by host groups and tags

Edit widget				×
Туре	Geomap	~		Show header 🗹
Name	Geomap - CZ+SK (Pode	klad - mapy.cz)		
Refresh interval	No refresh ~			
Host groups	DEMO/hosts × type here to search			Select
Hosts	type here to search			Select
Tags	And/Or Or			
	tag	Contains	✓ value	Remove
	Add			
Initial view 🕜	49.2020489,16.5079212	2		
				Apply Cancel



Zabbix agent – improvements and new items





Zabbix 6.0 LTS New Zabbix agent items

Multiple new items have been added for both Zabbix Agent And Zabbix Agent2. These items give you the ability to:

- > Obtain additional file information such as file owner and file permissions
- > Collect agent host metadata as a metric
- > Collect Zabbix agent variant (agent or agent2) as a metric
- > New system.hostname parameter for returning the short hostname
- Count matching TCP/UDP sockets
- You can now natively monitor your SSL/TLS certificates with a new Zabbix Agent2 item. The item can be used to validate a TLS/SSL certificate and provide you additional certificate details.



Zabbix 6.0 LTS Zabbix agent improvements

Zabbix agent and Zabbix agent2 have received significant improvements:

- > Zabbix agent2 now supports loading stand-alone plugins without having to recompile Zabbix agent2.
- > It is now possible to reload user parameters without restarting the Zabbix agent
- > Support of persistent log monitoring state file to prevent log file re-reads under specific scenarios
- The new optional parameter persistent_dir specifies a directory for storing this state of log[], log.count[], logrt[] or logrt.count[] item in a file.
- > Each Zabbix agent 2 plugin now has a separate configuration file



Custom zabbix password complexity requirements





Zabbix 6.0 LTS

zabbix password complexity requirements

Zabbix Super admins now have the ability to define the password complexity requirements. Now you can:

- > Set the minimum password length
- > Define password character requirements
- > Mitigate the risk of a dictionary attack by prohibiting the usage of the most common password strings.

🐹 initMAX 🛛 🛠 🕈	9	Authentication		
initMAX.cz		Authentication HTTP settings LDAP settings SAML settings		
Monitoring	× ×	Default authentication Internal LDAP		
Õ Services	~	Password policy Minimum password length 8		
i≡ Inventory	~	Password must contain 🕐 🗌 an uppercase and a lowercase Latin letter		
III Reports	~	a digit		
🔦 Configuration	~	Avoid easy-to-guess passwords 📀 🗹		
Administration	^	Update		
General	>			
Proxies				
Authentication				



UI/UX improvements





Zabbix 6.0 LTS UI/UX Improvements

Multiple UI/UX improvements have been added, based on the community feedback:

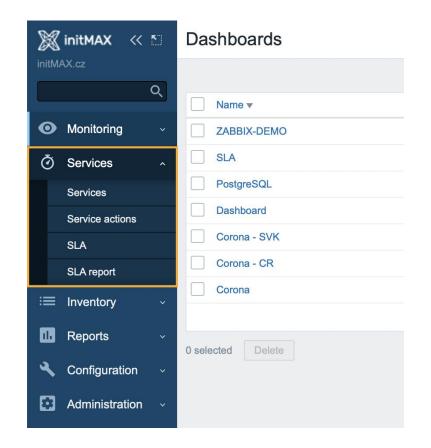
- > Create hosts directly from 'Monitoring' 'Hosts'
- > Templates can now be assigned in the main Host creation tab

≡ Hosts	E Hosts				
<	New host			×	\sim >
Narr	Host IPMI Tags	Macros Inventory Encryption Value mapping			
Host group	* Host name	Asterisk			
	Visible name	Asterisk		Remove	
DN	Templates	Asterisk by HTTP X	Select		
Pc	* C	type here to search	Select		
Severi	* Groups	Telephony (new) × lype here to search	Select		
	Interfaces	No interfaces are defined.			
		Add			
Name	Description			ards	Web
Apache Web Server				ards 1	
Berlin Application Server				ards 2	
Berlin MySQL server				ards 2	
CentOS 8 Application serve	Monitored by proxy	(no proxy) 🗸 🗸		ards 2	
Cisco Catalyst 3750V2 Cla	Enabled			ards	
Hikvision Camera Classroc			Add Cancel	ards	
Hikvision Camera Classroc				ards	



Zabbix 6.0 LTS UI/UX Improvements – Services section

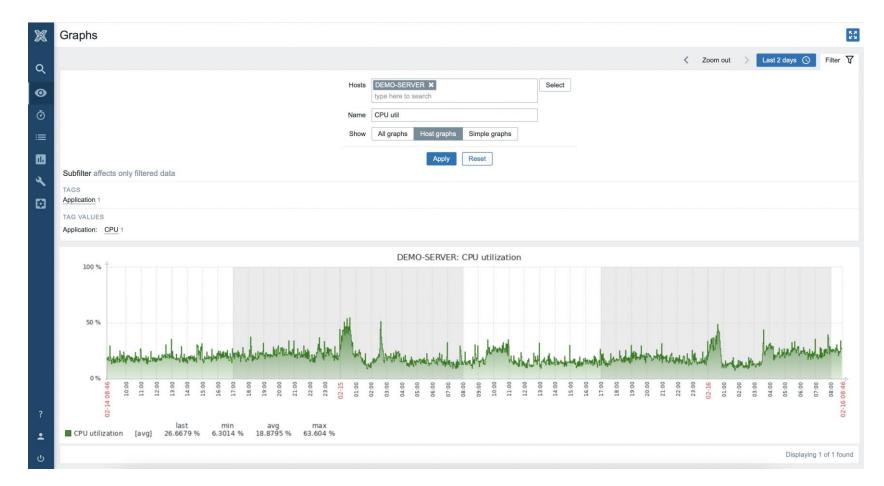
- > New Services sections for business service, SLA, SLA report and service action configuration
- > The default type of information for items will now be selected automatically





Zabbix 6.0 LTS UI/UX Improvements - Graphs

> Monitoring – Hosts – Graphs section has been redesigned for better UX and performance





Zabbix 6.0 LTS UI/UX Improvements – Latest data

> Added the ability to save named filters and use subfilters in Latest data

×	Latest data							53
Q	C DEMO-SERVER 🌞							\sim >
0	Host grou	DEMO/hosts × type here to search	Select	Tags And/Or Or tag	Conta	ins V value	Remove	
Ō	Hc	osts DEMO-SERVER × type here to search	Select	Add				
≔	Na	ame CPU	Show			me Full Shortened None		
11			Tag display p	comma-separate	ed list			
٩			Show of	letails				
•			Update	Reset				
	Subfilter affects only filtered data							
	TAG VALUES Application: CPU 2							
	Host Nam	me 🛦	Last check	Last value	Change	Tags		Info
	DEMO-SERVER CPU	U idle time	3s	75.8727 %	-3.4689 %	Application: CPU		Graph
	DEMO-SERVER CPU	U utilization	3s	24.1273 %	+3.4689 %	Application: CPU		Graph
							Disp	playing 2 of 2 found
	0 selected Display stacked graph	Display graph						



New templates and integrations





Zabbix 6.0 LTS

New Templates and integrations

Zabbix 6.0 comes pre-packaged with many new templates for the most popular vendors:

- > f5 BIG-IP
- Cisco ASAv
- > HPE ProLiant servers
- Cloudflare
- InfluxDB
- Travis Cl
- Dell PowerEdge

- pfSense
- > Kubernetes
- Mikrotik
- Nginx Plus
- VMware SD-WAN VeloCloud
- > GridGain
- Systemd

Zabbix 6.0 also brings a new GitHub webhook integration which allows you to generate GitHub issues based on Zabbix events!



New Templates and integrations

Zabbix 6.0 also brings improvements to the existing set of templates and integrations:

- > All of the official Zabbix templates are now stand-alone and do not require importing additional template dependencies
- > HA node discovery and monitoring for Zabbix server health/Remote Zabbix server health
- > Updated Zabbix proxy templates according to the latest guidelines
- > Added CPU usage metrics to Docker template
- Added new tags to all official templates
- > Fixed item value maps for VMware templates



Other changes and improvements





Zabbix 6.0 LTS Vmware monitoring improvements

Multiple improvements have been made to existing VMware items. Support for new items has also been added:

- > Improved data collection for VMware performance counters that return percentage values
- > Collect VMware hypervisor HW vendor state sensors with vmware.hv.sensors.get
- > Collect VMware hypervisor maintenance status with **vmware.hv.maintenance**
- > Imporved the behavior of the skip parmeter for the **vmware.eventlog** key



Zabbix 6.0 LTS New History functions

Multiple new history functions have been added:

- > Detect continuous increase or decrease of values with new monotonic history functions **monodec()**, **monoinc()**
- > Count the number of changes in adjacent values with **changecount()**



Zabbix 6.0 LTS New Aggregate functions

Multiple new general use aggregate functions have been added:

- > Return the total number of values in an array returned by a foreach function with **count()**
- > Return the total number of currently enabled items (as an integer) that match filter criteria with **item_count**
- > Return the total number of currently enabled items (as an array) that match filter criteria with **exists_foreach**



Zabbix 6.0 LTSNew prometheus functions

Multiple new aggregate and history functions have been added for Prometheus monitoring:

History functions:

> Calculate rates for Prometheus monotonic counters with rate()

Aggregate functions:

- Calculate percentile values from the buckets of Prometheus histograms with bucket_percentile()
- > Calculate quantile from values from buckets of Prometheus histograms with histogram_quantile()
- Return pairs of bucket upper bound and rate value for use in histogram_quantile() with bucket_rate_foreach()



Zabbix 6.0 LTS New Macros

New macros are now supported for trigger expression and internal action debugging:

- (TRIGGER.EXPRESSION.EXPLAIN), (TRIGGER.EXPRESSION.RECOVERY.EXPLAIN) resolve to a partially evaluated trigger or recovery expression, where only item-based functions are applied
- > (FUNCTION.VALUE<1-9>), (FUNCTION.RECOVERY.VALUE<1-9>) resolve to the results of the Nth item-based function at the time of the event
- > Display a reason why an item became unsupported with **{ITEM.STATE.ERROR}**
- > Display a reason why an LLD rule became unsupported with **{LLDRULE.STATE.ERROR}**
- > Display a reason why a trigger became unknown with **{TRIGGER.STATE.ERROR}**



Zabbix 6.0 LTS

CLI tool and runtime command changes

New features have been added to the existing command line tools:

- > Added support for Timeout settings for Zabbix command-line tools
- > Zabbix server and proxy runtime commands are now sent via socket instead of Unix signals
- > Results of the command execution are now printed to the console
- Runtime control options are now supported on BSD-based systems



Zabbix 6.0 LTS Performance improvements

New features and improvements related to Zabbix performance:

- > A new configuration parameter **StartODBCPollers** has been added to Zabbix server and proxy configuration files
- > Processing ODBC checks has been moved from regular poller processes to separate server/proxy processes **ODBC pollers**
- > Improved performance of template linking on Zabbix Server
- Improved performance for Prometheus pattern preprocessing



Zabbix 6.0 LTS Performance improvements

New features and improvements related to Zabbix performance:

- > Improved protocol to support Zabbix proxy configuration cache of size up to 16 GB
- Improved Zabbix proxy performance and memory usage by freeing uncompressed data as fast as possible and compressing before connection
- Improved Zabbix agent2 performance by using functions introduced in Go 1.16
- > Added primary key support for History tables improved performance and reduced DB size.



Zabbix 6.0 LTS Other Changes and improvements

Many other improvements have been added in Zabbix 6.0 LTS:

- > Added utf8mb4 as a supported MySQL character set and collation
- > Added the support of additional HTTP methods for webhook
- > Support for two new Prometheus preprocessing label matching operators != and !~
- > Calculated items now support not only numeric, but also text, log, and character types of information.
- > New API method **history.clear** can be used to clear history for items and web scenarios
- > Added option to opt-out of Escalation cancelled messages



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Questions?



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