

O que há de novo no Zabbix 3.4

Bezaleel Ramos
@bezarsnba

O que vamos falar

→ O que é o Zabbix

→ Zabbix 3.4:

- ◆ Dashboard
- ◆ Coleta de métricas simultaneamente
- ◆ Dependência de Itens.
- ◆ Comandos Remotos via proxy
- ◆ Pré Processamento de itens
- ◆ Mapa
- ◆ Configuração JMX
- ◆ Item: Update Interval

\$ whoami

- Bezaleel(Beza)
- CEO - Onx Solutions
- Zabbix Certified
Specialist
- DevOps
- LPI1 e LPI2

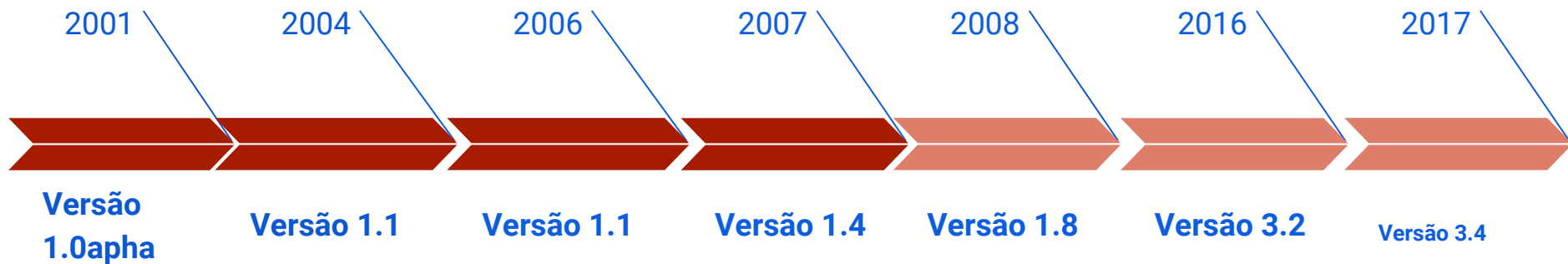
O que é o Zabbix

O que é o Zabbix

- Solução de monitoração
- Software livre
- Criado por Alexei Vladishev
- Arquitetura:
 - Zabbix Server
 - Zabbix Proxy
 - Zabbix agent (32bits, 64bits)
- Serviços simples:
 - icmping
 - http
 - pop
 - ftp_perf



Linha do tempo



Zabbix 3.4

Dashboard

ZABBIX Monitoring Inventory Reports Configuration Administration [Help](#) | [Get support](#) | [Print](#) | [Profile](#) | [Debug](#) | [Logout](#)

Monitoring Inventory Reports Configuration Administration

Overview | [Web](#) | [Latest data](#) | [Triggers](#) | [Events](#) | [Graphs](#) | [Screens](#) | [Maps](#) | [Discovery](#) | [IT services](#)

History: [Custom screens](#) » [Dashboard](#) » [Network maps](#) » [Dashboard](#) » [Configuration of discovery rules](#)

PERSONAL DASHBOARD

Favourite graphs

- Zabbix server CPU load

Favourite screens

- Zabbix server

Favourite maps

- Network

Status of Zabbix

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	44	5 / 0 / 39
Number of items (enabled/disabled/not supported)	375	365 / 3 / 7
Number of triggers (enabled/disabled [problem/ok])	91	91 / 0 [2 / 89]
Number of users (online)	3	2
Required server performance, new values per second	5.17	-

Updated: 13:16:37

System status

Host group	Disaster	High	Average	Warning	Information	Not classified
Discovered hosts	0	0	0	0	0	0
Test hosts	0	0	0	0	0	0
Zabbix servers	0	0	0	2	0	0

Updated: 13:16:37

Host status

Host group	Without problems	With problems	Total
Discovered hosts	2	0	2
Test hosts	2	0	2
Zabbix servers	0	1	1

Updated: 13:16:37

Last 20 issues

Host	Issue	Last change	Age	Info	Ack	Actions
Zabbix server	Free disk space is less than 20% on volume /	2014-12-17 10:35:24	1m 5d 2h		No	
Zabbix server	Lack of free swap space on Zabbix server	2014-08-20 10:19:30	5m 4d 3h		No	

2 of 2 issues are shown

Discovery status

Discovery rule	Up	Down
Local network	7	3

Updated: 13:16:37

Web monitoring

Host group	OK	Failed	Unknown
Zabbix servers	2	0	0

Updated: 13:16:37

ZABBIX Monitoring Inventory Reports Configuration Administration [Home](#) ? [User](#)

Dashboard Problems Overview Web Latest data Triggers Graphs Screens Maps Discovery Services

Dashboard

All dashboards / Dashboard

My CPU

New host: CPU load (1h)

last min avg max
 Processor load (1.5 min average per core) [avg] 0.34 0.26 0.3526 0.51
 Processor load (1 min average per core) [avg] 0.38 0.07 0.3743 0.84
 Processor load (5 min average per core) [avg] 0.355 0.185 0.3737 0.64

Updated: 09:50:45

Graph item

New host: Processor load (5 min average per core) (1h)

last min avg max
 Processor load (5 min average per core) [all] 0.355 0.185 0.3737 0.64

Updated: 09:51:50

Problems

Time	Recovery time	Status	Info	Host	Problem - Severity	Duration	Ack	Action
2017-07-28 09:03:44		PROBLEM	New host		Free disk space is less than 20% on volume /	5d 45m	No	
2017-07-27 12:47:30		PROBLEM	Zabbix server		Lack of free swap space on Zabbix server	5d 21h 1m	No	

2 of 2 problems are shown Updated: 09:49:23

Text item

Timestamp	Value
2017-08-02 09:03:34	Linux martins-HP-Pro-3818-Small-Form-Factor-PC 4.4.0-87-generic #118-14.04.1-Ubuntu SMP Tue Jul 18 14:51:32 UTC 2017 x86_64
2017-08-02 08:03:34	Linux martins-HP-Pro-3818-Small-Form-Factor-PC 4.4.0-87-generic #118-14.04.1-Ubuntu SMP Tue Jul 18 14:51:32 UTC 2017 x86_64

Updated: 09:53:27

Host status

Host group	Without problems	With problems	Total
Discovered hosts		1	1
Zabbix servers		1	1

Updated: 09:49:23

Status of Zabbix

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	40	2 / 0 / 38
Number of items (enabled/disabled/not supported)	112	105 / 0 / 7
Number of triggers (enabled/disabled [problem/ok])	64	64 / 0 [0 / 62]
Number of users (online)	3	1
Required server performance, new values per second	1.45	

Itens com dependência

Usado para coleta de métricas em massa de forma simultânea, em uma consulta:

Limitações:

- Criação de 999 itens para 1 master;
- Não é exportado via XML;
- Somente mesma dependência de host.

Preprocessing steps	Name	Parameters
	Regular expression	<dt>Server uptime: (.*)<Vdt>

Add

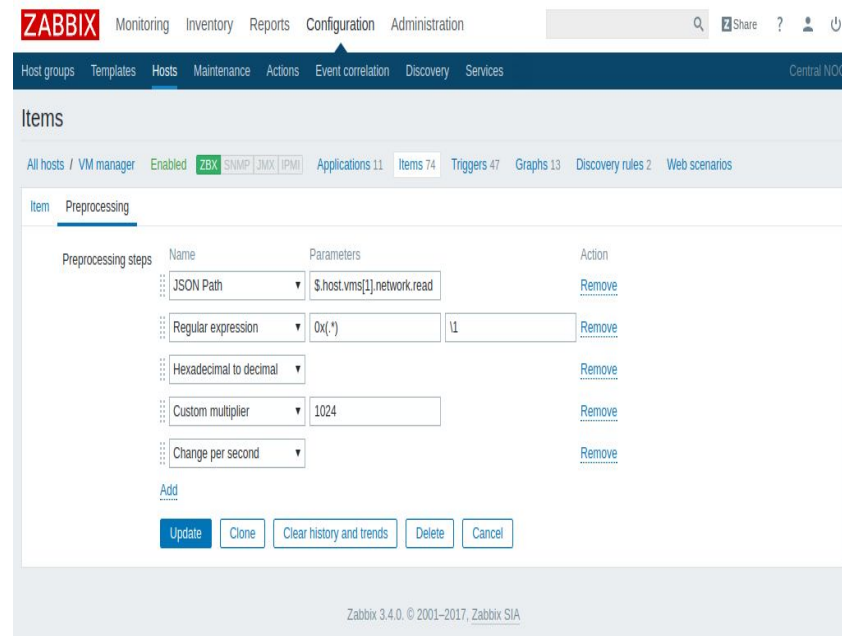
Name	Apache server uptime
Type	Dependent item
Key	apache.server.uptime
Master item	Apache server status: web.page.get[192.168.3.31,/server-status]
Type of information	Text

Wizard	Name	Triggers	Key
...	Apache server status		web.page.get[192.168.3.31,/server-status]
...	Apache server status: Apache server uptime		apache.server.uptime

Valor de item pré-processado

Faz um tratamento da coleta antes de inserir no banco de dados.

- Regexp
- Trim
- Right trim
- Left trim
- Custom Multiplier
- Simpla change
- Booleam to decimal



The screenshot shows the Zabbix web interface. The top navigation bar includes 'ZABBIX', 'Monitoring', 'Inventory', 'Reports', 'Configuration', and 'Administration'. Below this, a secondary navigation bar lists 'Host groups', 'Templates', 'Hosts', 'Maintenance', 'Actions', 'Event correlation', 'Discovery', and 'Services'. The main content area is titled 'Items' and shows a breadcrumb trail: 'All hosts / VM manager / Enabled / ZBX / SNMP / JMX / IPMI / Applications 11 / Items 74 / Triggers 47 / Graphs 13 / Discovery rules 2 / Web scenarios'. The 'Preprocessing' tab is selected, displaying a table of preprocessing steps:

Preprocessing steps	Name	Parameters	Action
	JSON Path	<input type="text" value="\$host.vms[1].network.read"/>	Remove
	Regular expression	<input type="text" value="0x(*)"/> <input type="text" value="11"/>	Remove
	Hexadecimal to decimal		Remove
	Custom multiplier	<input type="text" value="1024"/>	Remove
	Change per second		Remove

Below the table, there is an 'Add' link and a row of buttons: 'Update', 'Clone', 'Clear history and trends', 'Delete', and 'Cancel'. At the bottom right of the interface, the text 'Zabbix 3.4.0. © 2001–2017, Zabbix SIA' is visible.

Configuração JMX Endpoints

Suporte agente JMX nativamente através do Java Gateway

Descoberta JMBEans ou MBean atributo;

- `jmx.discovery[<discovery mode>,<object name>]`
- `jmx[com.example:Type=Hello,weight]`
- `jmx[com.example:Type=Hello,apple.weight]`

The screenshot shows a configuration interface for JMX endpoints. The top section is titled "Item Preprocessing" and contains a form with the following fields:

- Name: JMX item with configurable endpoint
- Type: JMX agent
- Key: `jmx[<object name>,<attribute name>]`
- Host interface: 127.0.0.1 : 12345
- JMX endpoint: `service:jmx:rmi://jndi/rmi://{HOST.CONN}:{HOST.PORT}/jmxrmi` (highlighted with a green box)

The bottom section is a table with a "Filter" button and columns for "Wizard", "Name", "Triggers", and "Key".

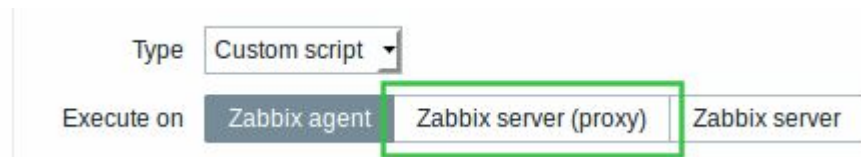
Wizard	Name	Triggers	Key
<input type="checkbox"/>	JMX garbage collectors: GC PS MarkSweep CollectionCount		<code>jmx[*]java.lang.type=GarbageCollector,name=PS MarkSweep*,CollectionCount]</code>
<input type="checkbox"/>	JMX garbage collectors: GC PS MarkSweep CollectionTime		<code>jmx[*]java.lang.type=GarbageCollector,name=PS MarkSweep*,CollectionTime]</code>
<input type="checkbox"/>	... JMX garbage collectors: GC PS MarkSweep Valid		<code>jmx[*]java.lang.type=GarbageCollector,name=PS MarkSweep*,Valid]</code>
<input type="checkbox"/>	JMX garbage collectors: GC PS Scavenge CollectionCount		<code>jmx[*]java.lang.type=GarbageCollector,name=PS Scavenge*,CollectionCount]</code>
<input type="checkbox"/>	JMX garbage collectors: GC PS Scavenge CollectionTime		<code>jmx[*]java.lang.type=GarbageCollector,name=PS Scavenge*,CollectionTime]</code>
<input type="checkbox"/>	... JMX garbage collectors: GC PS Scavenge Valid		<code>jmx[*]java.lang.type=GarbageCollector,name=PS Scavenge*,Valid]</code>

Comando remoto através do proxy

Execução de comandos remotos e global scripts em host monitorado por proxy;

Desabilitado por default;

- EnableRemoteCommands = 1



The image shows a configuration interface for a Zabbix item. The 'Type' dropdown is set to 'Custom script'. The 'Execute on' section has three radio button options: 'Zabbix agent', 'Zabbix server (proxy)', and 'Zabbix server'. The 'Zabbix server (proxy)' option is selected and highlighted with a green rectangular border.

Ping by Proxy

```
/bin/ping -c 3 192.168.0.5 2>&1
```

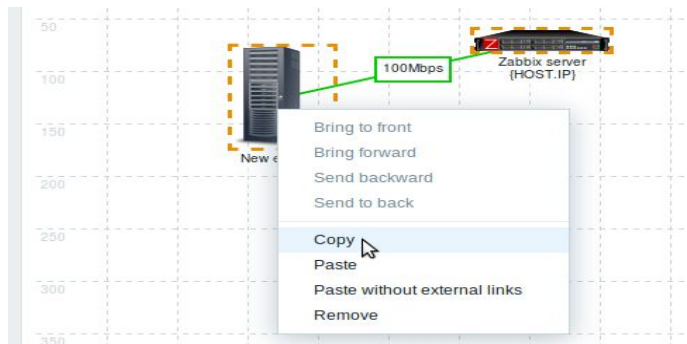
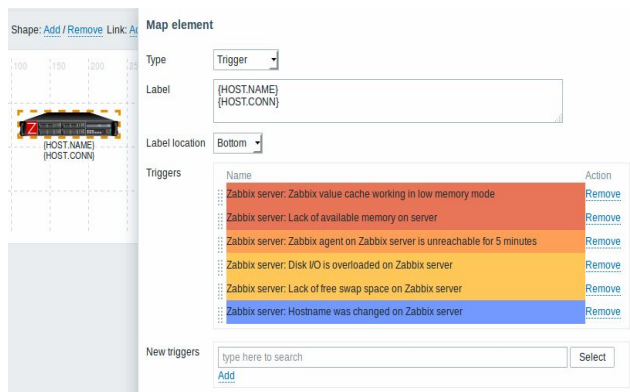
```
PING 192.168.0.5 (192.168.0.5) 56(84) bytes of data.  
64 bytes from 192.168.0.5: icmp_seq=1 ttl=128 time=0.737 ms  
64 bytes from 192.168.0.5: icmp_seq=2 ttl=128 time=0.355 ms  
64 bytes from 192.168.0.5: icmp_seq=3 ttl=128 time=0.698 ms  
  
--- 192.168.0.5 ping statistics ---  
3 packets transmitted, 3 received, 0% packet loss, time 2001ms  
rtt min/avg/max/mdev = 0.355/0.596/0.737/0.173 ms
```

Mapa

Selecionar múltiplas trigger para um elemento.

Mapas movidos de bitmap para SVG

- Full clone do mapa
- Copia e cola elementos do mapa
- Arrastar elementos
- Adicionar formas.



Cenário Web

Step of scenario

Name

URL

Post

Variables

Headers

Follow redirects

Retrieve only headers

Timeout

Required string

Required status codes

Name

URL

Query fields

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/>

[Remove](#)

[Add](#)

Post type

Post fields

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/>

[Remove](#)

[Add](#)

Variables

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/>

[Remove](#)

[Add](#)

Headers

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/>

[Remove](#)

[Add](#)

Follow redirects

Retrieve only headers

Timeout

Required string

Required status codes

Sufixos de tempo e período

Tempo:

- s, m, h, d, w

Memória

- K, M, G, T

Humanos

- P, E, Z Y

Trigger:

```
{host:zabbix[proxy,zabbix_proxy,lastaccess]}>2m
```

```
{host:system.uptime.last()}<1d
```

```
{host:system.cpu.load.avg(10m)}<10
```

```
{host:vm.memory.size[available].last()}<20M
```

86400 → 1d

The screenshot shows the 'Preprocessing' configuration page in Zabbix. The main configuration includes:

- Name: Incoming network traffic on \$1
- Type: Zabbix agent
- Key: net.if.in[enp0s3]
- Host interface: 192.168.3.220 : 10050
- Type of information: Numeric (unsigned)
- Units: bps
- Update interval: 1m

Custom intervals table:

Type	Scheduling	Interval	Period	Action
Flexible	Scheduling	50s	1-7,00:00-24:00	Remove
Flexible	Scheduling	(\$FLEX_INTERVAL)	(\$FLEX_PERIOD)	Remove
Flexible	Scheduling	wd1-5h9-18		Remove
Flexible	Scheduling	(\$SCHEDULING)		Remove

Additional settings:

- History storage period: 1w
- Trend storage period: 365d
- Show value: As is
- New application: Network interfaces
- Populates host inventory field: -None-
- Enabled:

Novos itens por agente

`vfs.dir.size[dir,<regex_incl>,<regex_excl>,<mode>,<ax_depth>]`

Mostra o tamanho do diretório em bytes:

```
vfs.dir.size[/var/log/,log]
```

`proc.num[<name>,<user>,<state>,<cmdline>]`

Mostra o número do processo

Novas opções: disk - uninterruptible sleep
trace-stopped

Novos itens por internal

zabbix[host,discovery,interfaces]

Retorna um JSON com todas interfaces no host. Usado para LLD

```
{  "data": [{
    "{#IF.CONN}": "192.168.0.1",
    "{#IF.IP}": "192.168.0.1",
    "{#IF.DNS}": "",
    "{#IF.PORT}": "10050",
    "{#IF.TYPE}": "AGENT",
    "{#IF.DEFAULT}": 1
  ]
}
```

Mais..

- Remote command support through proxies
- Parallel processing of alerts
- Being notified on problem acknowledgement
- Item value preprocessing
 - New preprocessing options
- Configurable JMX endpoints
- JMX low-level discovery
- PCRE library for regular expressions
- URL-encoding support in web monitoring
 - Automatic URL-encoding
 - Flexible URL-encoding for variables
 - Unicode support in domain names
- Support of macros and time suffixes in time periods
- Host macro support in event tags
- Frontend improvements
 - Dropping IE9 and IE10 support
 - Full cloning of screens and maps
 - Unified style for radio buttons and checkboxes
 - Applying same permissions to nested host groups
 - Increased field sizes
 - Miscellaneous
- Daemon improvements
 - IPMI polling
 - Configuration parameters
 - More information on agent metric thread crashes
- Item changes/improvements
- Low-level discovery
- Return code check for scripts and commands

Obrigado!

bramos@onxsolutions.net

@bezarsnba