ZABBIX 4.4 MONITORING BEYOND BORDERS

Alexei Vladishev
ZABBIX Founder & CEO
Gold sponsors

Silver sponsors
Zabbix Summit 2019 in numbers

500 participants

45+ countries

60+ Zabbix Team members
Zabbix is an *Universal* Open Source enterprise-level monitoring solution
Zabbix is an *Universal* Open Source enterprise-level monitoring solution
Quick recap of 2019
New support tier for Enterprise customers

- Dell
- Salesforce
- Orange
- ICANN
- T-Systems
- Telecom Italia
- Natixis
- Sberbank
- Citadele
- Globo.com
- Globe.net
- Nokia

Global 1

- Monitored devices and metrics
  Unlimited
- Number of incidents
  Unlimited
- Support availability
  24 x 7
- Initial response time
  2 hours
- Emergency response time
  60 minutes
- Support contacts
  20
- Supported Zabbix servers
  Unlimited
- Support for Zabbix Proxy
  Unlimited
- Legal entities covered
  5
Zabbix 4.2
April, 2019

High frequency monitoring with throttling
Data collection: HTTP agent, Prometheus
Preprocessing: validation and JavaScript!
Enhanced tag management
New platforms

Cloud

New OS
Creators of Zabbix
Zabbix 4.4

More than 30 new features and functional improvements
1 Zabbix Agent
Zabbix Agent

Zabbix Server

Passive, Pull

Active, Push

Zabbix Agent (zabbix_agentd)
Zabbix Agent

Zabbix Server

Passive, Pull

Active, Push

Zabbix Agent
(zabbix_agentd)

Script.sh

Plugin.so

Oracle Database

Challenges

Long running scripts
Parallel active checks
Support of flexible intervals
Processing of traps
Support of persistent connections
Better plugin framework
Next Generation Zabbix Agent

- Plugin infrastructure
- Support of long running scripts
- Parallel active checks
- Support of flexible intervals for all checks
- Support of persistent connections (DB connections)
- Accepting incoming traps and events (MQTT subscribe, listening TCP/UDP ports, etc)
- Drop-in replacement of the existing agent
2

Actions and notifications
Notifications

Messaging

ITSM

Event streaming
Webhook

URL for API access

All logic in JavaScript

Process event tags

Add a menu entry for 2-way integration
Workflow

1. Redis is not available
   - Datacenter: NY2
   - Service: Redis

2. ZABBIX Media type
   - ServiceDesk
   - HTTPS API
   - Ticket: PROD-12345
   - OK
   - Jira Service Desk

3. Redis is not available
   - Datacenter: NY2
   - Service: Redis
   - Ticket: PROD-12345
Redis is not available

Datacenter: NY2  Service: Redis  Ticket: PROD-12345

Time  Severity  Recovery time  Status  Info  Host  Problem  Duration  Ack  Actions  Tags
2019-10-01 11:13:26  High  PROBLEM  AWS N34  Service Redis stopped  1m  Yes  

TRIGGER
Problems
Description
Configuration

LINKS
Servicedesk issue PROD-12345

HISTORY
Service status

Jira Service Desk
3

Built-in knowledge base
## Item details

<table>
<thead>
<tr>
<th>Item</th>
<th>Time</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU idle time</td>
<td>2019-10-10 10:05:08</td>
<td>89.8262 %</td>
</tr>
<tr>
<td>CPU interrupt time</td>
<td>2019-10-10 10:05:11</td>
<td>0 %</td>
</tr>
<tr>
<td>CPU iowait time</td>
<td>2019-10-10 10:05:10</td>
<td>0.1687 %</td>
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<tr>
<td>CPU nice time</td>
<td>2019-10-10 10:05:00</td>
<td>0 %</td>
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<tr>
<td>CPU softirq time</td>
<td>2019-10-10 10:05:10</td>
<td>0.928 %</td>
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<td>CPU steal time</td>
<td>2019-10-10 10:05:09</td>
<td>0 %</td>
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<tr>
<td>CPU system time</td>
<td>2019-10-10 10:05:11</td>
<td>5.1788 %</td>
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<td>CPU user time</td>
<td>2019-10-10 10:05:09</td>
<td>4.218 %</td>
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</tbody>
</table>

Amount of time the CPU has been waiting for I/O to complete.
## Problem details

<table>
<thead>
<tr>
<th>Time</th>
<th>Severity</th>
<th>Recovery time</th>
<th>Status</th>
<th>Info</th>
<th>Host</th>
<th>Problem</th>
<th>Duration</th>
<th>Ack</th>
<th>Actions</th>
<th>Tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-05-23 16:37:00</td>
<td>Average</td>
<td>19d</td>
<td></td>
<td>Linux907</td>
<td>PROBLEM</td>
<td>Zabbix agent on Linux907 is unreachable for 5 minutes</td>
<td>1 y 4m</td>
<td>No</td>
<td></td>
<td>Service: Zabbix agent</td>
</tr>
<tr>
<td>September</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2019-09-30 12:45:45</td>
<td>Information</td>
<td>1 y 9d</td>
<td>Yes</td>
<td>AZ M08</td>
<td>PROBLEM</td>
<td>Low CPU utilization on host machines</td>
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<td></td>
<td>1</td>
<td>Service: Kubernetes, Datacenter: FR2</td>
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<tr>
<td>2019-09-30 12:45:45</td>
<td>Information</td>
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<td>No</td>
<td>AZ M18</td>
<td>PROBLEM</td>
<td>Slow query execution time</td>
<td></td>
<td></td>
<td>1</td>
<td>Service: AWS DynamoDB, Datacenter: NY1, Env: Production</td>
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<tr>
<td>October</td>
<td></td>
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<tr>
<td>2019-10-01 12:25:11</td>
<td>High</td>
<td>1 y 8d</td>
<td>Yes</td>
<td>AWS N30</td>
<td>PROBLEM</td>
<td>Too many queries per second</td>
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<td></td>
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<td>Service: HTTP balancer, Datacenter: NY1</td>
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<tr>
<td>2019-10-01 12:25:11</td>
<td>High</td>
<td>1 y 8d</td>
<td>Yes</td>
<td>AWS N34</td>
<td>PROBLEM</td>
<td>Service Redis stopped</td>
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<td></td>
<td>1</td>
<td>Service: Redis, Datacenter: FR2, Env: Staging</td>
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<tr>
<td>Today</td>
<td></td>
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<tr>
<td>10:48:11</td>
<td>Information</td>
<td>3m 39s</td>
<td>No</td>
<td>Zabbix server</td>
<td>PROBLEM</td>
<td>Too many processes running on Zabbix server</td>
<td></td>
<td></td>
<td></td>
<td>Service: Zabbix, OS: Linux, Performance</td>
</tr>
</tbody>
</table>

### Typical reasons of the high number of queries per second on HTTP balancer:

1. Insufficient number of worker nodes if all worker nodes stay busy
2. Network related issues
Standards for templates
Another standard???
Guidelines

Best practices on

Data collection: items

Problem detection: triggers

Problem classification: severity and tags

Knowledge

Visualization: host level screens (dashboards)
Templates is a knowledge base!
5 Visualization
Haderless widgets
### Compact problem view

#### New York Datacenter

<table>
<thead>
<tr>
<th>Category</th>
<th>Disaster</th>
<th>High</th>
<th>Average</th>
<th>Warning</th>
<th>Information</th>
<th>Not classified</th>
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</thead>
<tbody>
<tr>
<td><strong>0</strong> Disaster</td>
<td><strong>3</strong></td>
<td><strong>20</strong></td>
<td><strong>81</strong></td>
<td><strong>5</strong></td>
<td><strong>32</strong></td>
<td><strong>Not classified</strong></td>
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#### Problems by severity

<table>
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<tr>
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<th>Disaster</th>
<th>High</th>
<th>Average</th>
<th>Warning</th>
<th>Information</th>
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<td>Internal infrastructure</td>
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<td>3</td>
<td>41</td>
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<tr>
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<td>SAP HANA Infra</td>
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<td>Zabbix infrastructure</td>
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</tbody>
</table>
Aggregation of data and bar graphs
New storage options
Support of Timescale database

Advantages

- Automatic partitioning
- Zabbix manages removal of old data
- Performance oriented DB
- Now officially supported by Zabbix!
Making a platform for high quality solutions

MONITORING PLUGINS

WEBHOOK BASED INTEGRATIONS

Notifications

Incidents

Events

Zabbix Agent 2

Data

ZABBIX

Notifications

Incidents

Events
Zabbix 5.0 LTS
THANK YOU!

Alexei Vladishev
ZABBIX Founder & CEO

Some of the used icons made by Freepik from www.flaticon.com