The Monitoring
It's Zabbix
Let's discuss today...

- Monitoring, Zabbix – what's all that?
- What Zabbix has to offer
- Working on a new version – 2.4
- Community
I'll be glad to help you

- Write down your questions
History of Zabbix

- 1998 – development starts
- 2001 – first public version
- 2005 – supporting company founded
- 2012 – branch in Japan opened
Licensing

- True opensource
  - No “enterprise” version, proprietary addons etc
- Promise to keep it that way
Main functionality

- Agentless
- Native agent
- Web monitoring
- Data storage
- Visualisation
- Alerting
Monitoring what?

- IT infrastructure
- Nearly anything else
Monitoring – common things

- Servers
- Software
- Network devices
- ...

...
Citrix AppSilo02: Average session counts for Citrix groups (1d 21h 11m)

<table>
<thead>
<tr>
<th>Service Description</th>
<th>last</th>
<th>min</th>
<th>avg</th>
<th>max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrix AppSilo02: Average active session count per server</td>
<td>12.4</td>
<td>0.8</td>
<td>5.94</td>
<td>13.4</td>
</tr>
<tr>
<td>Citrix AppSilo03: Average active session count per server</td>
<td>5</td>
<td>0</td>
<td>2.07</td>
<td>8</td>
</tr>
<tr>
<td>Citrix AppSilo04: Average active session count per server</td>
<td>2.5</td>
<td>0.5</td>
<td>1.59</td>
<td>4.5</td>
</tr>
<tr>
<td>Citrix Navision: Average active session count per server</td>
<td>16.5</td>
<td>1</td>
<td>7.24</td>
<td>20</td>
</tr>
</tbody>
</table>
Data collection

- Native agents
- SNMP
- IPMI
- ...many more
Zabbix native agent
Direction of communication

Server

Passive

Active
Agent capabilities

• CPU
• Memory
• Filesystem
• ...more than 70 different things built-in

```
proc.num[inetd]
proc.mem[inetd]
system.cpu.switches
system.cpu.intr
system.cpu.util[all,user,avgl]
system.cpu.load[all,avgl]
system.cpu.num[online]
system.cpu.discovery
system.uname
system.hw.chassis
system.hw.cpu
[u]0
[u]0
[u]522013252
[u]244599437
[m]ZBX_NOTSUPPORTED] [Collector is not started.]
[d]0.080000
[u]1
[m]ZBX_NOTSUPPORTED] [Collector is not started.]
[s]Linux rich 3.14.3 #2 Wed May 7 12:20:42 CDT 201
[s]	processor 0: GenuineIntel Intel(R) Pentium(R) Dual
```
Agentless methods

- TCP checks
- SNMP
- IPMI
- JMX
- SSH, telnet
Advanced methods

• Calculated
  Total – free = used

• Aggregate
  Total free disk space for all file servers
  Average qps for all database servers

Aggregate value = 5000 qps
What's a problem?

- Extremely flexible problem conditions
  - Check multiple values across several hosts
  - Comparison, math, boolean logic
- Functions `last, min, max, avg, delta` etc
- 6 severity levels

![Severity Levels](image)
Flexible problem definitions

- Average over last 10 minutes, count of matching values over last 30 minutes
- Average for the last hour relative to the same hour day/two days/week ago
- Check multiple hosts
Notifications

- Email
- SMS
- Jabber/XMPP
Escalate a lot

- Repeated messages
- Escalate to management (based on ack) or automated commands
- Custom contents (escalation history...
Configuration templating

- Manage uniform config across many hosts
- Variable usage

Template_MySQL

Template_Apache

Web server
Bundled frontend

- Monitoring
- Visualisation
- Configuration
Visualisation

- Simple graphs built-in, custom graphs
- Network maps
- Screens
Graphing

Zabbix.org: Processor load (25d 15h 45m)

last  min  avg  max

- Processor load  [all]  2.89  0  0.89  11.82
- Trigger: Processor load is too high on Zabbix.org  [>] 5

Data from trends. Generated in 0.19 sec.
Network maps
All the / small things

- Value mapping
- Regexp builder
Value mapping

<table>
<thead>
<tr>
<th>Timestamp</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009.Jul.31 04:31:56</td>
<td>Normal (2)</td>
</tr>
<tr>
<td>2009.Jul.31 04:29:55</td>
<td>Normal (2)</td>
</tr>
</tbody>
</table>
Regexp builder

Expressions | Test
---|---
Test string | Error 5532:

Expressions | Expression type | Result
---|---|---
Error 5[3-4][0-9][2]: | Result is FALSE | TRUE
Error 5[0-9][3]: | Result is TRUE | TRUE
Combined result |  | TRUE

Expressions | Test
---|---
Test string | Error 5432:

Expressions | Expression type | Result
---|---|---
Error 5[3-4][0-9][2]: | Result is FALSE | FALSE
Error 5[0-9][3]: | Result is TRUE | TRUE
Combined result |  | FALSE

Save | Cancel
Save | Cancel
Web scenarios

- Speed, response time
- Check for content, parse variables
- Templatable
Monitoring Java applications

Zabbix Java gateway

- JBoss by Red Hat
  - Apache Tomcat
  - GlassFish
  - openfire™
OpenFire heap memory

![Graph showing OpenFire heap memory usage over time, with a steady increase in usage from approximately 6.68 MB to 12.4 MB over the 24 days, 16 hours, and 20 minutes period. High and low usage levels are indicated by green and yellow bars, respectively, with a trend line showing the overall increase.]
Automatic system discovery

- Network discovery
- Active agent auto-registration
Extendability

- Run any command on the agent or server
- Run any command in response to events
- Feed timestamped data in Zabbix
- No language restrictions
Pushing custom values

• Sender

> zabbix_sender -z 10.11.12.13 -s "Shop 13" -k customer.count -o 113

• Timestamps, multiple values from file

```
"Shop 13" customer.count 1393393587 123
"Shop 12" customer.count 1393393587 19
"Shop 11" customer.count 1393393587 45
"Shop 10" customer.count 1393393587 87
"Shop 09" customer.count 1393393587 13
"Shop 08" customer.count 1393393587 66
```
Automating

- XML
- API
Upgrade policies

- No database changes in one major release
- All old agents supported
Zabbix proxy

- Remote environments
- Limited connectivity
- Still controlled by the server
Slightly less common places

- Cinemas
- Seaports
- Lightning sensors
Less common usage examples

• Zabbix development monitoring
• Flying?
• Using WWW?
Zabbix translations
SVN branch freeze status

Zabbix branch freeze status

trunk
2.2
2.0
1.8
WRONGLY NAMED BRANCHES

- All fine here

EXISTS BUT ISSUE CLOSED

- All fine here

JIRA ERRORS (NO ISSUE OR NO ACCESS)

- DEV-531 (last commit by wiper 73 days ago)
- DEV-532 (last commit by wiper 53 days ago)
Zabbix 2.4 is near

- Multiple filters for LLD
- Custom formula for action conditions
- Any headers for web monitoring
Some more goodies

- Global search by technical name
- Lots of configuration validation improvements
- A lot of small improvements
My favourite 2.4 feature

- Changing loglevel runtime
- ...for individual processes
- ...and also ability to dump web scenario details
- ...and the same for Vmware monitoring
• 12. - 13. septembris
• Radisson BLU Daugava
• Focus: performance, scaling
Zabbix virtual appliance

- Based on OpenSUSE
- Built with SUSE Studio
- Easy way to try out Zabbix

Your appliances

Shared on Gallery
openSUSE 12.3

Zabbix 2.2 x86_64
23 builds, 12.5 GB
64-bit x86
edited Thursday, 28 August 2014
1 release, 118 downloads, 45 clones, 0 comments,
Monitoring meetup?

• HW vendors
• Develop templates for your solution
Communication

- IRC: #zabbix on Freenode
- zabbix.com/forum
- Visit us in the Zabbix office (Riga)

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