



Distribution system – how to remotely configure Zabbix infrastructure

Extension for Zabbix configuration distribution from S&T Slovakia

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Agenda



1. What we do
2. Distribution system

What we are and what we do



- S&T Slovakia is a system integrator
- Zabbix premium partner offering comprehensive turn-key monitoring solutions including support and trainings
- Author of extensions and modules for Zabbix
 - Modules created as a part of implementation projects and based on the customer requirements
 - Provided in the form of a service with detailed documentation for administrators and operators.
 - Supported OS for heterogeneous modules – HP-UX, Solaris, Linux, AIX, MS Windows
- Our goal: Zabbix as a competitor of high-end commercial monitoring tools.

Our set of extensions and modules for Zabbix



- **Prefabricates** - Monitoring OS for large heterogeneous environments (processes, services, file systems, sockets, connections..). Zabbix knowledge not required for configuration.
- **Distribution system** - remote Zabbix agent and Zabbix proxy administration, distribution of scripts and configuration files to monitored servers from repositories in large heterogeneous environments
- **Comprehensive Oracle Environment Monitoring** - Oracle DB, RAC, MySQL, WebLogic
- **Integrations with various event sources** - virtually any event sources (databases, freely available and commercial monitoring tools). Zabbix as a central console for fault monitoring.

Our set of extensions and modules for Zabbix

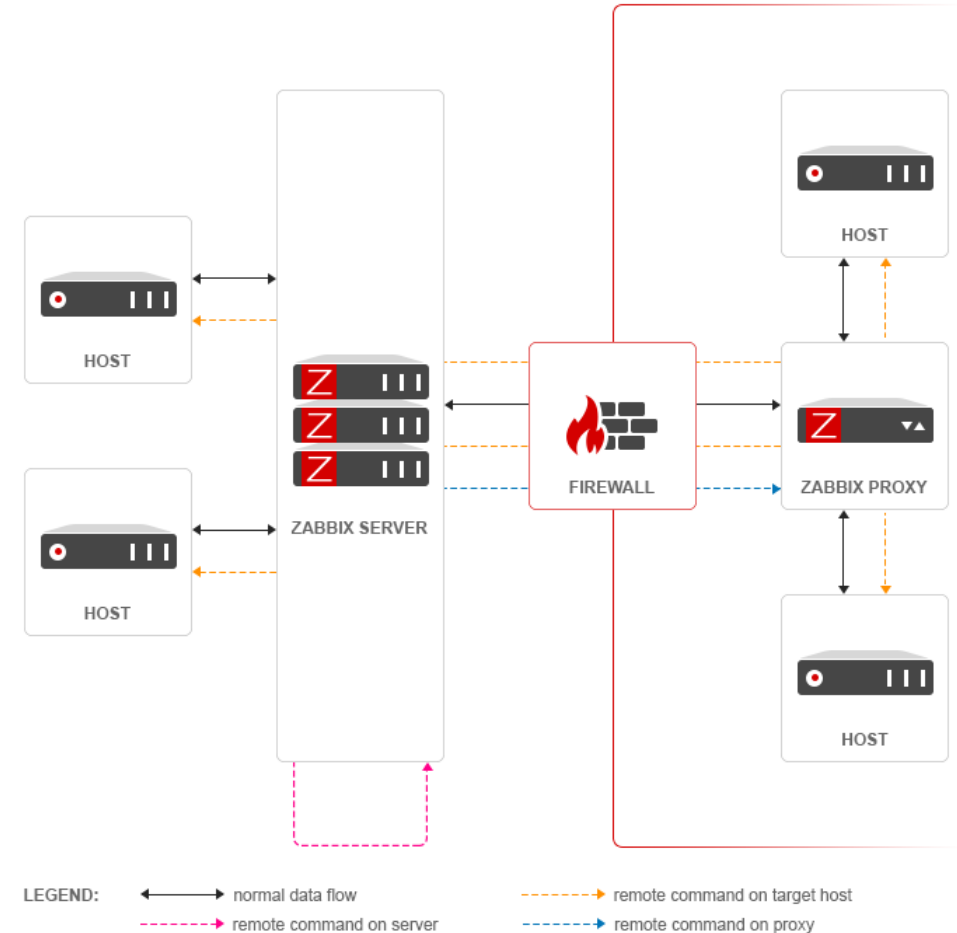


- **Time Based Correlation** – enhancing Zabbix ability to monitor log files and SNMP traps:
 - processing of separate log files or entire directories (dynamically generated and deleted log files)
 - processing of log files with multiline record type
 - correlation, deduplication, suppressing, data stream reduction
 - creating custom complex time correlation rules
 - everything done at the Zabbix agent or Zabbix proxy site
 - minimum prerequisites - only two perl scripts
- **Timed problem closure** - defining the time of the validity of the open problems in days or hours

Distribution system

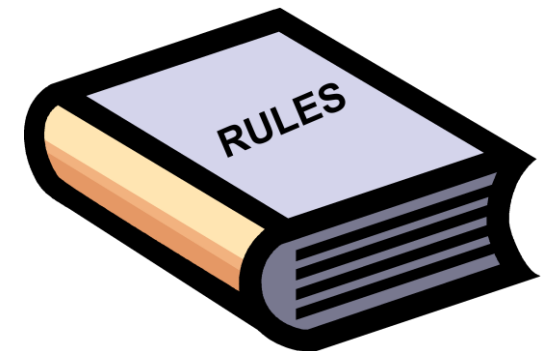
Purpose

- Central repository for Zabbix agent instrumentation - configuration files, monitoring scripts, and binary files
- Remote Zabbix agent and Zabbix proxy management:
 - Restart Zabbix agent and Zabbix proxy
 - Update Zabbix proxy
 - Check Zabbix agent and Zabbix proxy status
 - Check Zabbix agent configuration files
 - List Zabbix agent instrumentation directory
- Distribution of Zabbix agent instrumentation



Environment requirements

- Heterogenous environment
- Separated OS administration and monitoring roles
- No centralized system for remote administration (available for monitoring department)
- Security requirements
 - No SSH to monitored servers
 - Limited rights on monitored servers
 - Encryption
 - Separated accounts for configuration changes and deployment



Key components



Operator side

- Administrator tools

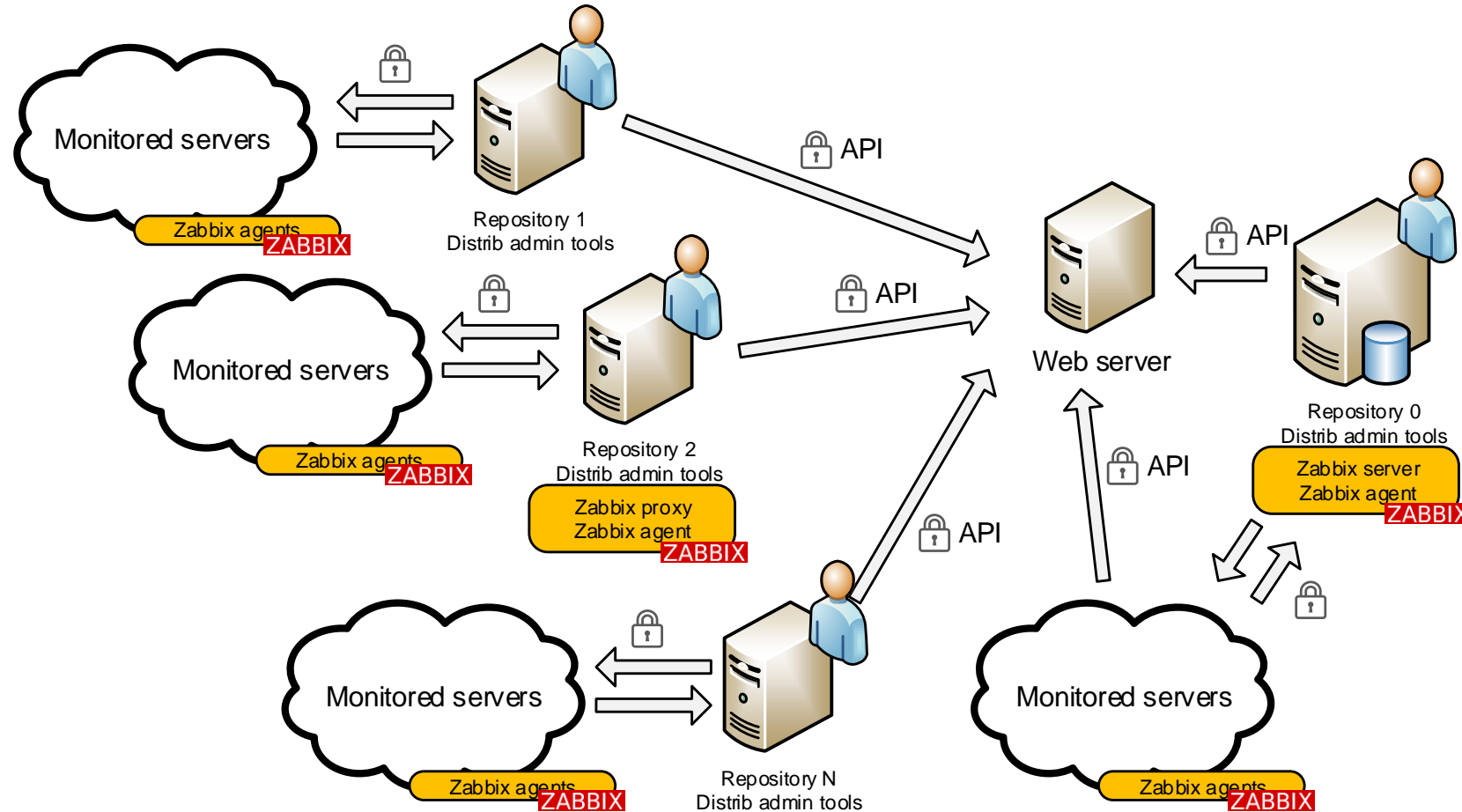
Server side

- Repository – configuration files, client side scripts, ...
- Zabbix web server

Monitored server side

- Zabbix agent
- Perl
- Rsync

Architecture



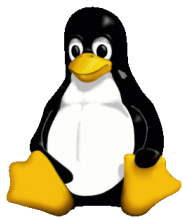
Architecture – important features



- No additional account required on the monitored server
- No additional network port required on the monitored server
- No SSH connection to the monitored server
- Only Zabbix agents needed on monitored server
- Uses Zabbix encryption
- Uses rsync to synchronize the contents of distribution directories

Architecture – important features

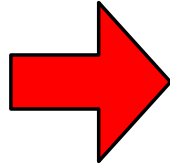
- Multiple repositories
- Repository can be located on any server (Zabbix server, Zabbix proxy, dedicated server ...)
- Information about monitored servers acquired from Zabbix DB via Zabbix API
- Each monitored server has its own repository directory with all the instrumentation
- Tools for cluster handling
- Designed for heterogeneous environments – HPUX, Solaris, AIX, Linux, MS Windows



Directory structure

Repository

```
[root@zabbix34sdemo]# tree -d
.
|-- zabbix_distribution
|   |-- clusters
|   |   |-- zabbix34cdemo.snt.sk
|   |-- servers
|   |   |-- zabbix34a1demo.snt.sk
|   |   |   |-- zabbix34cdemo.snt.sk -> /usr/lib/zabbix/zabbix_distribution/clusters/zabbix34cdemo.snt.sk/
|   |   |-- zabbix34a2demo.snt.sk
|   |   |   |-- zabbix34cdemo.snt.sk -> /usr/lib/zabbix/zabbix_distribution/clusters/zabbix34cdemo.snt.sk/
|   |   |-- zabbix34pdemo.snt.sk
|   |-- zabbix_tools
```



Monitored server

```
[root@zabbix34a1demo]# tree -d
.
|-- zabbix_instrumentation
|   |-- zabbix34cdemo.snt.sk
```

Administrator tools



- `zabbix_agent_conf.pl`
- `zabbix_agent_deploy.pl`
- `zabbix_agent_distrib_dir.pl`
- `zabbix_agent_restart.pl`
- `zabbix_agent_status.pl`
- `zabbix_agent_stop.pl`

- `zabbix_cluster_deploy.pl`
- `zabbix_cluster_restart.pl`

- `zabbix_proxy_restart.pl`
- `zabbix_proxy_start.pl`
- `zabbix_proxy_status.pl`
- `zabbix_proxy_stop.pl`
- `zabbix_proxy_update.pl`

Administrator tools



- Can be located on repository servers
- Easy to use - only one argument (server or cluster name)
- Additional tools can be created with the supplied perl module
- S&T supplies additional tools as part of other modules and extensions (eg. TBC)

Tool integration to Zabbix GUI



Time	Severity	Info	Host	Problem	Duration	Ack	Actions	Tags
2018-08-10 16:04:52	Average		zabbix34a1demo.snt.sk	Problem open 67 DC ZA Service MySQL	1m 21d 21h	No		DC: ZA pid: 67 Service: M...
2018-08-10 16:04:41	Average			Problem open 66 DC ZA Service Oracle	1m 21d 21h	No	1	DC: ZA pid: 66 Service: Or...
2018-08-10 16:03:20	Average			Problem open 65 DC ZA Service Oracle	1m 21d 21h	No		DC: ZA pid: 65 Service: Or...
2018-08-10 16:01:08	Average			Problem open 64 DC ZA Service Oracle	1m 21d 21h	No	1	DC: ZA pid: 64 Service: Or...
2018-08-10 15:58:14	Average			Problem open 64 DC ZA Service Oracle	1m 21d 21h	No	1	DC: ZA pid: 64 Service: Or...
2018-08-10 15:55:07	Average			Problem open 63 DC ZA Service Oracle	1m 21d 22h	No	1	DC: ZA pid: 63 Service: Or...
2018-08-10 14:59:29	High			Problem open 62 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 62 Service: Or...
2018-08-10 14:58:42	High			Problem open 61 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 61 Service: Or...
2018-08-10 14:56:42	Average			Problem open 60 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 60 Service: Or...
2018-07-31 12:52:50	Disaster			Problem open 59 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 59 Service: Or...
2018-07-31 12:51:41	Warning			Problem open 58 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 58 Service: Or...
2018-07-31 12:51:36	Disaster			Problem open 57 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 57 Service: Or...
2018-07-31 12:51:30	Warning			Problem open 56 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 56 Service: Or...
2018-07-31 12:51:26	Average			Problem open 55 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 55 Service: Or...
2018-07-31 12:51:20	Disaster		host3	Problem open 54 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 54 Service: Or...
2018-07-31 12:51:14	Warning		host3	Problem open 53 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 53 Service: Or...
2018-07-31 12:51:05	Average		host3	Problem open 52 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 52 Service: Or...
2018-07-31 12:51:01	Disaster		host3	Problem open 51 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 51 Service: Or...
2018-07-31 12:50:54	Average		host3	Problem open 50 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 50 Service: Or...
2018-07-31 12:50:47	Disaster		host3	Problem open 49 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 49 Service: Or...
2018-07-31 12:50:43	Disaster		host3	Problem open 48 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 48 Service: Or...
2018-07-31 12:50:36	Average		host3	Problem open 47 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 47 Service: Or...
2018-07-31 12:50:32	Average		host3	Problem open 46 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 46 Service: Or...
2018-07-31 12:50:18	Warning		host3	Problem open 45 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 45 Service: Or...
2018-07-31 12:50:14	Warning		host3	Problem open 44 DC ZA Service Oracle	1m 21d 22h	No		DC: ZA pid: 44 Service: Or...

SCRIPTS

- Detect operating system
- Distribution system
- Ping
- Traceroute

GO TO

- Host inventory
- Latest data
- Problems
- Graphs
- Host screens

Agent configuration check

Distrib dir content check

Demo: Scripts - Mozilla Firefox

10.200.120.200/zabbix/scripts_exec.php?hostid=10257&scriptid=7&sid=c3883d5ef...

Distribution system/Distrib dir content check

```
/usr/lib/zabbix/zabbix_tools/zabbix_agent_distrib_dir.pl zabbix34aldemo.snt.sk

### Agent distribution directory content on zabbix34aldemo.snt.sk: ###

/usr/lib/zabbix/zabbix_instrumentation/:
total 100
-rw-r--r-- 1 zabbix zabbix 690 Nov 17 2017 prefab-fs.conf
-rw-r--r-- 1 zabbix zabbix 304 Nov 17 2017 prefab-nfs.conf
-rw-r--r-- 1 zabbix zabbix 599 Aug 3 21:02 prefab-port.conf
-rw-r--r-- 1 zabbix zabbix 648 May 6 16:50 prefab-proc.conf
drwxr-sr-x 3 zabbix zabbix 106 Jun 22 12:16 sec
-rwxr-xr-x 1 zabbix zabbix 2596 Nov 16 2017 snt.distrib.agent.conf.pl
-rwxr-xr-x 1 zabbix zabbix 1513 Nov 16 2017 snt.distrib.agent.deploy.pl
-rwxr-xr-x 1 zabbix zabbix 1001 Nov 16 2017 snt.distrib.agent.distrib_dir.pl
```


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Demo: Scripts - Mozilla Firefox

10.200.120.200/zabbix/scripts_exec.php?hostid=10257&scriptid=6&sid=c3883d5ef...

Distribution system/Agent configuration check

```
/usr/lib/zabbix/zabbix_tools/zabbix_agent_conf.pl zabbix34a1demo.snt.sk

### Agent config file content on zabbix34a1demo.snt.sk: ###

# This is a configuration file for Zabbix agent daemon (Unix)
# To get more information about Zabbix, visit http://www.zabbix.com

##### GENERAL PARAMETERS #####

### Option: PidFile
# Name of PID file.
#
# Mandatory: no
# Default: /var/run/zabbix/zabbix_agentd.pid
```

Our customers



Contact



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