Welcome to Zabbix Conference 2014

The meeting of good friends, again!

About me

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Working on Zabbix since 1998

Founder and CEO of Zabbix

Product Manager

This conference in numbers

189 (+37) registered participants from 28 (+8) countries

Top 5 countries (excluding Latvia)

Norway: 17

Germany: 11

Estonia, Russia: 10

Netherlands: 8

Also: Belarus, Finland, France, Italy, United Kingdom, United States, Belgium, Lithuania, Poland, Slovakia, Ukraine, Bosnia and Herzegowina, Japan, Austria, Czech Republic, Israel, Brazil, China, Denmark, Kazakhstan, Pakistan, Spain

13 people visited all Zabbix Conferences!

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We are system administrators

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Get most of the conference!

- All Zabbix team is here

- Highly experienced Zabbix users

- More than 20 speakers

- Concentrated Zabbix knowledge

One year at Zabbix

Progress report

End of 2013: Zabbix 2.2 LTS

Also: Zabbix 2.4

Zabbix Team + 2

32 people total

Bigger office in Japan

Same location: close to Shinbashi station in Tokyo

70 (+12) Zabbix Partners

Training partnership

- 13 (+5) training partners

  Brazil: **Unirede**, **Alerta Securities, TSA Quality, Vantage TI (from October)**

  Belgium: **Open-Future B.V.B.A**

  France: **Core IT Project**, **Finaxys**

  Germany: **Intellitrend (from October)**

  Italy: **Systematica s.r.l.**, **Quadrata di Bellini Dimitri**

  Japan: **NTTCom Technology**

  Norway: **Eltele**

- Languages: English, Russian, Dutch, Spanish, Portuguese, Italian, Japanese, German, French, Latvian, Norvegian

More than 1000 trained

Zabbix Enterprise Appliance

ZS-5220

ZP-1220
(new product)

Capable to monitor up-to 20K of items

Made in Japan. We sell it in Japan only.

Largest known Zabbix deployments

Breaking the records

VPS - number of **v**alues (checks) **p**er **s**econd

Status of Zabbix		
Parameter	**Value**	**Details**
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	23443	23433 / 10 / 30
Number of items (enabled/disabled/not supported)	2040876	2040876 / 0 / 0
Number of triggers (enabled/disabled [problem/ok])	2010456	2010456 / 0 [324 / 2010132]
Number of users (online)	73	1
Required server performance, new values per second	22348.83	
Updated: 13:21:49		

VPS

The largest deployments

2000+ Proxies

15K+ VPS → 100GB+ of history collected per day

100K+ of hosts

5M+ of items

1M+ of triggers

Overview of Zabbix 2.4

What's new

Unified date & time format

ISO 8601 standard of YYYY-MM-DD hh:mm:ss

Everywhere in the GUI except graphs

Time	Host	Description	Status	Severity	Duration	Ack	Actions
2014-09-07 10:42:01	vSphere 003	Processor load is too high on vSphere 003	OK	Warning	33m 10s	No	-
2014-09-07 10:41:45	JBoss J02	Processor load is too high on JBoss J02	OK	Warning	33m 26s	No	-
2014-09-07 10:41:42	vSphere 004	Processor load is too high on vSphere 004	OK	Warning	33m 29s	No	-
2014-09-07 10:41:39	vSphere 001	Processor load is too high on vSphere 001	OK	Warning	33m 32s	No	-
2014-09-07 10:41:26	JBoss J03	Processor load is too high on JBoss J03	OK	Warning	33m 45s	No	-
2014-09-07 10:41:16	Zabbix server	Processor load is too high on Zabbix server	OK	Warning	33m 55s	No	-
2014-09-07 10:41:04	JBoss J01	Processor load is too high on JBoss J01	OK	Warning	34m 7s	No	-

Ad-hoc multi-item graphs

Items

⟰ Hide filter ⟰

Host groups:
Clouds ✖ Database servers ✖
Discovered hosts ✖ Hypervisors ✖
JBoss instances ✖ LAMP ✖
Linux servers ✖ Load balancers ✖
Network Devices ✖ Office equipment ✖
OpenStack production ✖ Oracle RAC ✖
Private Cloud ✖ Templates ✖
Virtual machines ✖ Web servers ✖
Zabbix servers ✖

Select

Name: CPU user

Hosts: type here to search   Select   Show items without data: ☐

Application: Select   Show details: ☐

Filter   Reset

⊟	☑	**Host**	**Name** ↑	**Last check**	**Last value**	**Change**	
⊟		Zabbix server	**CPU** (1 Item)				
	☑		CPU user time	2014-09-08 11:24:26	1.44 %	+0.04 %	Graph
⊟		vSphere 001	**CPU** (1 Item)				
	☑		CPU user time	2014-09-08 11:24:49	1.39 %	-0.03 %	Graph
⊟		vSphere 002	**CPU** (1 Item)				

Step 1: select items you'd like to display
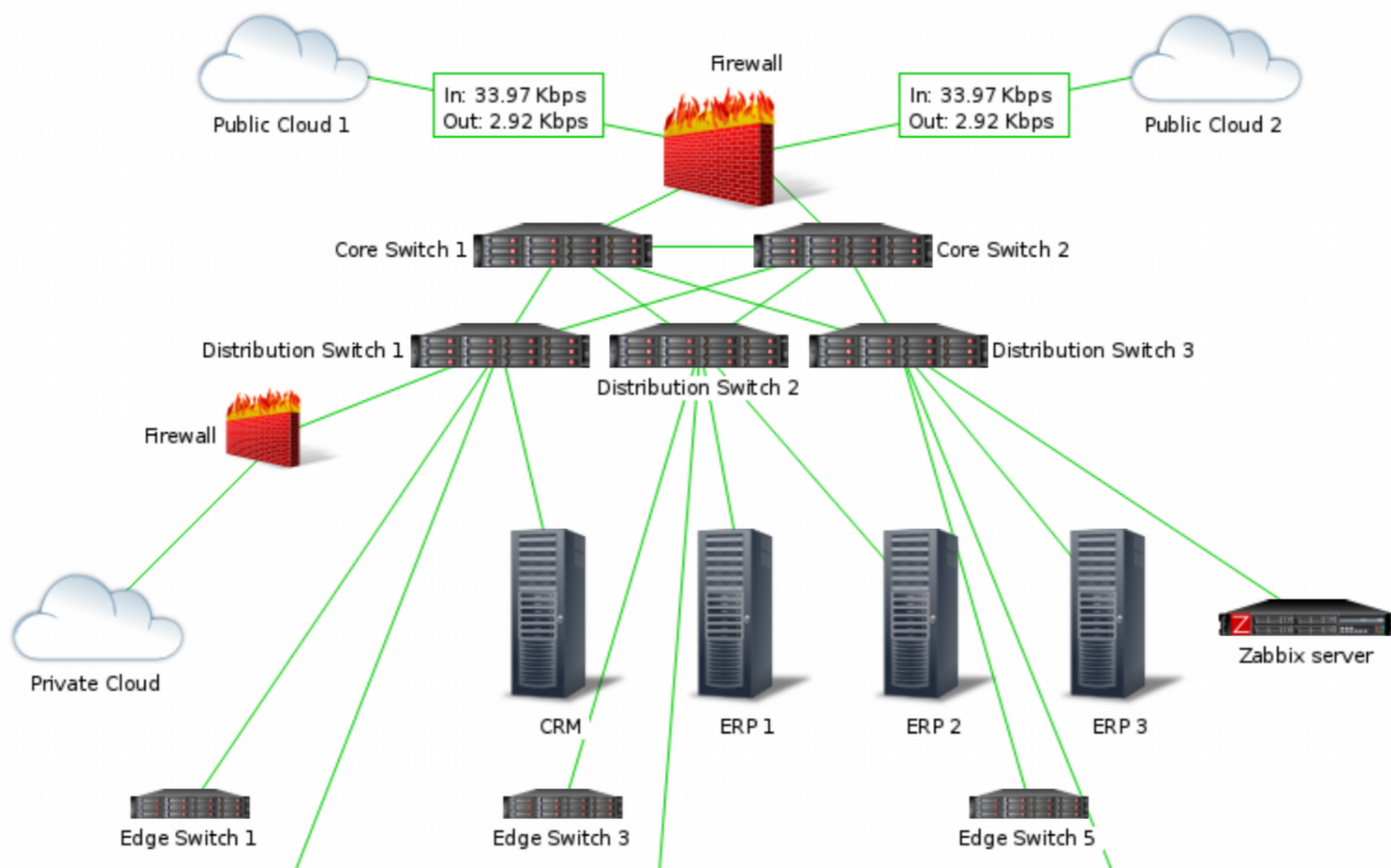
Ad-hoc multi-item graphs
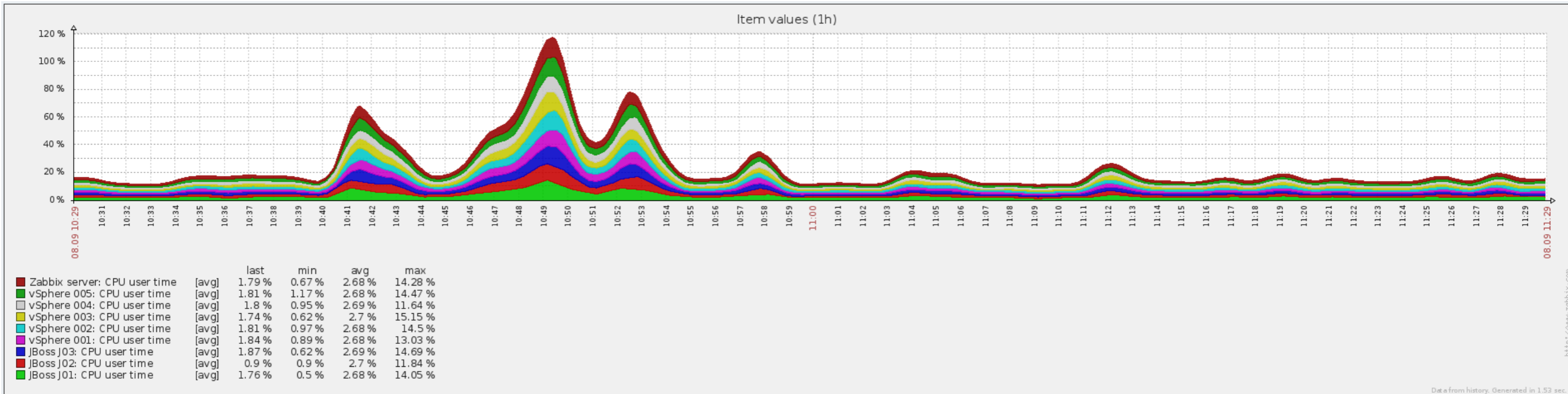
Normal ↔ Stacked
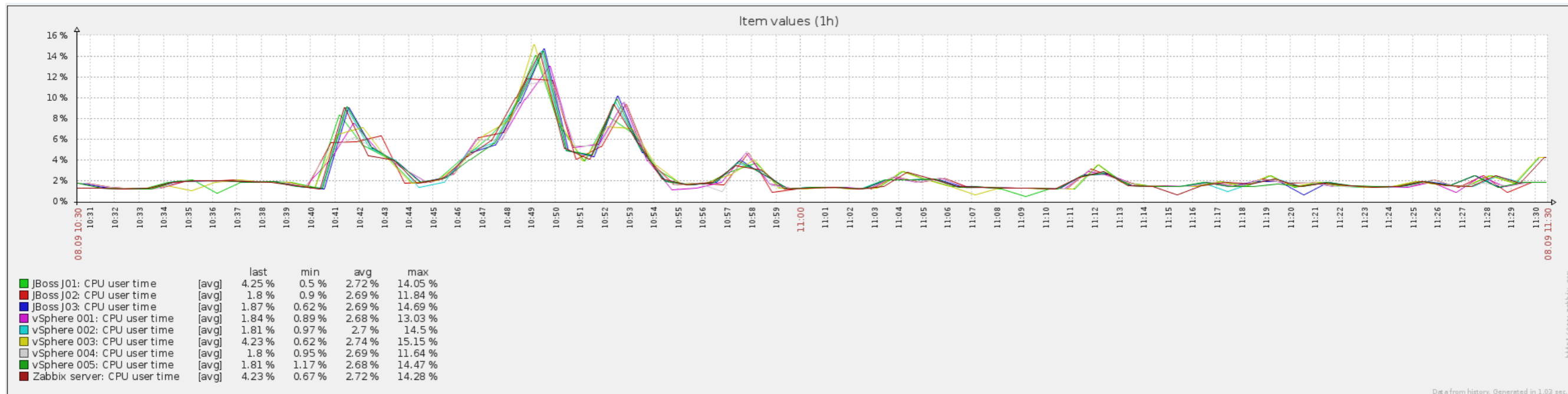
Step 2: see the graph

New macros, broader scope

- User macros {$MACRO} in notifications and commands

- {HOST/PROXY.DESCRIPTION} in notifications and commands also for map labels

Sad truth:

Not all devices respect standards

SNMP interfaces

127.0.0.1   IP   DNS   161

☑ Use bulk requests

Add

Bulk is optional now.

Flexible filters for LLD

Multiple filters

User-defined expression

Extreme flexibility!

Discovery rule	Filters

Type of calculation: Custom expression ▾ | A and (C or (B and D))

Filters

Label	Macro		Regular expression	
A	{#IFNAME}	matches	@All except localhost	Remove
B	{#IFSPEED}	matches	@100Mbps	Remove
C	{#IFSPEED}	matches	@1Gbps	Remove
D	{#IFSTATE}	matches	@Active port	Remove

Add

Flexible action conditions

User-defined formula

Extreme flexibility!

Action	**Conditions**	Operations

Type of calculation Custom expression ▾ A and B and (E or (F and (C or D)))

Conditions

Label	Name	Action
A	Maintenance status not in *maintenance*	Remove
B	Trigger value = *PROBLEM*	Remove
C	Trigger name like *CPU*	Remove
D	Trigger name like *Disk*	Remove
E	Trigger name like *MySQL*	Remove
F	Trigger name like *performance*	Remove

New condition Trigger name ▾ like ▾
Add

Better syntax for triggers

- | , # and & renamed to or, <> and and

- New operators <=, >=, not

- Unified syntax with LLD filters and actions

  These changes are not backward compatible!

Unsupported items

Now we have a clear message:

Invalid second parameter

Cannot obtain file information: /etc/passwd2 does not exist

Timeout while processing item

Name ⬇⬆	Triggers	Key	Interval	History	Trends	Type	Applications	Status	Info
Template App Zabbix Agent: Agent ping	Triggers (1)	agent.ping	60	7	365	Zabbix agent	Zabbix agent	Enabled	
Template OS Linux: Available memory	Triggers (1)	vm.memory.size[available]	60	7	365	Zabbix agent	Memory	Enabled	
Checksum of /etc/httpd.conf		vfs.file.cksum[/etc/httpd.conf]	3600	7	365	Zabbix agent	Security	Not supported	❌
Template OS Linux: Checksum of /etc/passwd	Triggers (1)	vfs.file.cksum[/etc/passwd]	3600	7	365	Zabbix agent	Security	Enabled	
Template OS Linux: Context switches per second		system.cpu.switches	60	7	365	Zabbix agent	CPU, Performance	Enabled	

More efficient protocols

- No pretty formatting for JSON protocol

- 20-30% less network traffic, faster processing

```
{
    "request":"sender data",
    "data":[
            {
                    "host":"Host name 1",
                    "key":"item_key",
                    "value":"33"},
            {

                    "host":"Host name 2",
                    "key":"item_key",
                    "value":"55"

            }
    ]
}
```

```
{"request":"sender data","data":[{"host":"Host name 1","key":"item_key","value":"33"},{"host":"Host name 2","key":"item_key","value":"55"}]}
```

API improvements

- Performance is much better for some API calls

- output=refer is not supported anymore

  But: no performance improvements for template related operations yet, coming in Zabbix 3.0

Clear separation of operations in the front-end

New object

Media type

Name	Script
Type	Script
Script name	skype.pl
Enabled	☑

Add   Cancel

Existing object

Media type

Name	Script
Type	Script
Script name	skype.py
Enabled	☑

Update   Delete   Cancel

Advanced WEB monitoring

- Custom headers: SOAP, JSON RPC, etc

- Number of retries

- SSL related options: verify host, verify peer, certificate file

- Retrieve only HTTP headers

Runtime control of log level

```
usage: zabbix_server [-hV] [-c <file>] [-R <option>]

Options:
  -c --config <file>             Absolute path to the configuration file
  -R --runtime-control <option>  Perform administrative functions

Runtime control options:
  config_cache_reload            Reload configuration cache
  log_level_increase=<target>    Increase log level, affect all processes if target is not specified
  log_level_decrease=<target>    Decrease log level, affect all processes if target is not specified

Log level control targets:
  <pid>                          Process identifier
  <process type>                 All processes of specified type (e.g., poller)
  <process type,N>               Process type and number (e.g., poller,3)

Other options:
  -h --help                      Display help information
  -V --version                   Display version number
```

- Troubleshooting, remote support

- No restart needed: better availability

Node based DM was removed

- It didn't guarantee consistency of configuration data

- It didn't scale well enough

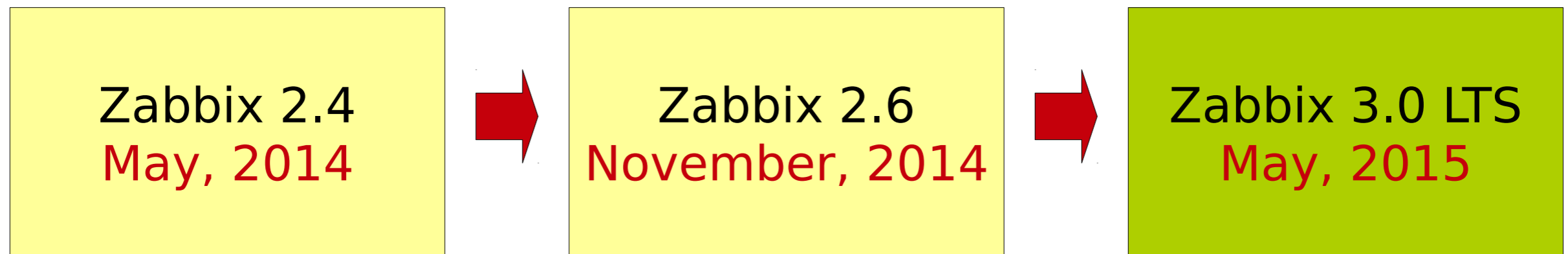- Existing DM will be migrated to standalone

And more!

- Graphs prototypes in screens

- Automatic discovery of CPUs

- Increased size of host-related fields

- Additional option for XML import
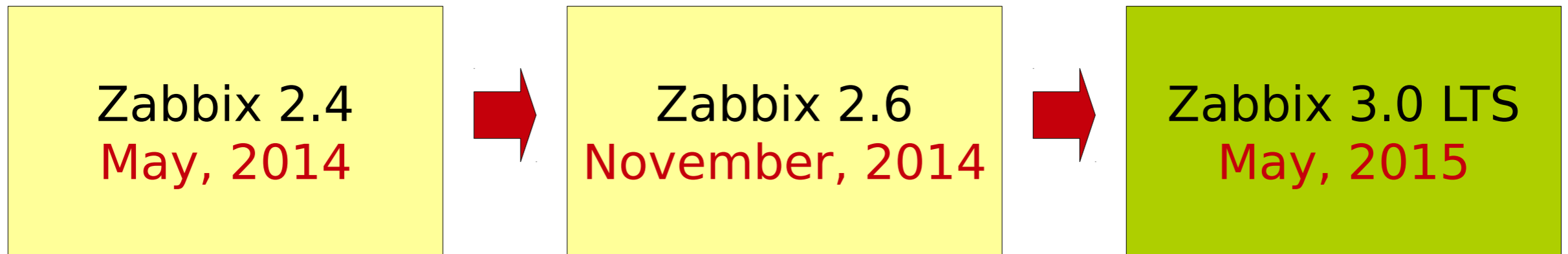
  Read Release Notes for a complete list of changes.

Original plan

| Zabbix 2.4 May, 2014 | → | Zabbix 2.6 November, 2014 | → | Zabbix 3.0 LTS May, 2015 |

What's next?

Original plan

| Zabbix 2.4
May, 2014 | → | Zabbix 2.6
November, 2014 | → | Zabbix 3.0 LTS
May, 2015 |

Adjusted plan

| Zabbix 2.4
September, 2014 | → | Zabbix 2.6
November, 2014 | → | Zabbix 3.0 LTS
May, 2015 |

Shall I upgrade to 2.4?

- Limited support time for Zabbix 2.4 (not LTS!)

- Depends if you need new functionality and ready to upgrade

- Estimated upgrade down-time: 30 seconds → up-to 5 minutes depending on size of configuration data

- No historical tables affected

- Node based DM will be automatically converted to standalone setup

  - It will take time

Enjoy the Conference!

Thank you.