Zabbix Monitoring

Paul Tader

Harper College, March 4th 2008

ptader@linuxscope.com

Zabbix Monitoring

- ZABBIX is an enterprise-class open source database driven distributed monitoring solution.
    - Distributed monitoring
    - Scalability
    - Real-time monitoring
    - Visualisation
    - WEB monitoring
    - Flexibility
    - Agentless monitoring
    - Auto discovery

Zabbix Monitoring

- Support
  - OpenSource Options
    - User Forums (www.zabbix.com/forum)
    - Mailing list
    - IRC support channel
    - The code (written in C, PHP)
  - Commercial Support
    - Zabbix SIA, Riga, Latvia (www.zabbix.com)
      - Annual Support Agreements
      - Turn-key Solutions
      - Technical Account Manager
      - Professional Services
      - 4 levels of annual maintenance.

Zabbix Monitoring

- Operating system support

  - Linux, FreeBSD, NetBSD, OpenBSD

  - AIX HP-UX, MacOS, Solaris, Tru64/OSF, SCO Open Server

  - Win32, Novell Netware.

Zabbix Monitoring

- DateBase Support
    - MySQL
    - PostgreSQL
    - SQLite
    - Oracle.

Zabbix Monitoring

- Software Requirements (Zabbix ver. 1.4)
  - Apache 1.3.12
  - PHP 4.3
  - MySQL 3.22
  - Oracle 9.0.2.4
  - PostgreSQL 7.0.2
  - SQLite 3.3.5

Zabbix Monitoring

- ZABBIX Components
  - Server
  - Client
  - Web Interface

Zabbix Monitoring

Server

– Main configuration file /etc/zabbix/zabbix_server.conf

– Server processes, *zabbix_server* runs as user zabbix

– Can host database, web front-end and be a client as well.

– Monitoring Configuration

Zabbix Monitoring

Client

- Main configuration file /etc/zabbix/zabbix_agentd.conf

- Processes, *zabbix_agentd* run as user **zabbix**

- Some won't run the Zabbix client.

    - routers

    - webservers

    - POP, IMAP

    - ping

Zabbix Monitoring

- **<u>Item</u>**
  - I just gather data and log it.
- **<u>Trigger</u>**
  - Is that data within my parameters?
  - If not, give it a severity level.
- **<u>Actions</u>**
  - Giving a senario, I run remote commands or email.
- **<u>Media</u>**
  - Define email, SMS, jabber, or email scripts.

Zabbix Monitoring

Checks (Items), in detail.

- Simple checks
    - agent-less (FTP, mail, http)
- Internal Checks
    - Monitoring internal Zabbix parameters (i.e how many triggers?)
- External checks
    - shell scripts or binaries
- Aggregated checks
- SNMP
- Zabbix agent checks
    - built-in
    - Custom

Zabbix Monitoring

Zabbix agent checks

- Sample checks that the client can monitor:

    - **CPU load**

    - **Memory**

    - **Disk** (inodes, free, read/write)

    - **Files** (md5sum, exists, size, regex, time)

    - **Network traffic** (eth#, lo)

    - **number of processes running**

    - **Agent ping and version.**

- User defined

    - **Everything else...**

Zabbix Monitoring

User defined agent checks

"In order to define a new parameter for monitoring, one line has to be added to configuration file of ZABBIX agent and the agent must be restarted."

UserParameter=ping,echo 1

UserParameter=myscript,/usr/local/bin/critical.sh

UserParameter=mysql.ping,mysqladmin -uroot ping|grep alive|wc –l

Zabbix Monitoring

Triggers

A Trigger is defined as a logical expression that represents a monitored system state. The expression is recalculated every time Zabbix server receives new value (Item).

- Depending on the configured range or value, assigns it a severity level.

- Dependencies

- Expressions include:

  - Exit codes

  - Echo'd integers

  - Strings

  - Absolute values

  - Averages

  - Sum of values

  - Min/Max for a specified time

  ...and more.

Zabbix Monitoring

Trigger severity levels

- Disaster
- High
- Average
- Warning
- Informational
- Not Classified

Zabbix Monitoring

Actions

What a trigger utilizes.

- **Email**
  - Individual
  - Group
- **Scripts**
  - Local or remote script disabled by default

Zabbix Monitoring

Media Types

Media is a delivery channel for ZABBIX alerts. Several media types can be assigned to a user.

- Email

- SMS (serial modem)

- jabber

- Email scripts (Zabbix passes: Recipient, Subject and Message)

Zabbix Monitoring
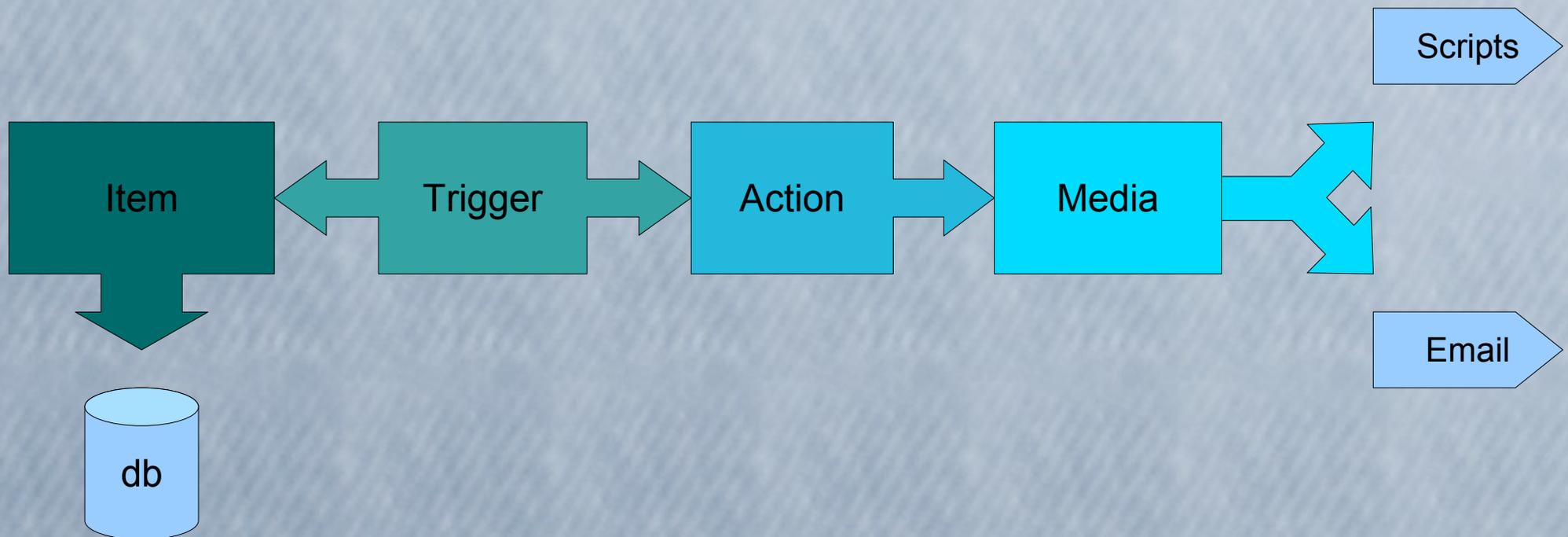
Zabbix Monitoring

Demo time!

- A walk through zabbix_server.conf and zabbix_agentd.conf

- Add a Group

- Add a template

- Add a host

- Show host items and triggers

- Configure a custom item / trigger

- Configure alerts

- Graphs and screens

Zabbix Monitoring

A recent deployment...

- 1,100 monitored hosts

- 86,000 monitoring items

- 35,000 triggers

- 2,400 queries/sec.

- Hardware stats

- 2 Quad core Xeons (2.00GHz)

- 8 Gb RAM

- 1GB NIC

- MySQL db currently at 120GB, expected to reach 300GB within the year.

Zabbix Monitoring
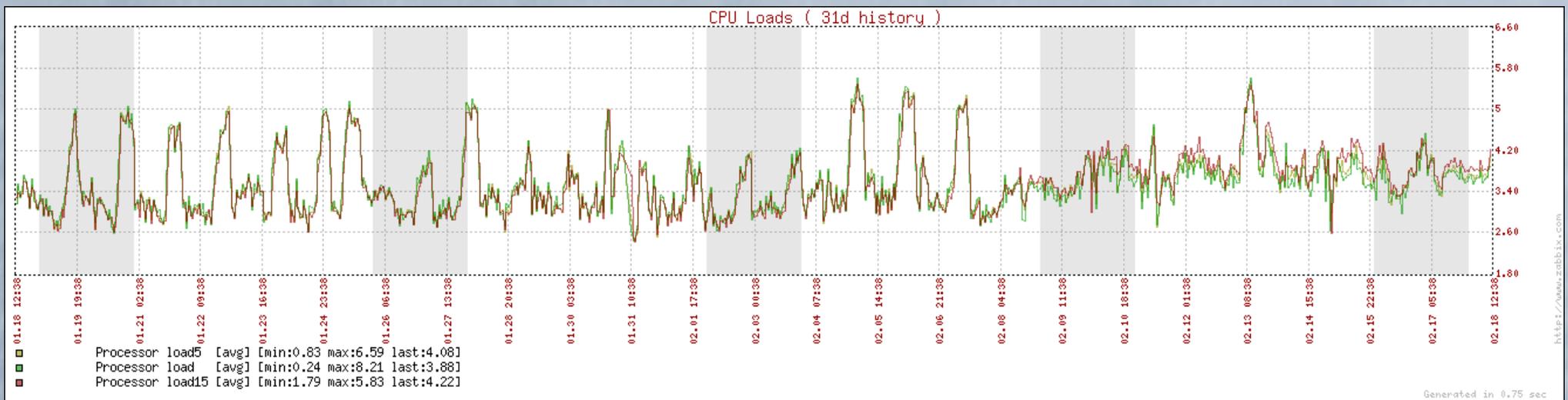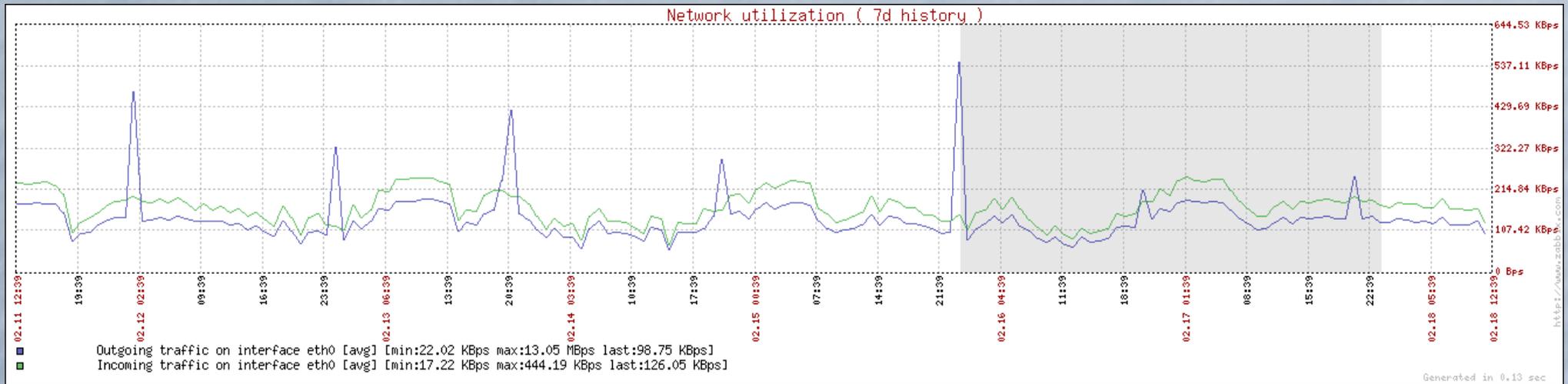
Zabbix Monitoring

Zabbix Monitoring

Questions?