Road to Zabbix in 2024

Implementing and migrating monitoring

4.10.2024 Antti Hurme

A SUSTAINABLE FUTURE THROUGH DIGITALISATION

Antti Hurme

- Senior Solution Architect at Elisa Oyj - IT and Telco Services (Finland)
- Working with datacenters for over a decade
  - Hardware, Storage, Virtualization, Automation…
- Zabbix experience since version 2.0

https://www.null-byte.org
https://elisa.fi

Elisa in brief

Our mission:

A SUSTAINABLE FUTURE THROUGH DIGITALISATION

2.8M customers

€2.2BN revenue 2023

5,700 Elisians in 20 countries

Market position:

#1 in Finland

#2 in Estonia

With 140 years of experience

For core markets

- Telecom
- Entertainment
- IT services

For international markets

- Telecom software
- Industrial software
- Energy management

Greenfield monitoring in Elisa with Zabbix

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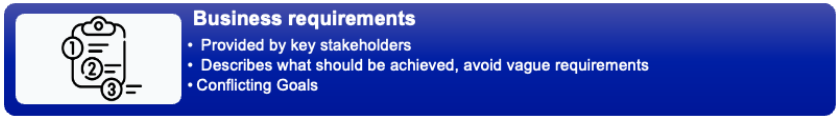
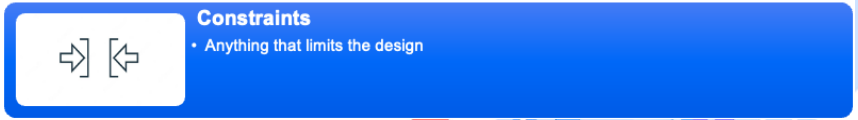
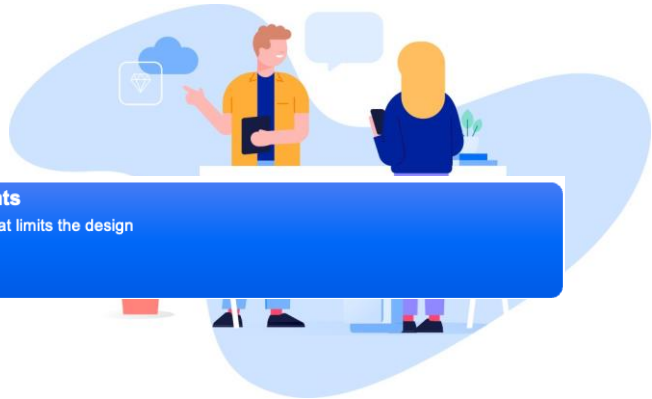
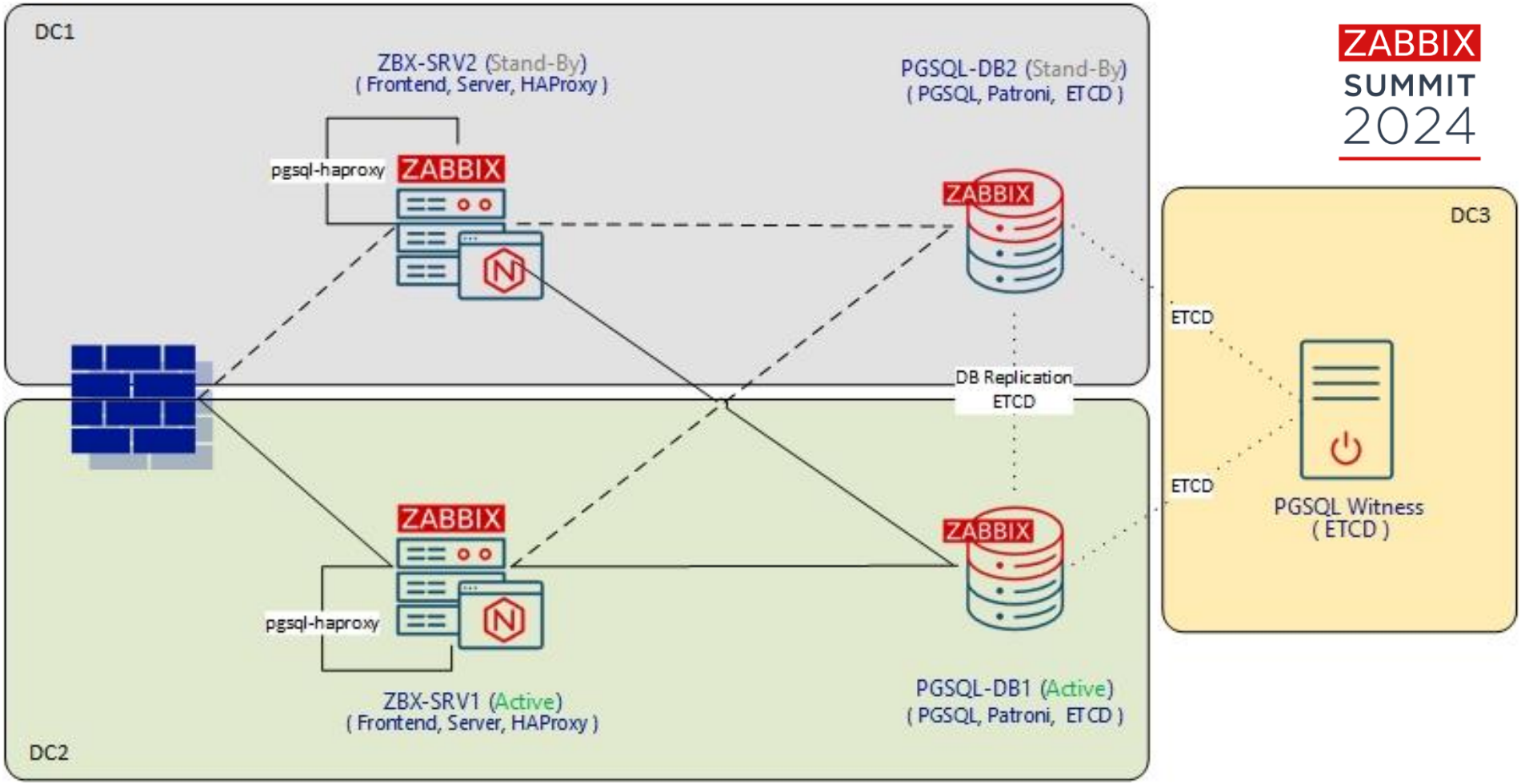
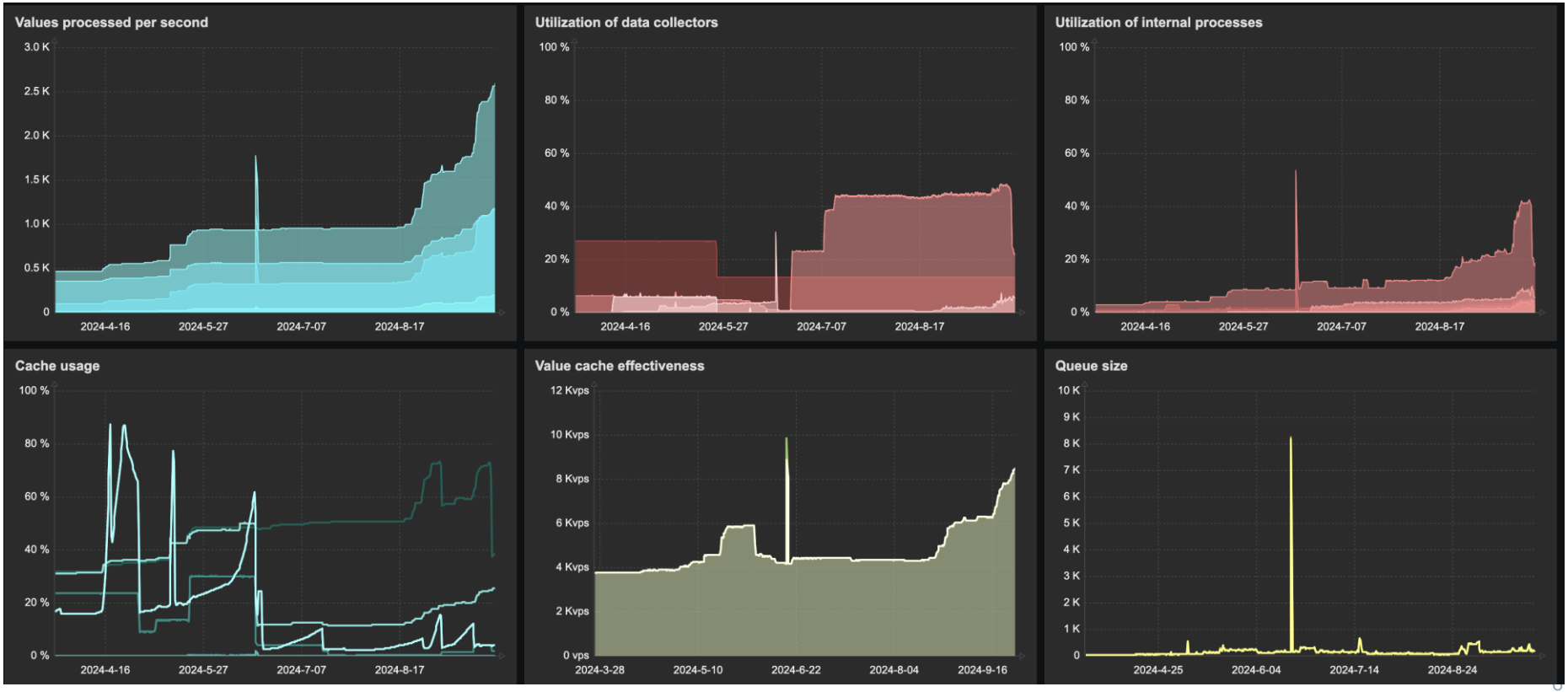
- What technologies and methods are available?
- What are our capabilities to maintain said solutions?
- Understanding your availability requirements
- Important questions for Elisa;
  - Monitoring reliability during outages
  - Backup and Recovery
  - Zabbix publishing and networking








DC1
ZBX-SRV2 (Stand-By)
(Frontend, Server, HAProxy)
PGSQL-DB2 (Stand-By)
(PGSQL, Patroni, ETCD)
pgsql-haproxy
ZABBIX
ZABBIX
DC3
ETCD
DB Replication
ETCD
ETCD
PGSQL Witness
(ETCD)
ZABBIX
ZABBIX
pgsql-haproxy
ZBX-SRV1 (Active)
(Frontend, Server, HAProxy)
PGSQL-DB1 (Active)
(PGSQL, Patroni, ETCD)
DC2


Values processed per second
3.0 K
2.5 K
2.0 K
1.5 K
1.0 K
0.5 K
0
2024-4-16
2024-5-27
2024-7-07
2024-8-17
Utilization of data collectors
100 %
80 %
60 %
40 %
20 %
0 %
2024-4-16
2024-5-27
2024-7-07
2024-8-17
Utilization of internal processes
100 %
80 %
60 %
40 %
20 %
0 %
2024-4-16
2024-5-27
2024-7-07
2024-8-17
Cache usage
100 %
80 %
60 %
40 %
20 %
0 %
2024-4-16
2024-5-27
2024-7-07
2024-8-17
Value cache effectiveness
12 Kvps
10 Kvps
8 Kvps
6 Kvps
4 Kvps
2 Kvps
0 vps
2024-3-28
2024-5-10
2024-6-22
2024-8-04
2024-9-16
Queue size
10 K
9 K
8 K
7 K
6 K
5 K
4 K
3 K
2 K
1 K
0
2024-4-25
2024-6-04
2024-7-14
2024-8-24

Importance of Identity and Access Management (IAM) with Zabbix

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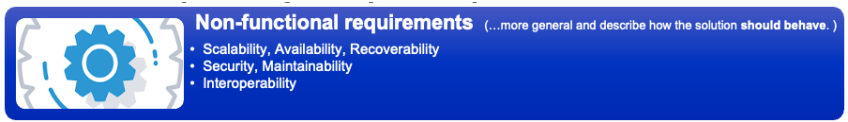
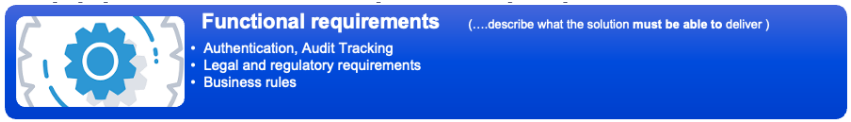
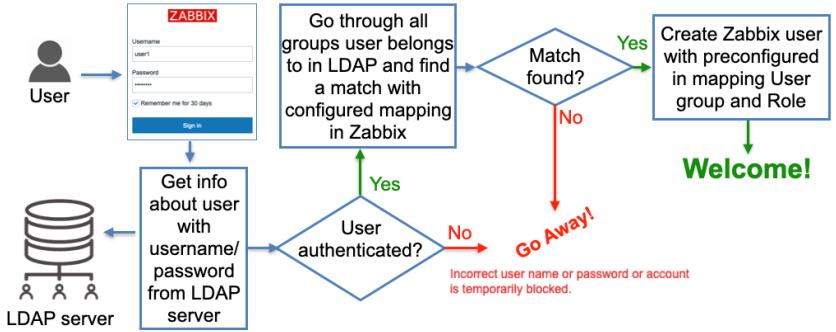
- Protecting the organizations data with the help of Roles and Access privileges (RBAC)
- Within Elisa we've enabled self-service for users to request permissions for Zabbix





- Zabbix introduced JIT with version 6.4!



Zabbix Dashboards

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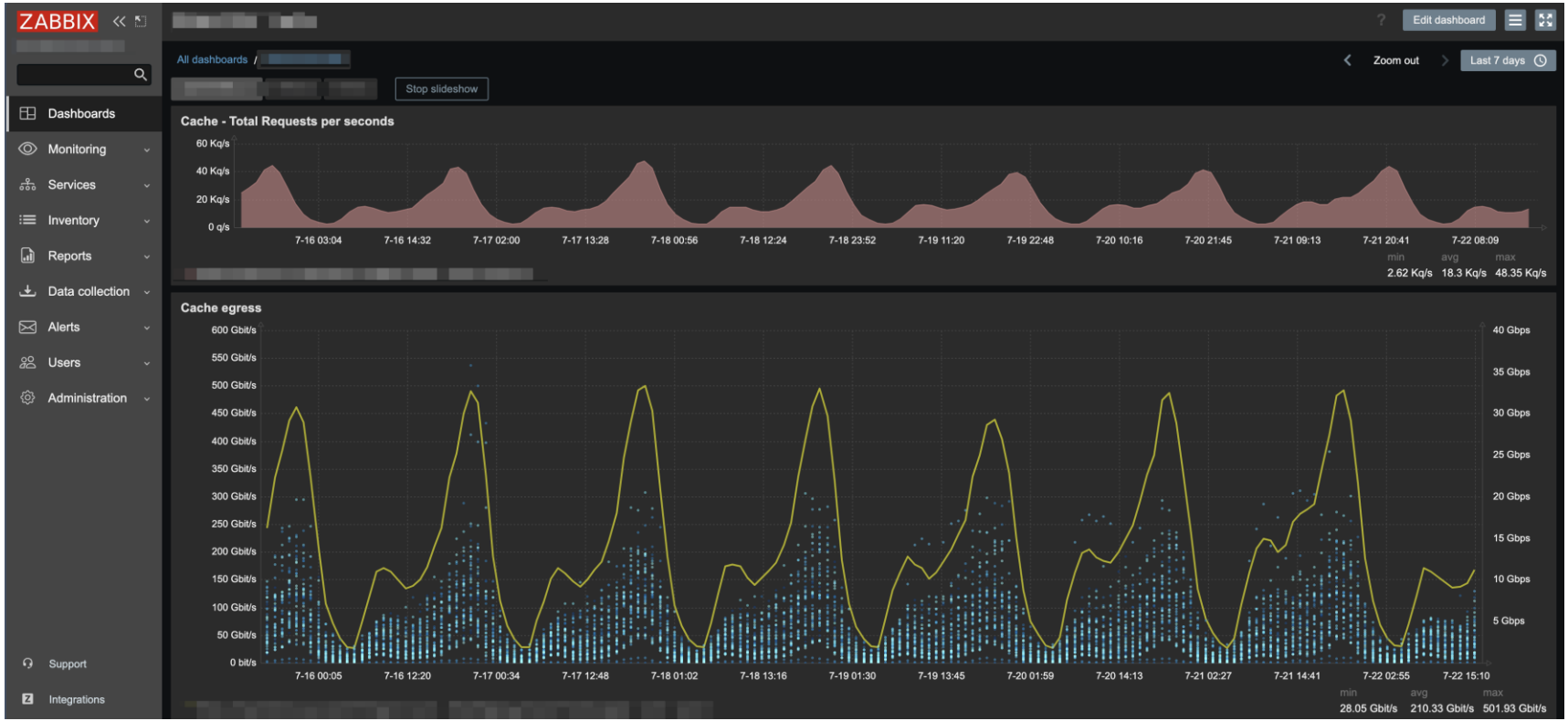
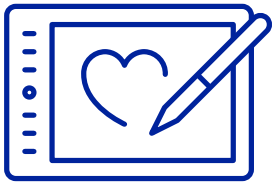


Maintain a healthy CMDB

- At Elisa, we are committed to maintaining our assets to ensure the reliability and accuracy of our CMDB.
- Our objective was to streamline the process of collecting and maintaining information
- We used Zabbix tags and inventory to..
  - Action routing based on CI support group
  - Escalation and notifications based on SLA
  - Enable user access to monitoring data
  - Create links between CMDBs and Zabbix



Know your master data, and keep it up to date!

Maintain Zabbix and a healthy CMDB with Ansible

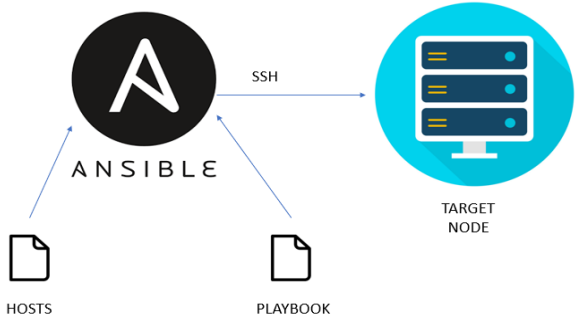
Automation
- Use automation to help with agent installation
- Verify system information
- Gather CMDB data

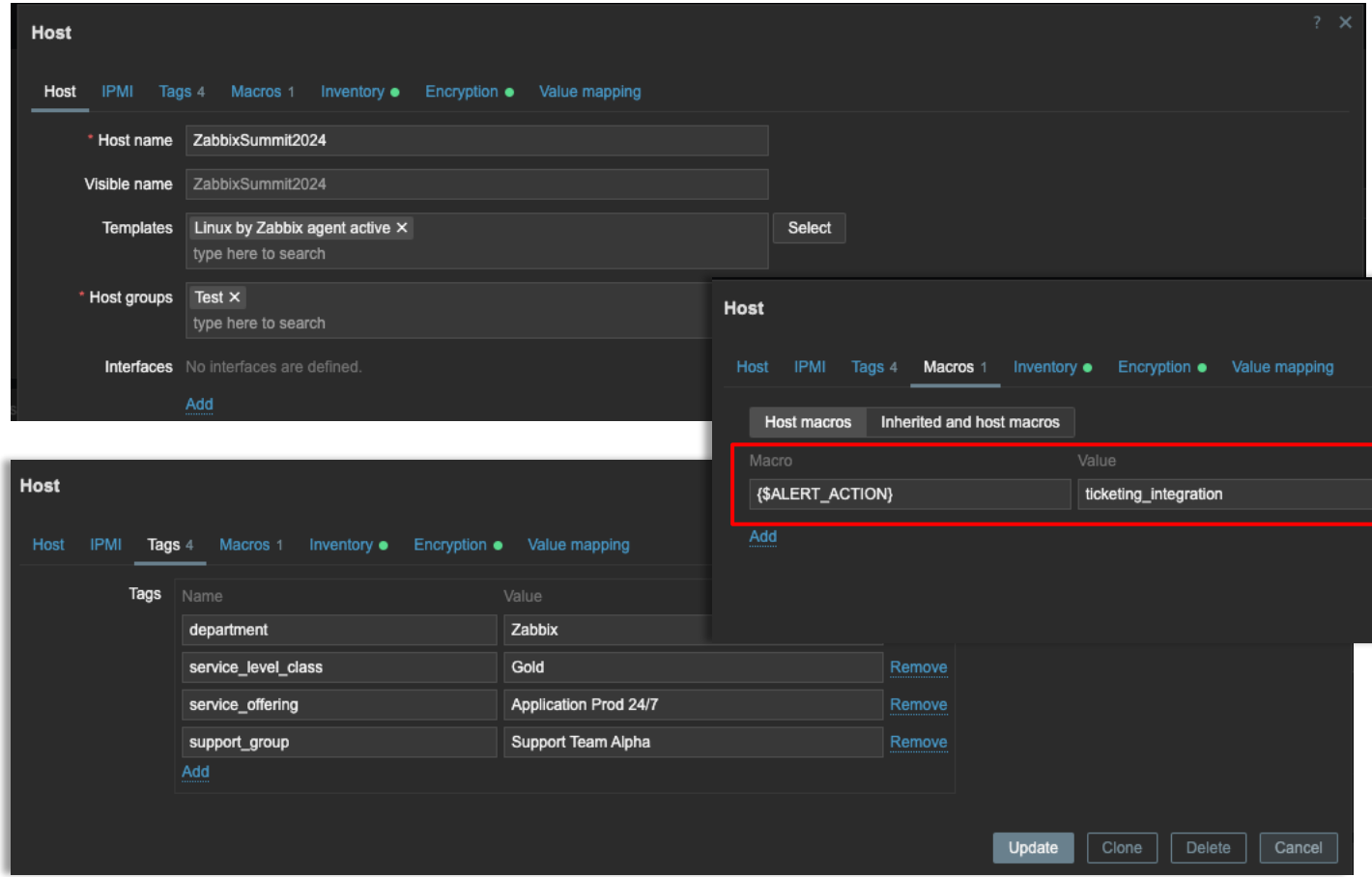
Install agent
- Configure client based on company baselines
- Enable Zabbix Agent encryption

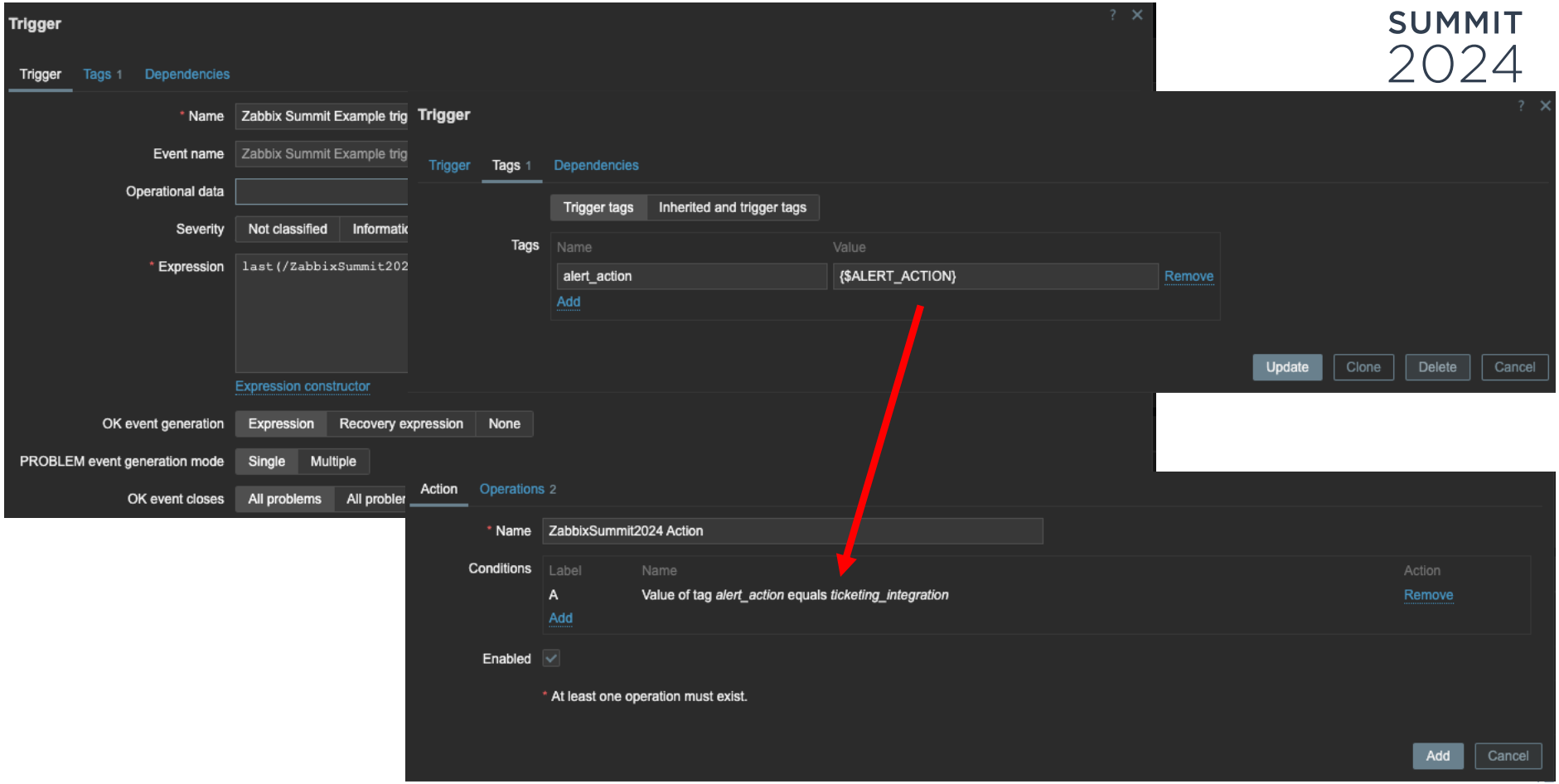
Zabbix Server host
- Create Zabbix Server host
- Apply encryption
- Add tags
- Populate Zabbix inventory
- Apply templates

Verify
- Verify Zabbix Agent communication

Maintain
- Maintain data between Zabbix and your CMDB



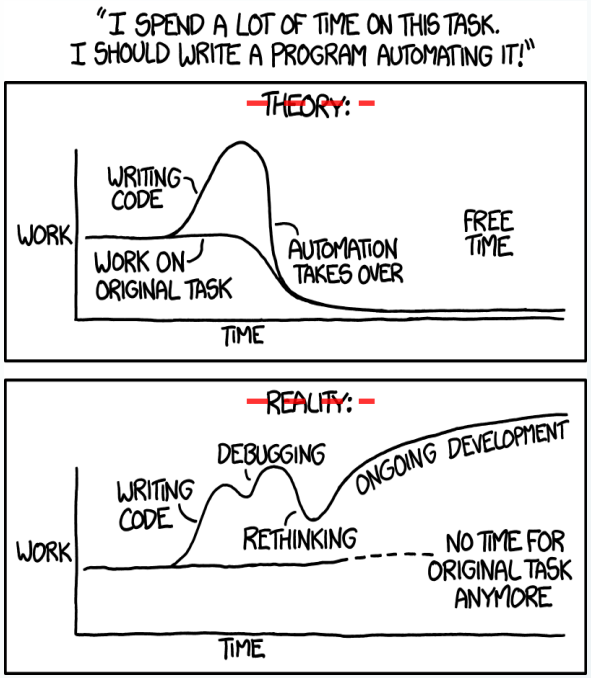

Host
Host IPMI Tags 4 Macros 1 Inventory Encryption Value mapping
* Host name ZabbixSummit2024
Visible name ZabbixSummit2024
Templates Linux by Zabbix agent active ×
type here to search
Select
* Host groups Test ×
type here to search
Interfaces No interfaces are defined.
Add
Host
Host IPMI Tags 4 Macros 1 Inventory Encryption Value mapping
Host macros Inherited and host macros
Macro Value Description
{$ALERT_ACTION} ticketing_integration description
Add
Update
Host
Host IPMI Tags 4 Macros 1 Inventory Encryption Value mapping
Tags
Name Value
department Zabbix
service_level_class Gold Remove
service_offering Application Prod 24/7 Remove
support_group Support Team Alpha Remove
Add
Update Clone Delete Cancel


Trigger
Trigger
Tags 1
Dependencies
* Name
Zabbix Summit Example trig
Event name
Zabbix Summit Example trig
Operational data
Severity
Not classified
Informatic
* Expression
last(/ZabbixSummit202
Expression constructor
OK event generation
Expression
Recovery expression
None
PROBLEM event generation mode
Single
Multiple
OK event closes
All problems
All probler
Trigger
Trigger
Tags 1
Dependencies
Trigger tags
Inherited and trigger tags
Tags
Name
Value
alert_action
{$ALERT_ACTION}
Remove
Add
Update
Clone
Delete
Cancel
Action
Operations 2
* Name
ZabbixSummit2024 Action
Conditions
Label
Name
Action
A
Value of tag alert_action equals ticketing_integration
Remove
Add
Enabled
* At least one operation must exist.
Add
Cancel

Zabbix improves all the time, new features enables better integration

It’s good to challenge the way you are familiar working with

Automating deployment of Zabbix agents was worth the effort



https://xkcd.com/1319

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Thank You!

Antti Hurme

Senior Solution Architect