



Tingo

ZABBIX

IN THE AV-INDUSTRY

Zabbix Summit 2023, Riga

Software-

wickler

ZABBIX

Die

Audio/Video

Architekten

Med

Steuerung



Tingo

Die

HELLO



Be nice ♥ to me, it's my first speech in front of so many people ... and in English

Software-
wickler

Audio/Video
Architekten

Med
Steuerungs

WHO AM I ?

Silvano Giacomello
(IT-)Project Manager, Teamleader IT/Application-Development
and Member of the Board

Working with Zabbix since version 2.2, Certified Expert (Version 5) *
(* Thanks to one of the best trainer, the one and only Wolfgang)



TINGO DIE AV-ARCHITEKTEN

founded in 2009, 12 employees including one trainee,

independent planning office for audio-, video and media-technology,
and application development

sia
Schweizerischer Ingenieur- und Architektenverein
Società Svizzera degli Ingegneri e degli Architetti
Swiss society of engineers and architects

AVIXA Member

 **swiss made
software**



ZABBIX



ZABBIX INFRASTRUCTURE

«Cloud»-based, redundant, Zabbix Infrastructure in Europe.

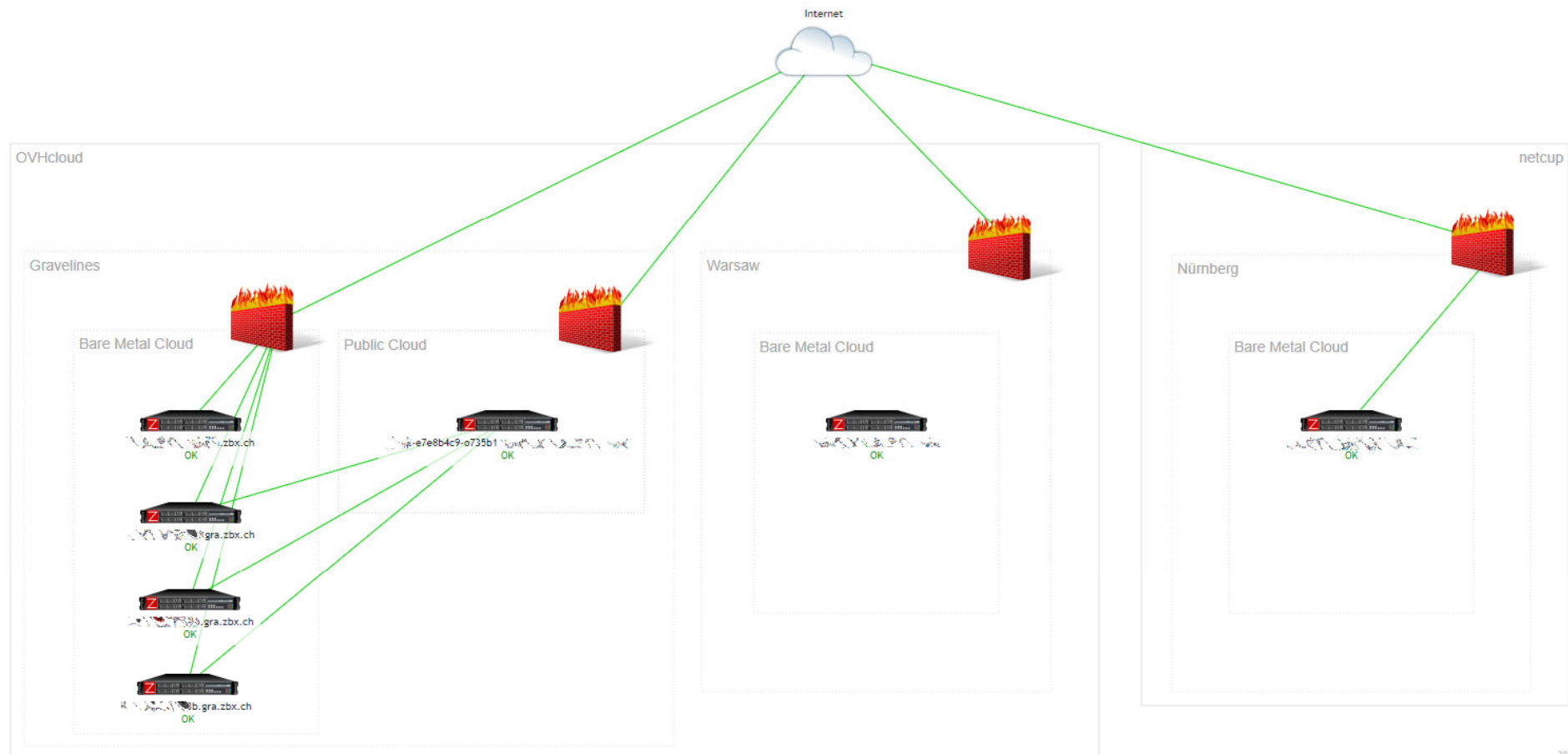
2 Application-Servers (Zabbix Server, Zabbix Frontend; redundancy based on Pacemaker/Corosync)

2 Database-Servers (MySQL; Database-as-a-Service)

2 Remote-Monitoring Nodes (same provider second country; second provider third country)

1 General Zabbix Proxy (Websites, Certificates, etc.)





WHY THIS SPEECH ? AV?

AV is the acronym for audio and visual. Near everyone in here is using something from the AV-Industry.

It's Audio

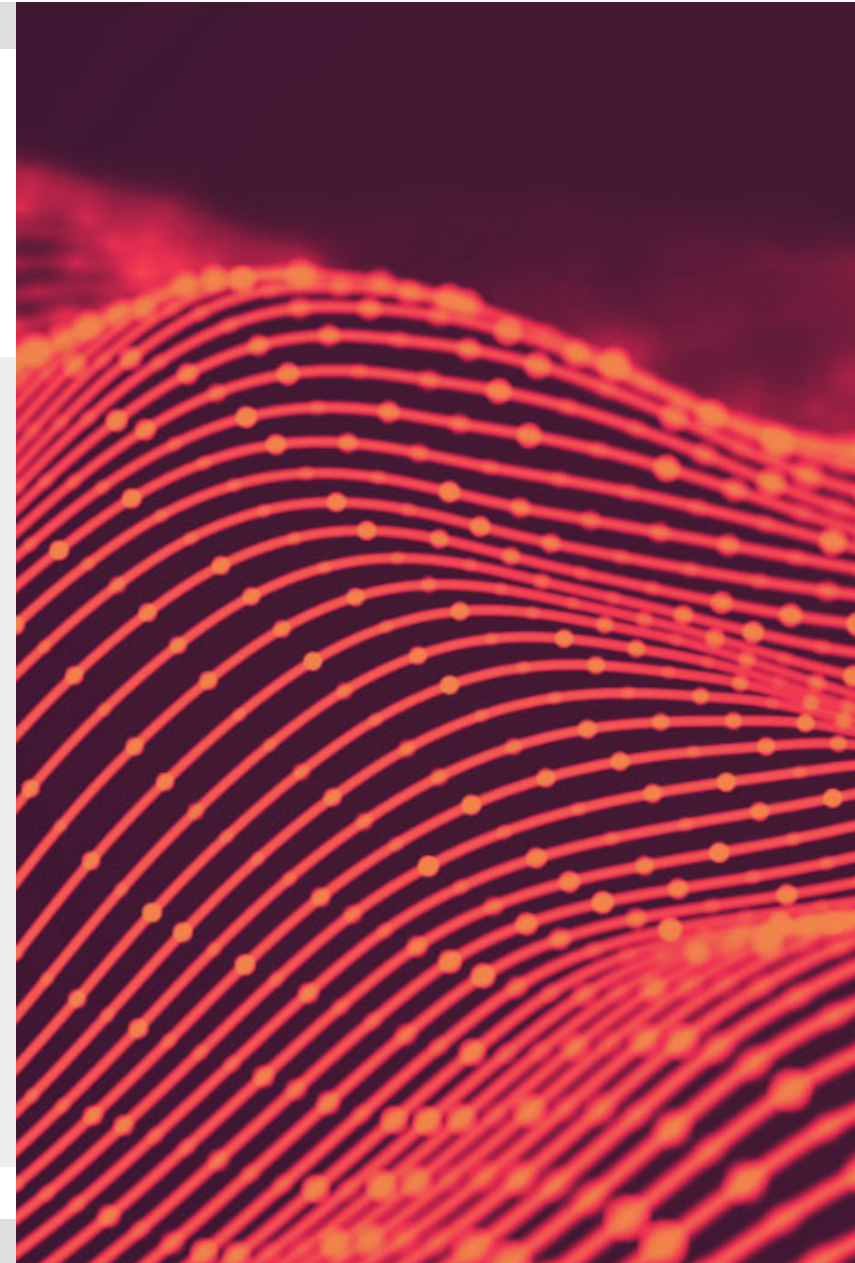
Communication systems, sound systems, amplified voices, music and sound effects.

It's Visual

It's a visual aesthetic, display screens, videos, lights, darkness and movement.

Interactive Experience

AV uses art and technology to communicate ideas, emotions, and information ... to set a mood ... and to influence perception.







Sunrise





Feldschloss-
weg 100

21



Gold	Gold	Gold	Gold	Brauerei	Kaiser	Heidel	Brau
10-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
10-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
10-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50

2 ISSUES + RESOLUTION



PROTOCOLS

PROTOCOLS

 PJ-Link



DMX



NDI[®]



artnet[®]

OFFLINE DEVICES





2023-09-24
17:47

Problems							
Time ▼	Info	Host	Problem • Severity	Duration	Update	Actions	
No data found.							

OUR SOLUTION

ZBX_BRIDGE

Software which can receive informations over an http GET, forward it to Zabbix

can send the value to Zabbix over zabbix_sender or the API
change something inside Zabbix over the API,
change the sending value,
node.js based
hosted somewhere in the network; possible together with the Zabbix Proxy,





Problems by severity

0
Disaster

0
High

0
Average

0
Warning

0
Information

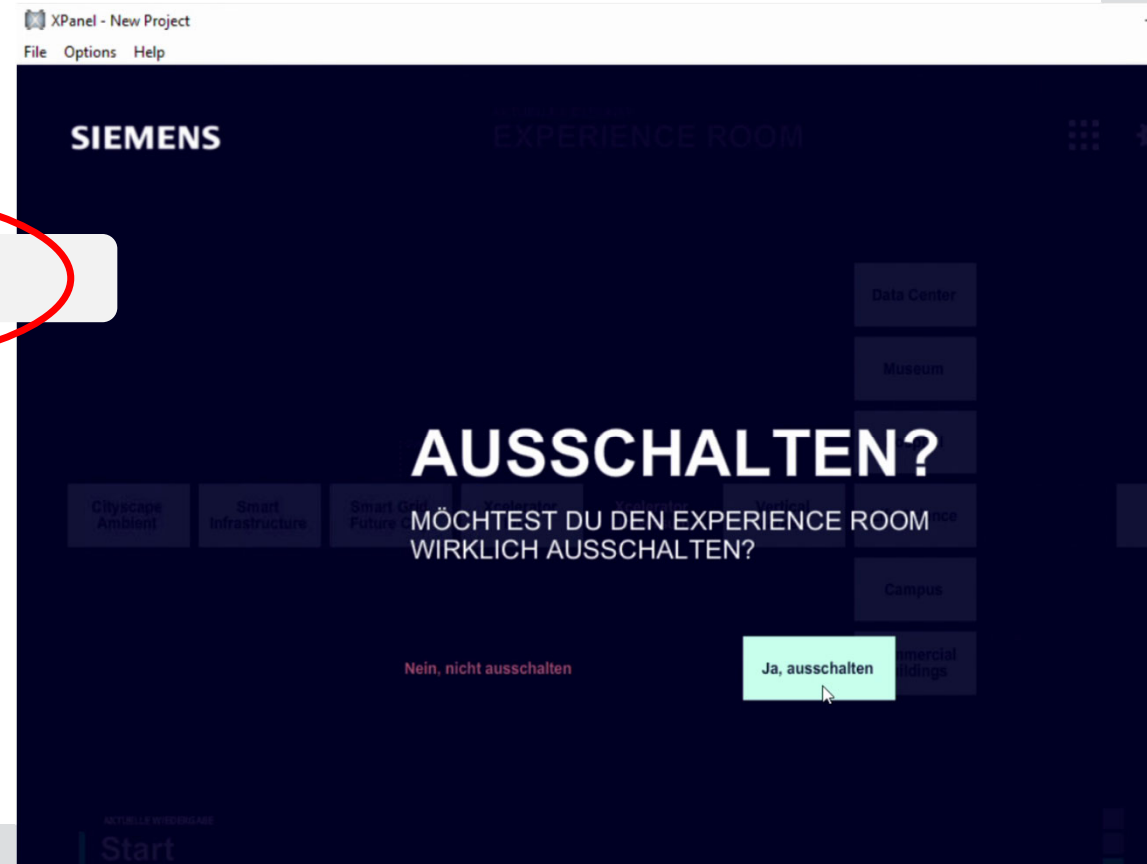
0
Not classified

Site State
2023-09-21 10:29:21
On (1)

Vertex Systeme									
Hostname	CPU Utilization		Memory Utilization		System (C) Utilization		Vertex (D) Utilization		GPU Utilization
ssl-exp-vtx-01	<div></div>	20.55 %	<div></div>	23.70 %	<div></div>	13.04 %	<div></div>	4.08 %	<div></div> 4.56 %
ssl-exp-vtx-04	<div></div>	8.00 %	<div></div>	28.31 %	<div></div>	22.16 %	<div></div>	58.48 %	<div></div> 7.97 %
ssl-exp-vtx-11	<div></div>	6.91 %	<div></div>	42.39 %	<div></div>	21.27 %	<div></div>	86.47 %	<div></div> 8.02 %
ssl-exp-vtx-08	<div></div>	6.49 %	<div></div>	44.02 %	<div></div>	48.76 %	<div></div>	96.39 %	<div></div> 11.47 %
ssl-exp-vtx-09	<div></div>	5.47 %	<div></div>	30.02 %	<div></div>	21.41 %	<div></div>	67.17 %	<div></div> 7.72 %
ssl-exp-vtx-10	<div></div>	5.33 %	<div></div>	27.83 %	<div></div>	22.10 %	<div></div>	72.66 %	<div></div> 7.83 %
ssl-exp-vtx-12	<div></div>	4.90 %	<div></div>	27.79 %	<div></div>	23.56 %	<div></div>	82.12 %	<div></div> 8.17 %
ssl-exp-vtx-07	<div></div>	4.17 %	<div></div>	27.29 %	<div></div>	22.55 %	<div></div>	37.66 %	<div></div> 7.58 %
ssl-exp-vtx-03	<div></div>	4.12 %	<div></div>	53.12 %	<div></div>	23.93 %	<div></div>	60.57 %	<div></div> 8.02 %
ssl-exp-vtx-05	<div></div>	4.01 %	<div></div>	27.99 %	<div></div>	36.21 %	<div></div>	41.06 %	<div></div> 5.60 %
ssl-exp-vtx-06	<div></div>	3.85 %	<div></div>	26.57 %	<div></div>	21.86 %	<div></div>	38.89 %	<div></div> 7.57 %
ssl-exp-vtx-14	<div></div>	3.01 %	<div></div>	46.88 %	<div></div>	47.59 %	<div></div>	29.04 %	<div></div> 8.17 %
ssl-exp-vtx-02	<div></div>	1.40 %	<div></div>	31.02 %	<div></div>	27.27 %	<div></div>	80.04 %	<div></div> 3.57 %

CONTROL SYSTEM + ZBX_BRIDGE

GET `https://localhost:3000/?command=ct_zbx_exp_system_off`



ZBX_BRIDGE

```
tgo@zbx-lprxzm02: ~/zbx-bridge
GNU nano 6.2 commands.json

"ct_zbx_exp_system_off":{
  "type": "api",
  "method": "maintenance.update",
  "params": {
    "maintenanceid": "13",
    "hosts": [
      {"hostid": "10582"},
      {"hostid": "10585"},
      {"hostid": "10586"},
      {"hostid": "10587"},
      {"hostid": "10588"},
      {"hostid": "10589"},
      {"hostid": "10590"},
      {"hostid": "10591"},
      {"hostid": "10592"},
      {"hostid": "10593"},
      {"hostid": "10594"}
    ]
  }
},
{
  "type": "sender",
  "key": "site.state",
  "value": 0,
  "name": "zbx-lprxzm02.zbx.ch"
},
],
"ct_zbx_exp_system_on":{
  "type": "api",
  "method": "maintenance.update",
  "params": {
    "maintenanceid": "13"
```

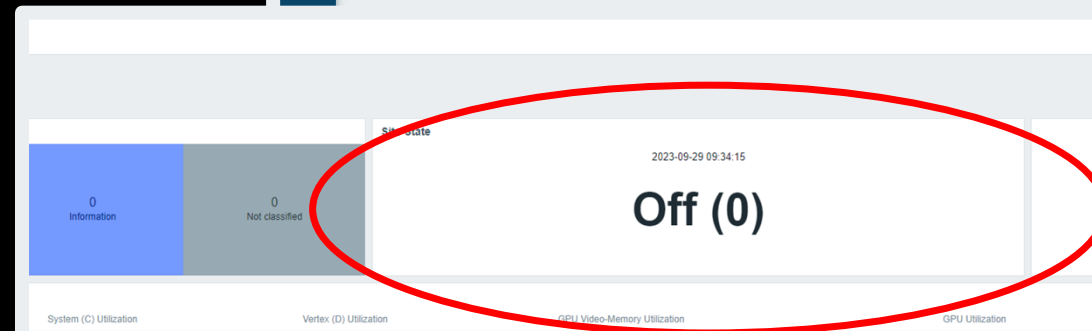
1

2

Hosts

<input type="checkbox"/>	Name ▲	Items	Triggers	Graphs
<input type="checkbox"/>	ssi-exp-vtx-01	Items 90	Triggers 32	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-02	Items 166	Triggers 59	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-03	Items 105	Triggers 33	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-04	Items 105	Triggers 33	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-05	Items 105	Triggers 33	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-06	Items 105	Triggers 33	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-07	Items 101	Triggers 33	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-08	Items 109	Triggers 35	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-09	Items 105	Triggers 33	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-10	Items 105	Triggers 33	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-11	Items 105	Triggers 33	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-12	Items 105	Triggers 33	Graphs 1
<input type="checkbox"/>	ssi-exp-vtx-14	Items 82	Triggers 29	Graphs 1

0 selected Enable Disable Export Mass update Delete



**ADD PROTOCOLS
MONITORINGS**

**ITEMS/TRIGGERS/DSICV
ERY RULES**

**SPLIT SCREENSHOTS
FROM BRIDGE**

ZBX_BRIDGE

```
pi@zbx-lprxnot01: ~/zbx-bridge
GNU nano 2.7.4                               Datei: commands.json

{
  "ct_zbx_anlagestatus_aus": {
    "type": "sender",
    "key": "zbx-bridge.status.anlage",
    "value": 0,
    "name": "zbx-lprxnot01.zbx.ch"
  },
  "ct_zbx_anlagestatus_ein": {
    "type": "sender",
    "key": "zbx-bridge.status.anlage",
    "value": 1,
    "name": "zbx-lprxnot01.zbx.ch"
  },
  "ct_zbx_anlagestatus_service": {
    "type": "sender",
    "key": "zbx-bridge.status.anlage",
    "value": 2,
    "name": "zbx-lprxnot01.zbx.ch"
  },
  "ct_zbx_liftsteuerung_inaktiv": {
    "type": "sender",
    "key": "zbx-bridge.status.lift",
    "value": 0,
    "name": "zbx-lprxnot01.zbx.ch"
  },
  "ct_zbx_liftsteuerung_aktiv": {
    "type": "sender",
    "key": "zbx-bridge.status.lift",
    "value": 1,
    "name": "zbx-lprxnot01.zbx.ch"
  },
  "ct_zbx_pre_wg_start": {

```

**WRONG
IMGAGE. WILL
BE UPDATED.
WAITING FOR
CUSTOMER
IMAGE.**



ZBX_BRIDGE ❤️ ZABBIX API

```
tgo@zbx-lprxzm02: ~/zbx-bridge
GNU nano 6.2
1
"ct_zbx_exp_system_off":{
  {
    "type": "api",
    "method": "maintenance.update",
    "maintenanceid": "13",
    "hosts": [
      {"hostid": "10582"},
      {"hostid": "10585"},
      {"hostid": "10586"},
      {"hostid": "10587"},
      {"hostid": "10588"},
      {"hostid": "10589"},
      {"hostid": "10590"},
      {"hostid": "10591"},
      {"hostid": "10592"},
      {"hostid": "10593"},
      {"hostid": "10594"}
    ]
  }
},
{
  "type": "sender",
  "key": "site.state",
  "value": 0,
  "name": "zbx-lprxzm02.zbx.ch"
}
],
"ct_zbx_exp_system_on":{
  {
```

ZABBIX Documentation6.4 (current)English

- Zabbix Manual
 - 1 Introduction
 - 2 Definitions
 - 3 Zabbix processes
 - 4 Installation
 - 5 Quickstart
 - 6 Zabbix appliance
 - 7 Configuration
 - 8 Service monitoring
 - 9 Web monitoring
 - 10 Virtual machine monitoring
 - 11 Maintenance
 - 12 Regular expressions
 - 13 Problem acknowledgment
 - 14 Configuration export/import
 - 15 Discovery
 - 16 Distributed monitoring
 - 17 Encryption
 - 18 Web interface
 - 19 API
 - Method reference

Method reference

This section provides an overview of the functions provided by the Zabbix API and will help you find your way around the available classes and methods.

Monitoring

The Zabbix API allows you to access history and other data gathered during monitoring.

Dashboards

Manage dashboards and make scheduled reports based on them.

[Dashboard API](#) | [Template dashboard API](#) | [Report API](#)

High availability cluster

Retrieve a list of server nodes and their status.

[High availability cluster API](#)

History

Retrieve historical values gathered by Zabbix monitoring processes for presentation or further processing.

[History API](#)

Trends

Retrieve trend values calculated by Zabbix server for presentation or further processing.

[Trend API](#)

Events

Retrieve events generated by triggers, network discovery and other Zabbix systems for more flexible situation management or third-party tool integration.

[Event API](#)

Problems

Retrieve problems according to the given parameters.

[Problem API](#)

Maps

Configure maps to create detailed dynamic representations of your IT infrastructure.

[Map API](#)

Tasks

Interact with Zabbix server task manager, creating tasks and retrieving response.

[Task API](#)

Services

ZBX_BRIDGE TEMPLATES

github.com/tingo-gmbh/zbx-bridge



github.com/tingo-gmbh/zabbix-templates





ZABBIX IN THE AV-INDUSTRY

THANK YOU!