

Using the Host Inventory?

2019/10/12

NTT Com Solutions

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ZABBIX '19
SUMMIT

When explaining host inventory in Zabbix training, students often ask about usage.



Please tell me
how to use the host inventory.

I always answer:

Use host inventory for asset management.

Host Templates IPMI Macros **Host inventory** Encryption

Disabled **Manual** Automatic

Type

Type (Full details)

Name

Alias

OS

OS (Full details)

OS (Short)

Serial number A

Serial number B

However, there are many items in the host inventory.

- Type
- Type (Full details)
- Name
- Alias
- OS
- Software application A
- Software application B
- Software application C
- Software application D
- Software application E
- URL A
- URL B
- URL C
- Host networks
- Host subnet mask

**Host Inventory has a lot of type
Which This Margin Is Too Narrow To Contain**

- C
- C
- S
- S
- Tag
- Asset tag
- MAC address A
- MAC address B
- Hardware
- Hardware (Full details)
- Software
- Software (Full details)
- Notes
- Chassis
- Model
- HW architecture
- Vendor
- Contract number
- Installer name
- Deployment status
- Date HW purchased
- Date HW installed
- Date HW maintenance expires
- Date HW decommissioned

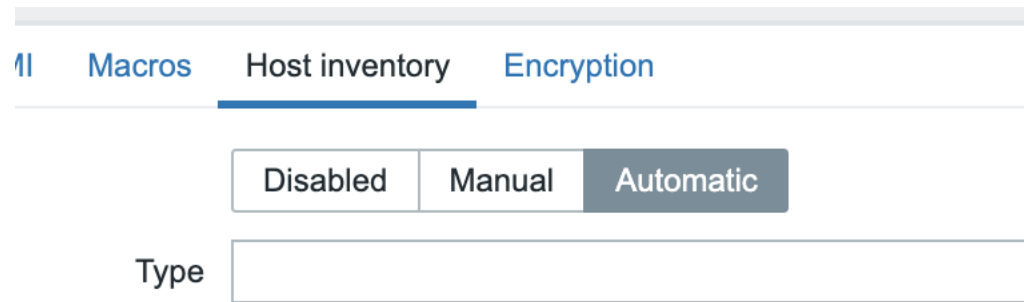
etc...

Teacher!
Host inventory has so many fields.
It is very difficult for us to keep them
up to date.



I always answer:

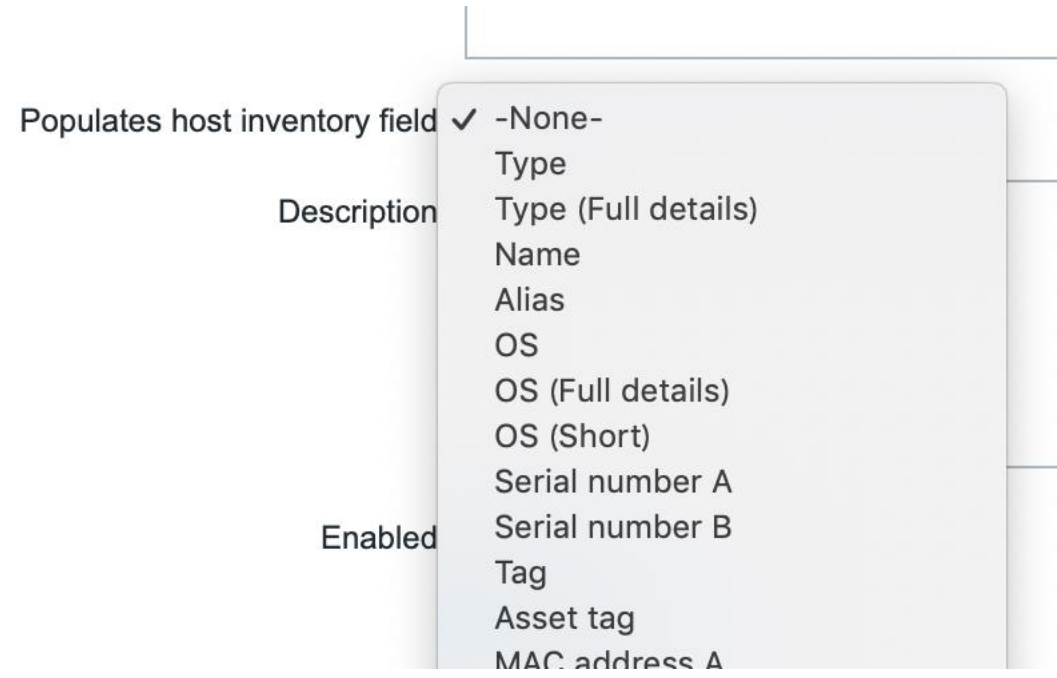
Zabbix keeps them up to date.



The screenshot shows the Zabbix configuration interface for Host Inventory. At the top, there are tabs for 'Macros', 'Host inventory', and 'Encryption'. Below the tabs, there are three buttons: 'Disabled', 'Manual', and 'Automatic'. The 'Automatic' button is selected and highlighted in a darker grey. Below the buttons, there is a 'Type' label followed by an empty text input field.

Host inventory mode => [Automatic]

Use [Populates host inventory field]



The screenshot shows a dropdown menu for the 'Populates host inventory field' configuration option. The menu is open, showing a list of options. The first option, '-None-', is selected with a checkmark. Other options include 'Type', 'Type (Full details)', 'Name', 'Alias', 'OS', 'OS (Full details)', 'OS (Short)', 'Serial number A', 'Serial number B', 'Tag', 'Asset tag', and 'MAC address A'.

Zabbix4.0 has many items
that can update the inventory automatically.

Type (Full details)	
Name	system.hostname
Alias	agent.hostname
OS	system.sw.os[name]
OS (Full details)	system.sw.os[full]
OS (Short)	system.sw.os[short]
Serial number A	system.hw.chassis[serial]
Serial number B	

Zabbix4.0 has many items that can update the inventory automatically.

MAC address A `system.hw.macaddr[eth0]`

MAC address B `system.hw.macaddr[eth1]`

Hardware

Hardware (Full details) `system.hw.devices[pci]`

Software `system.uname`

Software (Full details) `system.sw.packages[, ,short]`

Zabbix4.0 has many items
that can update the inventory automatically.

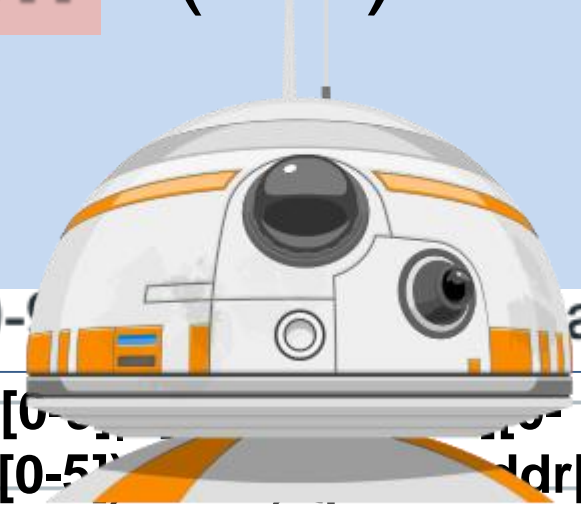
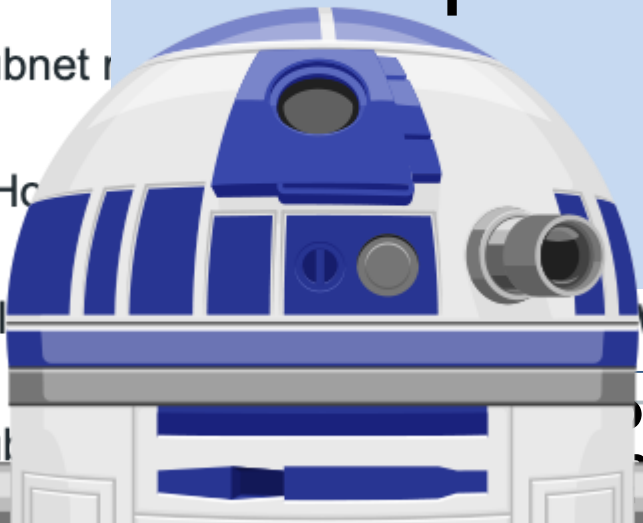
Chassis	<code>system.hw.chassis[full]</code>
Model	<code>system.hw.chassis[model]</code>
HW architecture	
Vendor	<code>system.hw.chassis[vendor]</code>
Contract number	

If you need an item that Zabbix doesn't have,
you can make it by yourself



Implementation by **Force!!** \ (^o^)/

The Force Awakens



```
show dev eth1|awk 'match($0, /^[0-9]{2}|2[0-4][0-9]|25[0-5]$/)'  
show dev eth1|awk 'match($0, /((([1-9]?[0-9])?|[0-9])?|[0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5])$/)'
```

As a last resort, you can also update manually.

Software application A

Software application B

Software application C

Software application D

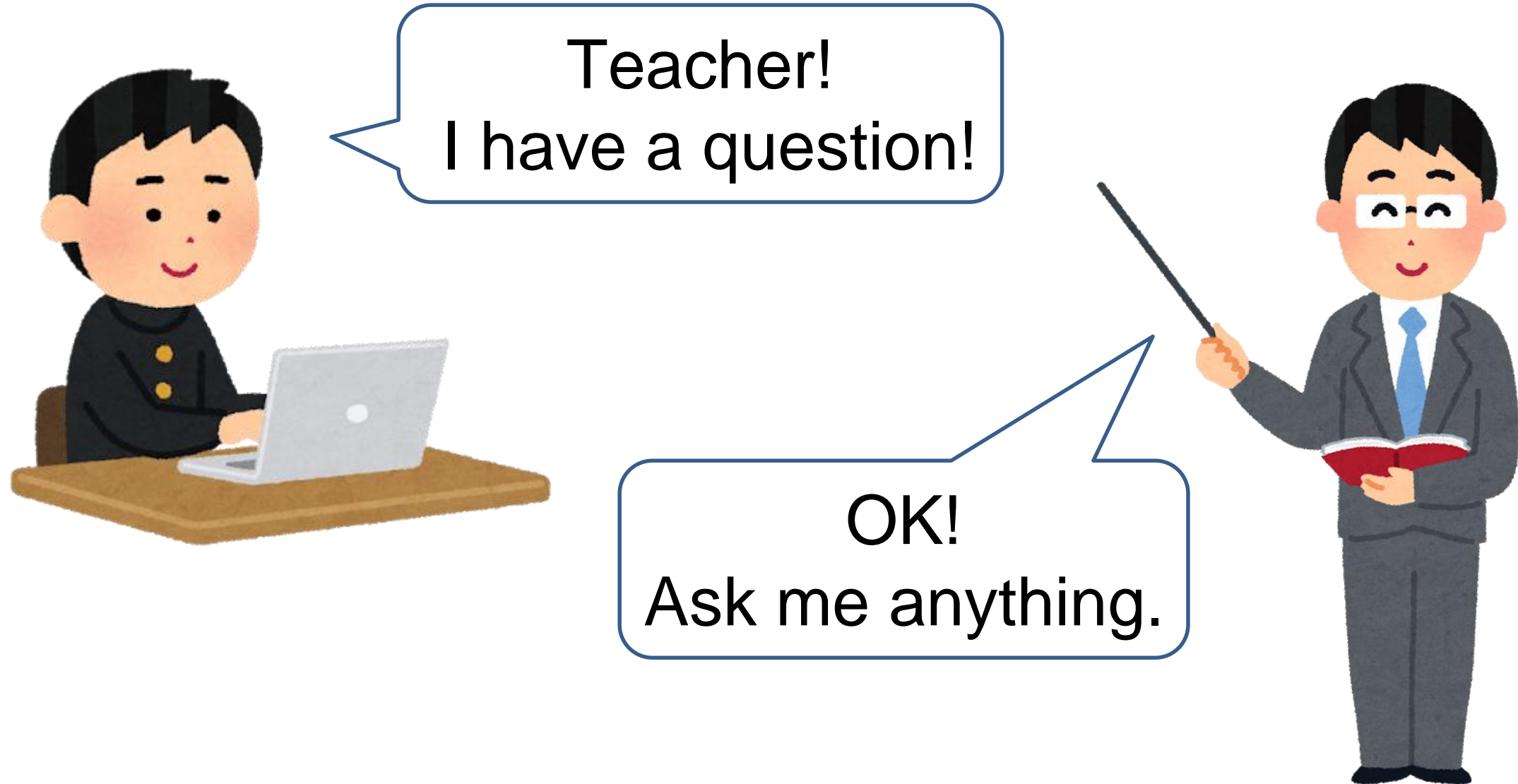
Software application E

Contact

Location

Location latitude

Location longitude



What is latitude and longitude?

Software application A

Software application B

Software application A	<input type="text"/>
Software application B	<input type="text"/>
Software application C	<input type="text"/>
Software application D	<input type="text"/>
Software application E	<input type="text"/>
Software application F	<input type="text"/>
Software application G	<input type="text"/>
Software application H	<input type="text"/>
Software application I	<input type="text"/>
Software application J	<input type="text"/>
Software application K	<input type="text"/>
Software application L	<input type="text"/>
Software application M	<input type="text"/>
Software application N	<input type="text"/>
Software application O	<input type="text"/>
Software application P	<input type="text"/>
Software application Q	<input type="text"/>
Software application R	<input type="text"/>
Software application S	<input type="text"/>
Software application T	<input type="text"/>
Software application U	<input type="text"/>
Software application V	<input type="text"/>
Software application W	<input type="text"/>
Software application X	<input type="text"/>
Software application Y	<input type="text"/>
Software application Z	<input type="text"/>

Location latitude

Location longitude

Location latitude	<input type="text"/>
Location longitude	<input type="text"/>

I answered with confidence:



I was in trouble.

I don't know what to do!

I don't know.



At the time, I use my wit:



Sir, yes, sir!



I am Takashi Fukushima, your Zabbix Instructor.
From now on, you will speak only when spoken to,
and the first and last words out of your filthy sewers will be "Sir!"
Do you maggots understand that?

back on topic

Let's think.

- ✓ Serv
- ✓ If yo
it is
- ✓ The
wh

Why these inventory fields exists?

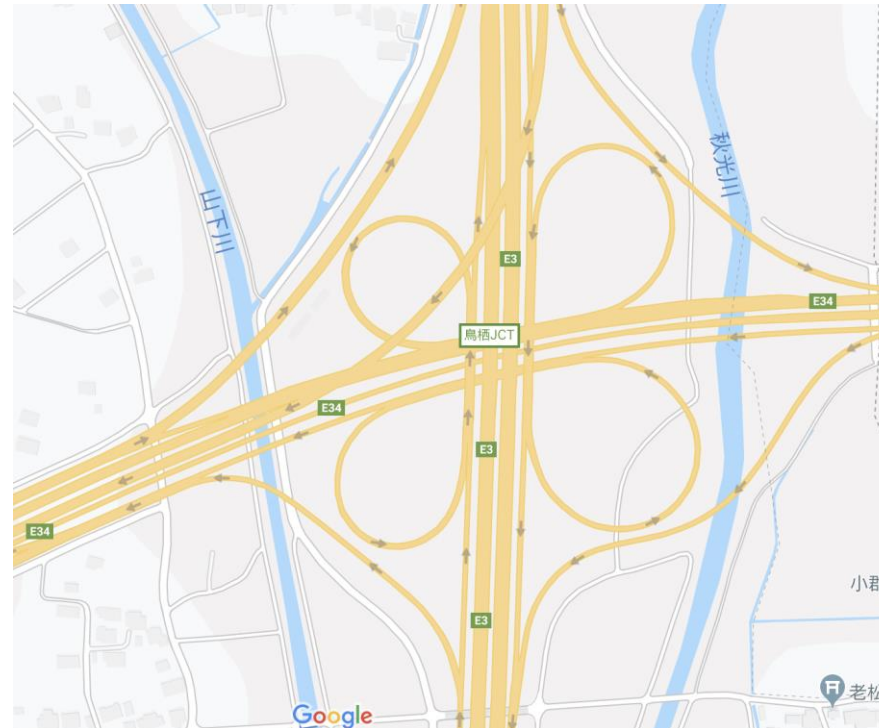
I thought about how to use inventory.

- ✓ Server machine does not move.
=> No. Some hardware can be moved.



I thought about how to use inventory.

- ✓ If you write the location,
it is better to write the address.
=> Some locations do not have an address.



For example
on the road.



I thought about how to use inventory.

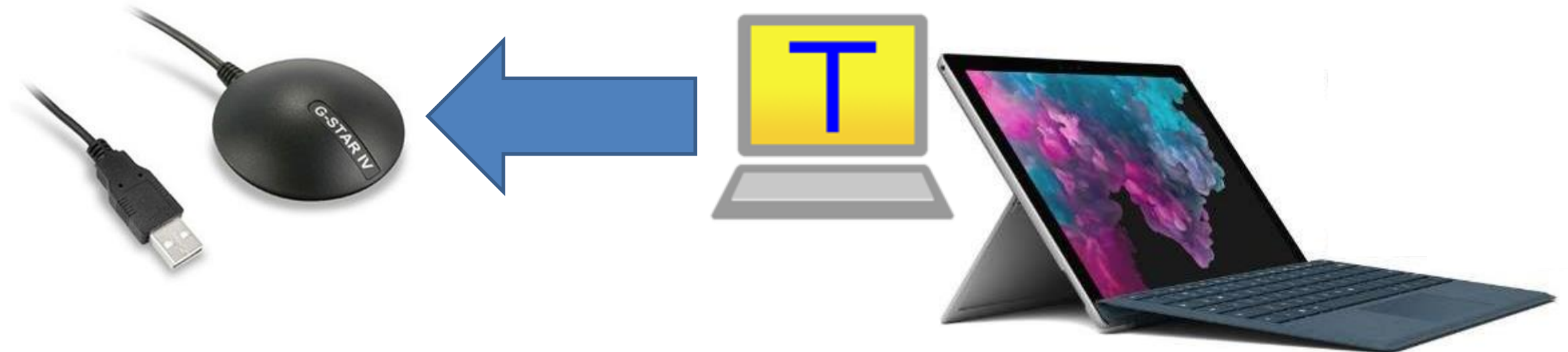
- ✓ The server machine does not know where it is located (latitude and longitude)
- ✓ ⇒ No. There is a GPS receiver.



Created a mechanism to periodically acquire location information from Windows devices.

- ✓ Windows10 can acquire location information by using API.
- ✓ At first, I was going to make an application using API.
But I had no working time to do it.
- ✓ This GPS receiver can get location information via Com port.

- # Created a mechanism to periodically acquire location information from Windows devices.
- ✓ I used TeraTerm to connect to the GPS receiver via ComPort.
- ✓ I created a TeraTerm macro and executed it at regular intervals.



Data (NMEA0183 format) can be acquired.

```
$GPGGA,,,,,0,00,,,M,0.0,M,,0000*48  
$GPGSA,A,1,,,,,,,,,,,,,*1E  
$GPRMC,,V,,,,,,,,,N*53  
$GPGGA,,,,,0,00,,,M,0.0,M,,0000*48  
$GPGSA,A,1,,,,,,,,,,,,,*1E  
$GPRMC,,V,,,,,,,,,N*53  
$GPGGA,,,,,0,00,,,M,0.0,M,,0000*48  
$GPGSA,A,1,,,,,,,,,,,,,*1E  
$GPGSV,3,1,12,01,00,000,,02,00,000,,03,00,000,,04,00,000,*7C  
$GPGSV,3,2,12,05,00,000,,06,00,000,,07,00,000,,08,00,000,*77
```

Sentence is defined by NMEA0183

GPS - NMEA sentence information <http://aprs.gids.nl/nmea/>

Output to text file and monitor with Zabbix log-monitoring item.

Create a log monitoring item for each Sentences.

Name ▲	Triggers	Key
Exec getGPS		system.run[C:\work\getGPS\getGPS.bat,nowait]
GPS Data [GPVTG]		log[C:\work\getGPS\output\gpsdata.log,"GPVTG"]
GPS Data [GPGGA]		log[C:\work\getGPS\output\gpsdata.log,"GPGGA"]
GPS Data [GPGSA]		log[C:\work\getGPS\output\gpsdata.log,"GPGSA"]
GPS Data [GPGSV]		log[C:\work\getGPS\output\gpsdata.log,"GPGSV"]
GPS Data [GPRMC]		log[C:\work\getGPS\output\gpsdata.log,"GPRMC"]

Create dependent items.

Name ▲	Triggers	Key
GPS Data [GPGSV]: GPS Data GPGSV[1Carrier/Noise]		gps.GPGSV[1Carrier/Noise]
GPS Data [GPGSV]: GPS Data GPGSV[1SatelliteAzimuth]		gps.GPGSV[1SatelliteAzimuth]
GPS Data [GPGSV]: GPS Data GPGSV[1SatelliteElevation]		gps.GPGSV[1SatelliteElevation]
GPS Data [GPGSV]: GPS Data GPGSV[1SatelliteNum]		gps.GPGSV[1SatelliteNum]
GPS Data [GPGSV]: GPS Data GPGSV[2Carrier/Noise]		gps.GPGSV[2Carrier/Noise]
GPS Data [GPGSV]: GPS Data GPGSV[2SatelliteAzimuth]		gps.GPGSV[2SatelliteAzimuth]
GPS Data [GPGSV]: GPS Data GPGSV[2SatelliteElevation]		gps.GPGSV[2SatelliteElevation]
GPS Data [GPGSV]: GPS Data GPGSV[2SatelliteNum]		gps.GPGSV[2SatelliteNum]
GPS Data [GPGSV]: GPS Data GPGSV[3Carrier/Noise]		gps.GPGSV[3Carrier/Noise]
GPS Data [GPGSV]: GPS Data GPGSV[3SatelliteAzimuth]		gps.GPGSV[3SatelliteAzimuth]

Extract necessary data in dependent item settings.

* Name

Type

* Key

* Master item

Type of information

Preprocessing steps	Name	Parameters	Action	
	<input type="text" value="Regular expression"/>	<input style="width: 150px;" type="text" value="(*?),(.*?),(.*?),(.*?),(.*?)"/>	<input style="width: 50px;" type="text" value="14"/>	Remove

The actual data looks like this.

▼	gps-pizero-01	位置情報 (4 Items)	
<input type="checkbox"/>	高度 (Altitude)	2019-09-10 12:36:01	52.471
<input type="checkbox"/>	緯度 (Latitude)	2019-09-10 12:36:01	35.682074454
<input type="checkbox"/>	経度 (Longitude)	2019-09-10 12:36:01	139.631091716

Timestamp	緯度 (Latitude)
2019-09-10 12:35:01	35.682074454
2019-09-10 12:34:01	35.682074454
2019-09-10 12:33:01	35.682074454
2019-09-10 12:32:01	35.682063728
2019-09-10 12:31:01	35.682059723
2019-09-10 12:30:01	35.682059723
2019-09-10 12:29:01	35.682058702
2019-09-10 12:28:01	35.682058702
2019-09-10 12:27:01	35.682058702
2019-09-10 12:26:01	35.682054696
2019-09-10 12:25:01	35.682046686

I got location data. So I want to use it for something.



I am the most famous map
in the world

If KML is created, the route can be displayed on GoogleMap.

```
<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://www.opengis.net/kml/2.2">
  <Document>
    <name>Tokyo.kml</name>
    <Style id="line-A52714-4000-nodesc-normal">
      <LineStyle>
        <color>ff1427a5</color>
        <width>4</width>
      </LineStyle>
    </Style>
    <Placemark>
      <name>Tokyo</name>
      <styleUrl>#line-A52714-4000-nodesc</styleUrl>
      <LineString>
        <tessellate>1</tessellate>
        <coordinates>
          139.756058,35.676502,17
          139.756058,35.676498,17
          139.756058,35.676495,17
          139.756058,35.676487,17
          139.755875,35.676556,16
          139.755341,35.6768,16
          139.754745,35.677052,16
```

List of
longitude / latitude

[KML Documentation Introduction]
<https://developers.google.com/kml/documentation/>

Device Tracer

Edit dashboard

All dashboards / Device Tracer

ホスト一覧



地図



Udon prefecture

Use case

If Zabbix agent for iOS or Android was created...



Use case

We can find the lost device.



We also prototyped a compact device.



Device Tracer

Edit dashboard

All dashboards / Device Tracer

ホスト一覧



地図



Udon prefecture

Zabbix4.0 Proxy appliance for the Japanese market.



Provided by Zabbix Japan LLC.

<https://enterprise.zabbix.co.jp/products/zp1400>

We modified the ZabbixProxy appliance to fit in the car.



Change chassis

Add GPS Module

Add LTE Module

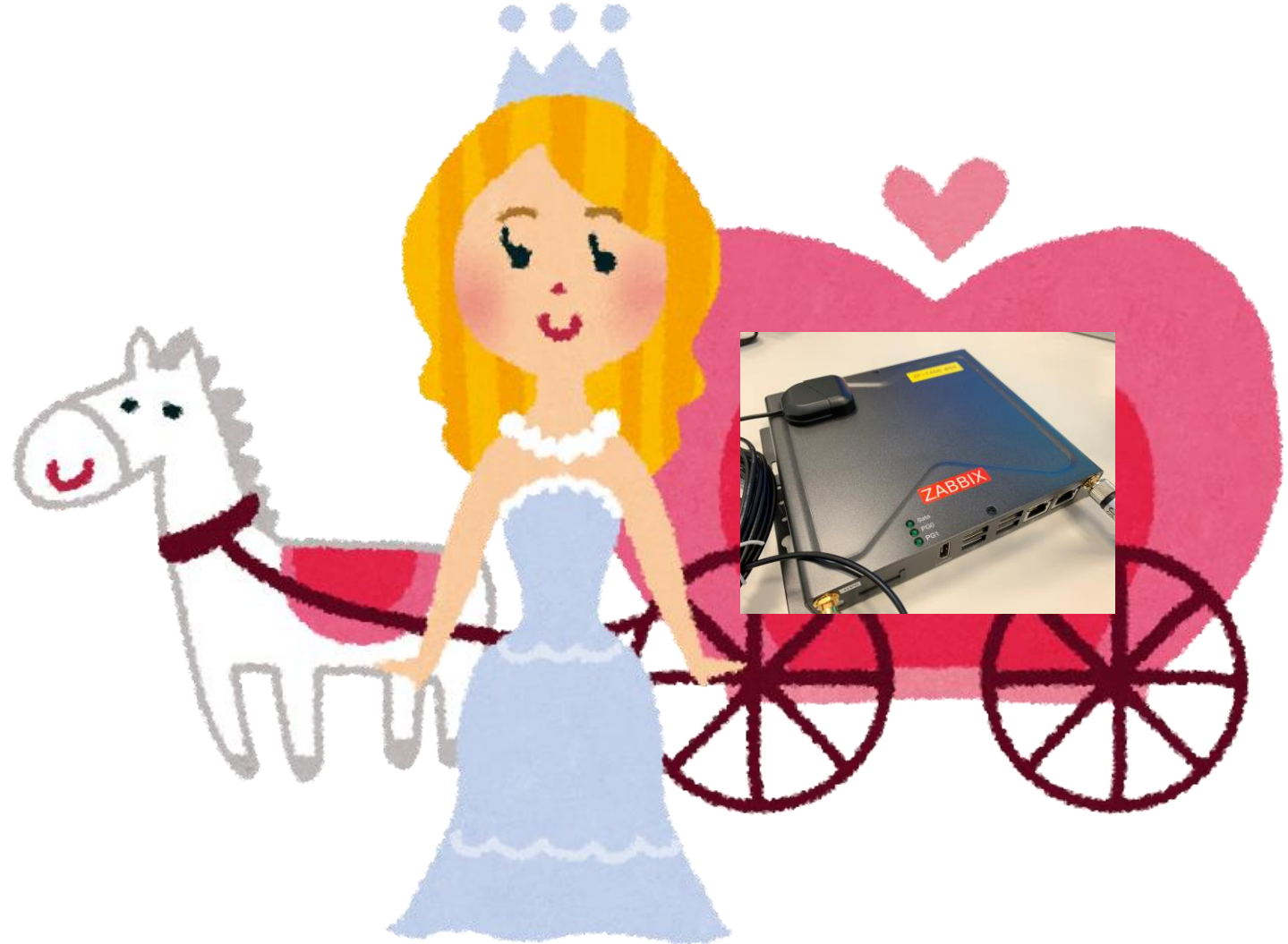
Thanks to Zabbix Japan LLC.

Use case

If you put this appliance in a TV broadcast vehicle...

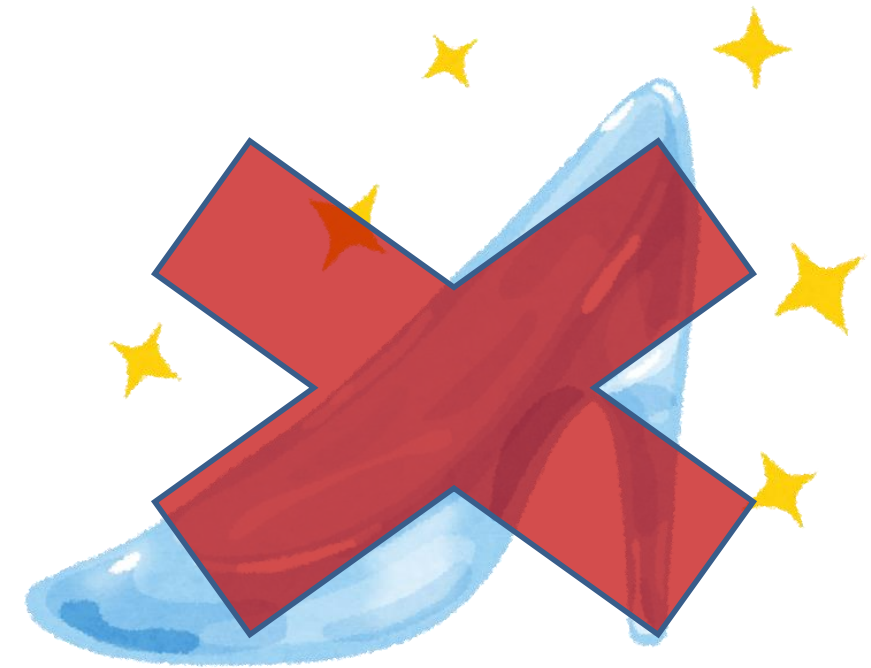
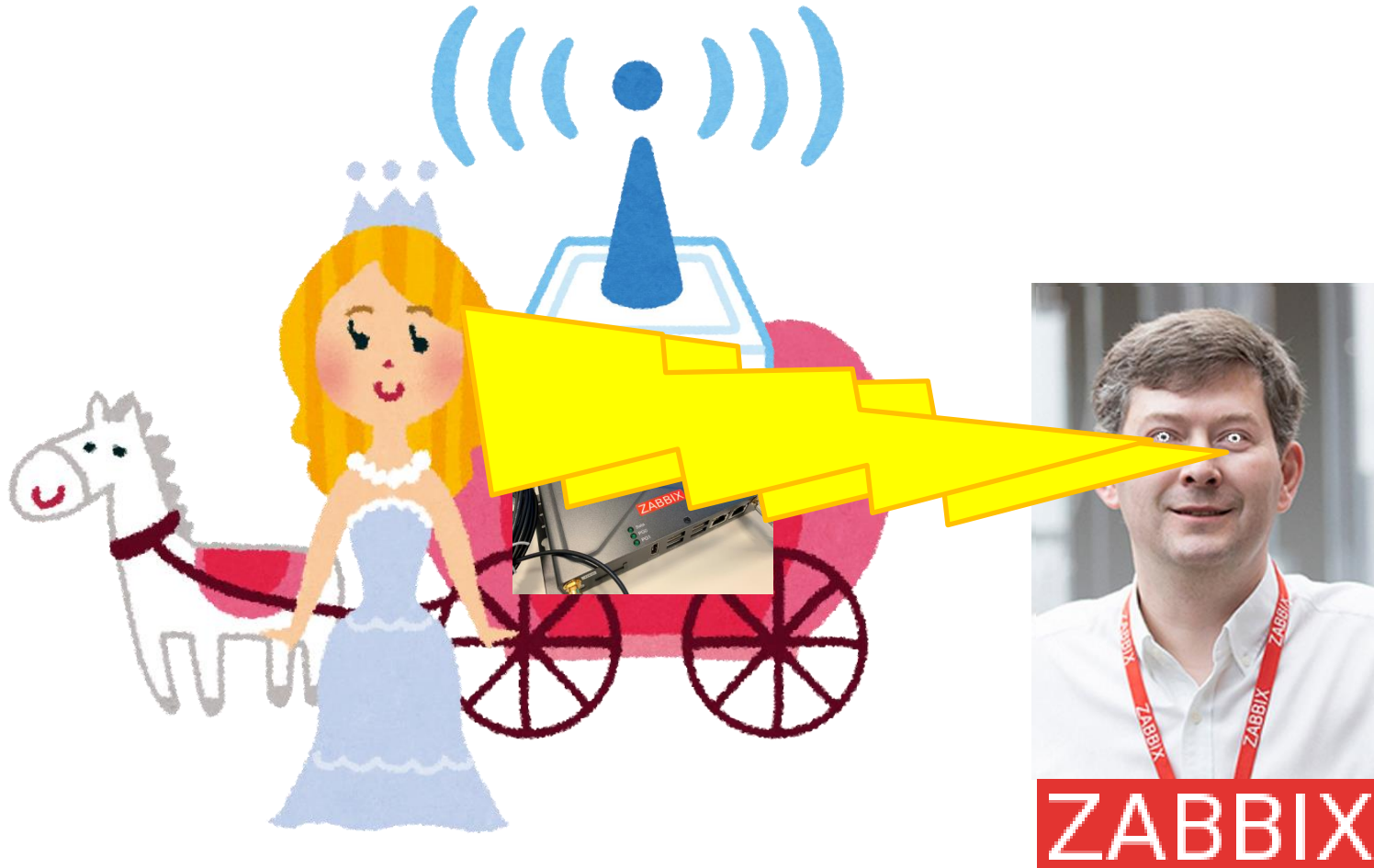


If you put this appliance in a pumpkin carriage...



Use case

You will find her without using crystal shoes.



What I want to do.

- ✓ Google Map can import local KML files
as well as KML dynamically generated by CGI.
- > Create a CGI that generates KML from history data
and assign GoogleMap to the host screen.
- > I want to be able to specify the time and draw the travel
history for a specific period on the MAP.

What I want to do.

- ✓ Windows10 can acquire location information by using API.
I would like to change this tool to use API.

I really want this tool to be a Loadable-module.

However, Loadable-modules does not work for Windows agents.

- ✓ I am single.
I want to marry a nice woman like cinderella.

Maybe everyone is wondering.

✓ For example, InfluxDB can manage location information
more easily than Zabbix.

-> Yes. I also fully agree with your opinion.

However, To speak at Zabbix Summit, I had to use Zabbix.

I wanted to speak at Zabbix Summit.

In spite of I can hardly speak English.

Questions and requests to Zabbix SIA

- ✓ Question
 - > What assumptions did you make
when determining inventory items?

- ✓ Requests
 - > Please be able to customize inventory items freely.

Thank you so much for your kind attention.