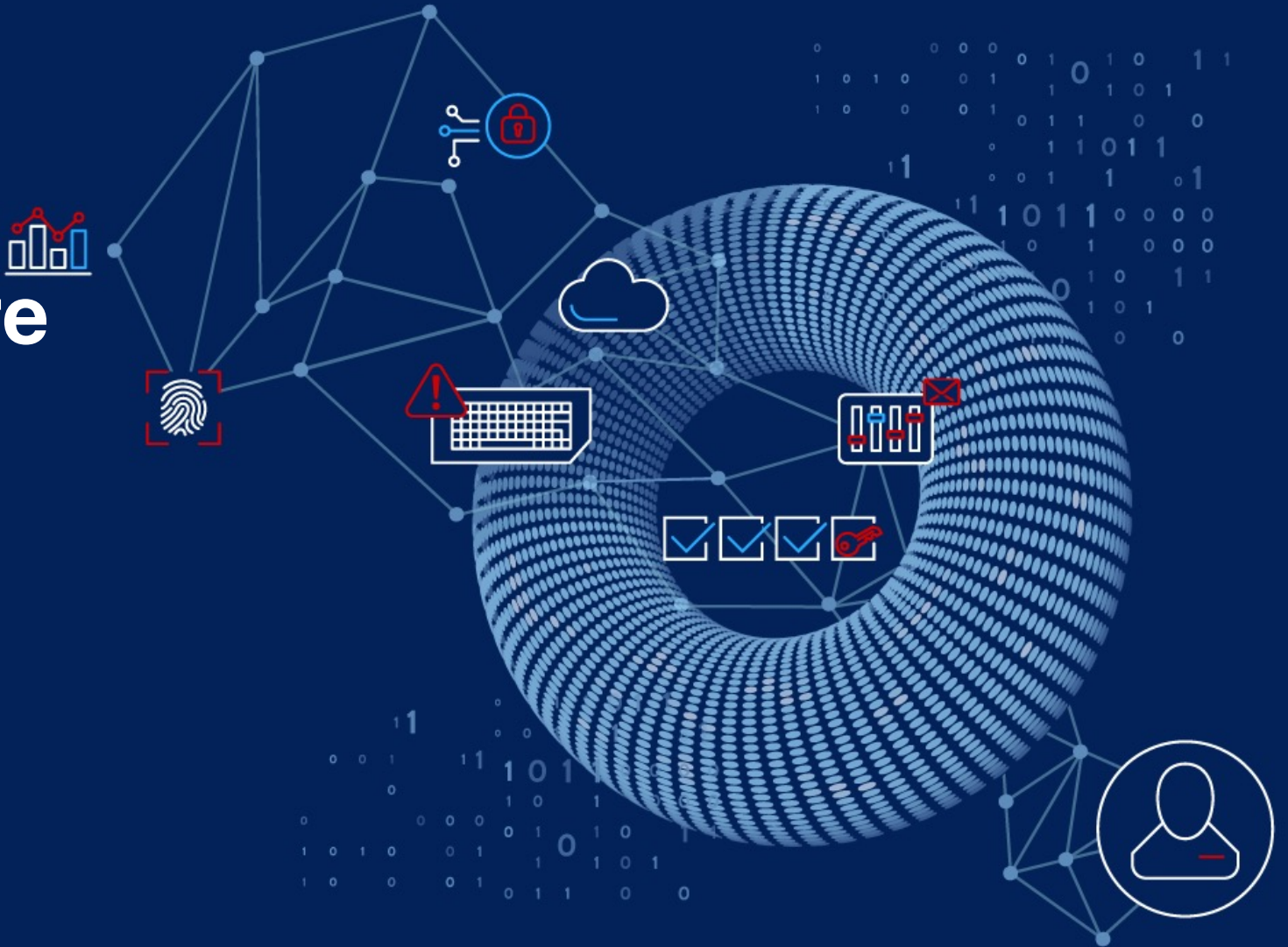


ZABBIX

Monitoring Oracle Cloud Infrastructure (OCI) with Zabbix



Kristaps Naglis
Integration Engineer

Zabbix / Zabbix

Source

master ... Zabbix / Browse Filter

Source	Description	Size	Last Modified
.github/workflows			
bin			
build			
ChangeLog.d			
conf			
create			
database			
include			
n			
tests			
ui			
.gitattributes	..... [ZBX-17667] replaced frontends/php with ui in the file .gitattributes		May 2020
.gitignore	...I..... [ZBXNEXT-3623] added missing binaries to .gitignore	8.94 KB	13 Feb 2024
AUTHORS	..... [ZBX-4506] moved incorrectly created dev branch	98 B	10 Jan 2012
bootstrap.sh	...I..... [ZBX-15211] added key 'tests' for bootstrap.sh when working with cmocka tests	340 B	17 Oct 2019
build-backend.xml	..... [DEV-2221] fixed typo, temporarily silenced field initializers warnings	14.22 KB	07 Feb 2024
build.xml	..... [ZBXNEXT-686] removed DAST targets	21.68 KB	15 Feb 2024
ChangeLog	..... [ZBXNEXT-826] updated ChangeLog	1.62 MB	Yesterday
ChangeLog.legend	.D..... [ZBX-954] unify capitalisation	700 B	15 Apr 2014
configure.ac	..... [DEV-2106] split cacheconfig library	70.77 KB	Yesterday
COPYING	..... [ZBX-954] fixed copyright header	17.57 KB	21 Mar 2013
INSTALL	...G...PS. [ZBX-22779] replaced HTTP with HTTPS in Zabbix homepage address	83 B	16 Aug 2023
Makefile.am	...G..... [ZBX-22933] use buffered file read in vfs.file.regmatch and vfs.file.regexp	7.43 KB	07 Nov 2023

6.0
LTS

6.4

7.0
BETA

OCI Compute

OCI Autonomous Database (serverless)

OCI Object Storage

OCI Virtual Cloud Networks (VCNs)

OCI Block Volumes

OCI Boot Volumes

OCI Compute



CPU



Memory



Disk



Network



VNIC discovery



State



In / Out Bytes and Packets



SmartNIC



Connection tracking table

OCI Autonomous Database (serverless)

OCI Object Storage

OCI Virtual Cloud Networks (VCNs)

OCI Block Volumes

OCI Boot Volumes

OCI Compute

OCI Autonomous Database (serverless)



Sessions / Connections



Parses



Reads / Writes



Storage



CPU

OCI Object Storage

OCI Virtual Cloud Networks (VCNs)

OCI Block Volumes

OCI Boot Volumes

OCI Compute

OCI Autonomous Database (serverless)

OCI Object Storage



Size



Object count



Latency



Requests



Errors

OCI Virtual Cloud Networks (VCNs)

OCI Block Volumes

OCI Boot Volumes

OCI Compute

OCI Autonomous Database (serverless)

OCI Object Storage

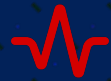
OCI Virtual Cloud Networks (VCNs)



State



Subnet discovery



State

OCI Block Volumes

OCI Boot Volumes

OCI Compute

OCI Autonomous Database (serverless)

OCI Object Storage

OCI Virtual Cloud Networks (VCNs)

OCI Block Volumes

OCI Boot Volumes



State



Read / Write / Guaranteed IOPS



Read / Write / Guaranteed throughput



Guaranteed VPUs/GB



Throttled operations

OCI Compute

OCI Autonomous Database (serverless)

OCI Object Storage

OCI Virtual Cloud Networks (VCNs)

OCI Block Volumes

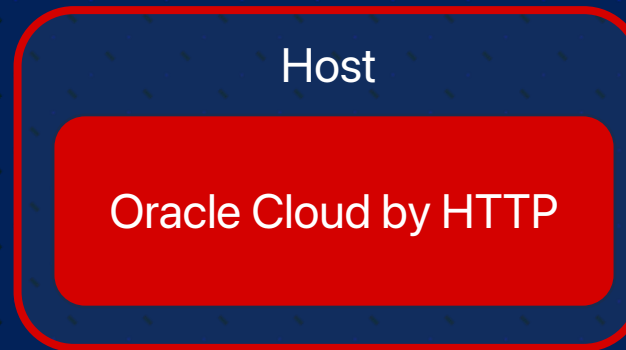
OCI Boot Volumes

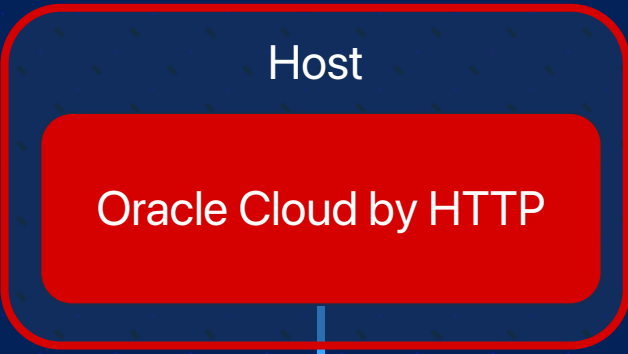
THE STRUCTURE

THE STRUCTURE

Oracle Cloud by HTTP

THE STRUCTURE





Autonomous
database
discovery

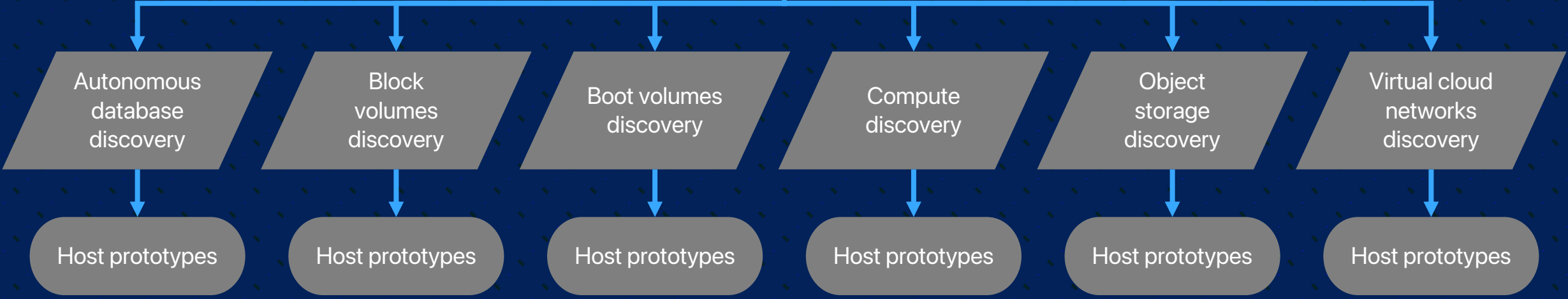
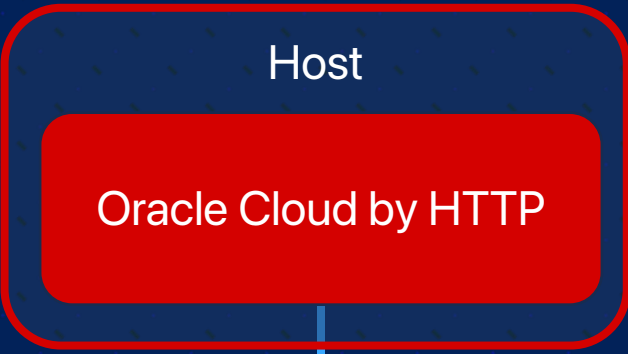
Block
volumes
discovery

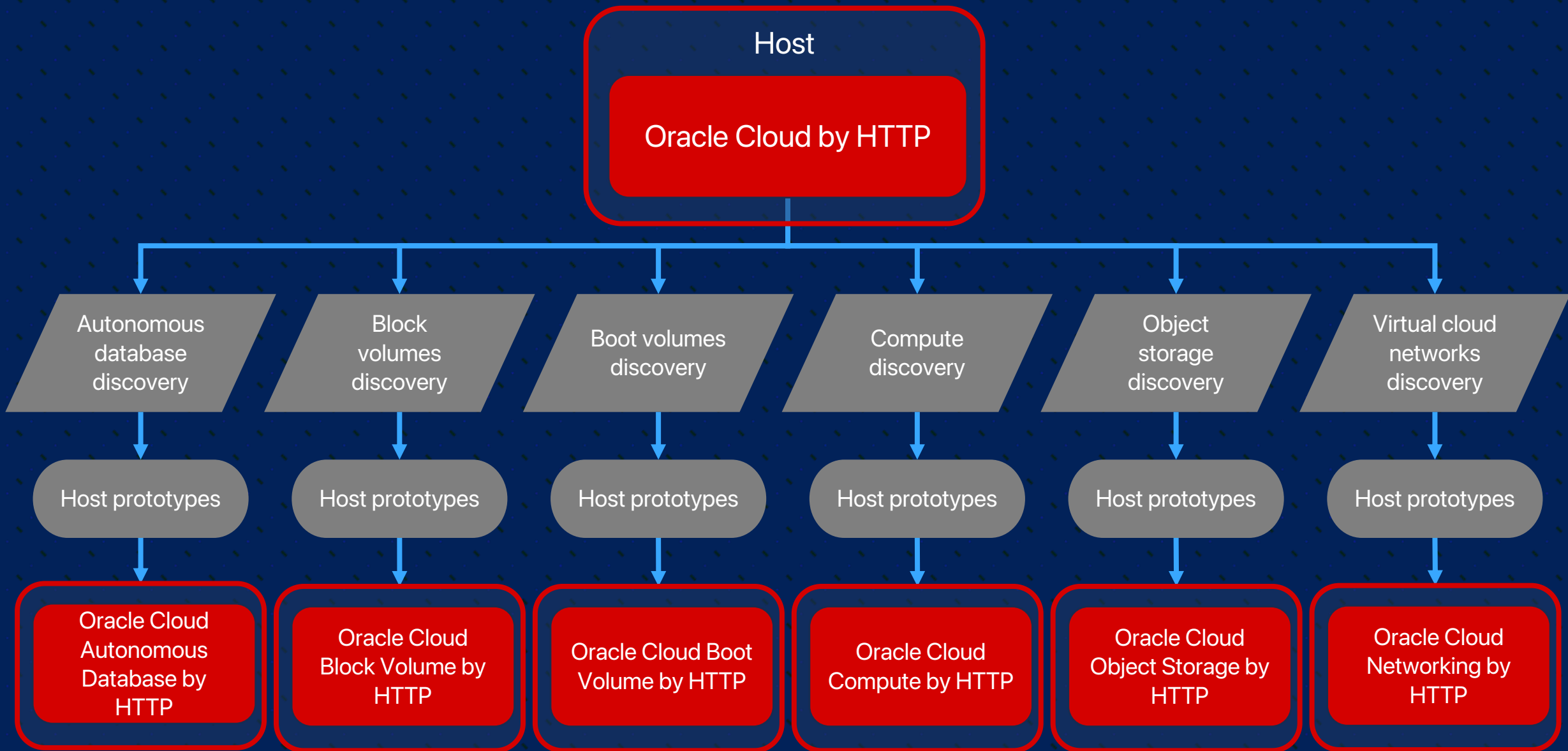
Boot volumes
discovery

Compute
discovery

Object
storage
discovery

Virtual cloud
networks
discovery





[Filter](#)

<input type="checkbox"/> Name ▲	Items	Triggers	Graphs	Discovery	Web	Interface	Proxy	Templates	Status	Availability	Agent encryption	Info	Tags
<input type="checkbox"/> OCI	Items	Triggers	Graphs	Discovery 6	Web			Oracle Cloud by HTTP	Enabled		None		

Displaying 1 of 1 found

0 selected

[Enable](#)[Disable](#)[Export](#) ▼[Mass update](#)[Delete](#)



Host groups

Type

State

Hosts

Update interval

Status

Keep lost resources period

Name

Key

<input type="checkbox"/>	Host	Name ▲	Items	Triggers	Graphs	Hosts	Key	Interval	Type	Status	Info
<input type="checkbox"/>	OCI	Oracle Cloud by HTTP: Autonomous database discovery	Item prototypes	Trigger prototypes	Graph prototypes	Host prototypes 1	oci.object.autonomous.db.discovery	1h	Script	Enabled	
<input type="checkbox"/>	OCI	Oracle Cloud by HTTP: Block volumes discovery	Item prototypes	Trigger prototypes	Graph prototypes	Host prototypes 1	oci.block.volumes.discovery	1h	Script	Enabled	
<input type="checkbox"/>	OCI	Oracle Cloud by HTTP: Boot volumes discovery	Item prototypes	Trigger prototypes	Graph prototypes	Host prototypes 1	oci.boot.volumes.discovery	1h	Script	Enabled	
<input type="checkbox"/>	OCI	Oracle Cloud by HTTP: Compute instances discovery	Item prototypes	Trigger prototypes	Graph prototypes	Host prototypes 1	oci.compute.discovery	1h	Script	Enabled	
<input type="checkbox"/>	OCI	Oracle Cloud by HTTP: Object storage discovery	Item prototypes	Trigger prototypes	Graph prototypes	Host prototypes 1	oci.object.storage.discovery	1h	Script	Enabled	
<input type="checkbox"/>	OCI	Oracle Cloud by HTTP: Virtual cloud networks discovery	Item prototypes	Trigger prototypes	Graph prototypes	Host prototypes 1	oci.vcn.discovery	1h	Script	Enabled	

Displaying 6 of 6 found

0 selected



<input type="checkbox"/> Name ▲	Items	Triggers	Graphs	Discovery	Web	Interface	Proxy	Templates	Status	Availability	Agent encryption	Info	Tags
<input type="checkbox"/> OCI	Items	Triggers	Graphs	Discovery 6	Web			Oracle Cloud by HTTP	Enabled		None		
<input type="checkbox"/> Autonomous database discovery: OCI Autonomous DB - OFD5IUSC0H	Items 40	Triggers 10	Graphs 22	Discovery	Web			Oracle Cloud Autonomous Database by HTTP	Enabled		None		oci-aut-db-name: OFD...
<input type="checkbox"/> Autonomous database discovery: OCI Autonomous DB - OFD5IUSC0H	Items 40	Triggers 10	Graphs 22	Discovery	Web			Oracle Cloud Autonomous Database by HTTP	Enabled		None		oci-aut-db-name: OFD...
<input type="checkbox"/> Block volumes discovery: OCI Block Volume - ocid1.volume.oc1.eu-stockholm-1.abqxeljrn	Items 10	Triggers 2	Graphs 3	Discovery	Web			Oracle Cloud Block Volume by HTTP	Enabled		None		oci-block-vol-name: te...
<input type="checkbox"/> Boot volumes discovery: OCI Boot Volume - ocid1.bootvolume.oc1.eu-stockholm-1.abqxel	Items 10	Triggers 2	Graphs 3	Discovery	Web			Oracle Cloud Boot Volume by HTTP	Enabled		None		oci-boot-vol-name: zb...
<input type="checkbox"/> Object storage discovery: OCI Bucket - bucket-20231219-1359	Items 12	Triggers 1	Graphs 6	Discovery	Web			Oracle Cloud Object Storage by HTTP	Enabled		None		oci-obj-store-name: bu...
<input type="checkbox"/> Object storage discovery: OCI Bucket - bucket-20240115-1724	Items 12	Triggers 1	Graphs 6	Discovery	Web			Oracle Cloud Object Storage by HTTP	Enabled		None		oci-obj-store-name: bu...
<input type="checkbox"/> Compute instances discovery: OCI Compute - ocid1.instance.oc1.eu-stockholm-1.anqxeljr	Items 46	Triggers 14	Graphs 23	Discovery 1	Web			Oracle Cloud Compute by HTTP	Enabled		None		oci-compute-name: zb...
<input type="checkbox"/> Virtual cloud networks discovery: OCI VCN - ocid1.vcn.oc1.eu-stockholm-1.amaaaaabqu	Items 3	Triggers 4	Graphs	Discovery 1	Web			Oracle Cloud Networking by HTTP	Enabled		None		oci-vcn-name: vcn-20...

Displaying 9 of 9 found

0 selected

[Enable](#)

[Disable](#)

[Export](#) ▼

[Mass update](#)

[Delete](#)



Current State

Available (0)

Availability

Available (0)

Load Average

0.22 processes

Disk Bytes Read

0.00 Bps

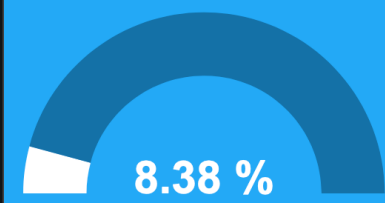
Disk Bytes Written

284.80 KBps

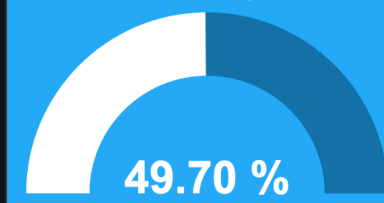
Net Bytes In

282.67 KBps

CPU



Memory



Disk Read I/O

0.00 reads/s

Disk Write I/O

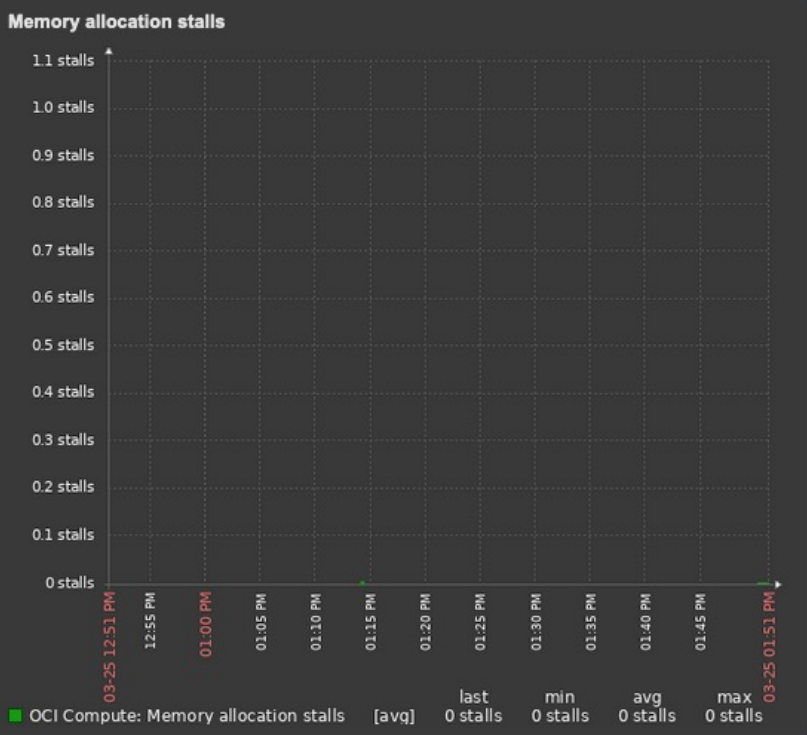
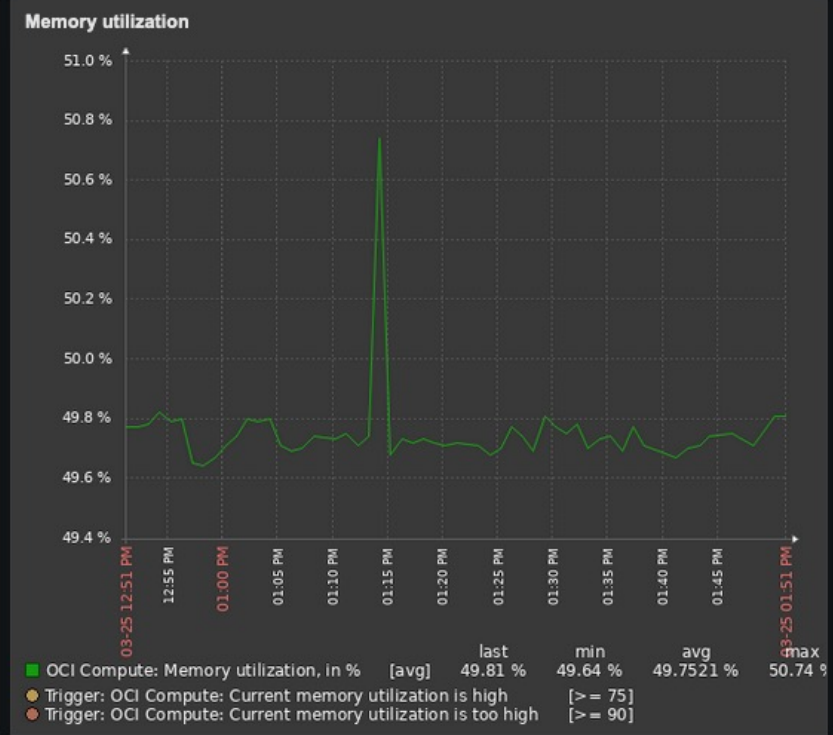
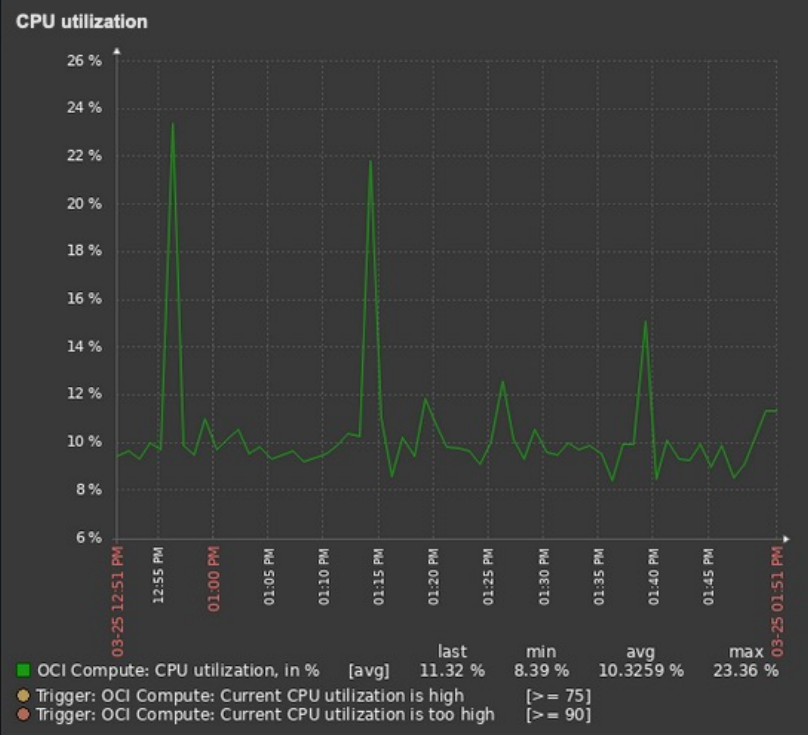
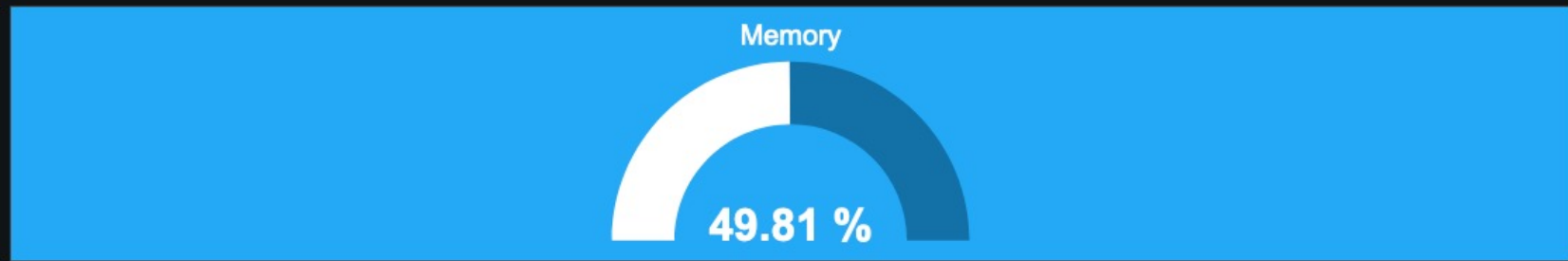
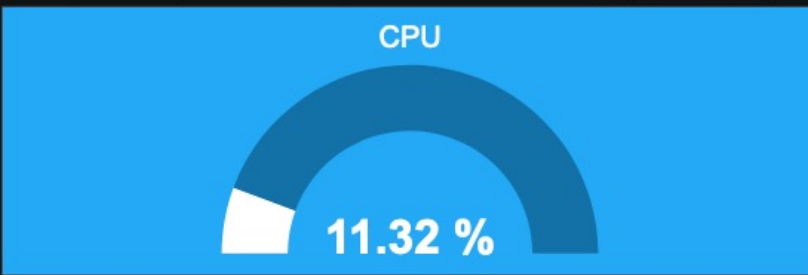
26.63 writes/s

Net Bytes Out

287.23 KBps

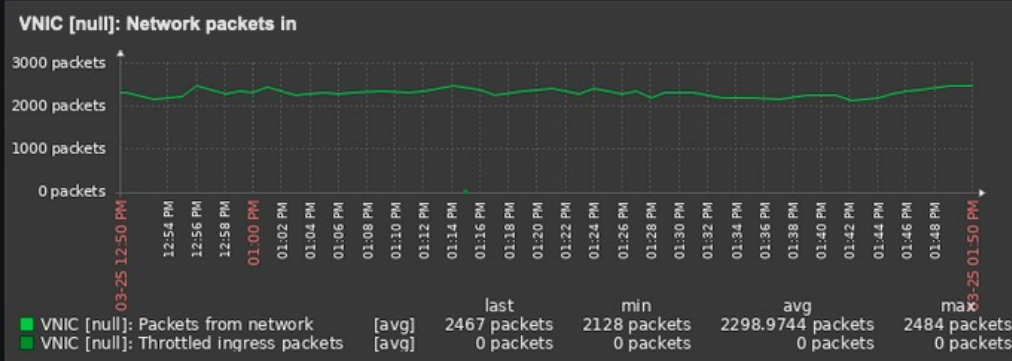
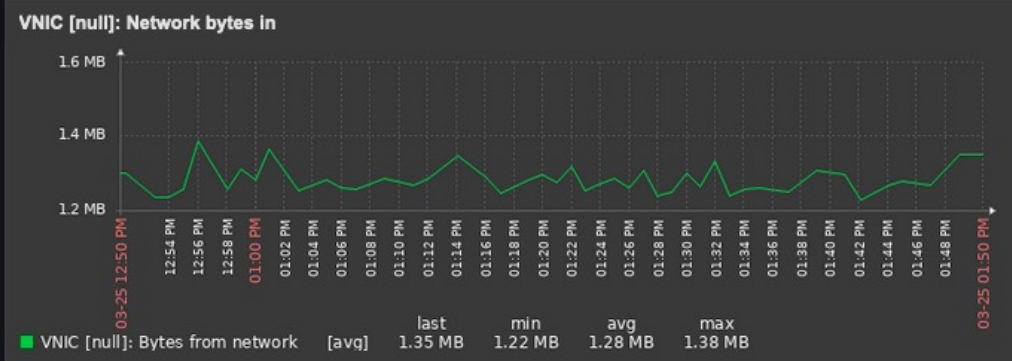
Memory Allocation Stalls

0.00 stalls



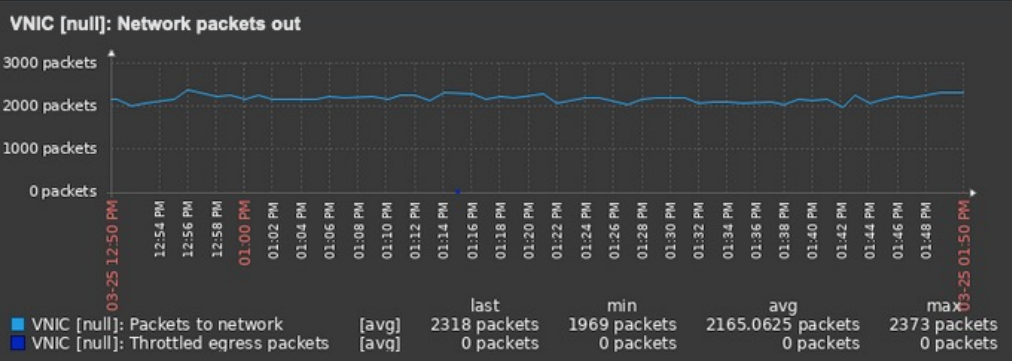
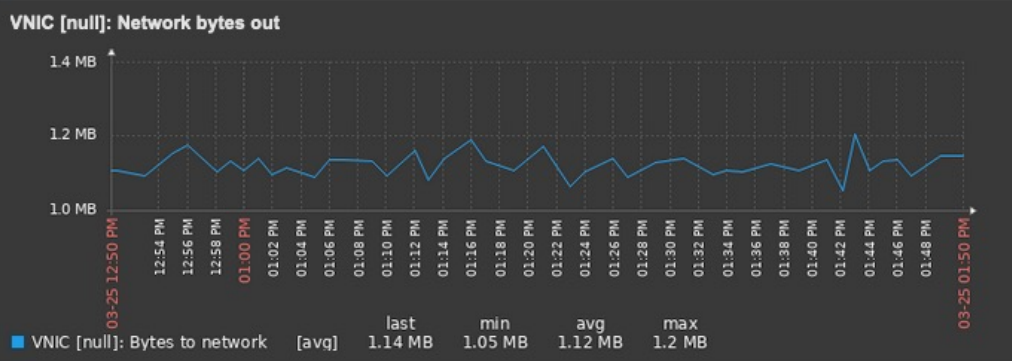
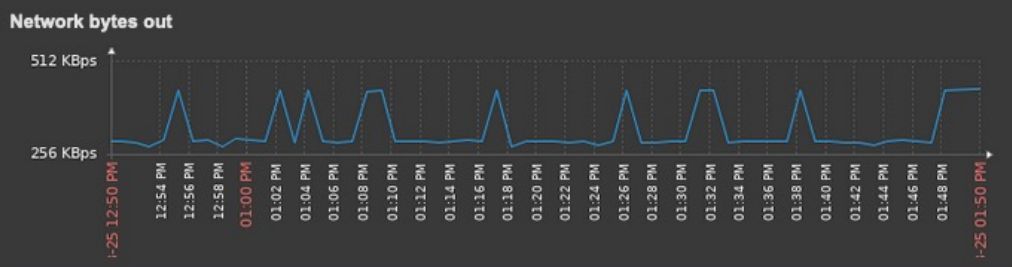
Ingress

428.3 KBps



Egress

432.6 KBps



OCI CONFIGURATION

OCI CONFIGURATION

**CREATE
NEW USER**

OCI CONFIGURATION

**CREATE
NEW USER**

**GENERATE
API KEYS**

[DEFAULT]

```
user=ocid1.user.oc1..aaaaaaaargnoehwac1z6kyar6lu36rbgli2atkwt dimajisda3g2mya6x2yq  
fingerprint=7:29:cd:a4:af:b7:cc:a2:6:0a:5b:78:9b:c6:69:49  
tenancy=ocid1.tenancy.oc1..asdsafdsfg234f2sdfdsat42fGFfdg5twegdsg432gsdgsdg234gff  
region=eu-stockholm-1  
key_file=<path to your private keyfile> # TODO
```


OCI CONFIGURATION

**CREATE
NEW USER**

**GENERATE
API KEYS**

**CREATE
GROUP**

OCI CONFIGURATION

**CREATE
NEW USER**

**GENERATE
API KEYS**

**CREATE
GROUP**

**CREATE
POLICY**

```
Allow group 'zabbix-mon' to read metrics in tenancy
Allow group 'zabbix-mon' to read instances in tenancy
Allow group 'zabbix-mon' to read subnets in tenancy
Allow group 'zabbix-mon' to read vcns in tenancy
Allow group 'zabbix-mon' to read vnic-attachments in tenancy
Allow group 'zabbix-mon' to read volumes in tenancy
Allow group 'zabbix-mon' to read objectstorage-namespaces in tenancy
Allow group 'zabbix-mon' to read buckets in tenancy
Allow group 'zabbix-mon' to read autonomous-databases in tenancy
```

ADVANCED LLD FILTERING

```
[
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 1",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 2",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 3",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  ...
]
```

```
[
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 1",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 2",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 3",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  ...
]
```

User macro

`{$.X.MATCHES}`

User macro

`{$.X.NOT_MATCHES}`

```
[
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 1",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 2",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 3",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  ...
]
```

User macro

```
{$.X.MATCHES}
```

User macro

```
{$.X.NOT_MATCHES}
```

User macro

```
{$OCI.COMPUTE.NAME.MATCHES} = "2"
```

```
[
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 1",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 2",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 3",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  ...
]
```

User macro

```
{$.X.MATCHES}
```

User macro

```
{$.X.NOT_MATCHES}
```

User macro

```
{$OCI.COMPUTE.NAME.MATCHES} = "2"
```

```
[
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 1",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 2",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 3",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  ...
]
```

User macro

```
{$.X.MATCHES}
```

User macro

```
{$.X.NOT_MATCHES}
```

User macro

```
{$OCI.COMPUTE.NAME.MATCHES} = "2"
```



```
[
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 1",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 2",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 3",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  ...
]
```

Free-from tags

Free-from tags

```
[
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 1",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 2",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 3",
    "state": "RUNNING",
    "tags": {},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  ...
]
```

Add tags [Help](#)

Add tags to organize your resources. [What can I do with tagging?](#)

Tag namespace	Tag key	Tag value	
None (add a free-form tag) ▾	usage	web-server	×

[Cancel](#)

Free-from tags

```
[
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 1",
    "state": "RUNNING",
    "tags": {"usage": "web-server"},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 2",
    "state": "RUNNING",
    "tags": {"usage": "dev-env"},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 3",
    "state": "RUNNING",
    "tags": {"usage": "web-server"},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  ...
]
```

Add tags [Help](#)

Add tags to organize your resources. [What can I do with tagging?](#)

Tag namespace	Tag key	Tag value	
None (add a free-form tag) ▾	usage	web-server	×

[Cancel](#)

Free-from tags

LLD macros

```
{#USAGE} => $.tags.usage
```

```
[
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 1",
    "state": "RUNNING",
    "tags": {"usage": "web-server"},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 2",
    "state": "RUNNING",
    "tags": {"usage": "dev-env"},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  {
    "id": "ocid1.instance.oc1.eu-stockholm-1...",
    "name": "test instance 3",
    "state": "RUNNING",
    "tags": {"usage": "web-server"},
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"
  },
  ...
]
```

Free-from tags

LLD macros

```
{#USAGE} => $.tags.usage
```

Filters

```
{#USAGE} => matches => "web-server"
```

```
[  
  {  
    "id": "ocid1.instance.oc1.eu-stockholm-1...",  
    "name": "test instance 1",  
    "state": "RUNNING",  
    "tags": {"usage": "web-server"},  
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"  
  },  
  {  
    "id": "ocid1.instance.oc1.eu-stockholm-1...",  
    "name": "test instance 2",  
    "state": "RUNNING",  
    "tags": {"usage": "dev-env"},  
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"  
  },  
  {  
    "id": "ocid1.instance.oc1.eu-stockholm-1...",  
    "name": "test instance 3",  
    "state": "RUNNING",  
    "tags": {"usage": "web-server"},  
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"  
  },  
  ...  
]
```

Free-from tags

LLD macros

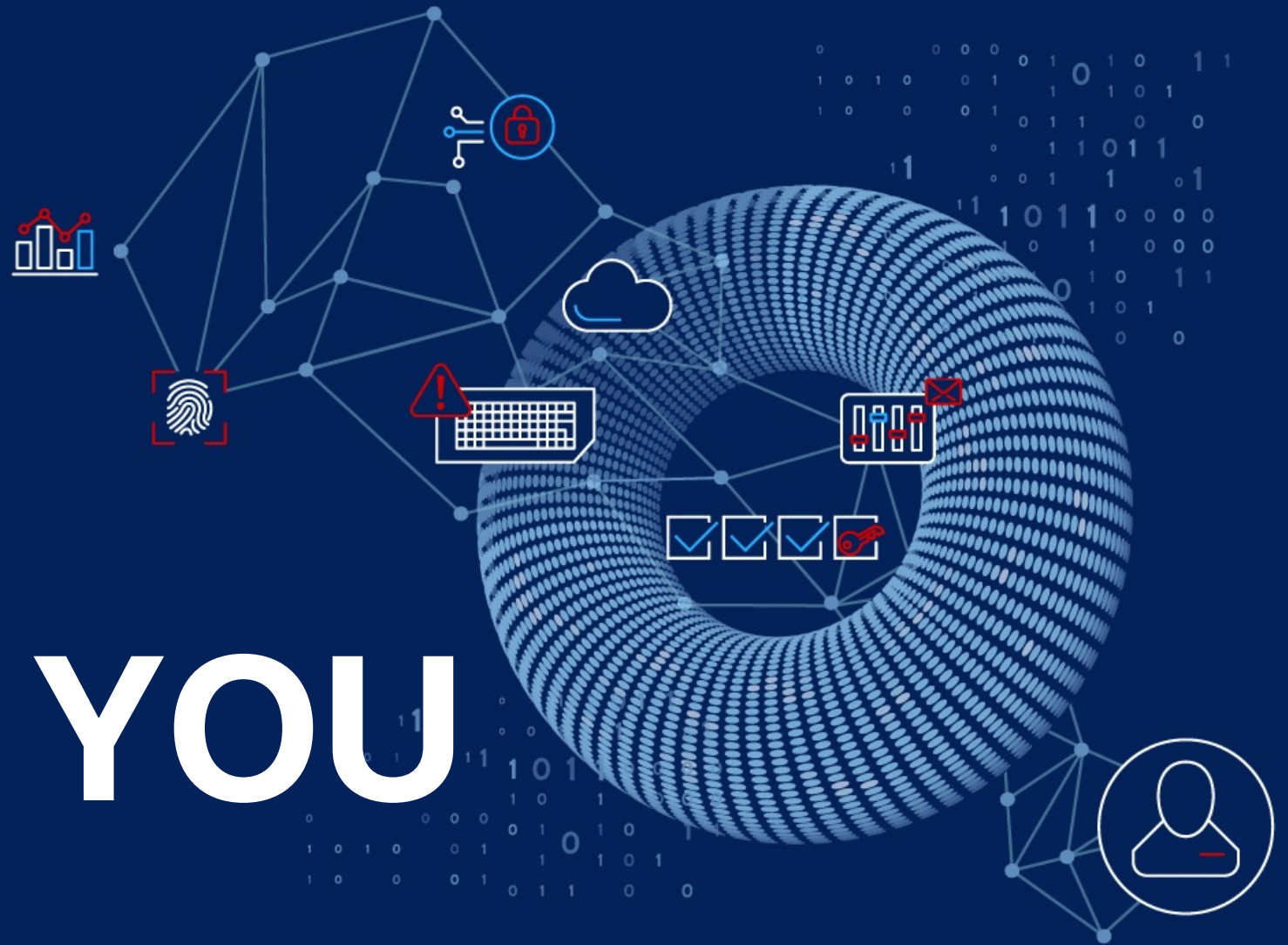
```
{#USAGE} => $.tags.usage
```

Filters

```
{#USAGE} => matches => "web-server"
```

```
[  
  {  
    "id": "ocid1.instance.oc1.eu-stockholm-1...",  
    "name": "test instance 1",  
    "state": "RUNNING",  
    "tags": {"usage": "web-server"},  
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"  
  },  
  {  
    "id": "ocid1.instance.oc1.eu-stockholm-1...",  
    "name": "test instance 2",  
    "state": "RUNNING",  
    "tags": {"usage": "dev-env"},  
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"  
  },  
  {  
    "id": "ocid1.instance.oc1.eu-stockholm-1...",  
    "name": "test instance 3",  
    "state": "RUNNING",  
    "tags": {"usage": "web-server"},  
    "domain": "vRCP:EU-STOCKHOLM-1-AD-1"  
  },  
  ...  
]
```

ZABBIX



THANK YOU