CREATIVE Associates
MEASURE & CONTROL

Fortra VitylCM

Oracle Automatic Workload Agent

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Doc. Ref.: ora_awld_agent_vitylcm_public_v1.2.doc

Version: 1.2

Date: 5 March 2026

I. Document History

Version	Date	Name	Description
1.0	19/11/2025	W. Verhoeven	First release
1.1	25/11/2025	W. Verhoeven	Removed “identifier” from collector output
1.2	05/03/2026	W. Verhoeven	Updated for VitylCM 2.23

II. Stakeholders

Company	Responsible Stakeholder
CREATIVE Associates	Walter Verhoeven

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1. Management Summary

1.1 Introduction

There are companies that have a quite large deployment (100+) of Oracle instances spread over multiple RHEL based servers configured in a cluster environment. This can be a quite dynamic environment where Oracle instances are frequently created, removed and (or) moved.

If that company is using the FORTRA VitylCM solution it will benefit from our module called Automatic Workload Agent. So if there is an interest please go to www.creative-associates.com and contact us via the Contact Page.

VitylCM uses a light weight collector called “vityl-collector” that passes performance data to the VitylCM Cassandra database. It offers a Workload definition capability of grouping Oracle instances or other application processes, in order to have Workload based performance data, but by design this is a manual configuration process.

In order to automate the configuration process we developed this solution that consists of the agent named **“ora_awld.py”** that runs on the managed node supporting this Vityl Collector performance agent and the module named “**ora_awld_vitylcm.py**” that runs on the VitylCM server defining the actual groupings of the Oracle instances related processes.

This document describes the usage, functionality and installation of this Oracle Automated Workload Agent for VitylCM.

1.2 Versions

First release 1.0 was on 19/11/2025.

Second release 1.1 was on 25/11/2025, here we removed the “identifier” definition in the “ora_awld.py” module. Now the Oracle SID’s are visible in the detailed set of metrics of a server. There is no more an extra Plugin server reference like “serverName-<GUID>” created by VitylCM due to this “identifier”.

The “ora_awld_vitylcm.py” has been modified too in order to look for Linux nodes with the “ora_awld” group of data instead of systems with a Plugin reference.

Adapted release version towards 1.2 on 5 March 2026 after successful tests on VitylCM version 2.23 which is now also supported.

1.3 Limitations

This version 1.1 has been developed for VitylCM 2.21.0 and Vityl Collector 2.21.0 and should be re-evaluated/tested with each new patch and major release version of the VitylCM and Vityl Collector modules.

We adapted our code in order to support VitylCM version 2.23 as changes on the API level where introduced by Fortra. We also support Vityl Collector 2.22.0.

We know that the next release of VitylCM 2.24, planned for Q1 or Q2 2026, will introduce enhanced API security features which will require an adapted version of our Oracle Automatic Workload Agent.

As this custom agent has been developed by CREATIVE Associates the support services of Fortra will not handle questions nor calls related to it. These will rather be handled by the support services of CREATIVE Associates itself.

Since we are using API’s to interact with VitylCM these two Python modules “**ora_awld.py**” and

"**ora_awld_vitylcm.py**" may not be modified nor copied by the customer as it falls under the Copyright law(s) and could possibly break a correct functioning VitylCM environment.

Currently we only support the Linux environment/platform.

1.4 Requirements

Both Python programs need at least Python version 3.6.x installed on the node that runs Vityl Collector and the VitylCM server. You can check this with the following command "python3 -V":

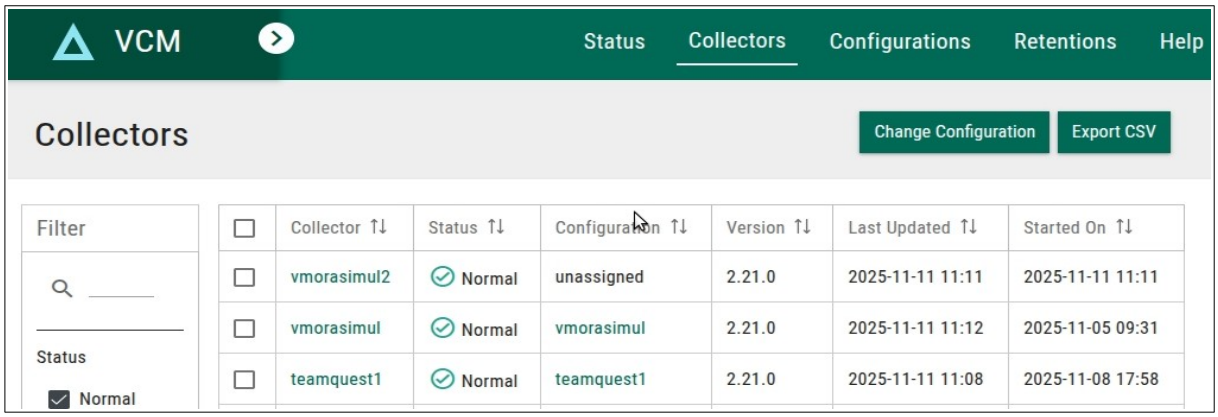
```
[wverhoeven@vmorasimul2 ora_awld]$ /usr/bin/python3 -V
Python 3.6.8

[wverhoeven@vitylcm ora_awld_vitylcm]$ /usr/bin/python3 -V
Python 3.12.1
```

Vityl Collector installed and operational on the managed Linux node.

You can check the status as following "systemctl status vityl-collector":

```
[root@vmorasimul2 plugin]# systemctl status vityl-collector
● vityl-collector.service - Vityl Collector
   Loaded: loaded (/usr/lib/systemd/system/vityl-collector.service; enabled; vendor preset: disabled)
   Active: active (running) since Tue 2025-11-11 11:11:54 CET; 21s ago
 Main PID: 1458324 (vityl-collector)
    Tasks: 10 (limit: 12227)
   Memory: 9.0M
   CGroup: /system.slice/vityl-collector.service
           └─1458324 /usr/bin/vityl-collector -c /etc/vityl/collector

Nov 11 11:11:54 vmorasimul2 systemd[1]: Started Vityl Collector.
Nov 11 11:11:54 vmorasimul2 vityl-collector[1458324]: [2025-Nov-11 10:11:54] Info: vityl-collector version 2.21.0 running on vmorasimul2
Nov 11 11:11:54 vmorasimul2 vityl-collector[1458324]: [2025-Nov-11 10:11:54] Info: CentOS Stream 8
Nov 11 11:11:54 vmorasimul2 vityl-collector[1458324]: [2025-Nov-11 10:11:54] Info: x86_64 vmorasimul2 4.18.0-553.6.1.el8.x86_64 #1 SMP Thu May 30 04:13:58 UTC 2024
Nov 11 11:11:55 vmorasimul2 vityl-collector[1458324]: [2025-Nov-11 10:11:55] Info: Found kafka connection string: vitylcm:9092
Nov 11 11:11:57 vmorasimul2 vityl-collector[1458324]: [2025-Nov-11 10:11:57] Info: Using configuration: /vityl_master_v2/configs/unassigned
Nov 11 11:11:57 vmorasimul2 vityl-collector[1458324]: [2025-Nov-11 10:11:57] Info: Collector configuration is not assigned.
Nov 11 11:11:57 vmorasimul2 vityl-collector[1458324]: [2025-Nov-11 10:11:57] Info: The zookeeper or plugin configuration has changed. Reconfiguring collector.
```

VitylCM server installed and operational with the collector(s) in a normal state.



It is mandatory that each server, running the “ora_awld” Plugin, has a custom configuration policy with the **same name** as the collector/system name. So this is a manually step that must be completed for each node where you install “ora_awld”.

This is explained in section 2.2 of this document.

2. Oracle Automatic Workload Generator

2.1 Deployment On Linux Vityl Collector Side

As mentioned above we have a Python script named "**ora_awld.py**" which is deployed on the RHEL server running the Oracle database(s). It is mandatory to install Vityl Collector prior to the deployment of this Python script as it will pass the detected Oracle instance names towards the Cassandra database.

After the installation of the Vityl Collector you will have a directory "/etc/vityl/collector" that contains the following:

```
[wverhoeven@vmorasimul2 collector]$ ls -l
total 8
-rw-------. 1 vityl-cm vityl-cm 42 Aug 18 13:27 guid.properties
drwxr-xr-x. 4 root     root     65 Aug 18 13:26 plugin
-rw-------. 1 vityl-cm vityl-cm 39 Aug 18 13:26 zookeeper.properties
```

The "plugin" directory contains the following:

```
[root@vmorasimul2 plugin]# ls -l
total 4
drwxr-xr-x. 2 root     root      6 Oct 25  2024 definitions.d
-rw-r--r--. 1 vityl-cm vityl-cm  4 Oct 25  2024 identifiers.json
drwxr-xr-x. 2 root     root     94 Aug 18 13:26 schema
```

Step1) Stop the Vityl Collector.

```
[root@vmorasimul2 plugin]# systemctl stop vityl-collector
```

Check the status afterwards with the following command.

```
[root@vmorasimul2 plugin]# systemctl status vityl-collector
● vityl-collector.service - Vityl Collector
   Loaded: loaded (/usr/lib/systemd/system/vityl-collector.service; enabled; vendor preset: disabled)
   Active: inactive (dead) since Thu 2025-11-13 13:23:27 CET; 9s ago
  Process: 1458324 ExecStart=/usr/bin/vityl-collector -c /etc/vityl/collector (code=exited, status=0/SUCCESS)
 Main PID: 1458324 (code=exited, status=0/SUCCESS)

Nov 13 11:48:46 vmorasimul2 vityl-collector[1458324]: [2025-Nov-13 10:48:46] Info: Collector configuration is not assigned.
Nov 13 11:48:46 vmorasimul2 vityl-collector[1458324]: [2025-Nov-13 10:48:46] Info: The zookeeper or plugin configuration has changed. Reconfiguring collector.
Nov 13 11:48:59 vmorasimul2 vityl-collector[1458324]: [2025-Nov-13 10:48:59] Info: Kafka Event (Local: Broker transport failure): vitylcm:9092/bootstrap: Connect to ipv4#15.160.6.204:9092 failed: Connection refused (after 0ms in state CONNECT)
Nov 13 11:48:59 vmorasimul2 vityl-collector[1458324]: [2025-Nov-13 10:48:59] Info: Kafka Event (Local: All broker connections are down): 1/1 brokers are down
Nov 13 11:49:59 vmorasimul2 vityl-collector[1458324]: [2025-Nov-13 10:49:59] Info: The Kafka connection is up.
Nov 13 13:21:55 vmorasimul2 vityl-collector[1458324]: [2025-Nov-13 12:21:55] Info: The zookeeper or plugin configuration has changed. Reconfiguring collector.
Nov 13 13:23:27 vmorasimul2 systemd[1]: Stopping Vityl Collector...
Nov 13 13:23:27 vmorasimul2 vityl-collector[1458324]: [2025-Nov-13 12:23:27] Info: Termination has been requested with signal 15
Nov 13 13:23:27 vmorasimul2 systemd[1]: vityl-collector.service: Succeeded.
Nov 13 13:23:27 vmorasimul2 systemd[1]: Stopped Vityl Collector.
```

Step2) As root user copy the file "ora_awld.zip" into the "/etc/vityl/collector/plugin" directory.

```
[root@vmorasimul2 plugin]# pwd
/etc/vityl/collector/plugin
[root@vmorasimul2 plugin]# ls -l
total 8
```

```
drwxr-xr-x. 2 root     root        6 Oct 25  2024 definitions.d
-rw-r--r--. 1 vityl-cm vityl-cm    4 Oct 25  2024 identifiers.json
-rw-r--r--. 1 root     root     1398 Nov 13 13:15 ora_awld.zip
drwxr-xr-x. 2 root     root       94 Aug 18 13:26 schema
[root@vmorasimul2 plugin]# ls -l definitions.d/
total 0
```

Step3) Unzip that file in this directory.

```
[root@vmorasimul2 plugin]# unzip ora_awld.zip
Archive:  ora_awld.zip
  inflating: ora_awld.py
  inflating: definitions.d/ora_awld.json
  extracting: ora_awld.log
[root@vmorasimul2 plugin]# ls -l
total 12
drwxr-xr-x. 2 root     root       27 Nov 13 13:21 definitions.d
-rw-r--r--. 1 vityl-cm vityl-cm    4 Oct 25  2024 identifiers.json
-rw-rw-rw-. 1 root     root        0 Nov 13  12:19 ora_awld.log
-rwxr-xr-x. 1 root     root     2608 Nov 13 12:19 ora_awld.py
-rw-r--r--. 1 root     root     1398 Nov 13 13:15 ora_awld.zip
drwxr-xr-x. 2 root     root       94 Aug 18 13:26 schema
[root@vmorasimul2 plugin]# ls -l ./definitions.d/
total 4
-rw-r--r--. 1 root root 86 Nov 13 11:35 ora_awld.json
```

It will extract the file “ora_awld.py”, which is the Python script that will pass a string to STDOUT in a JSON format so that the Vityl Collector can pass it to the Cassandra database. An output example is shown below:

{"groupName":"ora_awld","metrics":[{"value":1,"metricName":"RBK01I"},
{"value":1,"metricName":"LPSI"},{"value":1,"metricName":"OILM"},{"value":1,"metricName":"DSLI"},
{"value":1,"metricName":"EFP01R"}]}

The metric group is named “ora_awl” and several Oracle instance name “RBK0I”, “LPSI”, “OILM”, “DSLI” and “EFP01R” have been detected.

It also extracts the file “./defenitions.d/ora_awld.json” that contains a reference to the Python script:

```
[root@vmorasimul2 definitions.d]# pwd
/etc/vityl/collector/plugin/definitions.d
[root@vmorasimul2 definitions.d]# ls -l
total 4
-rw-r--r--. 1 root root 86 Nov 13 11:35 ora_awld.json
[root@vmorasimul2 definitions.d]# cat ora_awld.json
{
        "name": "ora_awld",
        "pluginLocation": "/etc/vityl/collector/plugin/ora_awld.py"
}
```

You can test the Python script by executing it manually, it should produce a JSON string that contains the detected Oracle instances.

```
[root@vmorasimul2 plugin]# ./ora_awld.py
{"groupName":"ora_awld","identifier":"vmorasimul2","metrics":[{"value":1,"metricName":"OASI"}]}
```

Step4) Start the Vityl Collector again and check if it runs fine.

```
[root@vmorasimul2 plugin]# systemctl start vityl-collector
[root@vmorasimul2 plugin]# systemctl status vityl-collector
```

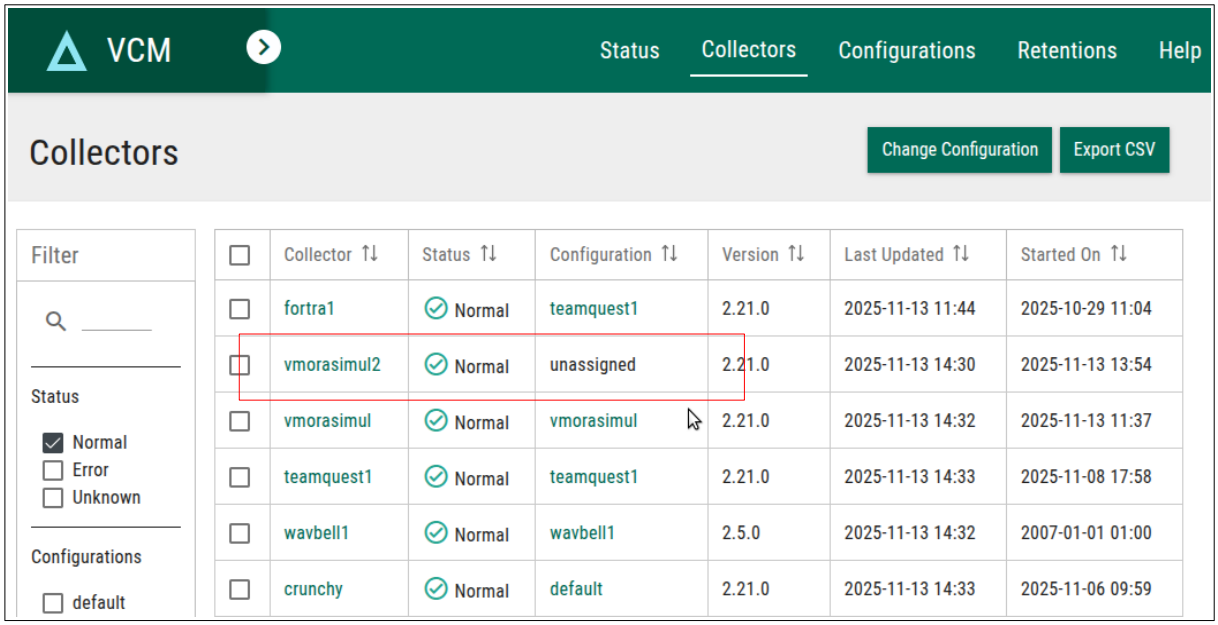
```
● vityl-collector.service - Vityl Collector
   Loaded: loaded (/usr/lib/systemd/system/vityl-collector.service; enabled; vendor preset: disabled)
   Active: active (running) since Thu 2025-11-13 13:54:13 CET; 12s ago
 Main PID: 1484804 (vityl-collector)
    Tasks: 10 (limit: 12227)
   Memory: 5.4M
   CGroup: /system.slice/vityl-collector.service
           └─1484804 /usr/bin/vityl-collector -c /etc/vityl/collector

Nov 13 13:54:13 vmorasimul2 systemd[1]: Started Vityl Collector.
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: vityl-collector version 2.21.0 running on vmorasimul2
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: CentOS Stream 8
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: x86_64 vmorasimul2 4.18.0-553.6.1.el8.x86_64 #1 SMP Thu May 30 04:13:58 UTC 2024
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: Found kafka connection string: vitylcm:9092
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: Using configuration: /vityl_master_v2/configs/unassigned
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: Collector configuration is not assigned.
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: The zookeeper or plugin configuration has changed. Reconfiguring collector.
```

2.2 Create And Assign A Configuration Policy In VitylCM For This Node

When the Fortra Vityl Collector has been installed on a system it will start collecting data based on a configuration policy that must be assigned in VitylCM. By default no policy is assigned. You can see this in the output of the command “systemctl status vityl-collector:

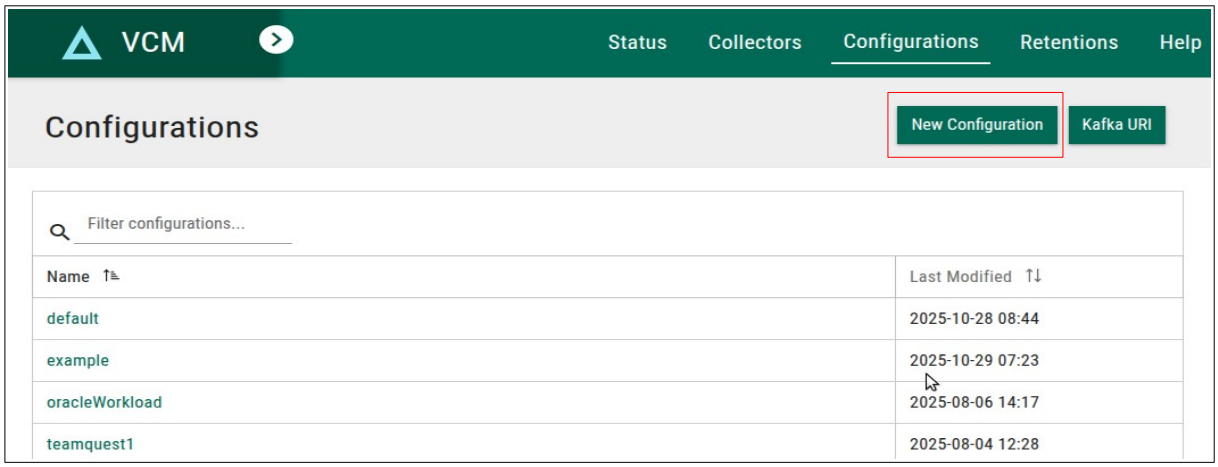
```
...
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: Found kafka connection string: vitylcm:9092
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: Using configuration: /vityl_master_v2/configs/unassigned
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: Collector configuration is not assigned.
Nov 13 13:54:13 vmorasimul2 vityl-collector[1484804]: [2025-Nov-13 12:54:13] Info: The zookeeper or plugin configuration has changed. Reconfiguring collector.
...
```

Attention: It is mandatory that each server, running the “ora_awld” Plugin, has a custom configuration policy with the **same name** as the collector/system name. So for example system/collector “vmorasimul2” should have a configuration policy/definition with the name “vmorasimul2”.

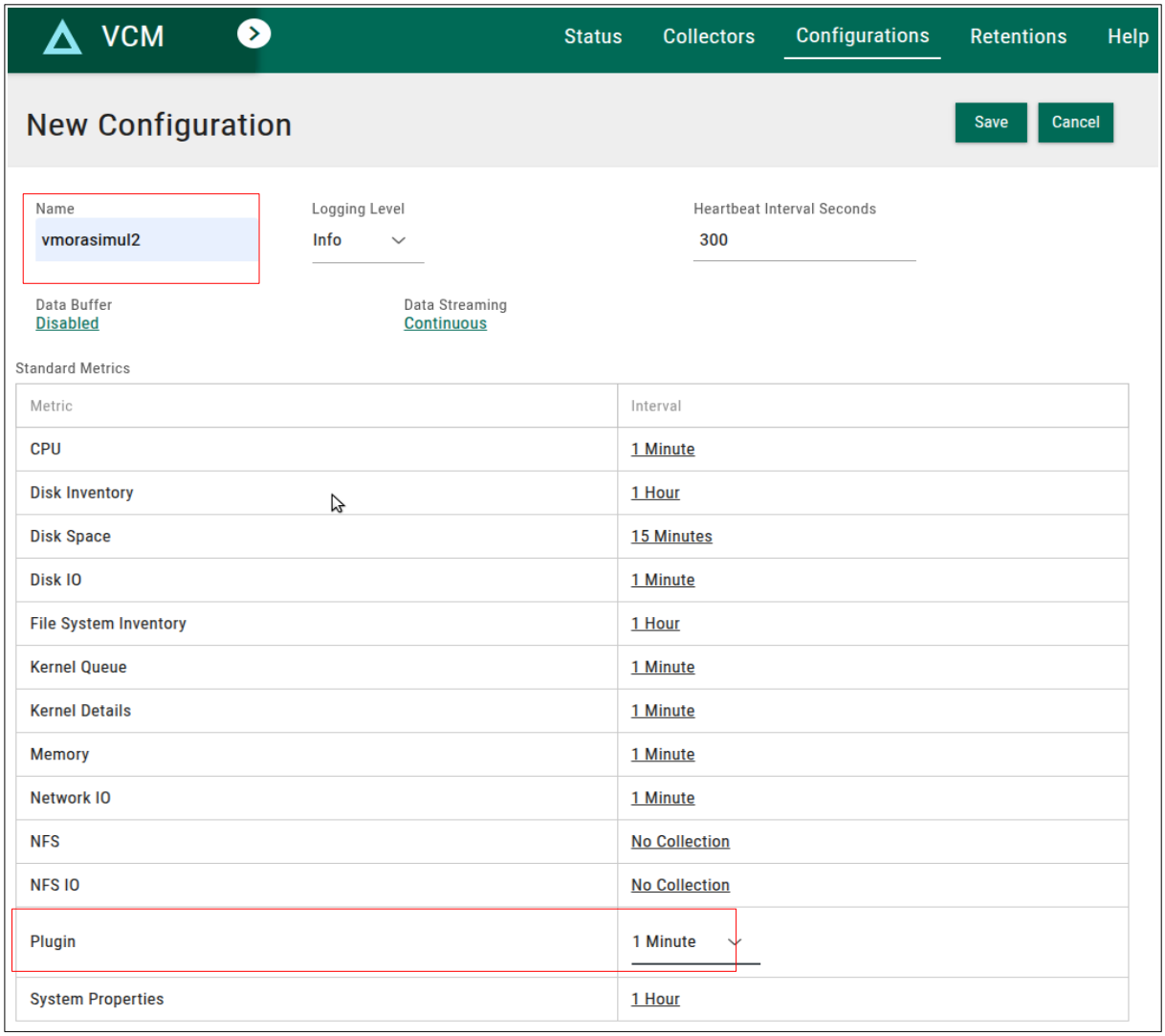


In this case we see an “unassigned” configuration policy so we will create one via the following steps.

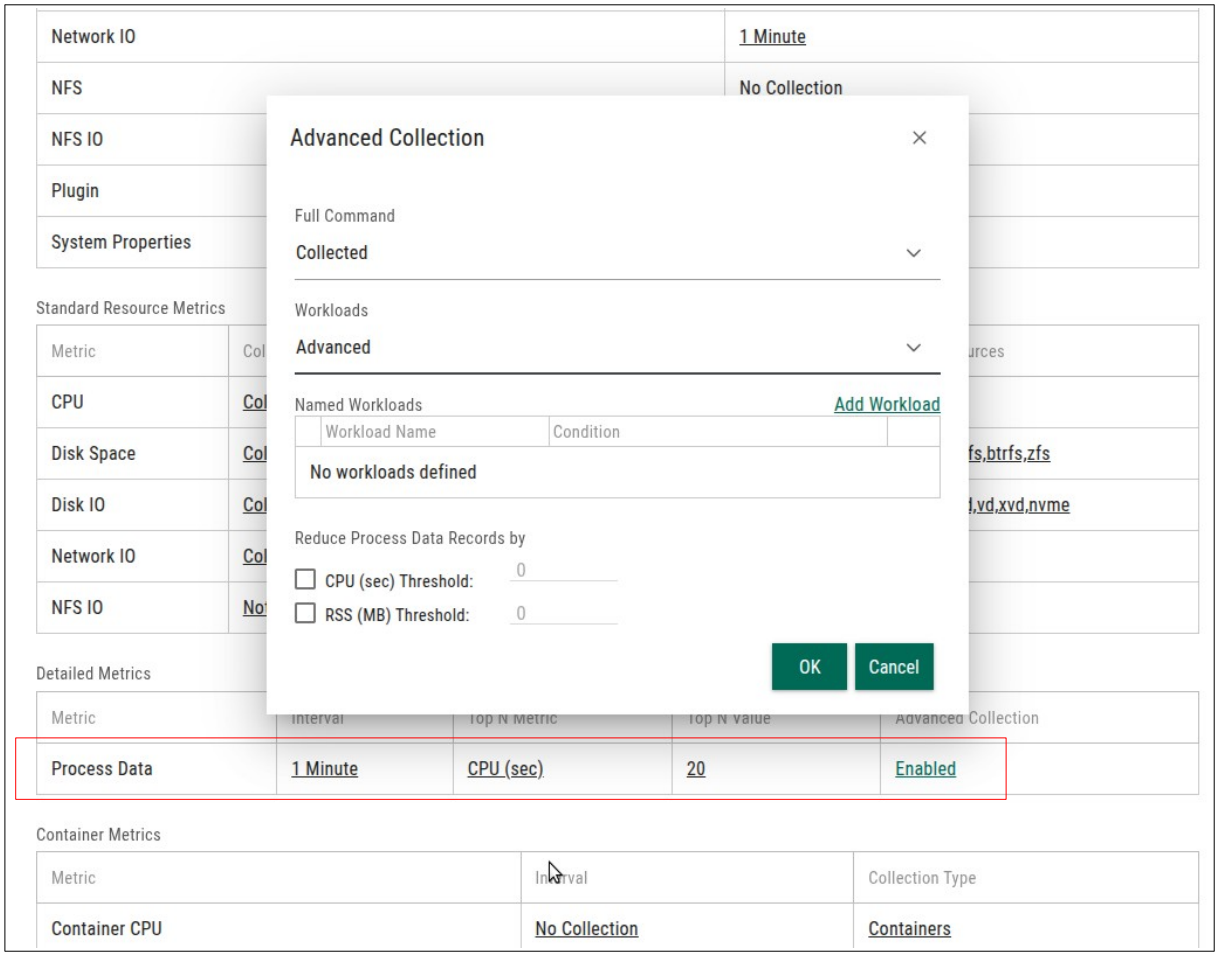
Step1) Go to the Configurations screen and click New Configuration.



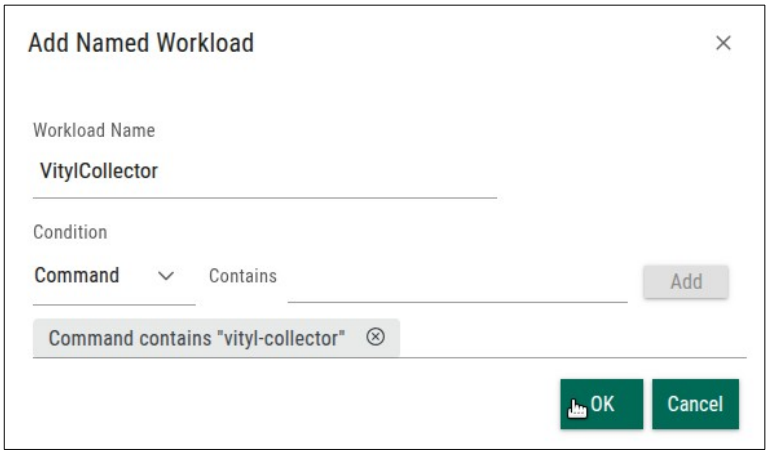
In our case we give the name “vmorasimul2” and activate the Plugin at the collection interval of 1 Minute.

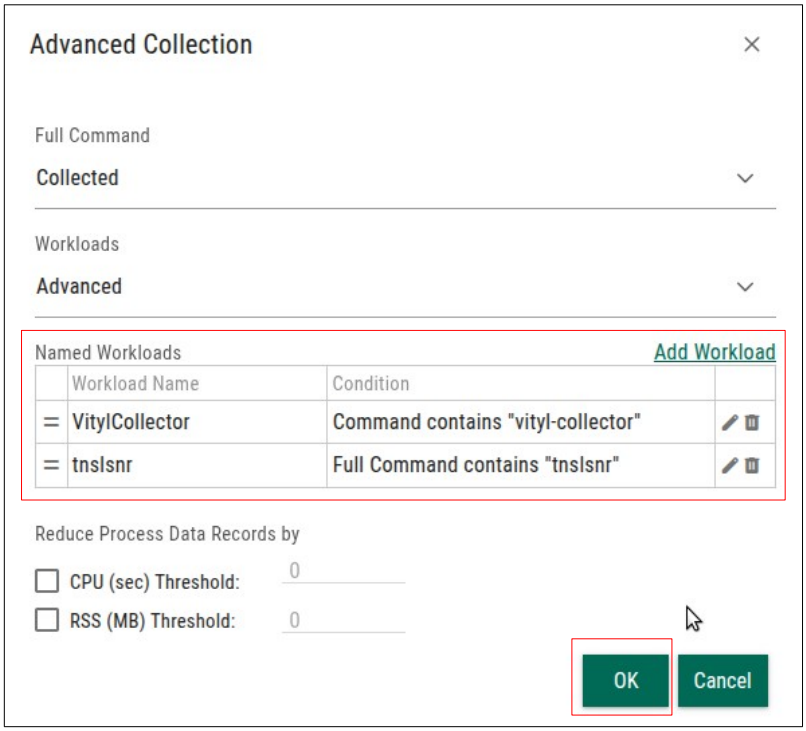


Step2) Enable Process Data Advanced Collection and specify a Workloads Advanced collection type.

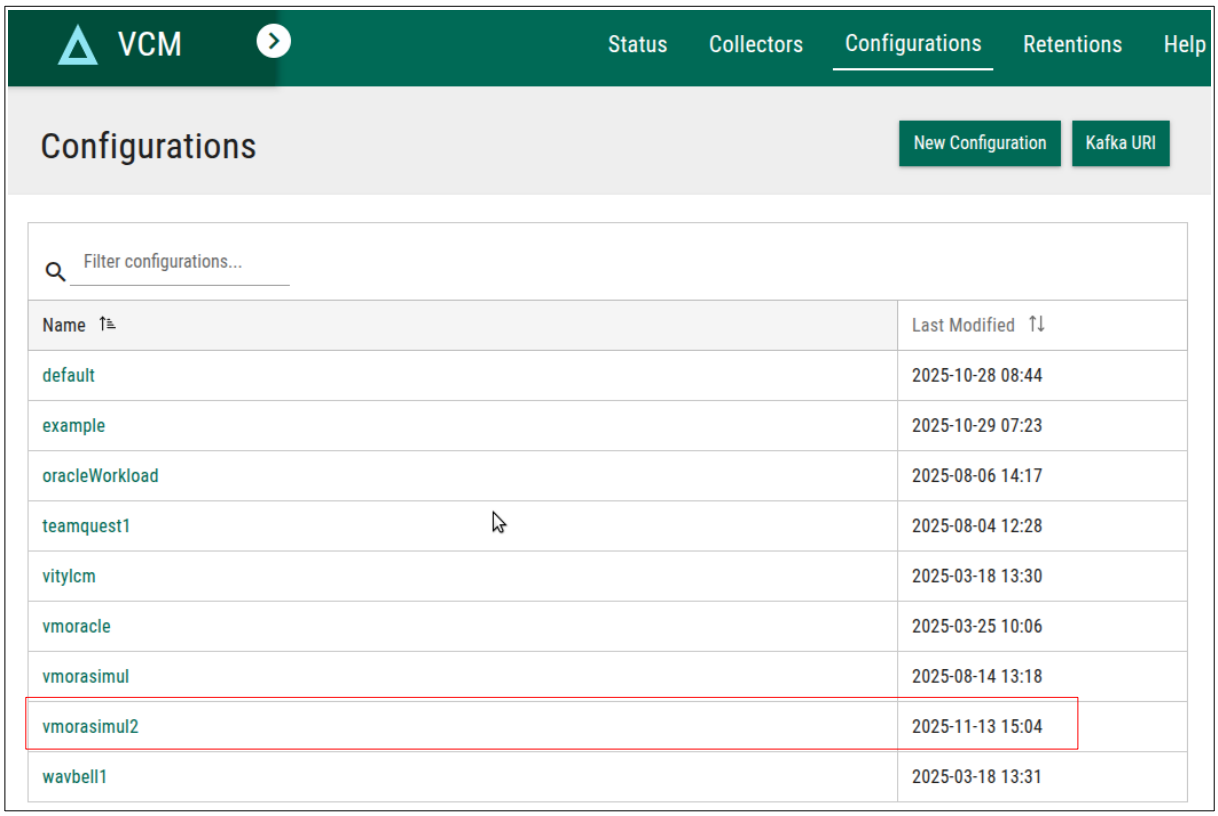


You can manually specify Workload Names and a corresponding conditions like for example one for “VitylCollector” and the “tnslsnr” activity. The Oracle Workload Agent will not modify these entries, it will only add and delete Oracle related ones which are prefixed with “oraawld_”.

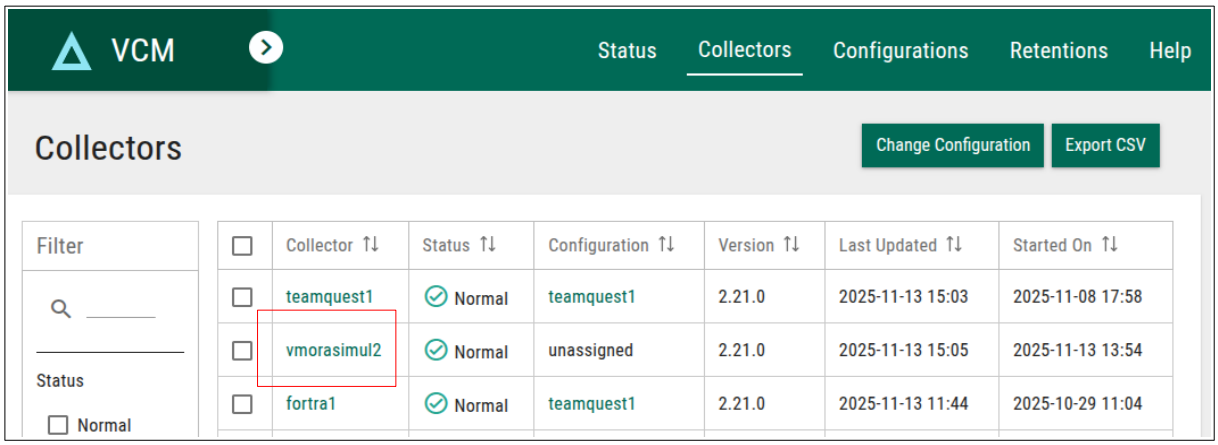


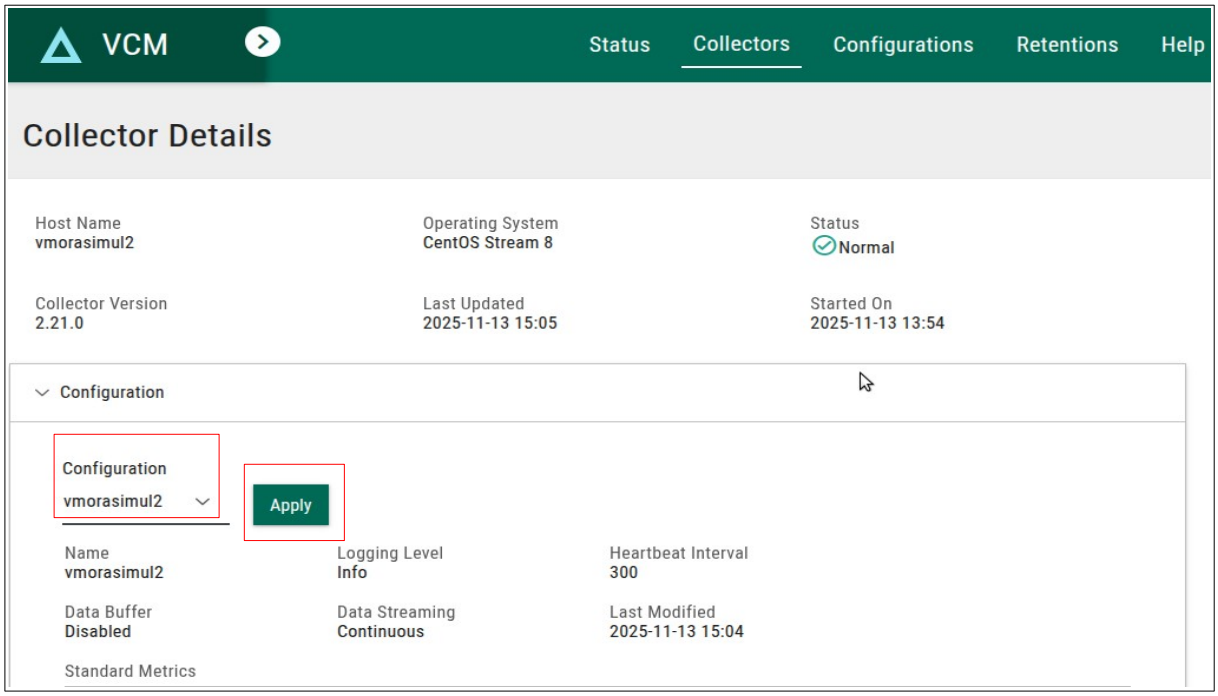


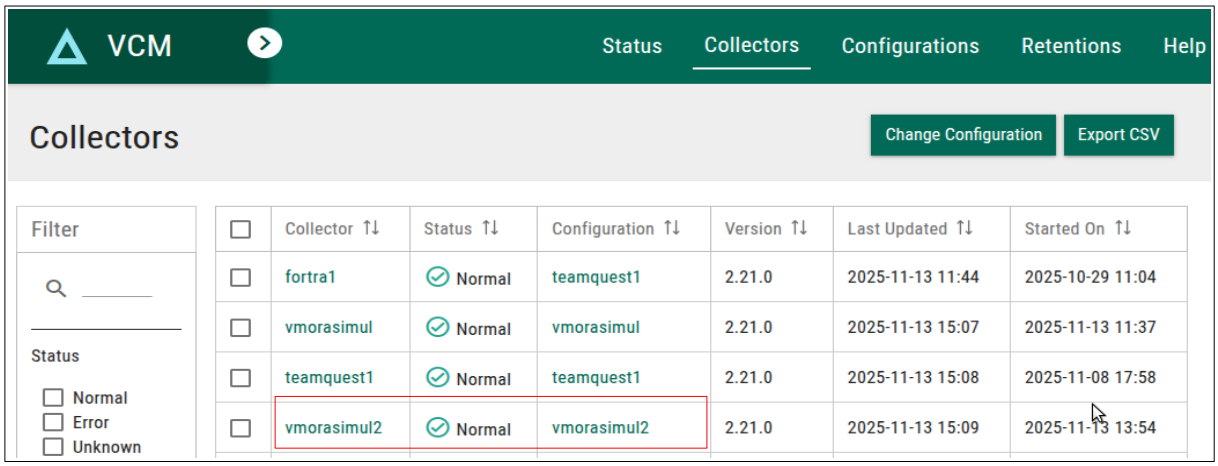
Select OK and finally save the new Configuration Policy.



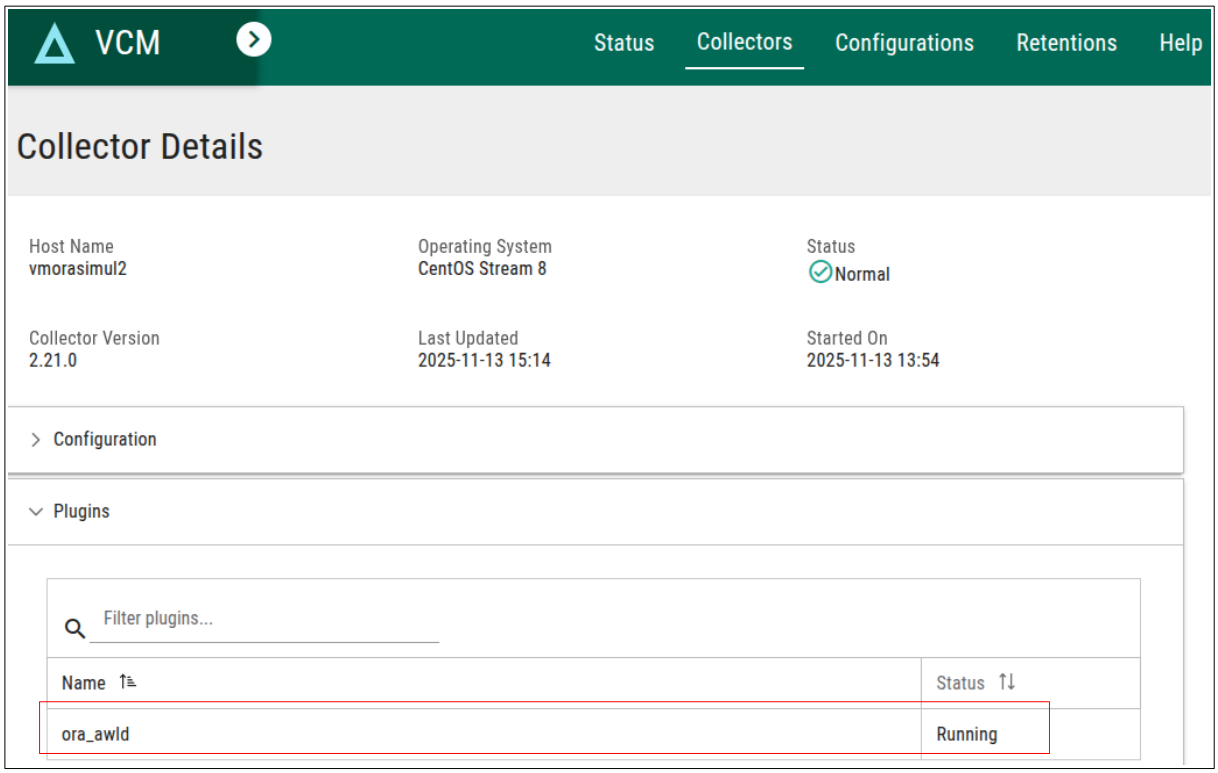
Step3) Assign this Configuration Policy to the “vmorasimul2” node by selecting it in the Collectors screen.





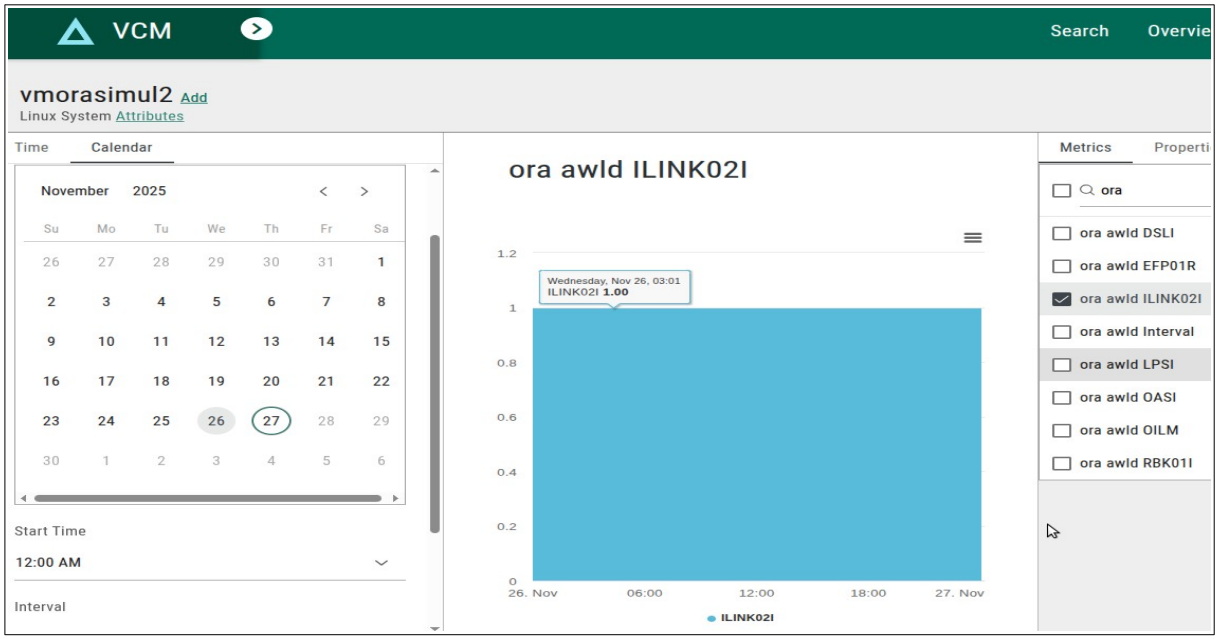


Once the Configuration Policy has been assigned the Plugin will be executed and the detected Oracle instance names will be passed towards the Cassandra database.



Step4) Check the status of the detected Oracle instances in the Performance Monitor.

Select the Details tab in order to see the active Oracle instances running on the node.



Remark that once a database instance name has been detected it will remain selectable as it is never removed from the Cassandra database. But the chart will only show a database instance, for the selected time period, if data can be found.

2.3 Install The Workload Definer On The Central VitylCM Server

Attention, in case of a three system deployment type the node of interest is **system1** responsible for the Front-End Components and Capacity Plans feautures.

Step1) As root user copy the file “ora_awld_vitylcm.zip” to the “/opt/vityl/util” directory and unzip it.

```
[root@vitylcm util]# unzip ora_awld_vitylcm.zip
Archive:  ora_awld_vitylcm.zip
  inflating: ora_awld_vitylcm.py
  extracting: ora_awld_vitylcm.log
```

Check the version Python, should be minimum version 3.6.x.

```
[root@vitylcm util]# python3 -V
Python 3.12.1
```

The following Python modules “pytz”, “requests”, “mysql-connector-python” and “pyodbc” are required in order to run “ora_awld_vitylcm.py”. Install these via the “pip3 install <module>” command.

There are three parameters you may modify in the “ora_awld_vitylcm.py” program:

- DEBUG; Can be False or True. Default is False. In normal operation this should be set to False. In case of issues set this to True. It will generate debugging information that is logged in a log file named “ora_awld_vitylcm.log” in the same directory as where the Python program resides.

- TRACE; Can be False or True. Default is False. In normal operation this should be set to False. In case of issues and we need extra detailed information, set this to True.

- AGINGTIME; Set in seconds, by default 43200 or 12h. It defines the time it retains the Oracle SID Workload definition in the Workload policy when the SID is no more detected by the “ora_awld” Plugin running on the Oracle server(s).

```
# Parameters that can be modified by the user
#DEBUG=False
DEBUG=True
TRACE=False
#TRACE=True
AGINGTIME="43200" # In seconds so 12h (43200), max is 24h (86400). Time the Oracle SID remains in the Workload definition when no more detected by the Plugin
```

Step2) In order to check the correct operation, set the DEBUG parameter to True and do a manual run of the program. It will create/append the logfile “ora_awld_vitylcm.log”. When the size of the logfile exceeds 10MBytes it will be overwritten during the next run.

In case you get the following error when running the code:

```
ERROR: Connection to the VitylCM database failed !
Connection error: ('01000', "[01000] [unixODBC][Driver Manager]Can't open lib '/usr/lib64/psqlodbcw.so' : file not found (0) (SQLDriverConnect)")
```

You are missing the Linux package “postgresql-odbc”, so install this with “yum”.

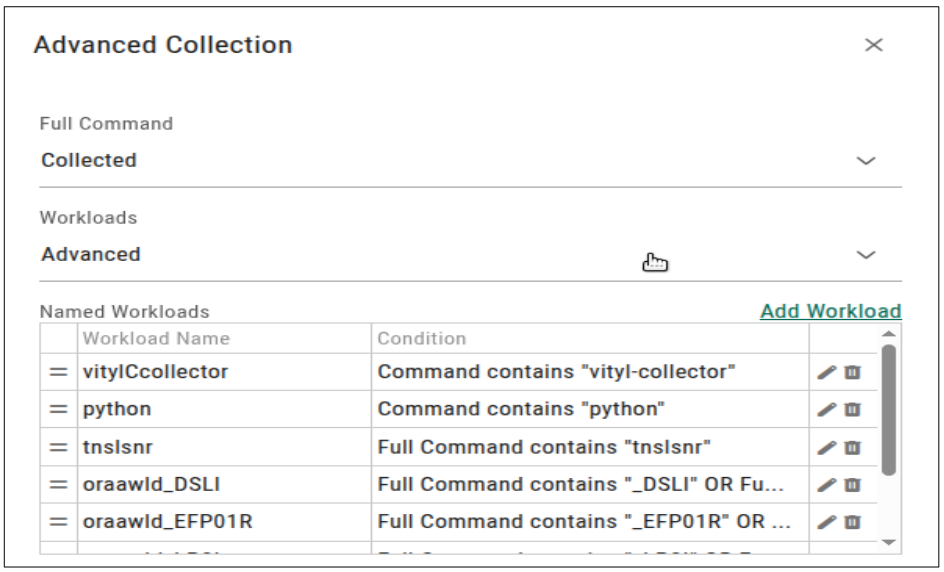
Step3) In case it runs correctly you may set the DEBUG parameter to False again and create a cron entry that looks as following “*/15 * * * * /opt/vityl/util/ora_awld_vitylcm.py”, it will verify every 15 minutes if changes occurred on the Oracle server(s).

It is possible that a Warning pops-up due to HTTPS certification settings but it will not prevent the Workload Definer to operate correctly.

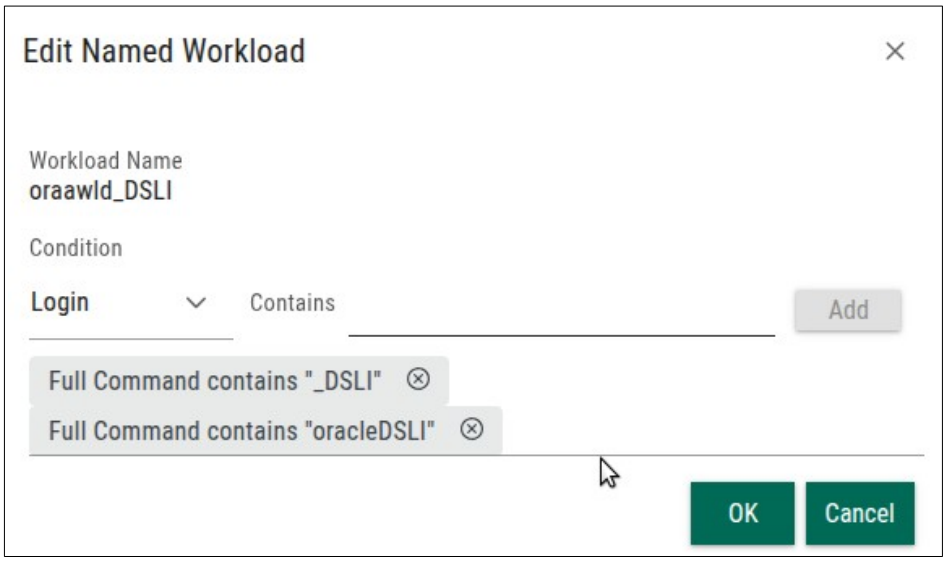
/usr/local/lib/python3.12/site-packages/urllib3/connectionpool.py:1097: InsecureRequestWarning: Unverified HTTPS request is being made to host '15.160.6.204'. Adding certificate verification is strongly advised. See: https://urllib3.readthedocs.io/en/latest/advanced-usage.html#tls-warnings...

After a successful run and when Oracle SID's where found on the nodes in the cluster you will find adapted Workload definitions in the configuration policy, below we show the configuration of the Oracle cluster server "vmorasimul".

Remark that there are Workloads added with a prefix "oraawld_" combined with the Oracle Instance name. So when changes occur these will be removed and others added. The Workloads that where added manually will not be modified.



The filter consists of the following two entries.



3. ***Charts Performance Monitor & Automated Analytics***

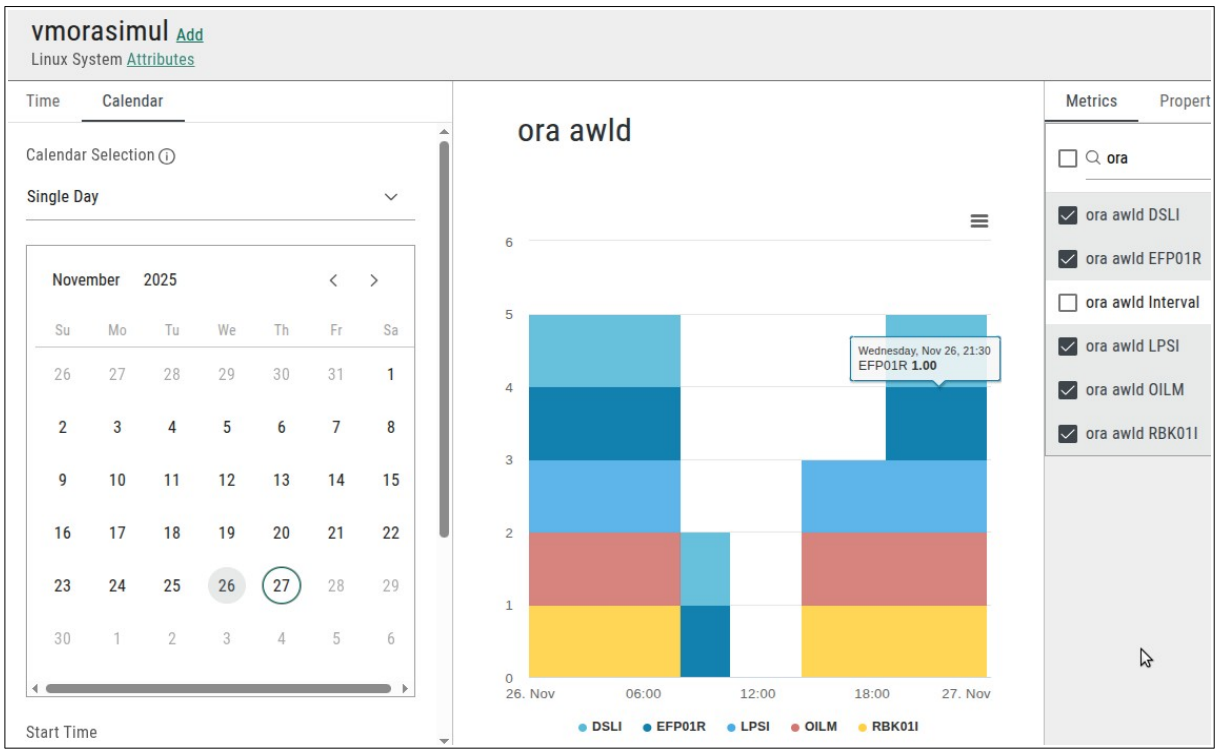
There are two types of data made available by the Oracle Automatic Workload Agent. Here we will describe how to chart these in both the Monitoring and the Analytics features of VitylCM.

3.1 Where Are The Oracle Instances Running

3.1.1 Performance Monitor

As mentioned before on each Oracle server the “ora_awld” Plugin is installed and executed every minute checking the availability of running Oracle instances. When an instance is detected the SID will be send to the VitylCM server. As such you can easily see on what server the Oracle instances where running.

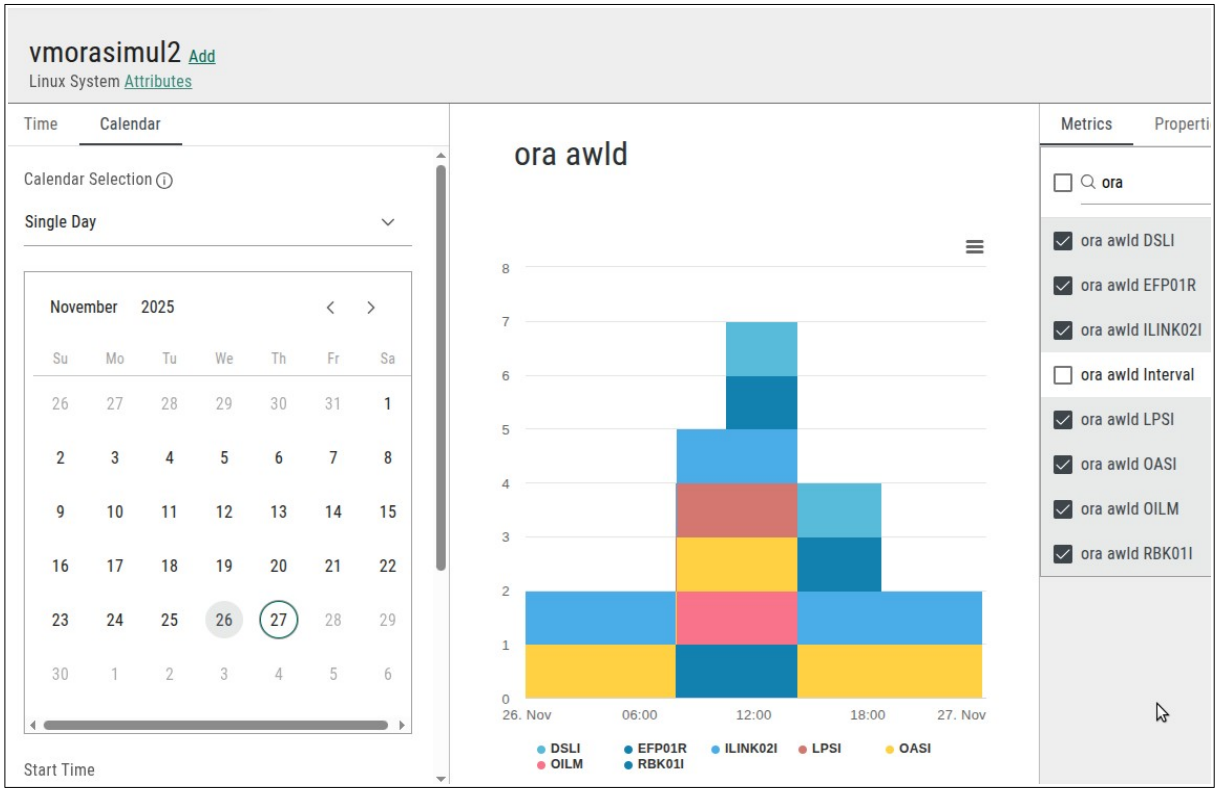
The example below shows a failover scenario where the five Oracle instances from “vmorasimul” are transferred to “vmorasimul2” and back.



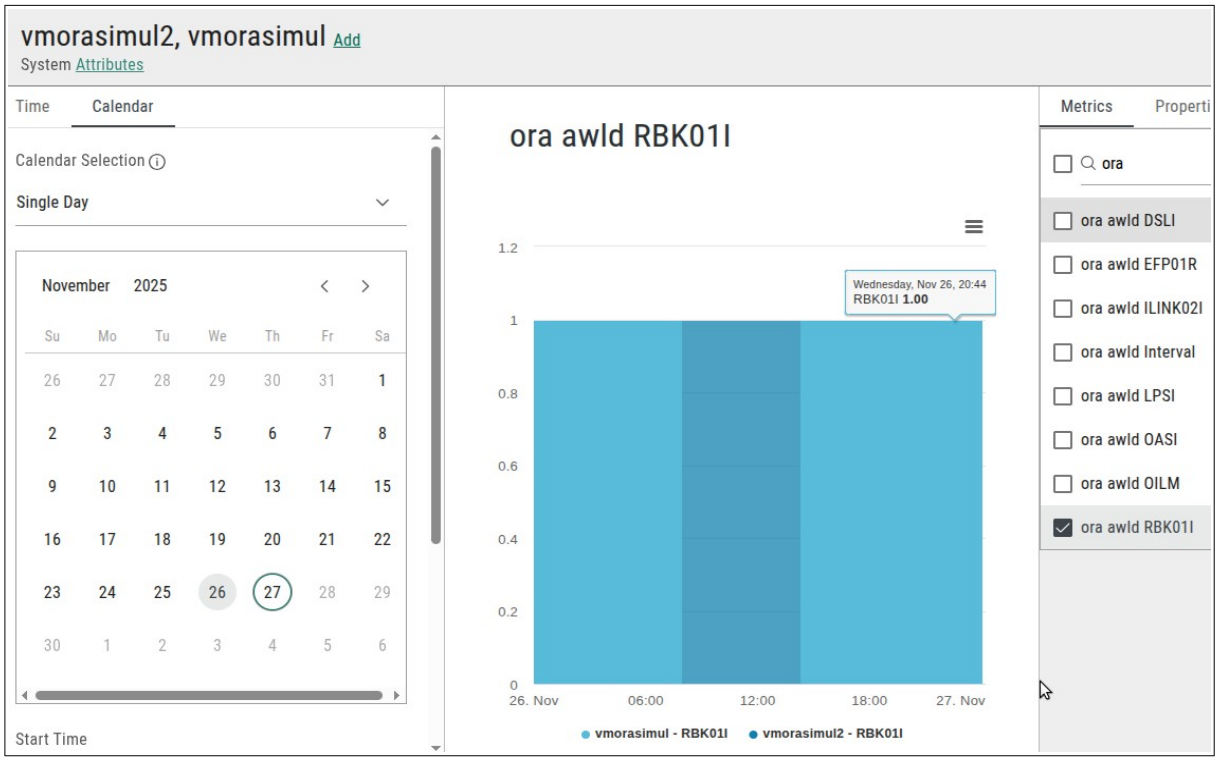
SID’s “RBK01I”, “LPSI” and “OILM” are moved out at 8h. The remaining two “DSLI” and “EFP01R” around 10h29. No instances where running between 10h29 and 14h20 due to maintenance activities on the server for example.

Then at 14h20 the SID’s “RBK01I”, “LPSI” and “OILM” are moved back and later at 18h44 “DSLI” and “EFP01R”.

When looking at server “vmorasimul2” we have the following.



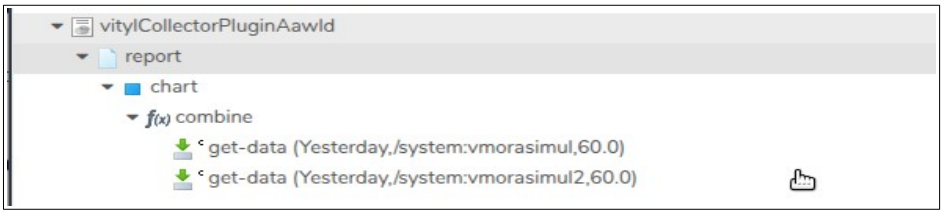
Two SID’s where already running being “ILINK02I” and “OASI”. You can see that it received the five SID’s from “vmorasimul” for a while and that these where transferred back. When stacking the systems together and selecting one SID you can see where it resided in the cluster.

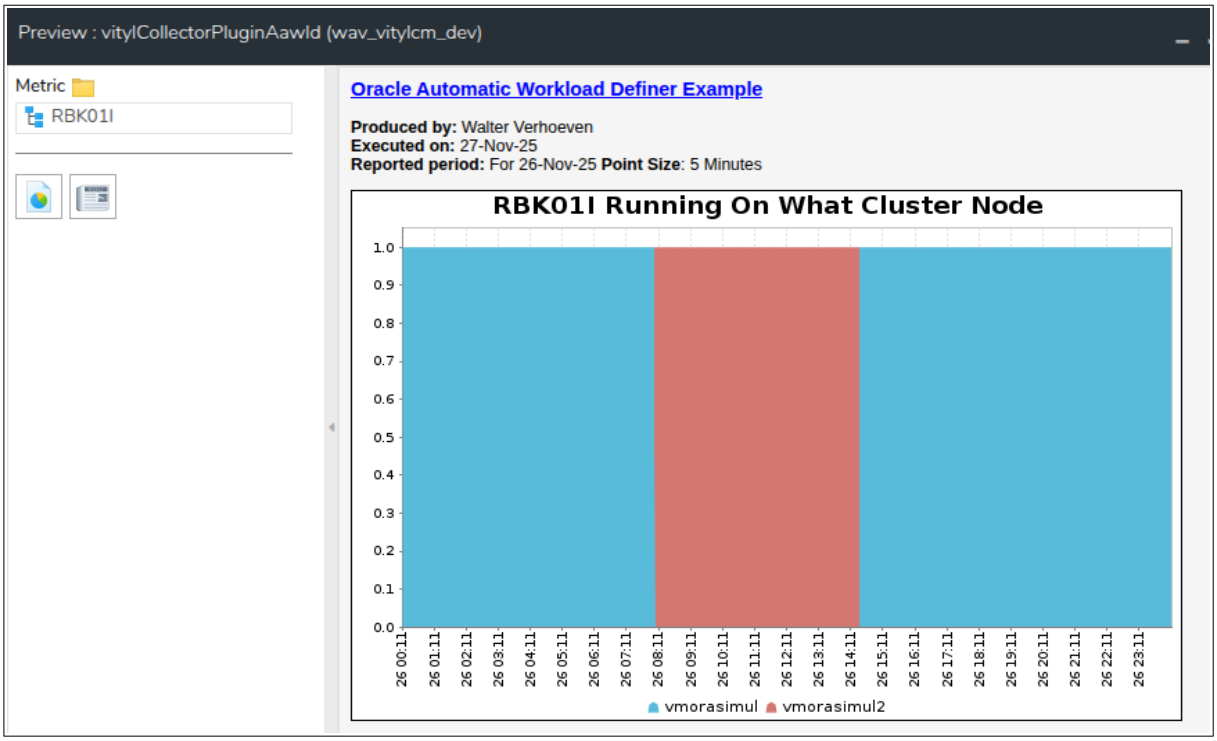


3.1.2 Automated Analytics

The Automated Analytics engine allows you to create custom reports for automated analysis and reporting which can be scheduled and emailed or published in a portal called Report Navigator.

This report example allows you to select an Oracle SID and get an overview of on what server it ran at what time.

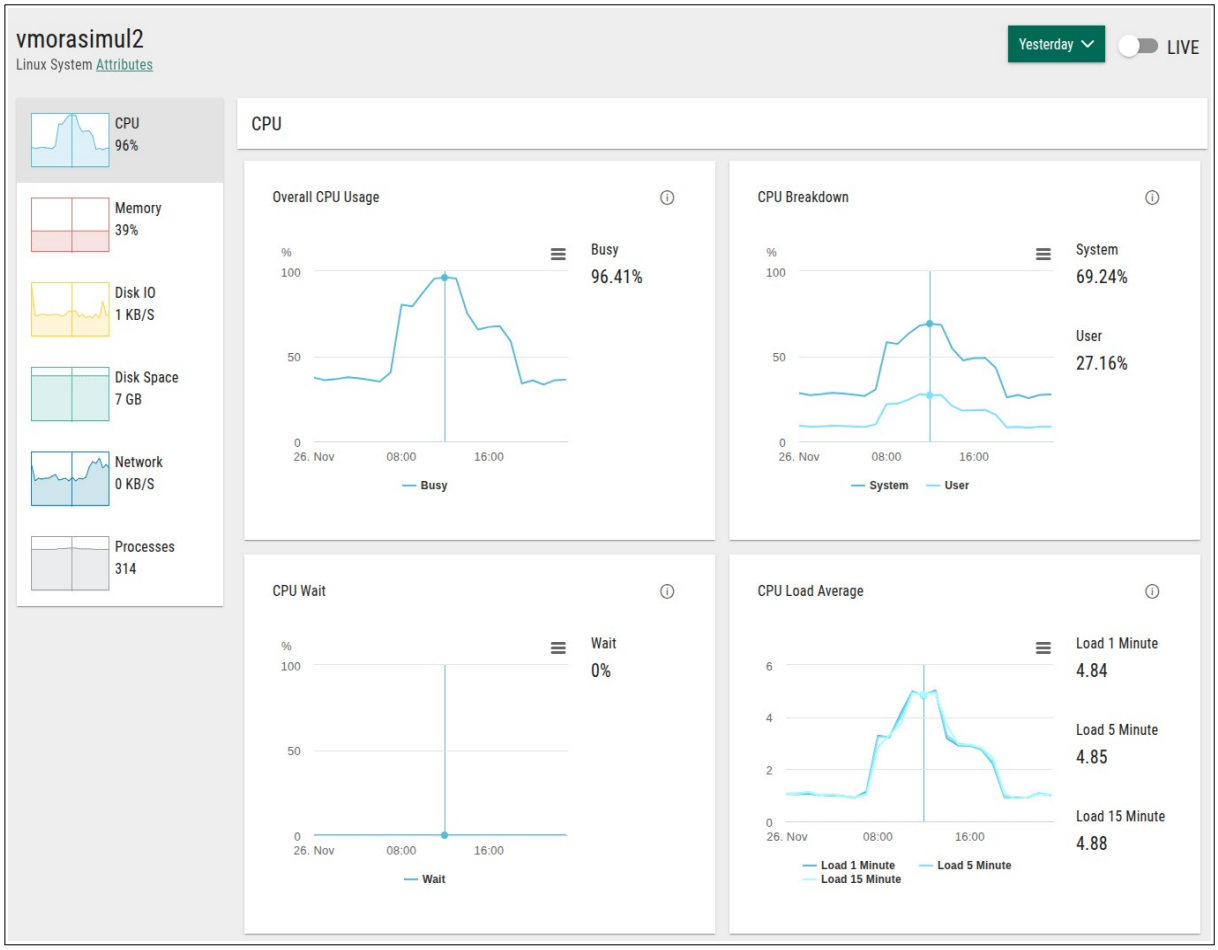




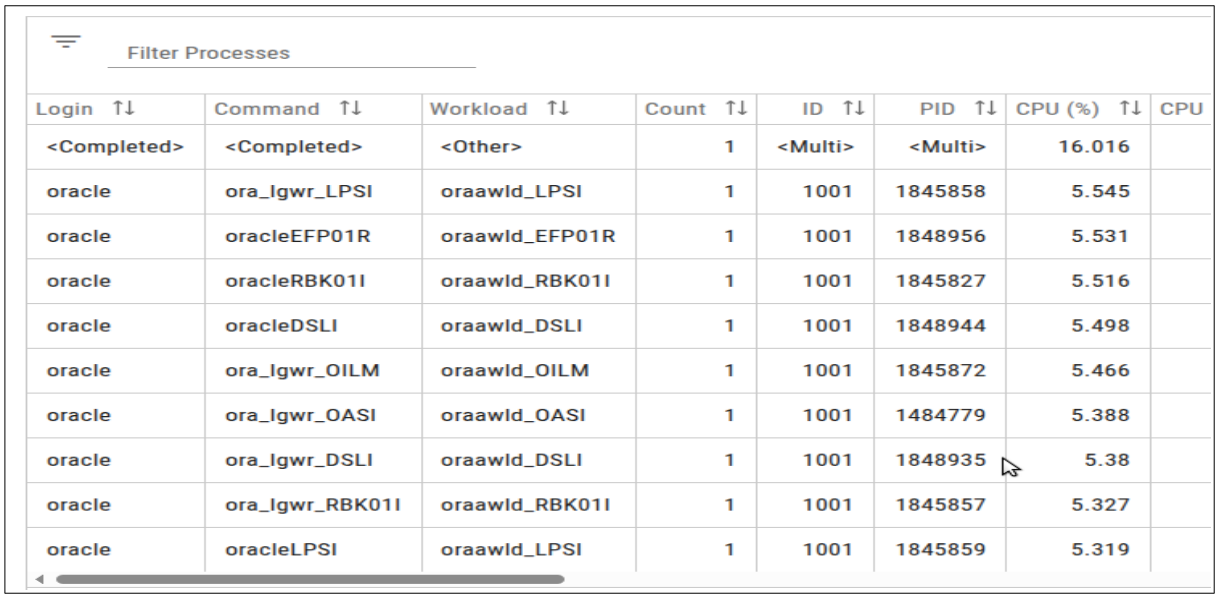
3.2 What Resources Are The Oracle Instances Consuming

3.2.1 Performance Monitor

Since we use the Workload statistics capability of Vityl Collector it is possible to drill down towards Oracle instance processes resources load and the corresponding Workload categorization.



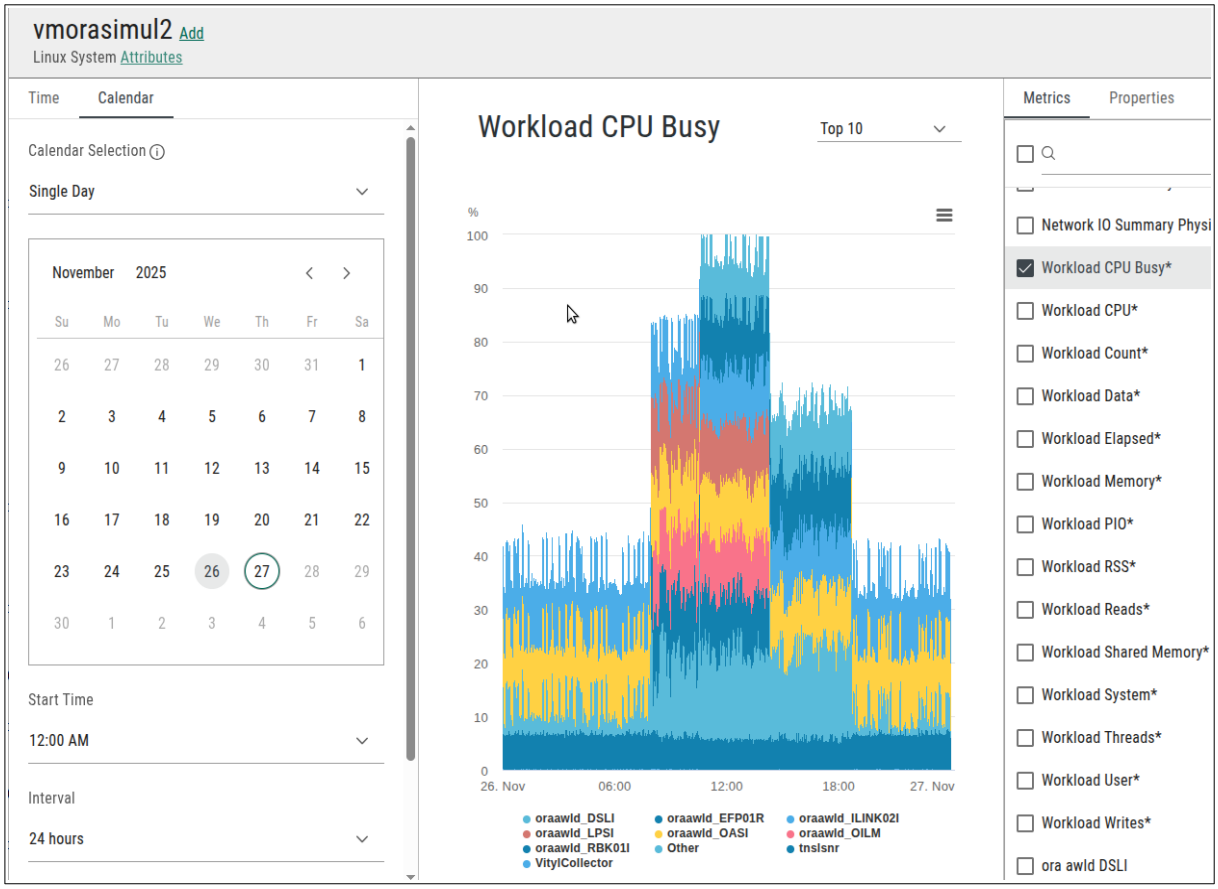
Select the server and the overview type of metrics, here you can select a point of interest and drill down towards process level to see what process is responsible for CPU, I/O or Memory consumption for example.



Login	Command	Workload	Count	ID	PID	CPU (%)	CPU
<Completed>	<Completed>	<Other>	1	<Multi>	<Multi>	16.016	
oracle	ora_lgwr_LPSI	oraawld_LPSI	1	1001	1845858	5.545	
oracle	oracleEFP01R	oraawld_EFP01R	1	1001	1848956	5.531	
oracle	oracleRBK01I	oraawld_RBK01I	1	1001	1845827	5.516	
oracle	oracleDSLI	oraawld_DSLI	1	1001	1848944	5.498	
oracle	ora_lgwr_OILM	oraawld_OILM	1	1001	1845872	5.466	
oracle	ora_lgwr_OASI	oraawld_OASI	1	1001	1484779	5.388	
oracle	ora_lgwr_DSLI	oraawld_DSLI	1	1001	1848935	5.38	
oracle	ora_lgwr_RBK01I	oraawld_RBK01I	1	1001	1845857	5.327	
oracle	oracleLPSI	oraawld_LPSI	1	1001	1845859	5.319	

At the same time there are specific Workload performance metrics that will become available too.

This is the CPU load by Oracle instance for yesterday for example. Other Workload metrics are also calculated and available for charting.

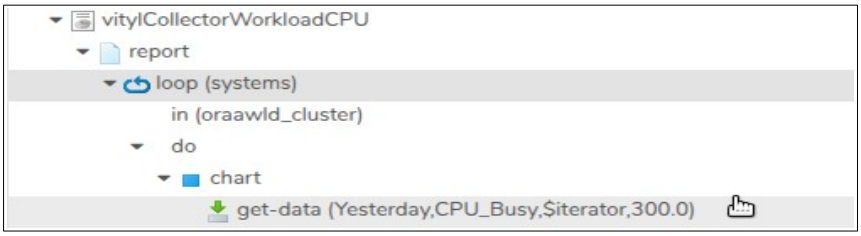


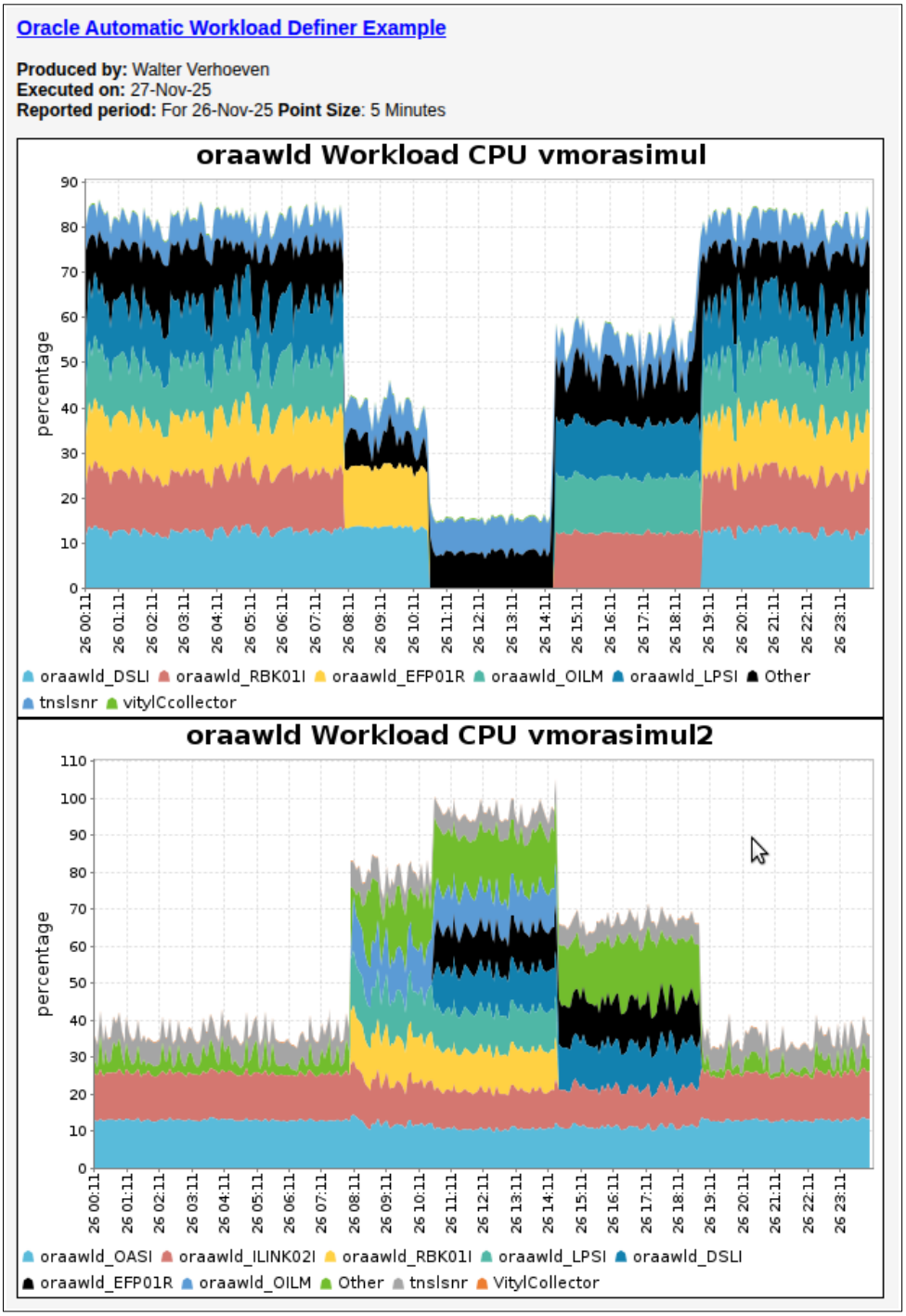
Remark that at the moment this server runs all seven Oracle Instances the CPU load reaches 100%.

3.2.2 Automated Analytics

The Automated Analytics engine allows you to create custom reports for automated analysis and reporting which can be scheduled and emailed or published in a portal called Report Navigator.

An example custom view to generate the CPU consumption by Oracle instances per system in the cluster looks like this.




Oracle Automatic Workload Definer Example
Produced by: Walter Verhoeven
Executed on: 27-Nov-25
Reported period: For 26-Nov-25 Point Size: 5 Minutes
oraawld Workload CPU vmorasimul
percentage
oraawld_DSLI oraawld_RBK01I oraawld_EFP01R oraawld_OILM oraawld_LPSI Other
tnslsnr vitylCcollector
oraawld Workload CPU vmorasimul2
percentage
oraawld_OASI oraawld_ILINK02I oraawld_RBK01I oraawld_LPSI oraawld_DSLI
oraawld_EFP01R oraawld_OILM Other tnslsnr VitylCollector

-END-