



Oracle Cloud Infrastructure IPAM Support on Avi Vantage

Avi Technical Reference (v20.1)

Oracle Cloud Infrastructure IPAM Support on Avi Vantage

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Overview

Starting with release 18.1.3, Avi Vantage supports integration with Oracle Cloud Infrastructure via Linux server cloud. For the integration, Avi Vantage uses the OCI IPAM feature. The following are a few limitations of the Oracle cloud integration with Avi Vantage: * Only active/standby high availability mode on Avi Vantage is supported. * The IP address of virtual services and SEs should be on the same subnet. * Since SEs are in active/standby mode, each SE group can have only two SEs, and both should be on the same subnet. * Scale out on Avi Vantage is not supported.

Note: Starting with Avi Vantage 18.2.6, Oracle hierarchical compartments are supported.

Configuring OCI with Avi Vantage

This section covers the following sections: * Configuring OCI credentials * Configuring OCI IPAM * Creating a Linux Server Cloud using OCI IPAM profile * Creating a virtual service

Note: The proxy configuration on the Avi Controller is optional. This should be configured when the Avi Controller is placed in a proxy environment.

Configuring OCI Credentials

An OCI user is created using the `configure cloudconnectoruser <username>` command.

Login to the shell mode of the Avi CLI, execute the `configure cloudconnectoruser <username>` command, and provide the following details:

- `oci_credentials` to enter the mentioned submode
- `user ?` User OCID
- `key_content ?` Private key content for signing api (Replace every next line with character while copying the key content in quotes)
- `pass_phrase ?` Pass_phrase for the private key(only if key is encrypted)
- `fingerprint ?` Fingerprint generated after adding the public key at OCI console

Once the attributes are provided, apply the `save` command twice to save the changes.

```
admin@10-0-0-77:~$ shell
Login: admin
Password:

[admin:10-0-0-77]: > configure cloudconnectoruser ocuser
[admin:10-0-0-77]: cloudconnectoruser> oci_credentials
fingerprint  API key with respect to the Public Key
key_content  Private Key file (pem file) content
pass_phrase  Pass phrase for the key
user        Oracle Cloud Id for the User
[admin:10-0-0-77]: cloudconnectoruser> oci_credentials
```

Once the required attributes are provided, the output for the `show cloudconnectoruser ocuser` is as shown below:

```

admin@10-0-0-77:~$ shell
Login: admin
Password:

[admin:10-0-0-77]: > show cloudconnectoruser ocuser
+-----+-----+
| Field          | Value                               |
+-----+-----+
| uuid           | cloudconnectoruser-76d0f3a2-0af1-4d9f-aba9-4c590bfcf714 |
| name           | ocuser                              |
| private_key    | <sensitive>                          |
| public_key     | ssh-rsa AAAAB3NzaClyc2EAAAADAQABAAQDANj6Md4Hp d2jLipbUXW9V9EULhU0rUpZTZYRknQxy |
|                | SB+FeyEcdyhSIMcf60QRAGEcaBnU8p9eNb+nuTS0Zo+SN8pLuGXzn16Bj5Uni4aqvbx+GQnZnjGoDfmT |
|                | q7TruMzm23Hbc2CWqBG/SnkgkLkg/O5BKJKbMap3T0o6RYRffJ6VUFY5c7rKkAt4SWMxQY1EQmecmAxu |
|                | Vz0sDdl3khiluGMKihRvTxNwdANTMqgx7kLwbJ5QKGUu0o1CjrxY9ybjUksYA+SZXGo0bCbLBb99pu |
|                | WmZDq669Lcxi6IHT9970g9YWcrRTSxNKvWux42I11/2E2ChZ6KdMD9B+66RV root@10-0-0-77 |
|                |                                         |
| oci_credentials |                                       |
|   user         | ocid1.user.oc1..aaaaaaaajrv3bnyvkgqstnjh6dhy7jgbayejmdrxwy4rzxjsklsouox2tuza |
|   key_content  | <sensitive>                          |
|   fingerprint | <sensitive>                          |
| tenant_ref     | admin                                |
+-----+-----+

[admin:10-0-0-77]: >

```

Configuring OCI IPAM

Create the IPAM profile using the OCI user created in the previous section. Login to the Avi shell mode, execute the `configure ipamdnsproviderprofile <profile name>` command, and provide the value for the following attributes: *** type ?** Set the value as `IPAMDNS_TYPE_OCI` *** oci_profile** *** tenancy** `$ndash; tenancy OCID` *** region** `? OCI region name` *** cloud_credentials_ref** `?The reference to the cloud connector user created in the previous section. Use the tab keystroke to list the users.` *** vcn_compartments_id** `? compartment OCID of the the VCN` *** vcn_id** `? VCN OCID`

```

admin@10-0-0-77:~$ shell
Login: admin
Password:

[admin:10-0-0-77]: > configure ipamdnsproviderprofile ocprof
[admin:10-0-0-77]: > configure ipamdnsproviderprofile ocprof2
[admin:10-0-0-77]: ipamdnsproviderprofile> type ipamdns_type_oci
cloud_credentials_ref  Credentials to access oracle cloud
region                 Region in which Oracle cloud resource resides
tenancy                Oracle Cloud Id for tenant aka root compartment
vcn_compartments_id   Oracle cloud compartment id in which VCN resides
vcn_id                 Virtual Cloud network id where virtual ip will belong

```

Once the required attributes are provided, the output of the `show ipamdnsproviderprofile <profile name>` command is as shown below:

```
[admin:10-0-0-77]: > show ipamdnsproviderprofile prof1
+-----+
| Field          | Value                                                                 |
+-----+-----+
| uuid           | ipamdnsproviderprofile-d67ad96c-8bbf-48ff-ab40-5580621c1c69         |
| name           | prof1                                                                  |
| type           | IPAMDNS_TYPE_OCI                                                     |
| oci_profile    |                                                                       |
|   tenancy      | ocid1.tenancy.oc1..aaaaaaay7s6icq755xqlytpl33i7ysjzzb2kv3vk3itg5ilsxanrzqmsaha |
|   region       | us-phoenix-1                                                           |
|   cloud_credentials_ref | ocuser                                                                |
|   vcn_compartment_id | ocid1.compartment.oc1..aaaaaaa5trt72k3smsky7fz27gqlucbfa2lmynshky4hl14r7gom6wcph |
|   mrq          |                                                                       |
|   vcn_id       | ocid1.vcn.oc1.phx.aaaaaaaangx3fookzumhck3st5obrruwsxmigt2ic7zoharlhwi262gla |
|   allocate_ip_in_vrf | False                                                                  |
|   tenant_ref   | admin                                                                  |
+-----+-----+
[admin:10-0-0-77]: >
```

Creating a Linux Server Cloud Using OCI IPAM Profile

Create a Linux server cloud, and associate the OCI IPAM profile (prof1) created in the previous section to the cloud configuration.

For configuring a Linux server cloud, refer to [Installing Avi Vantage for Linux Server Cloud](#).

Creating a Virtual Service

Before creating a virtual service, make sure that the active/standby high availability mode must be set for the SE Group in which the virtual service will be placed.

Login to the `shell` mode for the Avi CLI, execute the `configure virtualservice <virtual service name>` command, and provide the following attributes: * `pool_ref ? pool name/reference`. Use `tab` for listing the pools. * `vip ?` This is used to enter submode * `auto_allocate_ip ?` Set the value as `true` * `auto_allocate_ip_type ?` Provide the value as `v4_only` * `subnet_uuid: Subnet for the OCID`

Use the Avi REST API mentioned below to get the available subnets in the configured VCN.

```
https://<controller_ip>/api/networksubnetlist/?include_name&sort=name&auto_allocate_only=true&cloud_uuid=<cloud_uuid>&f
```

- save
- services
- port ? port number
- save
- cloud-ref
- se-group-ref

```
[admin:10-0-0-77]: > configure virtualservice vs2
[admin:10-0-0-77]: virtualservice> pool_ref pool1
[admin:10-0-0-77]: virtualservice> vip auto_allocate_ip
auto_allocate_ip          Auto-allocate VIP from the provided subnet.
auto_allocate_ip_type     Specifies whether to auto-allocate only a V4 address, only a V6 address, or one of each type
[admin:10-0-0-77]: virtualservice> vip auto_allocate_ip
auto_allocate_ip          Auto-allocate VIP from the provided subnet.
auto_allocate_ip_type     Specifies whether to auto-allocate only a V4 address, only a V6 address, or one of each type
[admin:10-0-0-77]: virtualservice> vip subnet_uuid
[admin:10-0-0-77]: virtualservice> save
[admin:10-0-0-77]: virtualservice> services port 80
[admin:10-0-0-77]: virtualservice> save
[admin:10-0-0-77]: virtualservice> save
```

Once the values of all the required attributes are provided and saved, the output for the `show virtualservice <virtual service name>` is as shown below:

```
[admin:10-0-0-77]: > show virtualservice vs1
+-----+
| Field                               | Value                                     |
+-----+-----+
| uuid                                | virtualservice-431ef6ae-4734-4a68-8739-d97592093f90 |
| name                                 | vs1                                       |
| enabled                              | True                                      |
| services[1]                          |                                           |
|   port                               | 80                                        |
|   enable_ssl                          | False                                     |
|   port_range_end                      | 80                                        |
| application_profile_ref               | System-HTTP                              |
| network_profile_ref                   | System-TCP-Proxy                          |
| pool_ref                               | pool1                                      |
| se_group_ref                           | Default-Group                             |
| network_security_policy_ref            | vs-vs1-Default-Cloud-ns                   |
| analytics_policy                       |                                           |
|   full_client_logs                    |                                           |
|   enabled                              | False                                     |
|   duration                             | 0 min                                      |
|   all_headers                          | False                                     |
|   throttle                             | 10 per_second                             |
| client_insights                       | NO_INSIGHTS                               |
| metrics_realtime_update                |                                           |
|   enabled                              | False                                     |
|   duration                             | 0 min                                      |
| udf_log_throttle                       | 10 per_second                             |
| significant_log_throttle               | 10 per_second                             |
|   enabled                              | True                                       |
| vrf_context_ref                       | global                                    |
| enable_autogw                          | True                                       |
```

```

| analytics_profile_ref      | System-Analytics-Profile
| weight                    | 1
| delay_fairness            | False
| max_cps_per_client        | 0
| limit_doser               | False
| type                      | VS_TYPE_NORMAL
| cloud_type                | CLOUD_LINUXSERVER
| use_bridge_ip_as_vip     | False
| flow_dist                 | LOAD_AWARE
| ign_pool_net_reach       | False
| ssl_sess_cache_avg_size  | 1024
| remove_listening_port_on_vs_down | False
| close_client_conn_on_config_update | False
| bulk_sync_kvcache        | False
| tenant_ref                | admin
| cloud_ref                 | Default-Cloud
| east_west_placement      | False
| scaleout_ecmp            | False
| active_standby_se_tag    | ACTIVE_STANDBY_SE_1
| flow_label_type          | NO_LABEL
| vip[1]
|   vip_id                  | 0
|   ip_address              | 10.0.0.89
|   enabled                 | True
|   network_ref             | ocid1.subnet.oc1.phx.aaaaaaaao2set67ympabx73rau22xelyqm2gkx4udoiyuns33ypf6aaq2c
|                           | a
|   port_uuid              | ocid1.vnic.oc1.phx.abyhq1jsijfgpsfw4rrcm4ddacwlsxatfn45xzghbntwyjz12ednurevibzq
|   subnet_uuid            | ocid1.subnet.oc1.phx.aaaaaaaao2set67ympabx73rau22xelyqm2gkx4udoiyuns33ypf6aaq2c
|                           | a
|   subnet                  | 10.0.0.0/24
|   auto_allocate_ip       | True
|   auto_allocate_floating_ip | False
|   avi_allocated_vip      | True
|   avi_allocated_fip      | False
|   ipam_network_subnet
|     network_ref          | ocid1.subnet.oc1.phx.aaaaaaaao2set67ympabx73rau22xelyqm2gkx4udoiyuns33ypf6aaq2c
|                           | a
|     subnet                | 10.0.0.0/24
|     subnet_uuid          | ocid1.subnet.oc1.phx.aaaaaaaao2set67ympabx73rau22xelyqm2gkx4udoiyuns33ypf6aaq2c
|                           | a
|   auto_allocate_ip_type  | V4_ONLY
| vsvip_ref                 | vsvip-CDvjAK
| use_vip_as_snat          | False
| traffic_enabled           | True
+-----+
[admin:10-0-0-77]: >

```