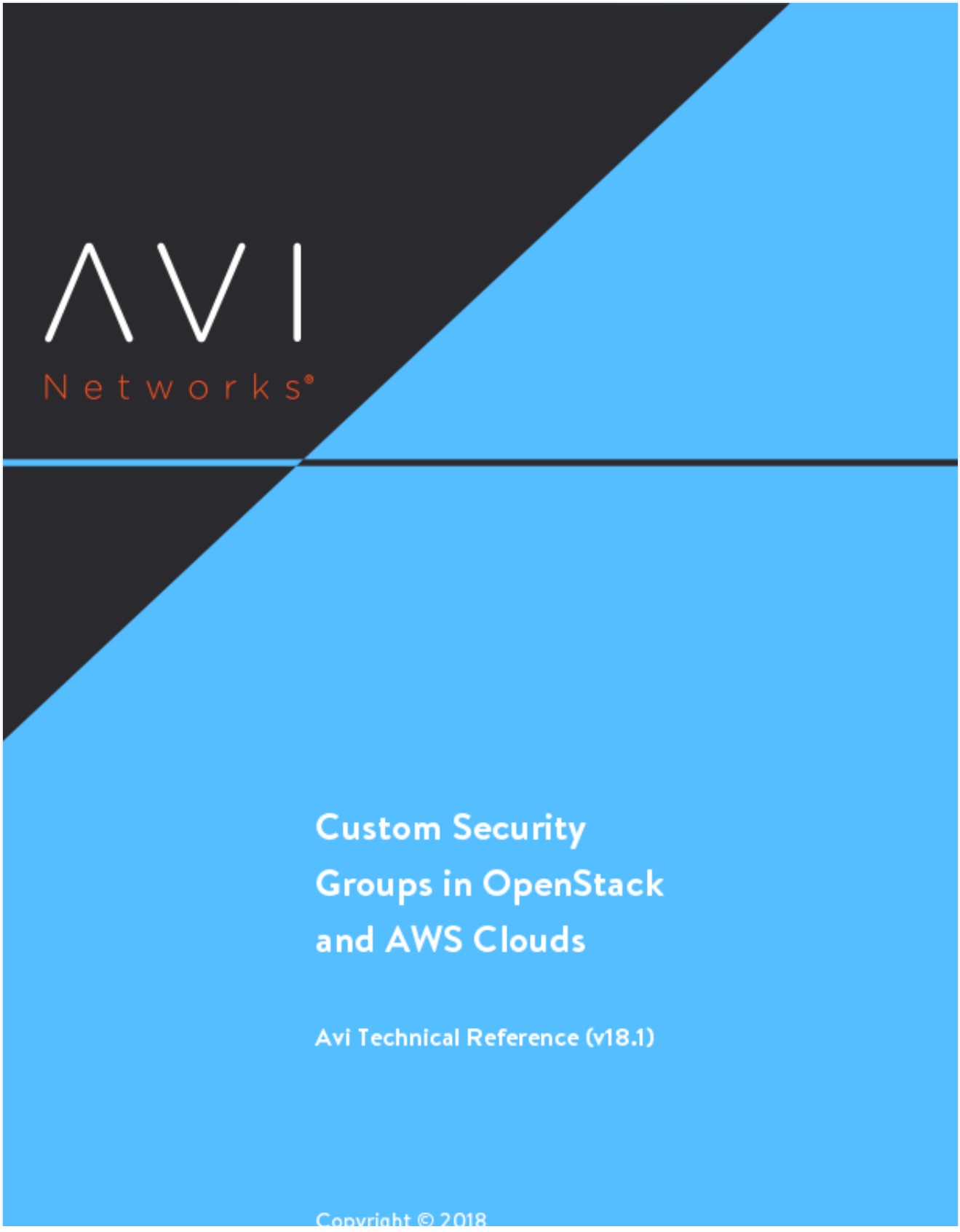
AVI
Networks®
Custom Security
Groups in OpenStack
and AWS Clouds
Avi Technical Reference (v18.1)
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Custom Security Groups in OpenStack and AWS Clouds

view online

By default, the Avi Controller creates and manages a single security group (SG) for an Avi Service Engine. This SG manages the ingress/egress rules for the SE?s management- and data-plane traffic. In certain customer environments, it may be required to provide custom SGs to be also be associated with the Avi SEs? management- and/or data-plane vNICs. Starting with release 17.1.3, this requirement can be satisfied. This article shows how to use the Avi SE group?s `custom_securitygroups_mgmt` and `custom_securitygroups_data` configuration flags to achieve this extra flexibility in OpenStack and AWS clouds, via the Avi UI and Avi CLI.

OpenStack Cloud

Without any custom security group configuration

```
[root@sivacos ~(keystone_admin)]# nova show a2354abc-0455-440b-ac0b-0b0e50bc66d2
+----------------------+-----------------------------------------------------------------------------------------------------
| Property             | Value
+----------------------+-----------------------------------------------------------------------------------------------------
...
| avimgmt network      | 172.24.16.4
| description          | Avi-se-pyhlh
| id                   | a2354abc-0455-440b-ac0b-0b0e50bc66d2
| image                | Avi-SE-17.1.4-9000-cloud-15190a62-e284-4033-8800-70c27c452bad-cluster-143b2840-19b6-409d-918c
| metadata             | {"AVICNTRL": "10.10.22.44", ..."AVISG_UUID": "bccf43ca-e98d-483b-9bff-43ab5e8970f3", ...}
| name                 | Avi-se-pyhlh
| private network      | 10.0.0.10
| security_groups      | avi-se-a2354abc-0455-440b-ac0b-0b0e50bc66d2
| status               | ACTIVE
| tenant_id            | a6d878c0f7db40bf91ed1226e720460a
| xfrontend network    | 192.168.10.13
+----------------------+-----------------------------------------------------------------------------------------------------

[root@sivacos ~(keystone_admin)]# neutron port-show 9427350d-31d9-42d2-a2e5-53bef1e52475
+----------------------+-----------------------------------------------------------------------------------------------------
| Field                | Value
+----------------------+-----------------------------------------------------------------------------------------------------
| device_id            | a2354abc-0455-440b-ac0b-0b0e50bc66d2
| device_owner         | compute:None
| fixed_ips            | {"subnet_id": "a178c1f1-5cce-4f0a-ac1a-8277e26b085e", "ip_address": "172.24.16.4"}
| id                   | 9427350d-31d9-42d2-a2e5-53bef1e52475
| mac_address          | fa:16:3e:1d:ba:21
| name                 | Avi-Mgmt:cluster-143b2840-19b6-409d-918d-d92edc98b2e1:cloud-15190a62-e284-4033-8800-70c27c452
| network_id           | 27bd1f64-5a50-4189-98db-3265809ac71a
| security_groups      | bccf43ca-e98d-483b-9bff-43ab5e8970f3
| status               | ACTIVE
| tenant_id            | a6d878c0f7db40bf91ed1226e720460a
...
+----------------------+-----------------------------------------------------------------------------------------------------
```

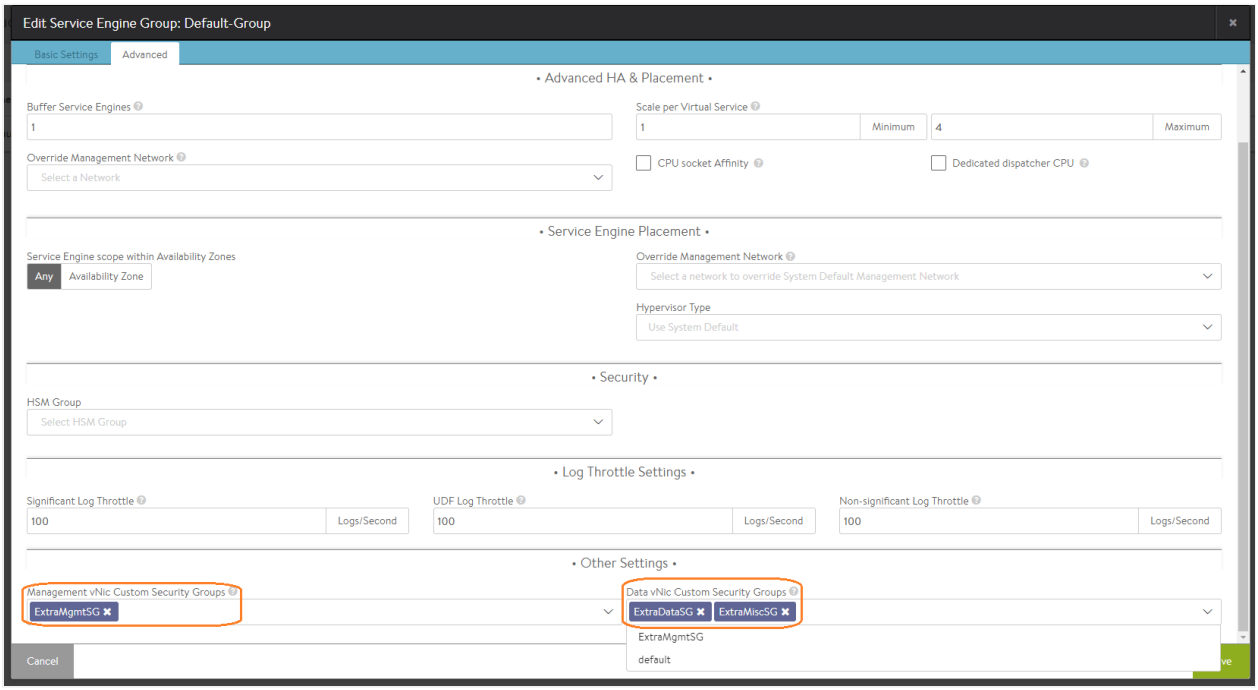
```
[root@sivacos ~(keystone_admin)]# neutron port-show 747d4110-c4d2-443e-8ee0-373702b4f4ec
+-----------------------+-------------------------------------------------------------------------------------------------
| Field                 | Value
+-----------------------+-------------------------------------------------------------------------------------------------
| device_id             | a2354abc-0455-440b-ac0b-0b0e50bc66d2
| device_owner          | compute:None
| fixed_ips             | {"subnet_id": "4e010951-eb90-43af-9bad-e578f1ac2f77", "ip_address": "10.0.0.10"}
| id                    | 747d4110-c4d2-443e-8ee0-373702b4f4ec
| mac_address           | fa:16:3e:fa:bd:ec
| name                  | Avi-Data:cluster-143b2840-19b6-409d-918d-d92edc98b2e1:cloud-15190a62-e284-4033-8800-70c27c452
| network_id            | a6669299-dccb-40a9-a0d2-4608aaea79c0
| security_groups       | bccf43ca-e98d-483b-9bff-43ab5e8970f3
| status                | ACTIVE
| tenant_id             | a6d878c0f7db40bf91ed1226e720460a
...
+-----------------------+-------------------------------------------------------------------------------------------------

[root@sivacos ~(keystone_admin)]# neutron port-show 16414cce-7eaf-4d58-bdb5-fa8169a4a8e2
+-----------------------+-------------------------------------------------------------------------------------------------
| Field                 | Value
+-----------------------+-------------------------------------------------------------------------------------------------
| device_id             | a2354abc-0455-440b-ac0b-0b0e50bc66d2
| device_owner          | compute:None
| fixed_ips             | {"subnet_id": "5b0d022b-33a2-42d9-873b-814ac2726e13", "ip_address": "192.168.10.13"}
| id                    | 16414cce-7eaf-4d58-bdb5-fa8169a4a8e2
| mac_address           | fa:16:3e:91:a3:24
| name                  | Avi-Data:cluster-143b2840-19b6-409d-918d-d92edc98b2e1:cloud-15190a62-e284-4033-8800-70c27c452
| network_id            | d36521da-8810-457e-95e5-a350143e61a4
| security_groups       | bccf43ca-e98d-483b-9bff-43ab5e8970f3
| status                | ACTIVE
| tenant_id             | a6d878c0f7db40bf91ed1226e720460a
...
+-----------------------+-------------------------------------------------------------------------------------------------
```

Custom security-group configuration via the Avi CLI:

```
[admin:10-10-22-44]: > configure serviceenginegroup Default-Group
[admin:10-10-22-44]: serviceenginegroup> custom_securitygroups_mgmt 30fe49a4-ee31-43a9-9235-e23d59e392b3
[admin:10-10-22-44]: serviceenginegroup> custom_securitygroups_data 2aba00a7-8b20-45d4-88f3-64b901b9e363
[admin:10-10-22-44]: serviceenginegroup> custom_securitygroups_data adcf99de-46d0-44e2-8f3b-037804f725f0
[admin:10-10-22-44]: serviceenginegroup> save
+-------------------------------------+---------------------------------------------------------+
| Field                               | Value                                                   |
+-------------------------------------+---------------------------------------------------------+
...
| custom_securitygroups_mgmt[1]       | 30fe49a4-ee31-43a9-9235-e23d59e392b3                    |
| custom_securitygroups_data[1]       | 2aba00a7-8b20-45d4-88f3-64b901b9e363                    |
| custom_securitygroups_data[2]       | adcf99de-46d0-44e2-8f3b-037804f725f0                    |
```

Custom security-group configuration via the Avi UI

Navigate to Applications -> Infrastructure -> Service Engine Group and invoke the SE group editor. Select the appropriate named custom security groups for the management vNIC and the data vNIC.



Resulting custom security group configuration

As viewed from the OpenStack UI

Avi-se-yynxn

Overview | Log | Console | Action Log

Name	Avi-se-yynxn
ID	6f6abba9-c4e5-4c26-a3aa-f87b02d62419
Status	Active
Availability Zone	nova
Created	July 20, 2017, 12:18 a.m.
Time Since Created	53 minutes
Host	sivacos.110

Specs

Flavor Name	m1.small
Flavor ID	2
RAM	2GB
VCPUs	1 VCPU
Disk	20GB

IP Addresses

Avimgmt	172.24.16.9
Xfrontend	192.168.10.6
Private	10.0.0.6

Security Groups

ExtraDataSG	• ALLOW IPv4 8888/tcp from 9458b260-173a • ALLOW IPv6 to ::/0 • ALLOW IPv4 80/tcp from ExtraDataSG • ALLOW IPv4 to 0.0.0.0/0 • ALLOW IPv4 9999/tcp from 0.0.0.0/0
ExtraMgmtSG	• ALLOW IPv4 to 0.0.0.0/0 • ALLOW IPv6 to ::/0
avi-se-6f6abba9-c4e5-4...	• ALLOW IPv4 22/tcp from 0.0.0.0/0 • ALLOW IPv4 icmp from 0.0.0.0/0 • ALLOW IPv4 to 0.0.0.0/0 • ALLOW IPv4 80/tcp from 0.0.0.0/0 • ALLOW IPv6 to ::/0
ExtraMiscSG	• ALLOW IPv4 to 0.0.0.0/0 • ALLOW IPv6 to ::/0

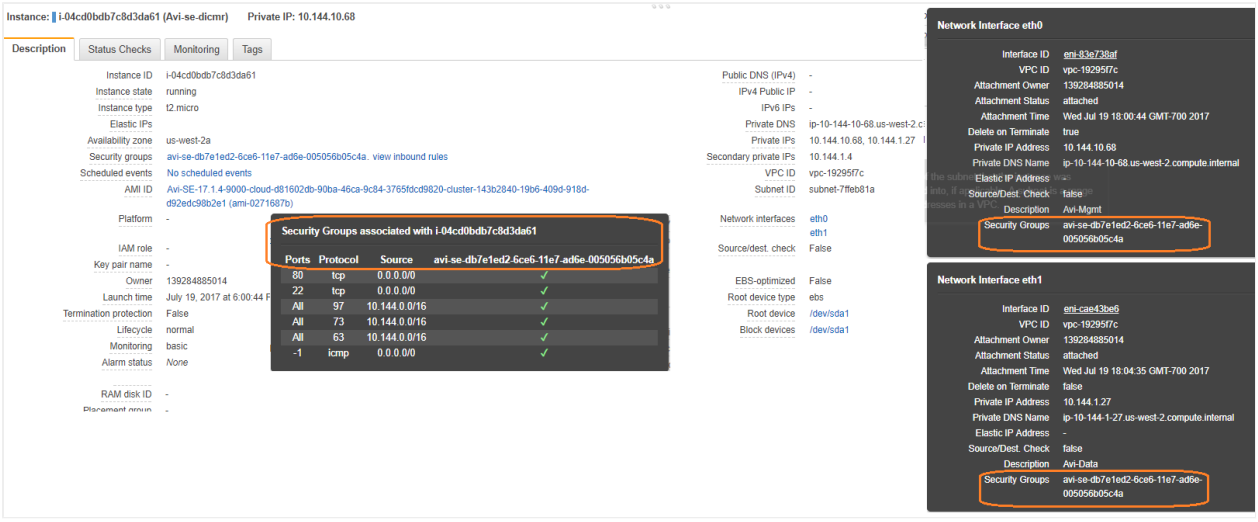
As viewed from the OpenStack CLI

```
[root@sivacos ~(keystone_admin)]# nova show 6f6abba9-c4e5-4c26-a3aa-f87b02d62419
+----------------------+--------------------------------------------------------------------------------------------------
| Property             | Value
+----------------------+--------------------------------------------------------------------------------------------------
...
| avimgmt network      | 172.24.16.9
| description          | Avi-se-yynxn
| id                   | 6f6abba9-c4e5-4c26-a3aa-f87b02d62419
| image                | Avi-SE-17.1.4-9000-cloud-15190a62-e284-4033-8800-70c27c452bad-cluster-143b2840-19b6-409d-918d
| metadata             | {"AVICNTRL": "10.10.22.44", "AVISG_UUID": "3d13ee89-5069-4dd2-a505-b6d7032bea9e", ..}
| name                 | Avi-se-yynxn
| private network      | 10.0.0.6
| security_groups      | ExtraDataSG, ExtraMgmtSG, ExtraMiscSG, avi-se-6f6abba9-c4e5-4c26-a3aa-f87b02d62419
| status               | ACTIVE
| tenant_id            | a6d878c0f7db40bf91ed1226e720460a
| xfrontend network    | 192.168.10.6
+----------------------+--------------------------------------------------------------------------------------------------

[root@sivacos ~(keystone_admin)]# neutron port-show 51783401-f174-4240-93df-028564aeb54b
+----------------------+--------------------------------------------------------------------------------------------------
| Field                | Value
+----------------------+--------------------------------------------------------------------------------------------------
| device_id            | 6f6abba9-c4e5-4c26-a3aa-f87b02d62419
| device_owner         | compute:None
| fixed_ips            | {"subnet_id": "5b0d022b-33a2-42d9-873b-814ac2726e13", "ip_address": "192.168.10.6"}
| id                   | 51783401-f174-4240-93df-028564aeb54b
| mac_address          | fa:16:3e:50:7a:73
| name                 | Avi-Data:cluster-143b2840-19b6-409d-918d-d92edc98b2e1:cloud-15190a62-e284-4033-8800-70c27c452
| network_id           | d36521da-8810-457e-95e5-a350143e61a4
| security_groups      | 2aba00a7-8b20-45d4-88f3-64b901b9e363
|                      | 3d13ee89-5069-4dd2-a505-b6d7032bea9e
|                      | adcf99de-46d0-44e2-8f3b-037804f725f0
| status               | ACTIVE
| tenant_id            | a6d878c0f7db40bf91ed1226e720460a
...
+----------------------+--------------------------------------------------------------------------------------------------

[root@sivacos ~(keystone_admin)]# neutron port-show 69bb1115-7e1d-474d-97b7-178d25a2dbe6
+----------------------+--------------------------------------------------------------------------------------------------
| Field                | Value
+----------------------+--------------------------------------------------------------------------------------------------
| device_id            | 6f6abba9-c4e5-4c26-a3aa-f87b02d62419
| device_owner         | compute:None
| fixed_ips            | {"subnet_id": "4e010951-eb90-43af-9bad-e578f1ac2f77", "ip_address": "10.0.0.6"}
| id                   | 69bb1115-7e1d-474d-97b7-178d25a2dbe6
| mac_address          | fa:16:3e:91:92:38
| name                 | Avi-Data:cluster-143b2840-19b6-409d-918d-d92edc98b2e1:cloud-15190a62-e284-4033-8800-70c27c452
| network_id           | a6669299-dccb-40a9-a0d2-4608aaea79c0
```

```
| security_groups       | 2aba00a7-8b20-45d4-88f3-64b901b9e363
|                       | 3d13ee89-5069-4dd2-a505-b6d7032bea9e
|                       | adcf99de-46d0-44e2-8f3b-037804f725f0
| status                | ACTIVE
| tenant_id             | a6d878c0f7db40bf91ed1226e720460a
...
+---------------------+-------------------------------------------------------------------------------------------------

[root@sivacos ~(keystone_admin)]# neutron port-show ca8c572e-f430-4176-87e0-780c81e82b91
+---------------------+-------------------------------------------------------------------------------------------------
| Field                 | Value
+---------------------+-------------------------------------------------------------------------------------------------
| device_id             | 6f6abba9-c4e5-4c26-a3aa-f87b02d62419
| device_owner          | compute:None
| fixed_ips             | {"subnet_id": "a178c1f1-5cce-4f0a-ac1a-8277e26b085e", "ip_address": "172.24.16.9"}
| id                    | ca8c572e-f430-4176-87e0-780c81e82b91
| mac_address           | fa:16:3e:c2:42:d1
| name                  | Avi-Mgmt:cluster-143b2840-19b6-409d-918d-d92edc98b2e1:cloud-15190a62-e284-4033-8800-70c27c452
| network_id            | 27bd1f64-5a50-4189-98db-3265809ac71a
| security_groups       | 30fe49a4-ee31-43a9-9235-e23d59e392b3
|                       | 3d13ee89-5069-4dd2-a505-b6d7032bea9e
| status                | ACTIVE
| tenant_id             | a6d878c0f7db40bf91ed1226e720460a
...
+---------------------+-------------------------------------------------------------------------------------------------
```

AWS Cloud

Without any custom security group configuration



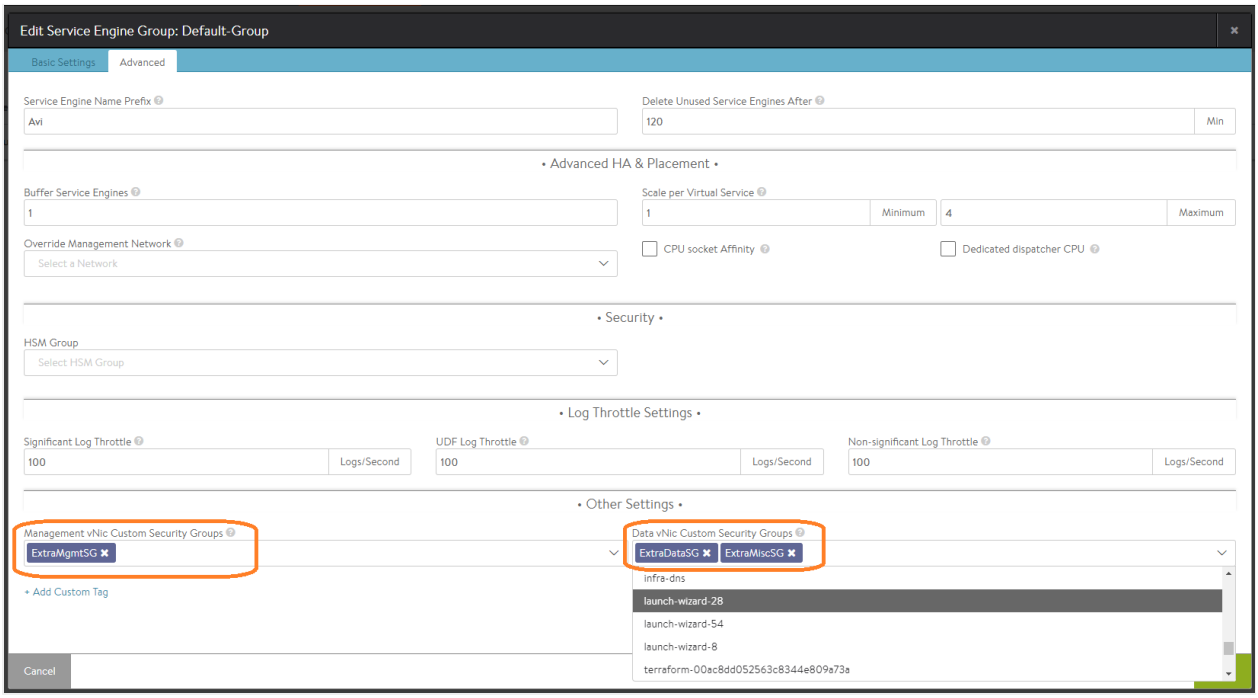
Custom security group configuration via the Avi CLI

```
[admin:10-10-22-44]: > configure serviceenginegroup Default-Group
[admin:10-10-22-44]: serviceenginegroup> custom_securitygroups_mgmt sg-5c902726
```

```
[admin:10-10-22-44]: serviceenginegroup> custom_securitygroups_data sg-4b9d2a31
[admin:10-10-22-44]: serviceenginegroup> custom_securitygroups_data sg-b99c2bc3
[admin:10-10-22-44]: serviceenginegroup> save
+--------------------------------------+---------------------------------------------------------+
| Field                                | Value                                                   |
+--------------------------------------+---------------------------------------------------------+
...
| custom_securitygroups_mgmt[1]        | sg-5c902726                                             |
| custom_securitygroups_data[1]        | sg-4b9d2a31                                             |
| custom_securitygroups_data[2]        | sg-b99c2bc3
```

Custom security-group configuration via the Avi UI

Navigate to Applications -> Infrastructure -> Service Engine Group and invoke the SE group editor. Select the appropriate named custom security groups for the management vNIC and the data vNIC.



Resulting custom security group configuration as viewed from the AWS UI