# Recommended Computing Resources for Cisco SD-WAN Controller Release 20.7.x (Customer Cloud Hosted on Azure Deployment)

## Single Tenant

The supported hardware specifications for the Cisco vBond Orchestrator, Cisco vManage, and the Cisco vSmart Controller for Azure are as follows:

**Note** The controller and the device version should be the same, to achieve the below scale.

*Table 1: Cisco SD-WAN Manager Recommended Computing Resources*

| Devices | Aggregated Statistics from Edge Devices | Nodes and Deployment Models | vCPUs * | RAM* | Storage Size* | Azure Instance Sizing |
|---------|------------------------------------------|------------------------------|---------|------|---------------|-----------------------|
| **\*\* Cisco SD-WAN Application Intelligence Engine (SAIE) Disabled** | | | | | | |
| <250 | Disabled | One Node vManage (All Services) | 16 vCPUs | 32 GB RAM | 500 GB | Standard_F16s_v2 |
| 250-1000 | Disabled | One Node vManage (All Services) | 32 vCPUs | 64 GB RAM | 1 TB | Standard_F32s_v2 |
| 1000-1500 | Disabled | One Node vManage (All Services) | 32 vCPUs | 128 GB RAM | 1 TB | Standard_E64s_v2 |
| 1500-2000 | Disabled | Three Node vManage Cluster (All Services) | 32 vCPUs | 64 GB RAM | 1 TB | Standard_F32s_v2 |
| 2000-5000 | Disabled | Three Node vManage Cluster (All Services) | 32 vCPUs | 128 GB RAM | 1 TB | Standard_E64s_v2 |

| Devices | Aggregated Statistics from Edge Devices | Nodes and Deployment Models | vCPUs * | RAM* | Storage Size* | Azure Instance Sizing |
|---------|------------------------------------------|------------------------------|---------|------|---------------|-----------------------|
| 5000-7000 | Disabled | Six Node vManage Cluster (3 Nodes with ConfigDB) and all nodes messaging server, stats, and AppServer | 32 vCPUs | 128 GB RAM | 1 TB | Standard_D32s_v4 |
| **** Cisco SD-WAN Application Intelligence Engine (SAIE) Enabled** | | | | | | |
| <500 | 50 GB/Day | One Node vManage (All Services) | 32 vCPUs | 128 GB RAM | 10 TB | Standard_D32s_v4 |
| 500-2000 | 100 GB/Day | Three Node vManage Cluster (All Services) | 32 vCPUs | 128 GB RAM | 10 TB | Standard_D32s_v4 |
| 2000-7000 | 2.0 TB/Day** | Six Node vManage Cluster (3 Node with ConfigDB) and all nodes messaging server,Stats, and AppServer | 32 vCPUs | 128 GB RAM | 10 TB | Standard_D32s_v4 |

**Note**

- *For a larger dataset per day, run Stats on all the servers.

- ** Along with the SAIE, the Approute statistics are also considered in the recommendations.

* vCPU, RAM, and Storage Size numbers are on per Cisco vManage basis. The Storage Size numbers are the maximum tested values by Cisco, you can allocate smaller storage sizes.

To achieve scale beyond the above mentioned numbers, deploy multiple overlays.

**Note** In Cisco vManage Release 20.5.1 and earlier releases, You can modify the **DPI** size to the desired value to achieve the above mentioned storage size numbers.

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**Note** Starting from Cisco vManage Release 20.6.1, you can achieve the above mentioned storage size numbers by modifying the aggregated DPI size. The aggregated DPI size is unidimensional and varies when the deployment includes edge devices that run on a mix of releases (Cisco SD-WAN Release 20.6.x and earlier releases). The aggregated DPI also varies when on-demand troubleshooting is enabled for the devices.

Ensure that both the DPI and aggregated DPI index sizes are configured to enable on-demand troubleshooting.

To modify the aggregated DPI value,

1. From the **Cisco vManage** menu, choose **Administration** > **Settings**.

2. Click **Edit** next to **Statistics Database Configuration**.

3. Modify the **Aggregated DPI** size to the desired value based on your DPI traffic, the default disk size allocation is 5 GB.

**Note** When DPI is enabled, you must set the Statistics Collection timer to 30 minutes or higher.

To set the Statistics Collection timer,

1. From the **Cisco vManage** menu, choose **Administration** > **Settings**.

2. Click **Edit** next to **Statistics Configuration**.

3. Modify the **Collection Interval** minutes to the desired value based on your DPI traffic, the default collection interval is 30 minutes.

4. Click **Save**.

*Table 2: Cisco Catalyst SD-WAN Validator Recommended Computing Resources*

| Devices | vCPUs | RAM | OS Volume | vNICs | Azure Instance Sizing |
|---------|-------|-----|-----------|-------|------------------------|
| 1-50 | 2 | 4 GB | 10 GB | 2 (one for tunnel interface, one for management) | Standard_F4s_v2 |
| 51-250 | 2 | 4 GB | 10 GB | 2 (one for tunnel interface, one for management) | Standard_F4s_v2 |
| 251-1000 | 2 | 4 GB | 10 GB | 2 (one for tunnel interface, one for management) | Standard_F4s_v2 |
| 1001 -1500 | 4 | 8 GB | 10 GB | 2 (one for tunnel interface, one for management) | Standard_F4s_v2 |

*Table 3: Cisco Catalyst SD-WAN Controller Recommended Computing Resources*

| Devices | vCPUs | RAM | OS Volume | vNICs | Azure Instance Sizing |
|---------|-------|-----|-----------|-------|------------------------|

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| 1-50 | 2 | 4 GB | 16 GB | 2 (one for tunnel interface, one for management) | Standard_F2s_v2 |
|---|---|---|---|---|---|
| 51-250 | 4 | 8 GB | 16 GB | 2 (one for tunnel interface, one for management) | Standard_F4s_v2 |
| 251-1000 | 4 | 16 GB | 16 GB | 2 (one for tunnel interface, one for management) | Standard_F8s_v2 |
| 1001 -1500 | 8 | 16 GB | 16 GB | 2 (one for tunnel interface, one for management) | Standard_F8s_v2 |

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