

Recommended Computing Resources for Cisco SD-WAN Controller Release 20.1.x and earlier releases

Single Tenant

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

Note For cloud deployments, the Cisco operation teams actively monitor the customer deployment and add resource in collaboration with the customer. This topic does not include recommendations for Cisco cloud deployments.

Table 1: Cisco SD-WAN Manager Computing Resources

Devices	vCPUs	RAM	OS Volume	Storage Size	Bandwidth	vNICs
1-250	16	32 GB	25 GB for Cisco vManage Release 20.3.1 and later, or 20 GB for earlier Cisco SD-WAN Manager releases	500 GB, 1500 IOPS	25 Mbps	3 (one for tunnel interface, one for management, one for the Cisco SD-WAN Manager cluster message bus)
251-1000	32	64 GB	25 GB for Cisco vManage Release 20.3.1 and later, or 20 GB for earlier Cisco SD-WAN Manager releases	1 TB, 3072 IOPS	100 Mbps	3 (one for tunnel interface, one for management, one for the Cisco SD-WAN Manager cluster message bus)
1001 -1500	32	64 GB	25 GB for Cisco vManage Release 20.3.1 and later, or 20 GB for earlier Cisco SD-WAN Manager releases	1 TB, 3072 IOPS	150 Mbps	3 (one for tunnel interface, one for management, one for the Cisco SD-WAN Manager cluster message bus)

Points to consider:

- The system selected to run Cisco vManage must satisfy the storage throughput requirement.
- The operating system and the database volumes must be on a drive that supports Transactions per second (TPS) throughput based on the above-mentioned vCPU values.
- Don't oversubscribe vCPU and memory. However, an oversubscription of 2:1 on vCPU to pCPU (physical CPU) can be supported when your overlay has fewer than 250 devices.
- We recommend a 10-Gbps interface for production.
- We recommend three network interfaces —one for tunnel, one for management, and one for the Cisco vManage cluster message bus.
- With hyperthreading enabled on CPU, an oversubscription of 4:1 on pCPUs to total number of threads is supported for fewer than 250 devices. For example, a Cisco UCS-C220-M4S server with two sockets, each with eight cores for a total of 16 physical cores can have hyperthreading enabled. Each processor has 16 logical CPUs for a total of 32 logical CPUs on both logical and physical processors (cores).
- If your overlay network has few devices, but if they generate large amounts of DPI or cflowd data, we recommend that you use the server recommendations given for 251-1000 devices or for 1001 or more devices.
- If DPI is enabled:



Note To disable DPI statistics collection, in Cisco vManage select **Administration** > **Settings** > **Statistics Setting** . Click **Edit**. Scroll to find DPI and choose **Disable All**.

  - In a three node Cisco SD-WAN Manager cluster, we recommend that each Cisco SD-WAN Manager have a minimum of 32 vCPUs, 64 GB of memory, and a 1 TB disk, and that aggregated DPI data across all Cisco SD-WAN Manager instances not exceed 100 GB per day.
  - In a six node Cisco SD-WAN Manager cluster, we recommend that each Cisco SD-WAN Manager have a minimum of 32 vCPUs, 64 GB of memory, and a 1 TB disk, and that aggregated DPI data across all Cisco SD-WAN Manager instances not exceed 750 GB per day.

- If DPI is disabled:
  - For a deployment of fewer than 1,500 nodes, a single Cisco SD-WAN Manager is required, although we recommend a cluster of three Cisco SD-WAN Manager instances for high availability. For a deployment of between 1,500 nodes and 4,499 nodes, a cluster of three Cisco SD-WAN Manager instances are required. Each Cisco SD-WAN Manager instance requires a minimum of 32 vCPUs, 64 GB of memory, and a 1 TB disk.

Table 2: Cisco Catalyst SD-WAN Validator Computing Resources

Devices	vCPUs	RAM	OS Volume	Bandwidth	vNICs
1-50	2	4 GB	10 GB	1 Mbps	2 (one for tunnel interface, one for management)
51-250	2	4 GB	10 GB	2 Mbps	2 (one for tunnel interface, one for management)

251-1000	2	4 GB	10 GB	5 Mbps	2 (one for tunnel interface, one for management)
1001 or more	4	8 GB	10 GB	10 Mbps	2 (one for tunnel interface, one for management)

Table 3: Cisco Catalyst SD-WAN Controller Computing Resources

Devices	vCPUs	RAM	OS Volume	Bandwidth	vNICs
1-50	2	4 GB	16 GB	2 Mbps	2 (one for tunnel interface, one for management)
51-250	4	8 GB	16 GB	5 Mbps	2 (one for tunnel interface, one for management)
251-1000	4	16 GB	16 GB	7 Mbps	2 (one for tunnel interface, one for management)
1001 or more	8	16 GB	16 GB	10 Mbps	2 (one for tunnel interface, one for management)

Points to Consider:

- The OS volume must be on a solid-state drive (SSD).
- If more than 1001 devices are present, the deployment of devices should not exceed 1500 OMP sessions per Cisco vSmart Controller.