

# Virtual Machine Requirements

# ARBOR NETWORKS SP

Arbor Networks® SP provides comprehensive network visibility and reporting capabilities to help you detect and understand availability threats, and improve traffic engineering, peering relationships and service performance. Furthermore, Arbor Networks SP has the flexibility to be deployed how and where you need it, when you need it.

## Benefits of Arbor Networks SP Virtual Machine deployments are:

- Cost effectively increases visibility at the network edge
- Flexibility for changing needs
- Scalable deployment as you grow
- Choice of form factor (Virtual Machine and/or appliance)
- Simple licensing
- Rapid deployment within virtualized infrastructure
- Powerful high availability and migration functionality leveraging VM tools

## Arbor Networks SP Resource Requirements for Virtual Machines

Hypervisor	VMware vSphere <sup>1</sup> Version 5.0, 5.1, 5.5	KVM QEMU Version 1.4.2	Xen Cloud Platform Version 1.6.10-61809c
<b>vCPUs</b>	8 to 32	8 to 32	8 to 15
<b>Network Interfaces</b>	1 to 10 network interfaces <sup>2</sup>	1 to 10 network interfaces <sup>2</sup>	1 to 10 network interfaces <sup>2</sup>
<b>Memory</b>	16, 24 or 32 GB	16, 24 or 32 GB	16, 24 or 32 GB
<b>Storage</b>	100 GB+	100 GB+	100 GB+

Note: Consult the product documentation for specific recommendations.

## Virtual Machine Sizing by Hypervisor

Hypervisor	VMware			KVM			Xen	
	8	16	32	8	16	32	8	15 <sup>3</sup>
<b>Flows Per Second</b>	110,000	280,000	300,000	110,000	240,000	300,000	120,000	120,000

<sup>1</sup> Use the default settings except for the following: Network Adapter: E1000; OS: Other Linux 32-bit; Storage: Thick Provisioned=Lazy Zeroed

<sup>2</sup> Arbor recommends no more than 2 VM instances per network interface.

<sup>3</sup> Only up to 15 cores supported on Xen.

## Recommendations

- Configure Arbor Networks SP for high availability by using vSphere HA or similar functionality
- When migrating Arbor Networks SP VMs leverage VMware's Vmotion or similar functionality
- Enable NTP (Network Time Protocol) on the VM host server
- Dedicate a network interface per Arbor Networks SP VM when possible
- Do not overprovision memory allocation



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## Qualified Platforms

Vendor and Model	Arbor Networks SP 7000	Cisco UCS B200 M3	Dell PowerEdge R720	HP ProLiant DL380p Gen8
<b>CPU</b>	2x E5-2648L v3 @ 1.8Ghz	2x E5-2609 @ 2.4 GHz	2x E5-2620 @ 2 GHz	2x E5-2670 @ 2.6 GHz
<b>CPU Cores<sup>4</sup></b>	24 (2 x 12)	16 (2 x 8)	8 (2 x 4) or 16 (2 x 8)	12 (2 x 6)
<b>RAM</b>	32 GB	64 GB	16 GB or 32 GB	64 GB
<b>Network Interfaces</b>	4 or 8 x 1 GigE; 2 x 10 GigE; or 2 x 10 GigE and 4 x 1 GigE	4 x 10G SFP+	6 x 1G copper	12 x 1G copper
<b>Storage<sup>5</sup></b>	6 x 480GB SSD	8 x 120GB SSD	4 x 480GB SSD	4 x 1TB 7.2K SAS
<b>Chassis (Size)</b>	Single Chassis (2RU)	Half-Width blade. 8 fit into 6RU Cisco UCS 5108 Blade Server Chassis	Single Chassis (2RU)	Single Chassis (2RU)
<b>Flows Per Second</b>	240,000	<i>Flows per second is dependent upon hypervisor and virtual machine sizing</i>		

<sup>4</sup> aa (bb x cc) expresses aa = number of physical CPUs; bb = number of cores per CPU; and cc = total number of CPU cores.

<sup>5</sup> Managed object data can be stored on multiple data storage devices/instances at the same time to provide redundancy.