



Vidyo[®]
Personal Telepresence

TECHNICAL NOTE

Virtual Machine Guidelines for Vidyo™ Servers

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Virtual Machine Guidelines for Vidyo™ Servers

General Virtual Machine Guidelines

The following changes to Vidyo's guidelines for running multiple virtual machines on a physical host are effective immediately for the Virtual Editions outlined in this document:

- Multiple Virtual Edition Vidyo Servers (of any combination) can be run on the same physical host.
- Virtual Edition Vidyo Servers can be run on hardware that is also running non-Vidyo virtual machines.

If you have an existing Virtual Edition software deployment, you can upgrade to newer software releases using the same hardware and virtual machine configurations. However, in order to be supported under the new guidelines (such as sharing physical hosts with multiple virtual machines), your virtual machines must adhere to the new virtual machine configurations outlined in this document.

The guidelines provided in this document apply to VMWare ESXi 5.0 and later. In the future, as additional virtualization platforms are tested, Vidyo will provide updated guidelines.

The Vidyo Server images will default to specific virtual machine configurations and resource reservation levels. After deploying the virtual machine and upgrading the application, the resource configurations and reservations should be changed according to the tables in the sections below to match the physical host speed and capacity desired.

Best Practices

Based on our testing, the following recommendations should be taken into account when planning a virtual infrastructure:

- Hypervisor: VMware vSphere ESXi Hypervisor software version 5.0 or later.
- Must be compliant with VMware qualified hardware list <http://www.vmware.com/resources/compatibility/search.php>.
- Requires Intel-based servers with a minimum Xeon 56xx Series at 2.0 GHz or faster, supporting Intel Westmere and newer architectures, with AES-NI and hyper-threading enabled.
- NIC: At least 1Gbps vNICs.
- The BIOS settings of the host machine must be set for maximum performance, including both CPU and memory settings.
- Ensure that the BIOS settings enable the Hyperthreading, Virtualization Technology (VT), and Extended Page Tables (EPT) options on all ESX hosts.
- We recommend that memory must be the highest rated speed specified by the host CPU, and all memory lanes of the CPUs must be populated with identical size and speed DIMMS.

- For 4+ socket systems, we recommend setting your CPU affinity to two adjacent packages to ensure that transcoding occurs on memory at most one node away.
- For large memory configurations (64 GB+), ensure that memory access is coalesced from multiple memory channels, e.g., by enabling bank interleaving in the BIOS.
- When running multiple virtual Vidyo Servers:
 - Maintain 15% - 30% of the physical hardware CPU capacity as unreserved when deploying multiple virtual machines on a physical host.
 - When deploying multiple VidyoRouters on the same physical host, ensure that you have sufficient network bandwidth. The physical host should have 1 Gbps Ethernet per 100-port VidyoRouter.
 - The physical host must use CPUs with at least 2.0 GHz in all cases, and in some cases higher CPU speeds are required (see the CPU resource reservation guidelines in the following sections for details).
 - Do not co-locate high availability pairs on the same physical host.

For proper performance, adhere strictly to the guidelines in the following sections.

VidyoGateway™

Starting with VidyoGateway version 3.2.0, the VidyoGateway will be available in a single Virtual Edition that dynamically enforces capacity limits based on the number of vCPU allocated. The following configurations are the only supported configurations:

VidyoGateway Capacity	VM Configuration			Resource Reservation		Physical Host
	vCPU	RAM [GB]	Storage [GB]	CPU [GHz]	RAM [GB]	Min. CPU speed [GHz]
1HD/ 2SD/4CIF/10 voice	2	2	50	4.5	2	2.6
2HD/1 FHD/4SD/8CIF/20 voice	4	2	50	9	2	2.6
2HD/1 FHD/4SD/8CIF/20 voice	6	2	50	9	2	2.0
4HD/2 FHD/9SD/15CIF/50 voice	8	8	50	18	6	2.6
5HD/2 FHD/15SD/25CIF/50 voice	12	8	50	27.5	6	2.4

To take advantage of the resources available in more powerful servers, multiple Virtual Edition VidyoGateways may be deployed on the same physical host. VidyoGateways of differing capacity may be added to the same cluster.

The above resource reservations assume “Gallery View” or “Active Speaker” layouts. If you plan to use “Continuous Presence” layout regularly, reserve 20% additional CPU.

VidyoRouter™

The VidyoRouter will continue to be offered as a Virtual Edition with the following configurations supported:

VidyoRouter Capacity	VM Configuration			Resource Reservation		Physical Host
	vCPU	RAM [GB]	Storage [GB]	CPU [GHz]	RAM [GB]	Min. CPU speed [GHz]
25	4	4	50	6	4	2.0
100	8	8	50	18	6	2.4

Multiple VidyoRouters may be run on the same physical host as long as there is at least 1Gb of Ethernet per 100 ports of VidyoRouter capacity.

These guidelines apply to VidyoRouter images VidyoRouter-302.5.001-x64-100.ova and VidyoRouter-302.5.001-x64-25.ova upgraded to software versions 3.0.5 (or newer 3.0.x), 3.2.1 (or newer 3.2.x), or 3.3.x.

VidyoPortal™

The VidyoPortal will be offered as a Virtual Edition with the following configurations supported:

VidyoPortal Capacity	VM Configuration			Resource Reservation		Physical Host
	vCPU	RAM [GB]	Storage [GB]	CPU [GHz]	RAM [GB]	Min. CPU speed [GHz]
10,000 Users; 1,000 Tenants	4	4	50	8	4	3.0
10,000 Users; 1,000 Tenants	8	4	50	8	4	2.0
1,000 Users; 100 Tenants	2	2	50	2	2	2.0

The Virtual Edition VidyoPortal may be run together with a VE VidyoRouter and/or VidyoGateway on the same physical host server for a low cost solution.

These guidelines apply to VidyoPortal image VidyoPortal-302.5.001.ova upgraded to software versions 3.0.5 (or newer 3.0.x), 3.2.1 (or newer 3.2.x), or 3.3.x.

Vidyo Server for Microsoft® Lync®

For version 1.0 of the Vidyo Server for Microsoft Lync, the following configuration is the only supported configuration:

Vidyo Server for Microsoft Lync Capacity	VM Configuration			Resource Reservation		Physical Host
	vCPU	RAM [GB]	Storage [GB]	CPU [GHz]	RAM [GB]	Min. CPU speed [GHz]
2HD/6SD/20 voice-only	6	8	50	16	6	2.6
2HD/6SD/20 voice-only	8	8	50	16	6	2.4

These guidelines apply to Vidyo Server for Microsoft Lync image VidyoServerForMSLync-100.69.004.ova running software version 1.0.0.

Example Configurations

Lab or Demo Configuration

- One Dell® R220, Intel® Xeon® E3-1286 v3 3.7 GHz 4Core, 16 GB RAM.
1 VidyoPortal (1,000 user) + 1 VidyoRouter (25 port) + 1 VidyoGateway (1 HD/2 SD/10 voice)

Small Business Configuration

- 2 Dell R220, Intel Xeon E3-1286 v3 3.7 GHz 4-Core, 16 GB RAM each with the following:
1 VidyoPortal (1,000 user) + 1 VidyoRouter (25 port) + 1 VidyoGateway (1HD/2SD/10voice)
 - VidyoPortals are Active/Standby pair.
 - VidyoGateways are clustered providing 2HD/4SD/20 voice aggregate capacity.
 - VidyoRouters provide 50 ports aggregate capacity.

Mid-Size Configuration

- 2 Dell R420, dual Intel Xeon E5-2470 v2 2.40 GHz 10-Core, 8 GB each with the following:
1 VidyoPortal (1,000 user) + 1 VidyoRouter (100 port) + 1 VidyoGateway (6vCPU, 2HD/4SD/20 voice)
- 1 Dell R620, dual Intel Xeon E5-2667 v2 3.30 GHz 8-Core, 16 GB with the following:
2 x VidyoGateway (4HD/9SD/50 voice)
 - VidyoPortals are Active/Standby pair.
 - VidyoRouter aggregate capacity 200 ports.
 - VidyoGateway aggregate port capacity 8HD/17SD/90 voice

Contacting Technical Support

If you are a Vidyo Reseller or Vidyo End User with “Plus” coverage, please feel free to contact the Vidyo Customer Support team via email with any questions or if you need assistance.

- Phone: +1-866-99-VIDYO / +1-201-289-8597
- Email: support@vidyo.com

If you are a Vidyo End User without “Plus” coverage, please contact your Vidyo Reseller for further details.