Virtual machine network throughput

Azure offers a variety of virtual machine sizes and types, each with a different mix of performance capabilities. Among those performance capabilities is network throughput (or bandwidth), measured in megabits per second (Mbps). Because virtual machines are hosted on shared hardware, the network capacity must be shared fairly among the virtual machines sharing the same hardware. Larger virtual machines are allocated relatively more bandwidth than smaller virtual machines.

The network bandwidth allocated to each virtual machine is metered on egress (outbound) traffic from the virtual machine. All network traffic leaving the virtual machine is counted toward the allocated limit, regardless of destination. For example, if a virtual machine has a 1,000 Mbps limit, that limit applies whether the outbound traffic is destined for another virtual machine in the same virtual network, or outside of Azure.

Ingress is not metered or limited directly. However, there are other factors, such as CPU and storage limits, which can impact a virtual machine’s ability to process incoming data.

[Accelerated networking](https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-create-vm-accelerated-networking) is a feature designed to improve network performance, including latency, throughput, and CPU utilization. While accelerated networking can improve a virtual machine’s throughput, it can do so only up to the virtual machine’s allocated bandwidth.

Azure virtual machines must have one, but may have several, network interfaces attached to them. Bandwidth allocated to a virtual machine is the sum of all outbound traffic across all network interfaces attached to a virtual machine. In other words, the allocated bandwidth is per virtual machine, regardless of how many network interfaces are attached to the virtual machine. To learn how many network interfaces different Azure VM sizes support, see Azure [Windows](https://docs.microsoft.com/en-us/azure/virtual-machines/windows/sizes?toc=%2fazure%2fvirtual-network%2ftoc.json) and [Linux](https://docs.microsoft.com/en-us/azure/virtual-machines/linux/sizes?toc=%2fazure%2fvirtual-network%2ftoc.json) VM sizes.

Expected network throughput

Expected outbound throughput and the number of network interfaces supported by each VM size is detailed in Azure [Windows](https://docs.microsoft.com/en-us/azure/virtual-machines/windows/sizes?toc=%2fazure%2fvirtual-network%2ftoc.json) and [Linux](https://docs.microsoft.com/en-us/azure/virtual-machines/linux/sizes?toc=%2fazure%2fvirtual-network%2ftoc.json) VM sizes. Select a type, such as General purpose, then select a size-series on the resulting page, such as the Dv2-series. Each series has a table with networking specifications in the last column titled, **Max NICs / Expected network performance (Mbps)**.

The throughput limit applies to the virtual machine. Throughput is unaffected by the following factors:

* **Number of network interfaces**: The bandwidth limit is cumulative of all outbound traffic from the virtual machine.
* **Accelerated networking**: Though the feature can be helpful in achieving the published limit, it does not change the limit.
* **Traffic destination**: All destinations count toward the outbound limit.
* **Protocol**: All outbound traffic over all protocols counts towards the limit.