You cannot get true performance monitoring of a VM by running Performance Monitor or Task Manager from within a guest OS. In fact, you can't even get true accurate monitoring on the management OS using the normal metrics. You should use either PerfMon or Longman.exe from the Management OS to monitor the Hyper-V counter objects.

If you want to monitor the CPU usage of the physical host or VM then you use the Hyper-V Hypervisor Logical Processor performance counters:

- Hyper-V Hypervisor Logical Processor (*) % Total Run Time: The counter represents the total non-idle time of the logical processor(s).
- Hyper-V Hypervisor Logical Processor (*) % Guest Run Time: The counter represents the time spent running cycles within a guest or within the host.
- Hyper-V Hypervisor Logical Processor (*) % Hypervisor Run Time: The counter represents the time spent running within the hypervisor.
- Hyper-V Hypervisor Root Virtual Processor (*) *: The counters measure the CPU usage of the management OS.
- Hyper-V Hypervisor Virtual Processor (*) *: The counters measure the CPU usage of guest partitions.
- **Q: I'm having performance problems on my Hyper-V server. What are some good performance counters to look at?**
- **A:** Typically, if poor performance is caused by a local resource on a Hyper-V server (i.e., an application isn't waiting on some remote system), then the problem will be processor, memory, network, or disk related. There are some key performance counters that can help. Below is a picture of a Performance Counter view I have that is great to use to quickly see the health of my Hyper-V server.

\\SAVDALHV01

Hyper-V Dynamic Memory Balancer System Balancer				
Available Memory	90,518.000			

Hyper-V Hypervisor Logical Processor	_Total	Hv LP 0	Hv LP 1	Hv LP 10	Hv LP
% Total Run Time	8.455	4.027	3.295	24.065	13.

Hyper-V Hypervisor Root Virtual Processor	_Total	Root VP 0	Root VP 1	Root VP 10	Root VP
% Total Run Time	3.038	3.931	3.192	6.310	10.

Hyper-V Hypervisor Virtual Processor	_Total	savdalcm12:Hv VP 0	savdalcm12:Hv VP 1	savdaldc01:Hv VP 0	savdaldc01:Hv
% Total Run Time	42.830	---	---	43.551	42.

Hyper-V Virtual Network Broadcom BCM57710 NetXtreme II 10 GigE [NDIS VBD Client] _62_DEVICE_(65346380-0D35-4045-BFC4-393113C1BBA5)	Cluster_17F87E54-C074
Bytes Sent/sec	0.000

Memory	
Available MBytes	91,811.000

Network Adapter	Broadcom BCM57710 NetXtreme II 10 GigE [NDIS VBD Client]	Broadcom BCM57710 NetXtreme II 10 GigE [NDIS VBD Client] _62	Hyper-V Virtu
Bytes Total/sec	0.000	498.701	

- For the Processor resource, we can examine the total busy time of each logical processor in the host (used by the host or virtual machines--VMs) (Hyper-V Hypervisor Logical Processor - % Total Run Time), the amount used just by the Hyper-V host (Hyper-V Hypervisor Root Virtual Processor - % Total Run Time), and the amount used by each virtual processor for each VM (Hyper-V Hypervisor Virtual Processor - % Total Run Time).
- If you see overall the Logical Processors are consistently over 90 percent busy, then this would show that overall the host is too overloaded. You can look at what is using the processor by looking at the Root Virtual Processor (if it's the Hyper-V host using it) and Virtual Processor for each VM (if it's specific VMs). The Virtual Processor counter for each virtual processor for each VM will also show if its simply a specific VM that is overloaded, which means it might need additional virtual processors added.
- For the Memory resource there are two pieces. First, check whether the VM has been allocated enough memory, which can easily be seen by Hyper-V Manager. It shows the Memory Status (also visible through Hyper-V Dynamic Memory VM - Current Pressure), and if the memory is too low, additional memory can be added through such means as Dynamic Memory. This assumes the host has enough memory to even allocate.
- Looking at Memory - Available MBytes shows the available memory on the host. However, to check the amount of memory that can be allocated to VMs, look at Hyper-V Dynamic Memory Balancer - Available Memory, which shows memory available over the complete system or for each NUMA node (if NUMA spanning is disabled). Potentially more memory might be needed in the host.
- Network overall bytes for each network adapter can be seen by looking at Network Adapter - Bytes Total/sec, and to see how much each virtual network adapter for each VM is using, look at Hyper-V Virtual Network Adapter - Bytes/sec.
- Finally, for Storage, typically one cares about the latency of reads and writes, which can be seen for each physical disk (or if SMB/iSCSI, the appropriate counter) by PhysicalDisk - Avg. Disk sec/Read and Avg. Disk sec/Write. The figure should generally be less than 50ms. The queue length can also be useful via Physical Disk - Avg. Disk Read Queue Length and Avg. Disk Write Queue Length.
- By looking at all these performance counters together, it should be possible to ascertain the cause of any degraded performance on your system. I actually create a custom MMC console, add all Performance MMC snap-ins, then add my counters and save the customized console so all my counters are easily available.