

vSphere 5 ESXTOP quick Overview for Troubleshooting

ESXTOP Command overview...

For changing to the different views type:

m Memory i Interrupts v Disk VM
 c CPU d Disk Adapter p Power states
 n Network u Disk Device

f for add/remove fields
 V show only virtual machine instances
 2 highlight a row scrolling down
 8 highlight a row scrolling up

spacebar: refresh screen
 s 2: refresh screen every two seconds

Network n – Fields: A B C D E F K L

%DRPTX, %DRPRX: Dropped Packages transmitted/Dropped Packages received. Values larger 0 are a sign for high network utilization

PORT-ID	UPLINK	UP	SPEED	FDUPLX	USED-BY	TEAM-PNIC	DNAME	%DRPTX	%DRPRX
16777218	Y	Y	1000	Y	vmnic0	-	vSwitch0	0.00	0.00
16777219	Y	Y	1000	Y	vmnic2	-	vSwitch0	0.00	0.00
33554508	N	-	-	-	1098259: LABVM01	vmnic1	vSwitch1	0.00	0.00
33554509	N	-	-	-	1096171: LABVM02	vmnic1	vSwitch1	0.00	0.00

Used-by/Team-PNIC: provide information what physical NIC a VM is actually using.

Memory m – Fields: B D J K Q

MCTLSZ: Amount of guest physical memory (MB) the ESXi Host is reclaiming by balloon driver. A reason for this is memory overcommitment.

average memory overcommitment for the last one, five and 15 minutes

```
10:15:09am up 33 days 23:51, 402 worlds, 13 VMs, 18 vCPUs; MEM overcommit avg: 0.00, 0.00, 0.00
PHEM /MB: 65525 total: 1530 vmk, 44433 other, 19561 free
VMKHEM/MB: 65202 managed: 1266 minfree, 4963 rsvd, 60238 ursvd, high state
NUMA /MB: 32757 ( 3367), 32767 (10554)
PSHARE/MB: 20166 shared, 6164 common: 14002 saving
SWAP /MB: 0 cur, 0 rclmtgt: 0.00 r/s, 0.00 w/s
ZIP /MB: 0 zipped, 0 saved
MEMCTL/MB: 0 cur, 0 target, 37419 max
```

GID	NAME	MCTLSZ	MCTLTGT	MCTLMAX	SWCUR	SWTGT	SWR/s	SWW/s	CACHESZ	CACHEUSD	ZIP/s	UNZIP/s
949816	LABVM01	0.00	0.00	5323.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1233985	LABVM02	0.00	0.00	5324.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
941153	LABVM03	0.00	0.00	3992.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
955149	LABVM04	0.00	0.00	2662.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
952352	LABVM05	0.00	0.00	2661.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
949815	LABVM06	0.00	0.00	2495.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

SWCUR: Memory (in MB) that has been swapped by VMKernel. Possible cause: memory overcommitment.

CACHEUSD: Memory (in MB) compressed by ESXi Host

SWR/s, SWW/s: Rate at which the ESXi Host is writing to or reading from swapped memory. Possible cause: memory overcommitment.

Memory Status:

high enough free memory available
 soft < 4% free memory: Host reclaim memory by balloon driver
 hard < 2% free memory: Host starts to swap, you will see performance troubles
 low < 1% free memory: ESX stop the VMs to allocate more RAM

ZIP/s: Values larger 0 indicate that the host is actively compressing memory.

UNZIP/s: Values larger 0 indicate that the host is accessing compressed memory.

Reason for this behaviour is memory overcommitment.

CPU c – Fields: D F

%USED: CPU Core cycles used by a VM. High values are an indicator for VMs causing performance problems on ESXi Hosts.

CPU load average for the last one, five and 15 minutes

%SWPWT: Counter showing how long a VM has to wait for swapped pages read from disk. A reason for this could be memory overcommitment. Pay attention if %SWPWT is >5!

```
9:15:39am up 33 days 22:57, 401 worlds, 13 VMs, 18 vCPUs; CPU load average: 0.21, 0.17, 0.20
PCPU USED(%): 14 14 28 13 39 12 32 60 45 70 4.4 5.3 AVG: 28
PCPU UTIL(%): 13 13 28 12 36 11 29 56 41 64 4.3 4.5 AVG: 26
```

NAME	%USED	%RUN	%SYS	%WAIT	%VMWAIT	%RDY	%IDLE	%OVRLP	%CSTP	%MLMTD	%SWPWT
LABVM01	88.45	171.50	2.02	405.92	0.09	0.06	21.31	0.63	0.00	0.00	0.00
LABVM02	88.57	81.82	0.47	495.55	0.00	0.12	110.70	0.16	0.00	0.00	0.00
LABVM03	11.76	10.66	0.22	566.07	0.33	0.75	180.99	0.14	0.00	0.00	0.00
LABVM04	8.14	7.39	0.11	569.76	0.00	0.33	185.26	0.05	0.00	0.00	0.00

%RDY: Percentage of time a VM was waiting to be scheduled. If you note values between five and ten percent take care.

Possible reasons: too many vCPUs, too many vSMP VMs or a CPU limit setting (check %MLMTD)

%MLMTD: Counter showing percentage of time a ready to run vCPU was not scheduled because of a CPU limit setting. Remove the limit for better performance.

%CSTP: This value is interesting if you are using vSMP virtual machines. It shows the percentage of time a ready to run VM has spent in co-deschedule state.

If value is >3 decrease the number of vCPUs from the VM concerned.

Disk d – Fields: A B G J

DAVG: Latency at the device driver level
 Indicator for storage performance troubles

ABRTS/s: Commands aborted per second
 If the storage system has not responded within 60 seconds VMs with an Windows Operating System will issue an abort.

```
9:33:14am up 33 days 23:09, 405 worlds, 13 VMs, 18 vCPUs; CPU load average: 0.12, 0.12, 0.14
```

ADAPTER	PATH	DAVG/cmd	KAVG/cmd	GAVG/cmd	QAVG/cmd	FCMDS/s	FREAD/s	FWRITE/s	FMRBD/s	FMRWB/s	FRESU/s	ABRTS/s	RESETS/s
vmhba0	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
vmhba1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
vmhba2	-	1.57	0.01	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
vmhba3	-	0.78	0.01	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
vmhba32	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

KAVG: Latency caused by VMKernel
 Possible cause: Queuing (wrong queue depth parameter or wrong failover policy)

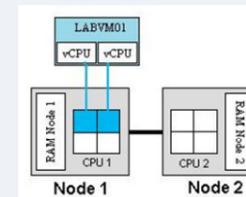
GAVG: GAVG = DAVG + KAVG

Resets/s: number of commands reset per second

NUMA m (change to memory view) – Fields: D G

NUMN: Numa Node where the VM is located

N%L: Percentage of VM Memory located at the local NUMA Node. If this value is less than 80 Percent the VM will experience performance issues.



NAME	NUMN	NUMG	NRMEM	NLMEM	N%L	GST NDO	OVD NDO	GST ND1	OVD ND1
LABVM01	1	0	27.97	8164.03	99	27.97	31.47	8164.03	34.93
LABVM02	0	0	49.91	6094.09	99	6094.09	27.37	49.91	23.90
LABVM03	0	0	12.45	4083.51	99	4083.51	23.80	12.45	12.74
LABVM04	0	0	0.13	4095.87	99	4095.87	17.14	0.13	15.59

NRMEM: VM Memory (in MB) located at remote Node

NLMEM: VM Memory (in MB) located at local Node