vSphere 5.5 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 ≥1

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.

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

```
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  27  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	188.45	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

%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! ≥5

%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. ≥1

%SYS: Percentage of time spent by system to process interrupts and to perform other system activities on behalf of the world. Possible cause: maybe caused by high I/O VM >20

%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. ≥3

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

%VMWAIT: percentage of time a VM was waiting for some VMkernel activity to complete (such as I/O) before it can continue. Includes %SWPWT and "blocked", but not IDLE Time (as %WAIT does). 100

Possible cause: Storage performance issue | latency to a device in the VM configuration eg. USB device, serial pass-through device or parallel pass-through device

%RDY: Percentage of time a VM was waiting to be scheduled.If you note values between five and ten percent take care. >10

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

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. ≥1

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

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
PMEM /MB: 65525  total:  1530     vmk, 44433 other,  19561 free
VMKMEM/MB: 65202 managed:  1266 minfree,  4963 rsvd,  60238 ursvd,  high state
NUMA /MB: 32757 ( 8367), 32767 (10554)
PSHARE/MB: 20166  shared,  6164  common: 14002 saving
SWAP /MB:     0    curr,     0 rclmtgt:                0.00 r/s,   0.00 w/s
ZIP  /MB:     0  zipped,     0   saved
MEMCTL/MB:    0    curr,     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

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. ≥1

SWCUR: Memory (in MB) that has been swapped by VMKernel. Possible cause: memory overcommitment. ≥1

CACHEUSD: Memory (in MB) compressed by ESXi Host ≥1

SWR/s, SWW/s: Rate at which the ESXi Host is writing to or reading from swapped memory. Possible cause: memory overcommitment. ≥1

Disk d – Fields: A B G J

DAVG: Latency at the device driver level

Indicator for storage performance troubles >25

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. ≥1

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

ADAPTR	PATH	DAVG/cmd	KAVG/cmd	GAVG/cmd	QAVG/cmd	FCMDS/s	FREAD/s	FWRITE/s	FMBRD/s	FMBWR/s	FRESV/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	-	0.76	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 ≥3
Possible cause: Queuing (wrong queue depth parameter or wrong failover policy)

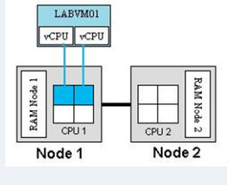
GAVG: GAVG = DAVG + KAVG >25

Resets/s: number of commands reset per second ≥1

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

NMN: 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. <80



NAME	NHN	NMIG	NRMEM	NLMEM	N%L	GST ND0	OVD ND0	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	12.49	4083.51	99	4083.51	23.80	12.49	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

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