

Performance Analysis (Joe)

Know the configuration: ESAHDR

```
Report: ESAHDR          z/VM Monitor Analysis
-----
z/VM Version: 6          Release 3.0 SLU 1501
TOD clock at termination          21:35:05
Abend code of last termination
TOD clock at last IPL:          03/05/16  21:35:34
System Operator:          OPERATOR
Time zone adjustment from GMT:   -4 hours

Machine Model/Type          Z13:2964/713
Multithreading Status:
System Sequence Code        00000000000B97F7
Processor 0 model/serial    2964-713 /0897F7 Master
Processor 1 model/serial    2964-713 /0897F7
Processor 2 model/serial    2964-713 /0897F7
Processor 3 model/serial    2964-713 /0897F7
Processor 4 model/serial    2964-713 /0897F7
```

Common configuration problems

- IFLs?
- Real Storage / Expanded
- Release significant
- Master processor significant

```
ESAME (Memory Extension) Nucleus in use
Power of processor in terms of service Units: 64777
ESA/370 hardware installed
```

Operating on IFL Processor(s)

Totals by Processor type:

```
<-----CPU-----> <-Shared Processor busy>
Type Count Ded shared total assigned Ovhd Mgmt
-----
CP      13   0      13 607.5      588.6 14.1 18.8
IFL     18   0      18 100.3       93.3  3.6  7.1
ICF     3    3        0  0.0         0    0  0.0
ZIIP    5    0        5  94.3       90.7  1.9  3.6
```

```
Number of logical partitions defined:      17
Main Storage installed (MB):              180224
```

Know the overall loads: ESASSUM / ESAMAIN

Report: ESASSUM Subsystem Activity Velocity Sof

Time	<---Users--->			Transactions		<Processor>		Storage (MB)		<-Paging-->		<---->
	<-avg number->	Per	Avg.	Utilization	Fixed	Active	<pages/sec>	<-DAS				
	On	Actv	In Q	Minute	Resp	Total	Virt.	User	Resid.	XStore	DASD	Rate
14:01:00	82	59	69.0	126.0	1.046	199	184	165.7	132964	0	0	3067
14:02:00	82	61	67.0	260.0	0.223	122	115	165.7	132983	0	0	274
14:03:00	82	58	62.0	244.0	0.138	82	77	165.7	132961	0	0	87
14:04:00	82	60	65.0	273.0	0.122	82	77	165.7	132975	0	0	181
14:05:00	82	60	69.0	289.0	0.092	82	77	165.7	132968	0	0	101
14:06:00	82	60	66.0	251.0	0.162	78	73	165.7	132970	0	0	216
14:07:00	82	60	63.0	275.0	0.089	58	53	165.7	132976	0	0	99
14:08:00	82	59	68.0	282.0	0.131	94	87	165.7	132968	0	0	229
14:09:00	82	59	66.0	267.0	0.084	80	74	165.7	132968	0	0	74
14:10:00	82	60	66.0	264.0	0.119	52	48	165.7	132969	0	0	160
14:11:00	8											107
14:12:00	8											164
14:13:00	8											123

Look for Spikes, dramatic changes, what time?

- Processor
- Storage for users
- Page rates
- DASD I/O rates
- (Transacations are for traditional workloads)

Wait States: ESAXACT

Report: ESAXACT Transaction Delay An
Monitor initialized: 06/06/16 at 14:00:00

```
-----  
                                <-----Percent non-do  
UserID    <-Samples->  
/Class    Total    In Q   Run   Sim   CPU   SIO   Pag  
-----  
06/06/16  
14:01:00     82     69     0     0     0     0     0  
Hi-Freq:  7020  3782  3.1  0.1  1.2  0.1    0  
  ***Key User Analysis ***  
TCPIP        60     17     0     0     0     0     0  
  ***User Class Analysis***  
Servers     600      1     0     0     0     0     0  
Velocity    600     69     0     0     0    2.9    0  
SPD        420    265     0     0    0.4     0     0  
BPG        3000  2801  2.9  0.2  1.5     0     0  
DES        120    120  0.8     0    0.8     0     0  
TSP        120     88     0     0    1.1     0     0  
NMQ        180    120  28     0     0     0     0  
NetX        120     70  1.4     0     0     0     0  
TheUsrs    1740    232  0.9     0     0     0     0  
  ***Top User Analysis***  
R00002N1    180    120  28     0     0     0     0  
V015N00    120    120  8.3  0.8  3.3     0     0  
R018N0Z    120    120  9.2  1.7     0     0     0  
R021N0Z    120    120  10    0.8  1.7     0     0  
R024N0Z    120    119  10     0    5.0     0     0  
V010N00    120    120  11    0.8  5.0     0     0  
R023N0Z    120    120  7.5     0    2.5     0     0  
V013N00    120    120  1.7     0    0.8     0     0  
V012N00    120    120  4.2     0    1.7     0     0
```

Eligible list? ESAUSRQ

Report: ESAUSRQ s Velocity Software Corporate ZMAP 4.3.0 0
 Monitor initiali4 serial 897F7 First record analyzed: 06/06/16 14:00:00

```

-----
<----- <-----Average Number of Users in Queue-----
UserID Logged <-----Dispatch List-----> Limit <-----Eligible List--
/Class on Q0 Q1 Q2 Q3 Ldng List E0 E1 E2 E3
-----
06/06/16
14:01:00 82.0 2.0 9.0 2.0 56.0 0 2.0 . 0 0 0
Hi-Freq: 82.0 2.3 3.6 2.9 57.5 0 2.7 0 0 0 0
***Key User Ana
TCPIP 1.0 0.3 0 0 0 0 0 0 0 0 0 0
***User Class A
Servers 10.0 0 0 0 0 0 0 0 0 0 0 0
Velocity 10.0 1.0 0.1 0 0 0 0 0 0 0 0 0
SPD 4.0 0 1.2 1.2 2.0 0 0 0 0 0 0 0
BPG 25.0 0 0 0 49.7 0 2.2 0 0 0 0 0
DES 1.0 0 0 0 2.0 0 0 0 0 0 0 0
TSP 1.0 0 0.2 0.9 0.3 0 0 0 0 0 0 0
NMQ 1.0 0 0 0 2.0 0 0.5 0 0 0 0 0
NetX 1.0 0 0.6 0.5 0 0 0 0 0 0 0 0
TheUsrs 27.0 0.9 1.5 0.1 1.4 0 0 0 0 0 0 0
***Top User Ana
R00002N1 1.0 0 0 0 2.0 0 0.5 0 0 0 0 0
V015N00 1.0 0 0 0 2.0 0 0.6 0 0 0 0 0
R018N0Z 1.0 0 0 0 2.0 0 0.6 0 0 0 0 0
R021N0Z 1.0 0 0 0 2.0 0 0.5 0 0 0 0 0
R024N0Z 1.0 0 0 0 2.0 0 0.2 0 0 0 0 0
V010N00 1.0 0 0 0 2.0 0 0.3 0 0 0 0 0
R023N0Z 1.0 0 0 0 2.0 0 0 0 0 0 0 0
  
```

Look for “Non zero eligible”

- In queue (Q3)

User Configuration: ESAUSRC

Report: ESAUSRC User C Velocity So
 Monitor initialized: 06/06/2964 serial 897F7 First recor
 Monitor period: 360:00) Last record

```

-----
                                <-----SHARE-----> <---CP
UserID   ClassID   Account   CPU <Normal> <--MAX--> Lim <Count
-----  -
UserID   ClassID   Code      Type Rel Abs Typ Shre -it Def On
-----  -
DIRMAINT Servers  SYSTEM    IFL  100 . . . . 1 1
DTCSMAPI TheUsrs  DTCSMAPI  IFL 3000 . . . . 1 1
LDAPSRV  TheUsrs  LDAPSRV   IFL  100 . . . . 1 1
LINUX1   SPD      LINUX1    IFL  200 . Abs 6553 Hrd 1 1
PERFSVM  TheUsrs  XXXXX     IFL  . 3.0 . . . . 1 1
PERSMAPI TheUsrs  XXXX      IFL  . 3.0 . . . . 1 1
RACFVM  KeyUser  SYSTEMS   IFL  100 . . . . 1 1
R00001N1 DES      R00001N1  IFL  200 . Abs 7864 Hrd 2 2
R00002N1 NMQ      R00002N1  IFL  . 9 Abs 12K Hrd 3 2
R00003N0 NetX     R00003N0  IFL  200 . Abs 7864 Hrd 2 2
R00004N0 BPG      R00004N0  IFL  200 . Abs 7864 Hrd 2 2
R00005N0 BPG      R00005N0  IFL  200 . Abs 7864 Hrd 2 2
R029N0Z  SPD      R029N0Z   IFL  200 . Abs 7864 Hrd 2 2
SYSADMIN TheUsrs  SYSTEMS   IFL  100 . . . . 1 1
TCPIP    KeyUser  TCPIP     IFL  . 2.0 . . . . 1 1
VMSYSVPS TheUsrs  VMSYSVPS  IFL  . 3.0 . . . . 1 1
VSMEVSRV TheUsrs  VSMEVSRV  IFL  100 . . . . 1 1
VSMGUARD TheUsrs  VSMGUARD  IFL  100 . . . . 1 1
VSMREQIN TheUsrs  VSMREQIN  IFL  100 . . . . 1 1
VSMREQIU TheUsrs  VSMREQIU  IFL  100 . . . . 1 1
VSMREQI6 TheUsrs  VSMREQI6  IFL  100 . . . . 1 1
VSMWORK1 TheUsrs  VSMWORK1  IFL  100 . . . . 1 1
VSMWORK2 TheUsrs  VSMWORK2  IFL  100 . . . . 1 1
VSMWORK3 TheUsrs  VSMWORK3  IFL  100 . . . . 1 1
V010N00 BPG      V010N00   IFL  200 . Abs 7864 Hrd 2 2
V011N00 BPG      V011N00   IFL  200 . Abs 7864 Hrd 2 2
  
```

Look for “Interesting configurations”

- Large relative shares / absolute shares
- CPU Counts, matching shares (100 Rel / vcpu)
- CPU Type (IFL, CP)

Top down:

- CEC / LPAR
- LPAR / z/VM
- Virtual machine
- Linux process

CPU Capture ratio 100% down to process

LPAR Configuration: ESALPARS

```
Report: ESALPARS          Logical Partition Summary          Veloc
-----
```

Time	Phys CPUs	Dispatch Slice	Complex Name	Nbr	Virt CPUs	CPU Type	<%Assigned> Total	Ovhd	<-Assigned S LPAR--> Weight	Pct
14:01:00	39	Dynamic	Totals:	00	31	CP	1149	13.0	1001	100
			Totals:	00	14	IFL	212.2	5.7	1000	100
			VMT1	08	5	IFL	207.9	4.9	100	10.0
			PRODICF	0F	2	ICF	200.0	0.0	Ded	5.1
			SYSB	01	8	CP	469.4	4.1	452	45.2
			SYSB	01	4	ZIP	56.2	1.0	560	56.5
			SYSX	0C	3	CP	216.0	1.7	180	18.0
			VMP2	07	9	IFL	4.3	0.8	900	90.0

Totals by Processor type:

```
<-----CPU-----> <-Shared Processor busy->
```

Type	Count	Ded	shared	Total	Logical	Ovhd	Mgmt
CP	13	0	13	1166.7	1136.0	13.0	17.7
IFL	18	0	18	221.3	206.5	5.7	9.0
ICF	3	3	0	0.0	0	0	0.0
ZIIP	5	0	5	139.3	127.0	3.1	9.2

Look for “Shared processors”

- IFLs shared between LPARs (18)
- Check weights
- Assigned pct/CPU > 100 ??? -> excess share?
- First LPAR is “us”, z/vm where data collected

Consumers within LPAR: ESAUSP2

```
Report: ESAUSP2          User Resource R
-----
          <---CPU time--> <----Main S
UserID   <(Percent)> T:V <Resident>
/Class   Total   Virt Rat  Totl  Activ
-----
14:01:00 195.4 183.7 1.1   34M 34.0M
***Key User Analysis ***
TCPIP    0.17  0.06 3.0 3878 3878
***User Class Analysis***
Servers  0.00  0.00 1.1  19K 3119
Velocity 0.95  0.88 1.1  10K 10148
SPD      1.65  1.62 1.0  1.9M 1932K
BPG      152.1 140.8 1.1  28M 28.1M
DES      0.84  0.81 1.0  363K 363K
TSP      0.43  0.42 1.0  483K 483K
NMQ      36.98 36.89 1.0  2.1M 2096K
NetX     0.61  0.60 1.0  291K 291K
TheUsrs  1.64  1.59 1.0  824K 802K
***Top User Analysis***
R00002N1 36.98 36.89 1.0  2.1M 2096K
V015N00  25.47 24.39 1.0  1.8M 1766K
R018N0Z  22.48 21.43 1.0  2.1M 2067K
R021N0Z  21.92 20.85 1.1  1.9M 1867K
R024N0Z  20.16 16.14 1.2  1.5M 1543K
```

Look for consumers, in percent of cpu

- By class
- Abusive servers (none)?
- Correct per expected?

Linux Process Load: ESALNXP

```
Report: ESALNXP          LINUX HOST Process Statistics Report
-----
node/      <-Process Ident-> Nice PRTY <-----CPU Percents-----> <
Name      ID      PPID   GRP  Valu Valu Tot  sys user syst usrt
-----
14:01:00
R00001N1   0      0      0    0    0 0.83 0.02 0.02 0.28 0.51
  init     1      1      1    0   20 0.67  0    0 0.24 0.43
R00002N1   0      0      0    0    0 37.6 1.09 35.9 0.46 0.13
  nsqmgr   3475   1    3446  0   20 1.85 0.51 0.92 0.36 0.06 1
  java     53739  1      0    4   24 34.1 0.26 33.9  0    0 5
R018N0Z   0      0      0    0    0 21.5 1.85 19.5 0.12 0.06
  java     54721  6738  0    0   20 19.2 1.31 17.9  0    0 4
R021N0Z   0      0      0    0    0 21.0 1.91 18.9 0.10 0.08
  java     43926  6338  0    0   20 19.8 1.47 18.3  0    0 4
R022N0Z   0      0      0    0    0 2.17 0.62 1.27 0.21 0.06
R023N0Z   0      0      0    0    0 10.3 2.57 5.99 0.61 1.11 1
  init     1      1      1    0   20 1.50  0    0 0.47 1.03
  oracle   29341  1 29341  0   20 6.55 1.86 4.69  0    0 3
R024N0Z   0      0      0    0    0 17.1 6.17 10.8 0.14 0.05 2
  oracle   14954  1 14954  0   20 6.93 2.10 4.82  0    0 3
  oracle   16079  1 16079  0   20 6.47 2.63 3.84  0    0 3
r029n0z   0      0      0    0    0 0.69 0.01 0.01 0.23 0.44 4
  init     1      1      1    0   20 0.56  0    0 0.19 0.37
V010N00   0      0      0    0    0 16.8 3.12 11.2 0.85 1.60 3
  init     1      1      1    0   20 2.20  0    0 0.70 1.50
  oracle   49968  1      0    0   20 6.50 1.54 4.95  0    0 3
Name      ID      PPID   GRP  Valu Valu Tot  sys user syst usrt
oracle    59602  1      0    0   20 1.48 0.28 1.20  0    0 3
oracle    60143  1      0    0   20 2.12 0.40 1.72  0    0 3
```

Look for processes within Linux,
in percent of cpu

- By relevant server
- Correct? Relevant?
Cron?
- Oracle, java workload

Storage Utilization: ESASTR1

Report: ESASTR1 M Velocity Software Corporate ZMAP 4.
Monitor initialized: 064 serial 897F7 First record analyzed: 06/06/16 14:00

```
-----  
Users <-----ytes-----  
Loggd System Available> System User NSS/DCSS <-AddSpace> VDISK <MDC>  
Time On Storage2gb >2gb ExSpc Resdnt Resident System User Rsdnt Rsdnt  
-----  
06/06/16  
14:01:00 82 180224 346 37619 14 133120 547 1644 0 5025 243  
14:02:00 82 180224 346 37618 14 133120 547 1644 0 5025 244  
14:03:00 82 180224 346 37618 14 133120 547 1644 0 5025 244  
14:04:00 82 180224 346 37617 14 133120 547 1644 0 5025 244  
14:05:00 82 180224 346 37618 14 133118 547 1644 0 5025 245  
14:06:00 82 180224 346 37616 14 133120 547 1644 0 5025 246  
14:07:00 82 180224 346 37616 14 133120 547 1644 0 5025 246  
14:08:00 82 180224 346 37615 14 133120 547 1644 0 5025 246  
14:09:00 82 180224 346 37615 14 133120 547 1644 0 5025 247  
14:10:00 82 180224 346 37617 14 133118 547 1644 0 5025 247  
14:11:00 82 180224 346 37614 14 133120 547 1644 0 5025 248b
```

Total storage analysis (in pages)

- MDC? 248mb?
- VDISK Spike (5gb) ? Which server?
- User resident should be large percent??? No workload

Virtual Machine Storage : ESAUSPG

Report: ESAUSPG User Storage Analysis e ZMAP 4.3.0 0
Monitor initialized: 06/06/16 at 14:00:00 on06/16 14:00:00

```
-----  
          <-Storage Occupancy in MegaBytes-> <Address Spaces  
UserID   <---Main Storage---> <---Paging---> <MegaB Resident  
<Class   Total    >2gb    <2GB    Xstor    DASD    VirtDisk AddSpc  
-----  
14:01:00 133120 131726 1394      0      87      5025      0  
***Top User Analysis***  
R00002N1 8187 8100 86 0 0 8 0  
V015N00 6899 6827 73 0 0 104 0  
R018N0Z 8075 7990 85 0 0 98 0  
R021N0Z 7294 7217 77 0 0 211 0  
R024N0Z 6028 5965 63 0 0 1422 0  
V010N00 6532 6464 68 0 0 386 0  
R023N0Z 6028 5964 63 0 0 448 0  
V013N00 7039 6965 74 0 0 400 0  
V012N00 7043 6969 74 0 0 400 0
```

Total storage analysis (in pages, new “megabyte” option)

- Largest consumer(s) resident storage
- Largest consumer - which virtual disk?
- VDISK Spike (1gb) ? Which server?

VDISK for Swap: ESA VDSK

Report: ESAVDSK VDISK Analysis Report city S

Maximum VDISK: Blocks (MB)
System storage: --No Limit--
Storage per user: --No Limit--

Owner	Space Name	<--Size--> AddSpc Pages	VDSK Blks	<--pa Resi- dent
14:01:00				
LINUX1	VDISK\$LINUX1\$\$\$0910\$01B5	51456	410K	16K
R00001N1	VDISK\$R00001N1\$0910\$0011	103K	819K	5394
R00007N0	VDISK\$R00007N0\$0913\$0258	524K	4194K	4336
R00007N0	VDISK\$R00007N0\$0914\$0259	524K	4194K	4336
R00007N0	VDISK\$R00007N0\$0915\$025A	524K	4194K	4336
R00011N0	VDISK\$R00011N0\$0913\$027C	524K	4194K	4336
R00011N0	VDISK\$R00011N0\$0914\$027D	524K	4194K	4336
R00011N0	VDISK\$R00011N0\$0915\$027E	524K	4194K	4336
R00021N0	VDISK\$R00021N0\$0913\$028E	524K	4194K	4336
R00021N0	VDISK\$R00021N0\$0914\$028F	524K	4194K	4336
R00021N0	VDISK\$R00021N0\$0915\$0290	524K	4194K	4336
R017N0Z	VDISK\$R017N0Z\$\$0910\$0014	103K	819K	18K
R018N0Z	VDISK\$R018N0Z\$\$0910\$0018	103K	819K	25K
R019N0Z	VDISK\$R019N0Z\$\$0910\$001D	103K	819K	69K
R020N0Z	VDISK\$R020N0Z\$\$0910\$001F	103K	819K	16K
R021N0Z	VDISK\$R021N0Z\$\$0910\$0023	103K	819K	54K
R022N0Z	VDISK\$R022N0Z\$\$0910\$0026	103K	819K	102K
R023N0Z	VDISK\$R023N0Z\$\$0910\$0006	103K	819K	102K
R023N0Z	VDISK\$R023N0Z\$\$0912\$0007	262K	2097K	12K
R024N0Z	VDISK\$R024N0Z\$\$0910\$000E	103K	819K	102K
R024N0Z	VDISK\$R024N0Z\$\$0912\$000F	262K	2097K	262K

Virtual Disk Analysis

- Which virtual disk spiked?
- Are there multiple vdisks, and PRIORITIZED!!!

Linux Storage - 2: ESAUCD2

Report: ESAUCD2 LINUX UCD Memory Analysis

```

-----
Node/      <-----Storage Si
Time/      <--Real Storage--> <-----SWAP Storage
Date      Total  Avail Used  Total Avail Used
-----
14:01:00
*** Nodes *****
R00001N1  1872.9  532.0   1341   1552   1552     0
R00002N1   11931   4104   7827  536.7  536.7     0
R00003N0  3884.7   2899  986.1  536.7  536.7     0
R00004N0  3884.7   2975  910.1  2428   2428     0
R00005N0  6902.5   6016  886.6  2428   2428     0
R00006N0  6902.5   5975  927.1  2428   2428     0
R00007N0  6902.5   3896   3007  8521   8521     0
R00008n0  3884.7   3055  829.4  2428   2428     0
R00009N0  6902.5   6044  858.1  2428   2428     0
r00010n0  6902.5   6043  859.8  2428   2428     0
r00011n0  6902.5   6000  902.8  8521   8521     0
R00020N0  6902.5   5904  998.9  2428   2428     0
R00021N0  6902.5   2279   4623  8521   8521     0
R007N0Z   1872.9  167.3   1706  1552   1552     0
R017N0Z   3884.7  677.9   3207  712.4  684.9   27.4
R018N0Z   7910.5   42.6   7868  712.9  660.1   52.8
R019N0Z   7910.4  286.8   7624  712.9  666.5   46.4
R020N0Z   3884.7  248.1   3637  712.9  701.4   11.5
R021N0Z   7910.5  826.6   7084  712.9  709.2    3.7
R022N0Z   7910.4  699.3   7211  712.9  686.7   26.1
R023N0Z   5894.6  562.2   5332  8595   8365  229.9
R024N0Z   5894.6  655.5   5239  8595   8441  154.0
R025N0Z   1936.8  869.5   1067  2428   2428     0
r026n0z   1936.8  869.4   1067  2428   2428     0
r029n0z   15835  12653   3182  536.7  536.7     0
V010N00   6902.5   1256   5646  7579   7578    0.6
v011n00   3884.7  1024   2860  713.0  698.3   14.6

```

Linux Storage Map

- Opportunities?
 - High available (greater than 5%)
 - High buffer (greater than 20mb)
- Issues? Swap
- If swap used, but also large buffer, CMM?

Linux Storage - 2: ESAUCD2

Report: ESAUCD2 LINUX UCD Memory Analysis Report Velocity Softwar

Node/ Time/ Date	-----Storage Sizes (in MegaB-----						-----Storage in Use---				
	<---Real Storage-->			<-----SWAP Storage----->			Total	Buffer	Cache	Ovrhd	
	Total	Avail	Used	Total	Avail	Used	MIN	Avail			
R00001N1	1872.9	532.0	1341	1552	1552	0	15.6	2084	179.2	720.9	440.9
R00002N1	11931	4104	7827	536.7	536.7	0	15.6	4641	425.8	882.5	6519
R00003N0	3884.7	2899	986.1	536.7	536.7	0	15.6	3435	147.3	432.5	406.3
R00004N0	3884.7	2975	910.1	2428	2428	0	15.6	5402	150.9	367.1	392.0
R00005N0	6902.5	6016	886.6	2428	2428	0	15.6	8444	136.7	353.1	396.9
R007N0Z	1872.9	167.3	1706	1552	1552	0	15.6	1719	379.1	824.9	501.7
R017N0Z	3884.7	677.9	3207	712.4	684.9	27.4	15.6	1363	599.2	958.9	1649
R018N0Z	7910.5	42.6	7868	712.9	660.1	52.8	15.6	702.7	268.6	2998	4601
R019N0Z	7910.4	286.8	7624	712.9	666.5	46.4	15.6	953.3	619.3	2247	4757
R020N0Z	3884.7	248.1	3637	712.9	701.4	11.5	15.6	949.5	513.3	1169	1954
R021N0Z	7910.5	826.6	7084	712.9	709.2	3.7	15.6	1536	641.1	1492	4951
R022N0Z	7910.4	699.3	7211	712.9	686.7	26.1	15.6	1386	641.3	1175	5395
R023N0Z	5894.6	562.2	5332	8595	8365	229.9	15.6	8927	456.6	3375	1501
R024N0Z	5894.6	655.5	5239	8595	8441	154.0	15.6	9097	438.3	3228	1572
R025N0Z	1936.8	869.5	1067	2428	2428	0	15.6	3297	139.3	587.1	341.0
r026n0z	1936.8	869.4	1067	2428	2428	0	15.6	3297	139.3	587.1	341.1
r029n0z	15835	12653	3182	536.7	536.7	0	15.6	13190	392.3	1783	1007
V010N00	6902.5	1256	5646	7579	7578	0.6	15.6	8834	683.0	3468	1496
v011n00	3884.7	1024	2860	713.0	698.3	14.6	15.6	1723	679.8	743.6	1437
v012n00	6902.5	38.3	6864	713.0	647.4	65.6	15.6	685.7	466.3	662.8	5735
v013n00	6902.5	52.4	6850	713.0	632.0	80.9	15.6	684.4	515.2	582.6	5752
v014n00	3884.7	398.1	3487	713.0	705.9	7.1	15.6	1104	667.6	1324	1495
v015n00	6902.5	205.0	6698	713.0	702.8	10.2	15.6	907.7	482.8	1281	4934
v016n00	6902.5	301	6601	713.0	686.5	26.5	15.6	887.5	482.8	1345	4763

Linux Storage Map Opportunities?

- High available (greater than 5%)
- High buffer (greater than 20mb)

Paging Subsystem: ESAPSDV

Report: ESAPSDV Page And Spool Device Activi
Monitor initialized: 06/06/16 at 14:00:00 on 2964

```
-----<-----Paging----->
Dev      <-----Slots-----> <-per sec->
No. Serial Avail Used %Use Max Read Write
-----
06/06/16
14:01:00
7F01 M01S01 . . . . 0 0
9E1C M01S02 . . . . 0 0
-----
Total: 34255K 22212 0 22212 0 0
```

Paging Configuration:

- How many devices (11)
- Equal sizes?
- How full? (50%)
- Rates reasonable? Device type dependent

Page Device Busy: ESADSD2

Report: ESADSD2 DASD Performance Analysis Velo
Monitor initialized: 06/06/16 at 14:00:00 on 2964 serial 897F7 Firs

Dev Device <--SSCH--> <%DevBusy> <SSCH/sec-> <-----DASD Resp
No. Serial Type Total ERP Avg Peak avg peak Resp Serv Pend D

06/06/16
14:01:00

Top DASD by Device busy

Dev No.	Serial	Type	Total	ERP	Avg	Peak	avg	peak	Resp	Serv	Pend	D
8E22	LX8E22	3390-9	45361	0	15.8	15.8	756.0	756.0	0.2	0.2	0.1	
8E23	LX8E23	3390-9	44981	0	15.7	15.7	749.7	749.7	0.2	0.2	0.1	
8F1C	LX00AE	3390-9	42465	0	14.8	14.8	707.7	707.8	0.2	0.2	0.1	
9F27	LF9F27	3390-9	16935	0	6.0	6.0	282.2	282.3	0.2	0.2	0.1	
9F0C	LX0025	3390-9	1735	0	4.5	4.5	28.9	28.9	1.5	1.5	0.1	
9E11	LX00B2	3390-9	6779	0	2.3	2.3	113.0	113.0	0.2	0.2	0.1	
7F22	LX7F22	3390-9	5339	0	1.8	1.8	89.0	89.0	0.2	0.2	0.1	
9E10	LX00B1	3390-9	2145	0	0.7	0.7	35.7	35.8	0.2	0.2	0.1	
8E37	M01VE1	3390-9	842	0	0.7	0.7	14.0	14.0	0.5	0.5	0.1	
8E12	LX009B	3390-9	364	0	0.6	0.6	6.1	6.1	1.0	1.0	0.1	

End Top DASD by Device busy

Page Device Analysis – DASD Subsystem

- Page Devices are usually in “top ten DASD”
- Device busy > 20% cause for concern
- Device busy > 50% serious
- Minute by minute analysis would show 30% “Peak”

