

VELOCITY  
SOFTWARE

# Monitoring and finding performance problems using zVIEW

Tim Kessler  
[timk@velocitysoftware.com](mailto:timk@velocitysoftware.com)

- Enterprise View
  - Layout options
  - Thresholds and other configuration options
  - Defining hosts

- zVIEW

- Basic layout and functions
- Configuration options
- Current data and adhoc queries
  - Graphs and reports
  - Thresholds
- Tabs
- zMAP reports
- Capacity graphs
- Views
- Direct URL access
- Path options
- Securing zVIEW access
- Recent changes
- Identifying and finding problems

# Enterprise View

Velocity Software System Summary Demo V4 - Velocity Software - VSIVM4

First level

VSIVM1				VSIVM2				Demo System V4				VSIVM5			
VM	12:05	IFL Total (1)	0.48%	VM	12:05	IFL Total (1)	0.82%	Demo	12:05	IFL Total (2)	20.87%	VM	12:05	CP Total (1)	70.05%
Linux Nodes(Distributed Servers)				Linux Nodes(z/VM-Guests)				VSE Systems				VSE Systems			
LINUX9 (9)		2.29%		redhat6x (1)		2.08%		zvse52		28.16%		zvse52		28.16%	
suselxs3 (9)		2.22%		linux9 (9)		1.70%		zvse43		26.40%		zvse43		26.93%	
				oracle (1)		1.17%		zvse51		0.67%		zvse51		0.82%	
				redhat6 (1)		0.48%		Top 5 Linux Nodes(z/VM-Guests)				Linux Nodes(z/VM-Guests)			
				redhat62 (1)		0.47%		ills2ora (2)		6.74%		ills2ora		5.65%	
				redhat6M (1)		0.45%		lxora12b (1)		3.01%		lxora12		3.27%	
				redhat6S (1)		0.44%		redhat6x (1)		2.96%		oracle		1.17%	
				RH5X161 (1)		0.31%		redhat56 (1)		1.46%		redhat5x		0.25%	
				OSA178 (1)		0.30%		redhat6 (1)		1.16%		lxugar		0.23%	
				Linux Nodes(Distributed Servers)				Top 5 Linux Nodes(Distributed Servers)				Linux Nodes(Distributed Servers)			
				ills2ora (2)		6.38%		Remaining servers		2.19%		sles11		0.15%	
								vpnz (1)		3.32%		vpnz (1)		3.28%	
								vpnbrz (1)		2.55%		vpnbrz (1)		2.53%	
								mail (9)		2.30%		mail (9)		2.25%	
								vpnc (1)		1.46%		mail (9)		2.25%	
								vpnbrc (1)		1.17%		vpnbrc (1)		1.19%	
								Remaining servers		0.76%					

Second level

RKS Level 2				DXT Level 2				Tim Level 2			
VM	12:05	IFL Total (1)	0.48%	DXT2LV	14:05	IFL Total (1)	0.14%	TIM2LV	15:05	IFL Total (1)	0.26%
Linux Nodes(z/VM-Guests)				Linux Nodes(z/VM-Guests)				Top 5 Linux Nodes(z/VM-Guests)			
linux001		0.22%		redhat56 (1)		1.44%		ills2ora (2)		5.68%	
				redhat6 (1)		0.45%		lxora12b (1)		3.29%	
				redhat5x (1)		0.26%		redhat56 (1)		1.37%	
				lxugar (2)		0.23%		redhat6 (1)		0.46%	
				redhat64 (1)		0.15%		redhat5x (1)		0.30%	
								Remaining servers		0.82%	
								Top 5 Linux Nodes(Distributed Servers)			
								vpnbrz (1)		2.61%	
								vpnbrc (1)		1.15%	
								rhel7v (2)		0.76%	

- Quick overview of all LPARs
  - Operations or system support
- Total and individual processor CPU utilization
- Linux servers
  - Local and Distributed CPU busy
  - Number of processors
  - Swap rate and used – click on + to expand
- VSE guests
- Other users
- URL: <http://hostname/ZVIEW>

## Layout options

- Use VSIMAIN Config option
  - Not all options show if direct XEDIT file
  - F10 on ZVIEW product line
  - Fast path command: VSIMAIN CONFIG ZVIEW *configfn configft*
  - F1 on parameter for help or anywhere else for all parameter help
- Configuration file: ZVIEW CECLIST

## System Overview Parameters

Web page title Velocity Software System Summary Demo V4  
Number of graphs across 3  
Maximum local Linux guests 15  
Maximum distributed Linux guests 5  
Maximum users 5  
CPU count source USERDATA  
Server click URL /zview/zview.cgi  
Server click parms graph=NODEUTM&parm=&server  
User click URL /zview/zview.cgi  
User click parms graph=USERCPU&parm=&server  
Page links from current host NO

## Thresholds

Threshold TOTALCPU	Warning	70	Value	90	Title change	YES
Threshold CPU	Warning	70	Value	90	Title change	YES
Threshold SERVERCPU	Warning	70	Value	90	Title change	YES
Threshold SWAPRATE	Warning	3	Value	10	Title change	YES
Threshold SWAPUSED	Warning	90	Value	95	Title change	YES

## Group names listed in display order

Group name First level  
Group name Second level

System name VM1  
System URL //WWW.VELLOCITYSOFTWARE.COM/ZVIEW/  
System heading VSIVM1  
System group First level

System name VM2  
System URL //VSIVM2.VELLOCITYSOFTWARE.COM/ZVIEW/  
System heading VSIVM2  
System group First level

## System Overview Parameters

- Title
- Number of columns
- Number of Linux servers (local & distributed) & users
  - \*, 0 or number
- Where to get number of processors for Linux servers
  - Some older versions of net-snmp return incorrect values
  - *CPU count source* USERDATA recommended for local servers
- Linux and user name click specification
  - Specify zVIEW graph, report or view or some other URL
- Page links from current host
  - Current host serves all data instead of directed to selected host



## Thresholds

- Total CPU, individual CPU, server CPU, swap rate and swap used
- Warning (yellow) and Value (red)
- Set value for swap rate or swap used to enable
- Triggered threshold
  - Color title and line
    - Title coloring now configurable
  - Automatically expand CPUs or swap
  - Focus on first threshold

- **Groups and LPARs**
  - Groups can be defined to group LPARs by CEC or location
  - Set names, heading, URL and group
    - Also used by zVIEW to define available hosts
    - Match URL to what user would enter in browser
      - IP address or host name
      - http://, https:// or //
- **Expand button**
  - Expand LPAR data for easier viewing
  - Will stay expanded across refreshes



# Enterprise Performance Summary

## DC1

<b>V1P1</b> Expand V1P1 07:12 IFL Total (20) 855.30% Linux Nodes (zVM-Guests)		<b>V1P2</b> Expand V1P2 07:12 IFL Total (20) 834.02% Linux Nodes (zVM-Guests)		<b>V1P3</b> Expand V1P3 07:12 IFL Total (20) 668.29% Linux Nodes (zVM-Guests)		<b>V1P4</b> Expand V1P4 07:12 IFL Total (19) 433.28% Linux Nodes (zVM-Guests)	
<b>V1N1</b> Expand V1N1 07:12 IFL Total (8) 265.41% Linux Nodes (zVM-Guests)		<b>V1N2</b> Expand V1N2 07:12 IFL Total (8) 7.91% Linux Nodes (zVM-Guests)		<b>P105</b> Expand P105 07:12 IFL Total (20) 13.22% Linux Nodes (zVM-Guests)		<b>P106</b> Expand P106 07:12 IFL Total (20) 12.99% Linux Nodes (zVM-Guests)	
<b>P107</b> Expand P107 07:12 IFL Total (14) 7.56% Linux Nodes (zVM-Guests)		<b>P108</b> Expand P108 07:12 IFL Total (14) 8.56% Linux Nodes (zVM-Guests)		<b>P109</b> Expand P109 07:12 IFL Total (8) 1.49% Linux Nodes (zVM-Guests)		<b>P110</b> Expand P110 07:12 IFL Total (8) 1.53% Linux Nodes (zVM-Guests)	
<b>P113</b> Expand P113 07:12 IFL Total (14) 2.56% Linux Nodes (zVM-Guests)		<b>P114</b> Expand P114 07:12 IFL Total (14) 4.88% Linux Nodes (zVM-Guests)					

## DC2

<b>V2P1</b> Expand V2P1 07:12 IFL Total (32) 482.74% Linux Nodes (zVM-Guests)		<b>V2P2</b> Expand V2P2 07:12 IFL Total (32) 825.66% Linux Nodes (zVM-Guests)		<b>V2P3</b> Expand 3E0FC7-21 86.95% 3E0FC7-22 15.24% Linux Nodes (zVM-Guests)		<b>V2P4</b> Expand V2P4 07:12 IFL Total (32) 312.03% Linux Nodes (zVM-Guests)	
<b>V2P5</b> Expand V2P5 07:12 IFL Total (20) 340.64% Linux Nodes (zVM-Guests)		<b>V2P6</b> Expand V2P6 07:12 IFL Total (20) 348.75% Linux Nodes (zVM-Guests)		<b>P207</b> Expand P207 07:12 IFL Total (24) 585.87% Linux Nodes (zVM-Guests)		<b>P208</b> Expand P208 07:12 IFL Total (24) 485.11% Linux Nodes (zVM-Guests)	
<b>P209</b> Expand P209 07:12 IFL Total (32) 884.22% Linux Nodes (zVM-Guests)		<b>P210</b> Expand P210 07:12 IFL Total (32) 836.33% Linux Nodes (zVM-Guests)		<b>P211</b> Expand P211 07:12 IFL Total (32) 1032.18% Linux Nodes (zVM-Guests)		<b>P212</b> Expand P212 07:12 IFL Total (28) 685.29% Linux Nodes (zVM-Guests)	
<b>P213</b> Expand 333B77-19 71.94% 333B77-20 9.94% Linux Nodes (zVM-Guests)		<b>P214</b> Expand P214 07:12 IFL Total (28) 439.01% Linux Nodes (zVM-Guests)		<b>P215</b> Expand P215 07:12 IFL Total (24) 380.90% Linux Nodes (zVM-Guests)		<b>P216</b> Expand P216 07:12 IFL Total (24) 348.65% Linux Nodes (zVM-Guests)	
<b>P217</b> Expand P217 07:12 IFL Total (20) 2.64% Linux Nodes (zVM-Guests)		<b>P218</b> Expand P218 07:12 IFL Total (20) 4.46% Linux Nodes (zVM-Guests)		<b>P219</b> Expand Linux Nodes (zVM-Guests)		<b>P220</b> Expand P220 07:12 IFL Total (24) 1.15% Linux Nodes (zVM-Guests)	
<b>C203</b> Expand C203 07:12 IFL Total (16) 457.52% Linux Nodes (zVM-Guests)		<b>C204</b> Expand C204 07:12 IFL Total (10) 290.24% Linux Nodes (zVM-Guests)		<b>C205</b> Expand C205 07:12 IFL Total (10) 791.06% 3520D7-0 80.10% Linux Nodes (zVM-Guests)		<b>C206</b> Expand C206 07:12 IFL Total (10) 636.96% Linux Nodes (zVM-Guests)	
<b>C207</b> Expand C207 07:12 IFL Total (12) 92.29% Linux Nodes (zVM-Guests)		<b>C208</b> Expand C208 07:12 IFL Total (12) 1.33% Linux Nodes (zVM-Guests)		<b>V2N1</b> Expand V2N1 07:12 IFL Total (10) 268.45% Linux Nodes (zVM-Guests)		<b>V2N2</b> Expand V2N2 07:12 IFL Total (28) 62.95% Linux Nodes (zVM-Guests)	
<b>V2N3</b> Expand V2N3 07:12 IFL Total (12) 1.22% Linux Nodes (zVM-Guests)		<b>V2C1</b> Expand V2C1 07:12 IFL Total (16) 656.29% Linux Nodes (zVM-Guests)		<b>V2C2</b> Expand V2C2 07:12 IFL Total (12) 617.71% Linux Nodes (zVM-Guests)			

## CDL

<b>VLB1</b> Expand VLB1 07:12 IFL Total (20) 616.85% Linux Nodes (zVM-Guests)		<b>VLB2</b> Expand VLB2 07:12 IFL Total (12) 1158.17% 02CA7-0 83.38% Linux Nodes (zVM-Guests)		<b>VLB3</b> Expand VLB3 07:12 IFL Total (20) 301.97% Linux Nodes (zVM-Guests)		<b>VLB4</b> Expand VLB4 07:12 IFL Total (14) 847.53% Linux Nodes (zVM-Guests)	
<b>VLB5</b> Expand VLB5 07:12 IFL Total (20) 0.44% Linux Nodes (zVM-Guests)		<b>VLB6</b> Expand 061A67-6 81.30% 061A67-7 69.33% Linux Nodes (zVM-Guests)		<b>VLB8</b> Expand VLB8 07:12 IFL Total (20) 159.02% Linux Nodes (zVM-Guests)		<b>ZS01</b> Expand ZS01 07:12 IFL Total (2) 1.01% Linux Nodes (zVM-Guests)	

URL: <http://hostname/ZVIEW/ZVIEW.CGI>

DEMO - zVIEW - Google Chrome  
 demo.velocitysoftware.com/ZVIEW/zview.cgi  
 Today is Monday 13 Jun 2016 zVIEW Version 4240

VELOCITY SOFTWARE  
 zVIEW - Velocity Software - VSIVM4 (DEMO)  
 Performance Displays for zVM and Linux on System z

Menu

SYSTEM

### ESAMAIN - System Overview - DEMO

Time	Users	Transact.	Processor	Cap	Storage (MB)	...
	On	In Q	Utilization	ture	Fixed Active Stor	...
	Actv	Sec.	CPUS	Total	Ratio	User Resid. Load XStor
10:04:00	92	58 20.0	19.9 0.31	2 22.3	19.3	100 47 12689 0.4
10:03:00	92	54 34.0	19.2 0.41	2 22.1	19.1	100 47 12676 0.4
10:02:00	92	51 25.0	18.6 0.52	2 23.0	19.8	100 47 12662 0.4
10:01:00	92	46 25.0	19.4 0.43	2 28.0	24.4	100 47 12639 0.4
10:00:00	92	61 25.0	20.6 0.31	2 19.9	17.1	100 47 12693 0.4
09:59:00	92	44 18.0	20.1 0.38	2 19.7	17.0	100 47 12636 0.4
09:58:00	92	51 20.0	18.5 0.54	2 18.8	15.9	100 47 12661 0.4
09:57:00	92	50 22.0	17.3 0.71	2 20.2	17.3	100 47 12652 0.4
09:56:00	92	49 28.0	18.9 0.35	2 72.5	69.9	100 47 12650 0.4
09:55:00	92	61 18.0	20.0 0.29	2 22.4	19.6	100 47 12693 0.4
09:54:00	92	44 14.0	20.5 0.27	2 20.6	17.9	100 46 12636 0.4
09:53:00	92	46 18.0	20.4 0.28	2 21.5	18.7	100 46 12642 0.4
09:52:00	92	54 13.0	20.8 0.28	2 25.8	21.4	100 47 12663 0.4
09:51:00	92	48 18.0	20.8 0.28	2 23.9	20.9	100 47 12649 0.4
09:50:00	92	61 18.0	20.7 0.27	2 19.2	16.0	100 47 12693 0.4
09:49:00	92	45 15.0	21.1 0.28	2 19.8	16.7	100 47 12639 0.4
09:48:00	92	48 21.0	21.2 0.29	2 20.3	17.1	100 47 12647 0.4

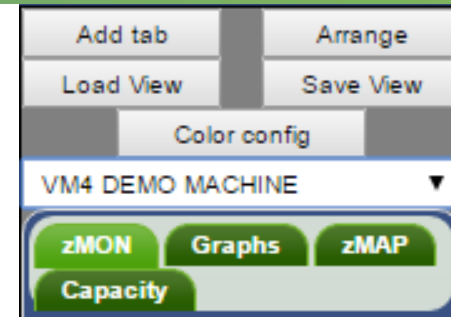
### CPU Utilization - DEMO

### DASD I/O Rate - DEMO

### LPAR Shared CP Utilization - DEMO

### LPAR Shared IFL Utilization - DEMO

### User Class Utilization - DEMO



## Add tab

- New tab to organize new graphs and reports

## Arrange

- Up to 12 graphs and reports

## Load/Save View

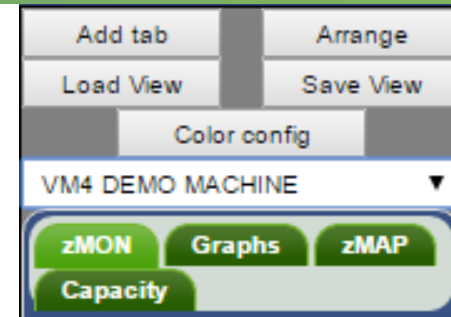
- Load or save from system, cookie or local disk

## LPAR

- Drop down box for LPARs defined in ZVIEW CECLIST
- LPAR to obtain data from

## Color config

- Color wheel to define series colors
- Specific color: LPAR, server, user or class
- Alternate name for LPAR, server, user or class on graphs



## ZMON & Graphs

- Realtime or adhoc reports or graphs

## ZMAP

- Daily, weekly or monthly ZMAP reports

## Capacity

- Daily, weekly, monthly or trending graphs
- Created with RUNCHART utility

# Configuration

```

ZVIEWCFG                               Velocity Software Inc.           ZVIEW PROD4240
                                CONFIG ZVIEW Configuration

Startup view SYSTEM      Load startup view when change host NO
Header title Performance Displays for zVM and Linux on System z
Floating main menu          YES
zMap page group count      100
Host code page              1047
Debug                       NO

Graph options
Graph name _____ Threshold warn _____ Value _____ Type _____


Excluded zMON screens _____ Exclude from Index NO

Default series colors for graphs #4bb2c5 #EAA228 #c5b47f #579575 #953579
#839557 #4b5de4 #958c12 #ff5800 #d8b83f #0085cc #c747a3 #cddf54 #FBD178
#26B4E3 #bd70c7 #2020E0 #00FFFF #FF00FF #00FF00 #800000 #ffc0cb #000080
#808000 #800080 #8A2BE2 #008080 #4B0082 #808080 #281415 _____

Colors for specific servers/classes
Server/class: Name _____ Color _____
                Alternate name _____

PF1: Help      PF2: Validate/Save  PF3: Exit      PF5: Add line   PF6: Delete line
                PF8: Down          PF10: Default  PF12: Cancel

```

- Startup view
  - Start up view or NONE and on host change
- Title
- Floating menu
  - Previous menu position saved in local storage
- zMAP page group count 
  - Can affect response time and web server storage
- Host code page
  - May need to change webserver DEFAULT\_CHARSET ISO-8859-1



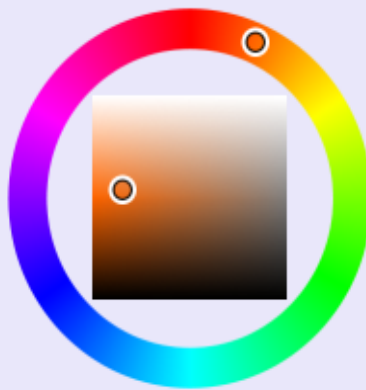
- Graph options
  - Graph names from graph Preferences, About
  - Default threshold values
  - Default graph type
    - Vertical and horizontal bar and stacked bar
    - Area and stacked area
    - Line
    - Table
    - Pie and pie percentage
- Excluded ZMON screens
  - Excluded from screen index

- Series colors
  - Easier specified with Color config button
- Alternate server/class names

**zVIEW - Set graph colors** ✕

Default Series Colors

Color 1: ✕ #4bb2c5	Color 2: ✕ #EAA228	Color 3: ✕ #c5b47f	Color 4: ✕ #579575	Color 5: ✕ #953579	Color 6: ✕ #839557	Color 7: ✕ #4b5de4	Color 8: ✕ #958c12
Color 9: ✕ #f5800	Color 10: ✕ #d8b83f	Color 11: ✕ #0085cc	Color 12: ✕ #c747a3	Color 13: ✕ #cddf54	Color 14: ✕ #FBD178	Color 15: ✕ #26B4E3	Color 16: ✕ #bd70c7
Color 17: ✕ #2020E0	Color 18: ✕ #00FFFF	Color 19: ✕ #FF00FF	Color 20: ✕ #00FF00	Color 21: ✕ #800000	Color 22: ✕ #ffc0cb	Color 23: ✕ #000080	Color 24: ✕ #808000
Color 25: ✕ #800080	Color 26: ✕ #8A2BE2	Color 27: ✕ #008080	Color 28: ✕ #4B0082	Color 29: ✕ #808080	Color 30: ✕ #281415		



Custom colors and name by server ID/class name

✕ +newserver	#ed7526
+newalname	

## Performance data and adhoc queries

- ZMON reports

- Over 199 reports
- Hover report for description
- Symbols across the top
  - Drill down available – single click on a line, click again to close
  - Title with host name – click and hold to move
  - Download report – PDF, text or CSV
  - Pause or resume
  - Change time range, node, user, class, etc – adhoc reports
  - Report fields help
  - Fully minimize
  - Minimize or maximize
  - Close report

- ZMON reports

- Refresh every minute

- Sort on columns

- Primary, secondary, tertiary – last selected column primary
- First click descending, then ascending
- Click anywhere else in heading to revert to default sort

- Thresholds

- Set in MONPROF COPY – defaults in ESAMONDF COPY

- zALERT

- Click thru on alert to report, graph or view

- zOPERATOR

- zTUNE

Time	UserID /Class	<-use CPU%> Total	<Resident-> Virt	<-----Main Storage-----> Total	Actv	Lock -ed	<-WSSi-ed Total
12:22:00	System:	22.62	20.57	3284K	3265K	7367	3279K
12:22:00	*TheUsrs	9.38	8.90	601K	601K	126	603K

- **Graphs**
  - 130 graphs
  - Symbols across the top
    - Drill down available – last interval get last 30 minutes of data
    - Title with host name – click and hold to move
    - Download graph – PDF, PNG or JPG
    - Hide or show legend
    - Pause or resume
    - Change time range, node, user, class, etc – adhoc reports
    - Preferences
    - Fully minimize
    - Minimize or maximize
    - Close graph

- Graphs
  - Preferences
    - Change graph
      - Vertical and horizontal bar and stacked bar
      - Area and stacked area
      - Line
      - Table
      - Pie and pie percentage
      - Only shows options available for the data
    - Adjust parms – same as pencil
    - Adjust y axis – change scale
      - Single click in y axis area to scale to present data
      - Good to view small values
    - Help – general zVIEW help
    - About – graph name and zVIEW version

**Adjust Parameters** ✕

Current interval

Start date 2017/06/20

Start time 12:51

End date 2017/06/20

End time 12:51

Class \*

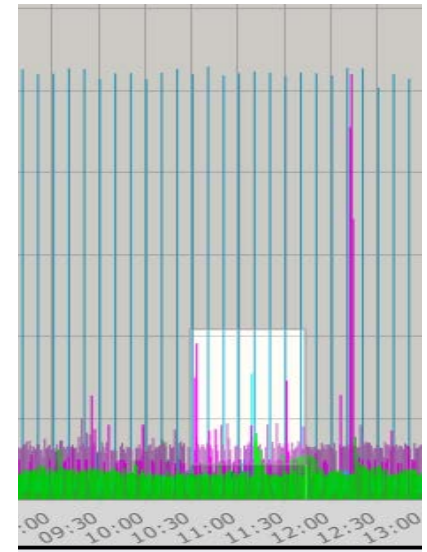
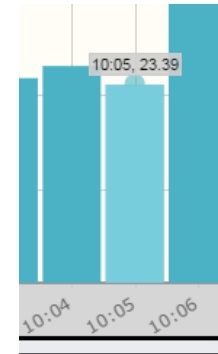
Node \*

Close Submit

- Graphs
  - Preferences
    - Thresholds
      - Threshold and warning values and bars
      - Refresh clear
        - Clear title and tab colors when data refreshed
      - Relative CPU
        - Enter values between 0 and 100%
        - Thresholds adjusted based on the number of processors
        - Good to use if varying processors on and off

- Graphs

- Hover interval to show data values
- Turning off data series
  - Click on name in legend to turn off/on
  - Not for stacked graphs or inconsistent data
  - Turn off high series to rescale Y axis
- Zoom
  - Blow up area to see values or drill down
  - Right click, hold and drag area to zoom
  - Multiple zooms allowed
  - Double click to return to original graph
  - Pause graph first, refresh will unzoom





- **Tabs**

- Organize by server, LPAR, etc
- Views will load in new tab
- Symbols on tab
  - Graph or report title in focus or view name and host name
  - General zVIEW help
  - Window list – bring hidden windows into focus
  - Tab parameters
    - All existing and new graphs or reports will use parameters
    - Good for looking at a specific time frame and/or server
  - Pause or resume all graphs and reports in the tab
  - Close tab and all the graphs and reports in the tab

Tab Parameters

Current interval

Start date

Start time

End date

End time

Relative

Class

Node

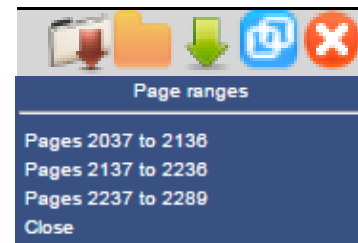
User

Device

Close Submit

## ZMAP reports

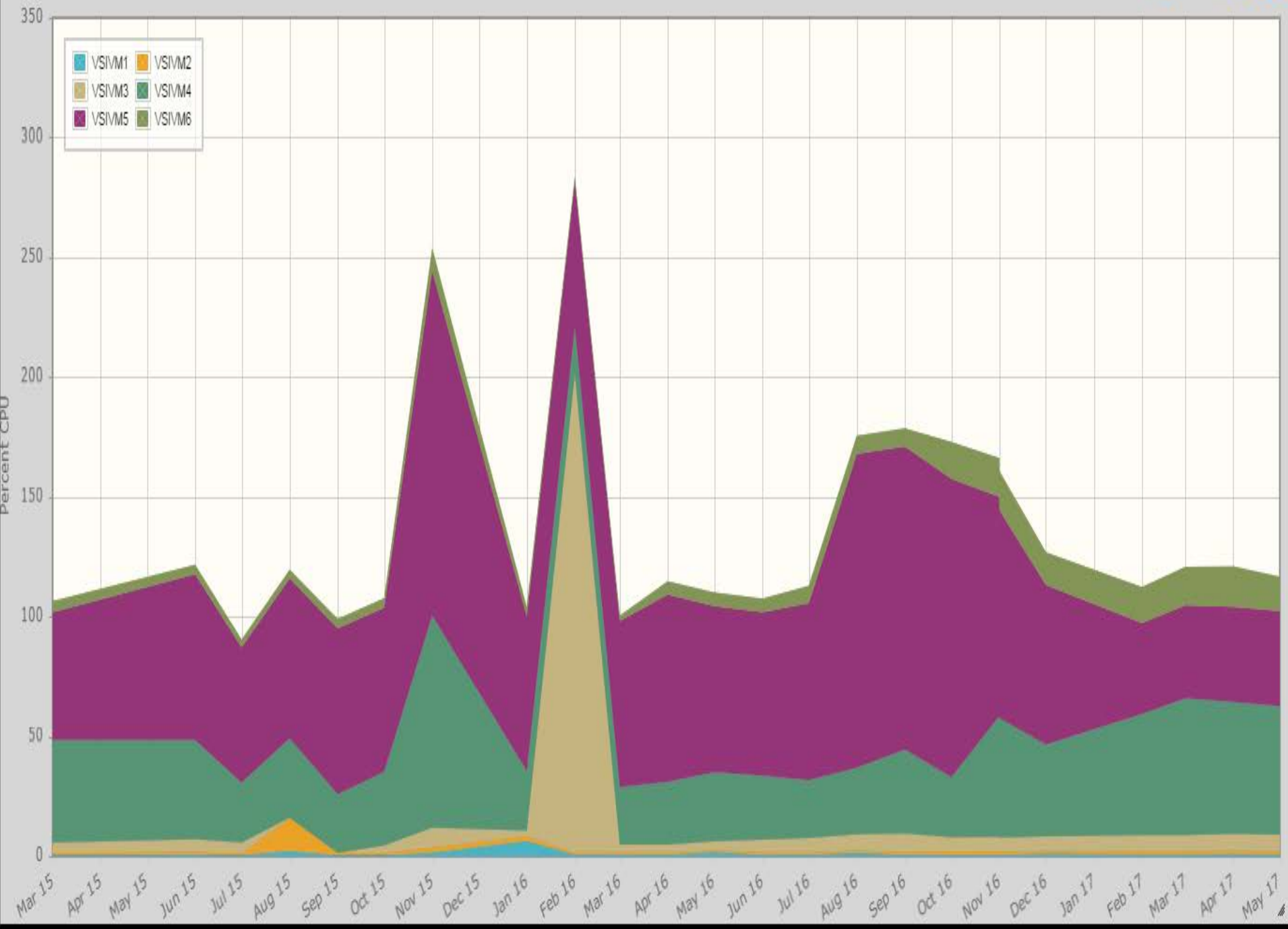
- Read from ZMAP 191 disk – OUT01 file type
- Daily, weekly and monthly
- Number of days kept depends on size of disk
- Select day, week or month for available reports
- Page range selection
  - Number of pages determined by *zMap page group count* parm



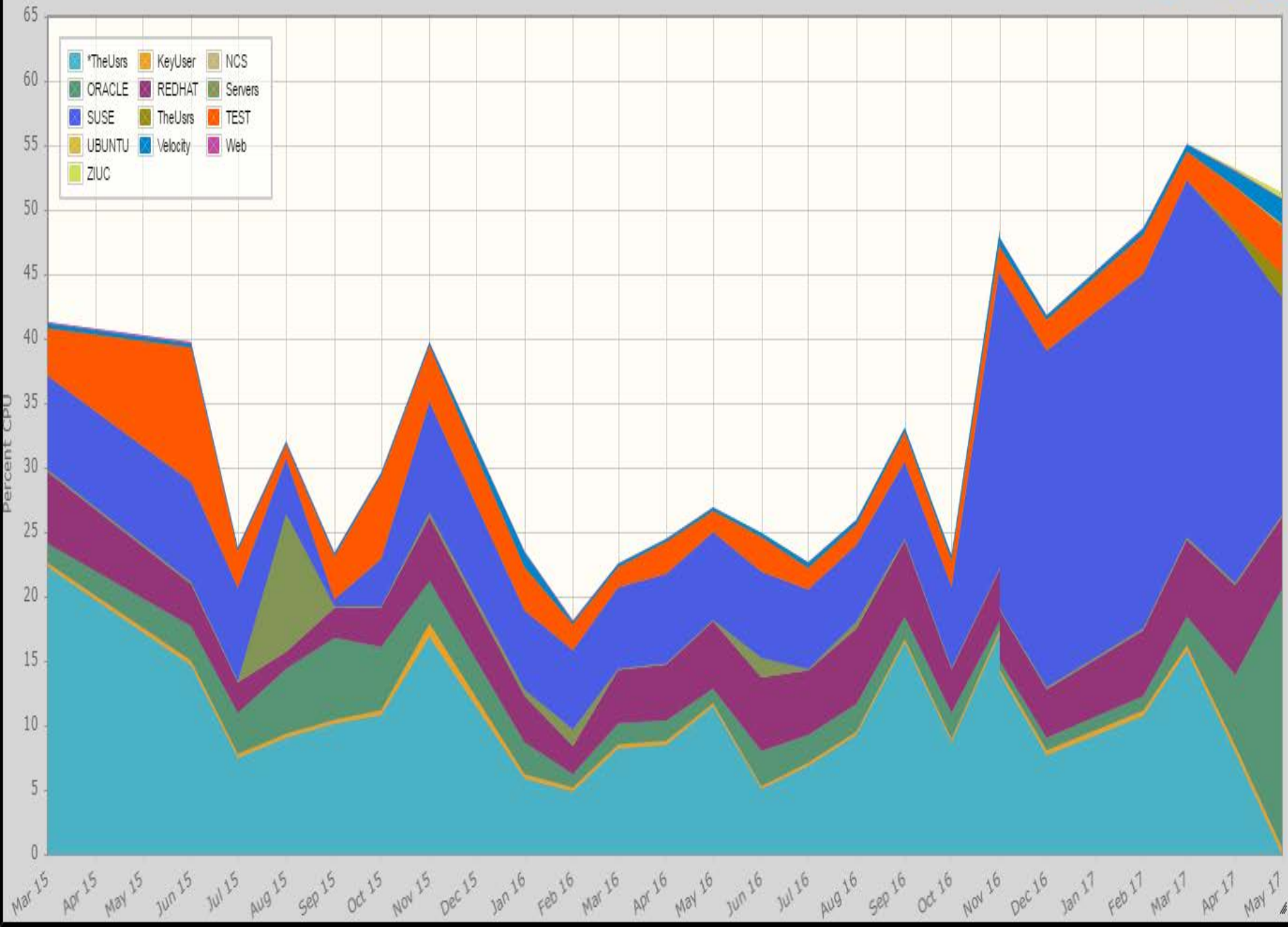
## Capacity Graphs

- Long term graphs to analyze trends
- Daily, weekly, monthly and trending
  - Daily – One or 15 minute intervals
  - Trending - Daily, weekly and monthly
- Created during nightly ZMAP processing
  - Fast data retrieval and graphing
- Uses ESAEXTR
- Defined in ZMAP RUNCHART PARMS file
  - Samples provided
  - Some need customization

# Monthly LPAR CEC Summary - VM4



# Monthly User Class CPU - VM4



## Views

- Save and reload commonly used graphs and reports
- Create system or personalized start-up view
- Save/load views
  - System – CONFIG disk – must be signed onto Portal
  - Cookie – Limited to max size of cookie ~4k
  - PC – Can't use for start-up
- Parameters & other customization saved with view

## Views

- **Tab parms**
  - Change graphs and reports for particular user or node
  - Relative option for capacity graphs
    - Depending on graph type can set for:
      - Yesterday
      - Last business day
      - Last week
      - Last month
- **Load view host selection**
  - Check box to use current host or use host saved
- **Load or Save view to remove personal start-up**

- Direct URL access

- Can save as bookmark
- Create HTML page with links

`<p><a target="_blank" href="zview.cgi?graph=procutil&node=suselnx2">Process graph</a></p>`

- URL for report graph or view
  - `http://myhost.com/zview/zview.cgi?screen=esamain`
  - `http://myhost.com/zview/zview.cgi?graph=cpuutil`
  - `http://myhost.com/zview/zview.cgi?view=linux`
  - *`http://host/ZVIEW.CGI?view=(view1,view2,...,viewn)`*
- Menu options
  - `&menu=open` – Open floating menu
  - `&menu=closed` – Closed floating menu
  - `&menu=fixed` – Fixed menu on left
  - `&menu=no` – No menu will be displayed



- Direct URL access
  - Other qualifiers
    - &sdate - Start date (yy/mm/dd)
    - &stime - Start time (hh:mm)
    - &edate - End date
    - &etime - End time
    - &node - Node name
    - &user - User name
    - &class - Class name
    - &lpar - LPAR name
    - &device - device number

## Path options

- Set view, graph or report for a path
- Initial class, node, user, LPAR and/or device
- Fixed, floating, closed or no menu
- Restrict menu and submenu items
- Good for linux admin or manager so they can see what they need/want
- Setup:
  - Define path to ZVWS in DEFAULT WEBHOST and restart
  - VSIMAIN CONFIG ZVIEW, cursor to  
PTHPARMS SAMPPATH and press F5.
  - Set path name and select to define path options
- URL: <http://host/path/>

Parms for path

View            LNXNODE  
 Graph  
 zMON report  
  
 Class          ORACLE  
 Node          S11S2ORA  
 User  
 LPAR  
 Device

Menu option    FIXED

ZMON menu      YES  
 System                            NO  
 Service Level Analysis          NO  
 User                                NO  
 Shared File System               NO  
 CPU                                 NO  
 Main Storage                      NO  
 Paging and Spooling              NO  
 Input/Output Subsystem          NO  
 TCP/IP Network                    NO  
 Linux Reports                      YES  
 Linux Applications Reports       YES  
 VSE                                 NO  
 Screen Index                      NO  
 Emulation                         NO  
 z/ALERT Definitions              NO  
 zOPERATOR                         NO  
 zTUNE                                NO  
 Custom Samples                    NO  
 Locally defined                    NO

Graph menu     YES  
 System                            NO  
 User                                NO  
 Linux                                YES  
 Linux Applications                YES  
 Storage                            NO  
 I/O                                 NO  
 Paging                              NO  
 Network                            NO  
 Custom                             NO

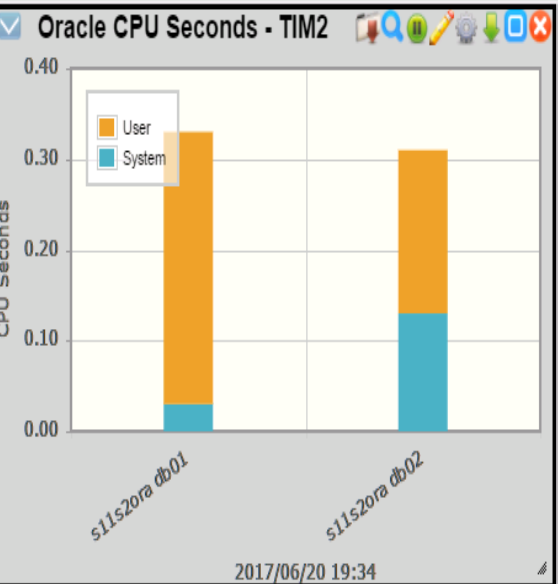
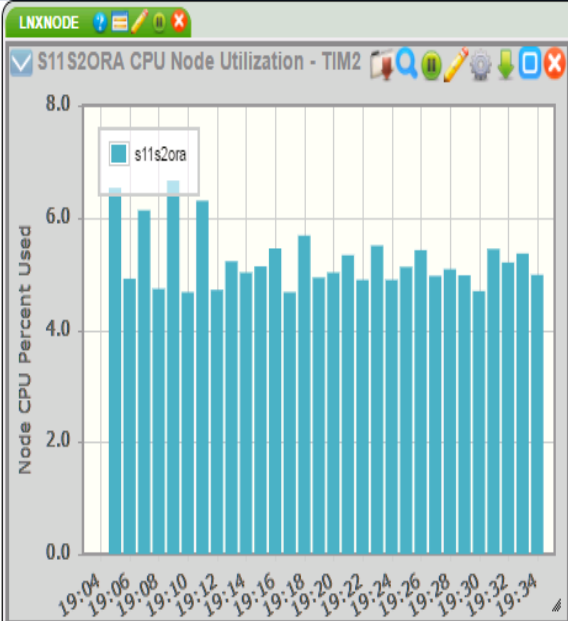
ZMAP menu      NO

Capacity menu NO

# zVIEW - Tim's Test Machine (TIM2)

## Performance Displays for zVM and Linux on System z

Add tab Arrange  
 Load View Save View  
 Color config  
 TIMS TEST MACHINE 1234567  
 zMON Graphs  
 Network  
 Linux Reports  
 Linux Application Reports



### ZOPER - zOPERATOR Console - TIM2

```

17:05:06 S11S2ORA -- MARK --
17:25:06 S11S2ORA -- MARK --
17:45:06 S11S2ORA -- MARK --
18:05:06 S11S2ORA -- MARK --
18:25:06 S11S2ORA -- MARK --
18:45:06 S11S2ORA -- MARK --
19:05:06 S11S2ORA -- MARK --
19:25:06 S11S2ORA -- MARK --
19:45:06 S11S2ORA -- MARK --
20:05:06 S11S2ORA -- MARK --
20:25:06 S11S2ORA -- MARK --
20:45:06 S11S2ORA -- MARK --
21:05:06 S11S2ORA -- MARK --
21:25:07 S11S2ORA -- MARK --
21:45:07 S11S2ORA -- MARK --
22:02:06 S11S2ORA AgentX master disconnected us, reconnecting in 60
22:03:06 S11S2ORA NET-SNMP version 5.4.2.1 AgentX subagent connected
22:05:07 S11S2ORA -- MARK --
22:25:07 S11S2ORA -- MARK --
22:45:07 S11S2ORA -- MARK --
23:00:01 S11S2ORA /usr/sbin/cron[54952]: (root) CMD (/home/oracle/clean
23:20:01 S11S2ORA -- MARK --
    
```

### ESALNXC - Linux Process Configuration - TIM2

Node	Process Name	ID	PPID	Group	Appl Name	Appl	<-User I
s11s2ora	init	1	1	1	1	init	root
s11s2ora	kthreadd	2	1	0	1	Kernel	root
s11s2ora	ksoftirqd/0	3	2	0	1	Kernel	root
s11s2ora	kworker/u:0	5	2	0	1	Kernel	root
s11s2ora	migration/0	6	2	0	1	Kernel	root
s11s2ora	migration/1	7	2	0	1	Kernel	root
s11s2ora	ksoftirqd/1	9	2	0	1	Kernel	root
s11s2ora	cpuset	11	2	0	1	Kernel	root
s11s2ora	khelper	12	2	0	1	Kernel	root
s11s2ora	netns	13	2	0	1	Kernel	root
s11s2ora	sync_supers	14	2	0	1	Kernel	root
s11s2ora	bdi-default	15	2	0	1	Kernel	root
s11s2ora	kintegrityd	16	2	0	1	Kernel	root
s11s2ora	kblockd	17	2	0	1	Kernel	root
s11s2ora	md	18	2	0	1	Kernel	root
s11s2ora	cio	19	2	0	1	Kernel	root
s11s2ora	cio_chp	20	2	0	1	Kernel	root
s11s2ora	kworker/u:1	21	2	0	1	Kernel	root

### ESALNXP - LINUX VSI Process Statistics Report - TIM2

Time	Node	Name	ID	PPID	GRP	Total	sys	user	syst	usrtr	value	Total	sys	user	syst	usrtr	Size	RSS	min	maj	mint	majt	User	
19:34:00	s11s2ora	oracle	51755	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	415K	29K	139	0	0	0	oracle
19:34:00	s11s2ora	oracle	50858	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	472K	89K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50796	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	467K	81K	1	0	0	0	oracle
19:34:00	s11s2ora	oracle	50794	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	472K	101K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50786	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	482K	12K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50780	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	468K	14K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50770	1	0	0.5	0.2	0.2	0	0	0	0	0.3	0.1	0.1	0	0	467K	6276	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50718	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	421K	76K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50696	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	424K	101K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50639	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	418K	100K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50635	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	423K	89K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50633	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	414K	13K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50631	1	0	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	429K	12K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50625	1	0	0.1	0	0.1	0	0	0	0	0.0	0	0.0	0	0	415K	14K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50615	1	0	0.5	0.2	0.3	0	0	0	0	0.3	0.1	0.2	0	0	413K	6364	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50613	1	0	0.0	0.0	0.0	0	0	0	0	0.0	0.0	0.0	0	0	413K	6008	1	0	3	0	oracle
19:34:00	s11s2ora	oracle	14399	1	14399	0.0	0	0.0	0	0	0	0	0.0	0	0.0	0	0	471K	79K	0	0	0	0	oracle
19:34:00	s11s2ora	vsiora	3292	3269	1159	0.3	0.1	0.2	0	0	-10	0.2	0.0	0.1	0	0	58K	6872	28	0	0	0	root	

## Securing ZVIEW

- ZVWS AUTHLIST file
  - Put in ZVIEW directory
  - Add ALLOWs for allowed users
  - OMIT \*.GIF \*.PNG \*.JPG
  - May want to OMIT CECUTIL.CGI for Enterprise View
- ZVWS PASSWORD\_TIMEOUT parameter
  - Set in CONFIG ZVWS
  - Inactivity time to reprompt for password
  - Default 15 minutes

## Recent changes

- New reports
  - ESAHPP – HyperPAV
  - ESAHSTC – Linux HOST processes
  - ESAJVMT – Java thread analysis
  - ESALNXF – Linux file system
  - ESALNXI – Linux process I/O
  - ESATCPU – UDP analysis
  - ESAUSP5/ESAUSR5 – User SMT analysis
  - ESAUSRD/ESALNXG – Diagnose analysis (VSI MIB 1.4-8)
- Updated reports
  - ESAPSDV – z/VM 6.4 paging
  - Several LNX and TCP reports to include LPAR and MIB level

## Recent changes

- New graphs
  - FCP, QDIO and VSWITCH
  - Linux file system I/O
  - Java thread CPU
- Graph menu reorganization
- Less 'No data available'
  - Use interval data when no history data
  - Don't stop on large time period requests
- Use variable definitions in MONPROF COPY (NCPUS)
- ZMAP reports headings locked and dates and times highlighted





# Identifying Problems

- Alerts
  - ZALERT provides lot of samples
  - Send traps to trap manager – SPLUNK
- Thresholds
  - Enterprise View, graphs and reports
- Organize users into classes

## Diagnosing problems

- Start on the highest level
- Use Performance Flowchart
  - <https://www.velocitysoftware.com/present/flowchrt.html>
- Before and during problem performance data
  - ARC\_DAYS parameter in RUNAUTO PARMS
  - Increase ZWRITE 191 disk
  - ESACLDISK\_PERCENT in ESAPARM EXEC
- ESAXACT report

Questions ?