Monitoring and finding performance problems using zVIEW

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Agenda

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

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Agenda

- 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

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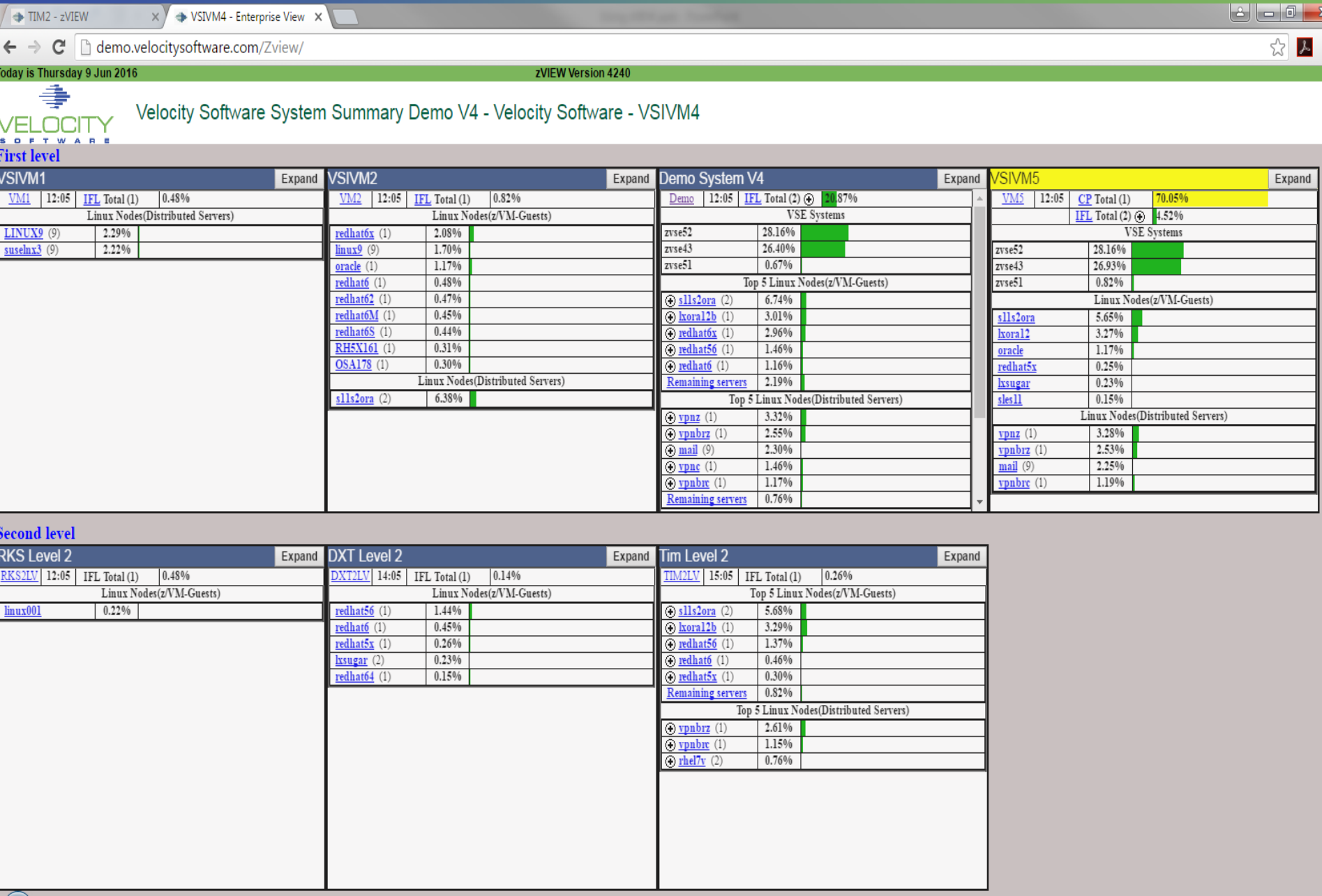
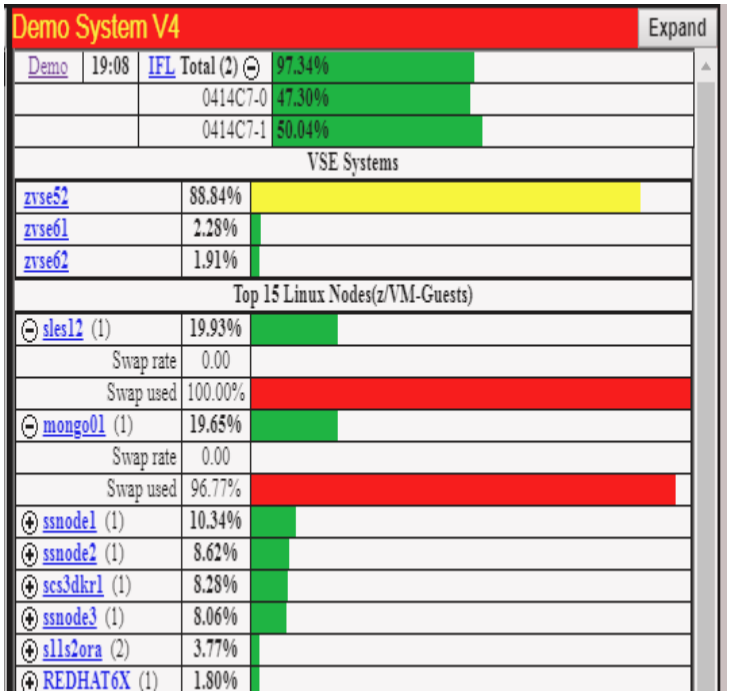
Enterprise View



Enterprise View

- 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



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Layout options

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

```
 CECUTIL                    Velocity Software Inc.                ZVIEW PROD5100
                          ZVIEW CECLIST Configuration


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  view=mylinux&node=&server
User click URL    /zview/zview.cgi
User click parms    graph=USERCPU&user=&server
VSE click URL     /zview/zview.cgi
VSE click parms     view=VSE&user=&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.VELOCITYSOFTWARE.COM/ZVIEW/
System heading VSIVM1
System group First level

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

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

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
- Server, user and VSE 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
  - Others have default values
- Triggered threshold
  - Color title and line
    - Title coloring now configurable
  - Automatically expand CPUs or swap
  - Focus on first threshold

Enterprise View

- 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

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Enterprise Performance Summary

DC1

V1P1	Expand	V1P2	Expand	V1P3	Expand	V1P4	Expand
V1P1 07:12 IFL Total (20) 185.30%		V1P2 07:12 IFL Total (20) 184.02%		V1P3 07:12 IFL Total (20) 668.29%		V1P4 07:12 IFL Total (19) 433.28%	
Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)	

V1N1	Expand	V1N2	Expand	P105	Expand	P106	Expand
V1N1 07:12 IFL Total (8) 265.41%		V1N2 07:12 IFL Total (8) 87.91%		P105 07:12 IFL Total (20) 13.22%		P106 07:12 IFL Total (20) 12.99%	
Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)	

P107	Expand	P108	Expand	P109	Expand	P110	Expand
P107 07:12 IFL Total (14) 47.56%		P108 07:12 IFL Total (14) 48.56%		P109 07:12 IFL Total (8) 1.49%		P110 07:12 IFL Total (8) 1.53%	
Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)					

P113	Expand	P114	Expand
P113 07:12 IFL Total (14) 42.56%		P114 07:12 IFL Total (14) 54.88%	
Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)	

DC2

V2P1	Expand	V2P2	Expand	V2P3	Expand	V2P4	Expand
V2P1 07:12 IFL Total (32) 482.74%		V2P2 07:12 IFL Total (32) 325.26%		3E0FC7-21 86.95%		V2P4 07:12 IFL Total (32) 312.03%	
Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		3E0FC7-22 15.24%		Linux Nodes (z/VM-Guests)	

V2P5	Expand	V2P6	Expand	P207	Expand	P208	Expand
V2P5 07:12 IFL Total (20) 340.64%		V2P6 07:12 IFL Total (20) 348.75%		P207 07:12 IFL Total (24) 585.87%		P208 07:12 IFL Total (24) 485.11%	
Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)	

P209	Expand	P210	Expand	P211	Expand	P212	Expand
P209 07:12 IFL Total (32) 384.22%		P210 07:12 IFL Total (32) 336.23%		P211 07:12 IFL Total (32) 1032.18%		P212 07:12 IFL Total (28) 505.29%	
Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)	

P213	Expand	P214	Expand	P215	Expand	P216	Expand
333B77-19 72.94%		P214 07:12 IFL Total (28) 439.01%		P215 07:12 IFL Total (24) 380.90%		P216 07:12 IFL Total (24) 348.65%	
333B77-20 9.96%		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)	

P217	Expand	P218	Expand	P219	Expand	P220	Expand
P217 07:12 IFL Total (20) 102.64%		P218 07:12 IFL Total (20) 94.46%				P220 07:12 IFL Total (24) 1.15%	
Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)					

C203	Expand	C204	Expand	C205	Expand	C206	Expand
C203 07:12 IFL Total (16) 457.52%		C204 07:12 IFL Total (10) 290.24%		C205 07:12 IFL Total (10) 791.06%		C206 07:12 IFL Total (10) 636.96%	
Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)		3520D7-0 80.10%		Linux Nodes (z/VM-Guests)	

C207	Expand	C208	Expand	V2N1	Expand	V2N2	Expand
C207 07:12 IFL Total (12) 92.29%		C208 07:12 IFL Total (12) 1.33%		V2N1 07:12 IFL Total (10) 268.45%		V2N2 07:12 IFL Total (28) 182.95%	
Linux Nodes (z/VM-Guests)				Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)	

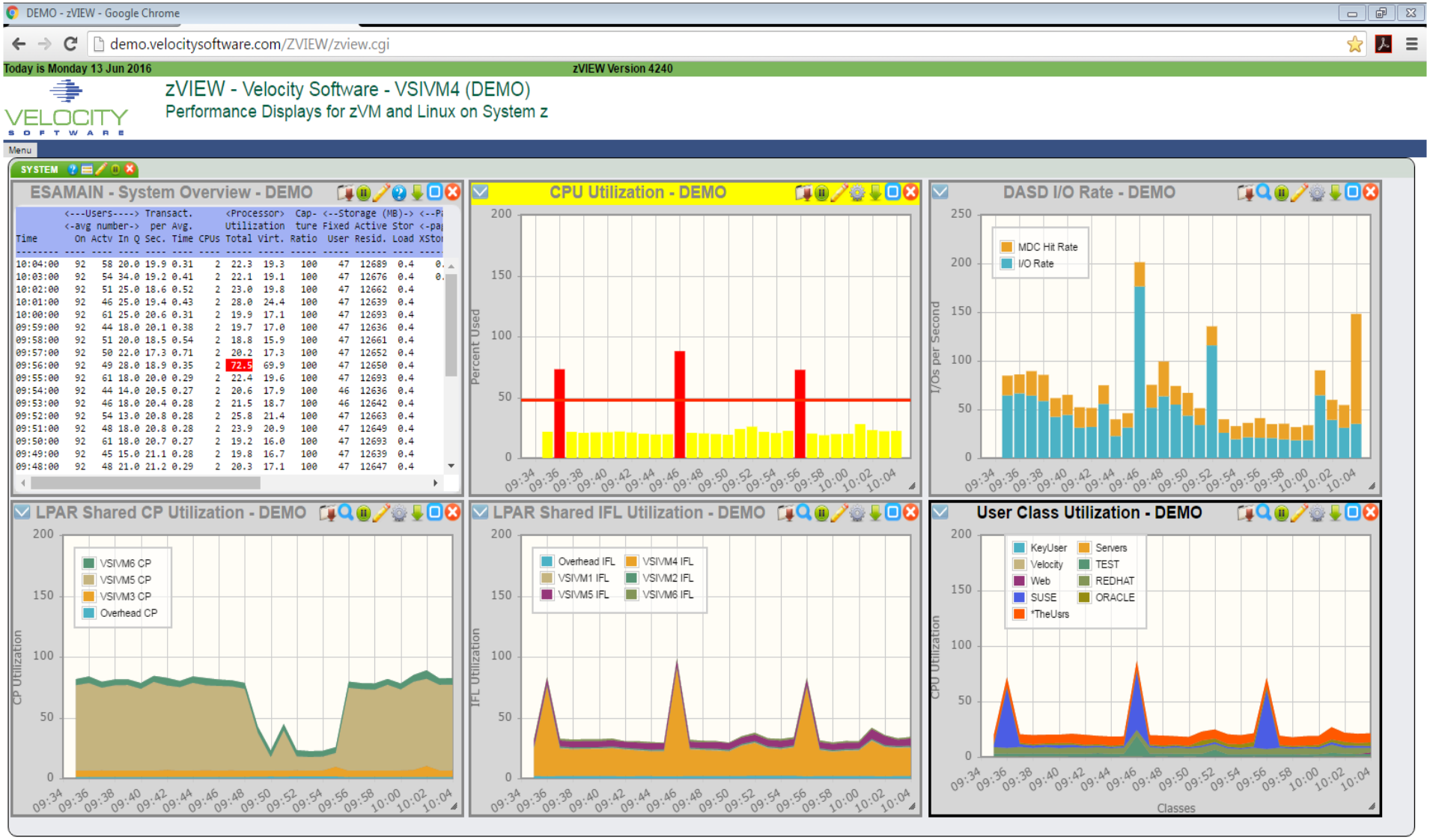
V2N3	Expand	V2C1	Expand	V2C2	Expand
V2N3 07:12 IFL Total (12) 1.22%		V2C1 07:12 IFL Total (16) 656.29%		V2C2 07:12 IFL Total (12) 617.71%	
		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)	

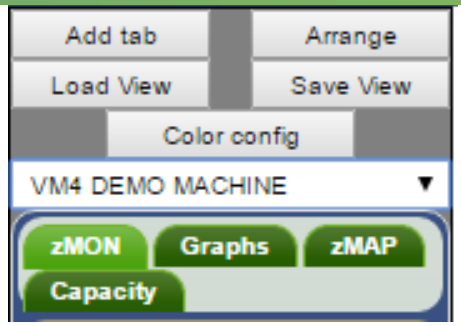
CDL

VLB1	Expand	VLB2	Expand	VLB3	Expand	VLB4	Expand
VLB1 07:12 IFL Total (20) 516.95%		VLB2 07:12 IFL Total (12) 1158.17%		VLB3 07:12 IFL Total (20) 301.97%		VLB4 07:12 IFL Total (14) 547.53%	
Linux Nodes (z/VM-Guests)		02C2A7-0 93.38%		Linux Nodes (z/VM-Guests)		Linux Nodes (z/VM-Guests)	

VLB5	Expand	VLB6	Expand	VLB8	Expand	ZS01	Expand
VLB5 07:12 IFL Total (20) 0.44%		061A67-6 82.30%		VLB8 07:12 IFL Total (20) 159.02%		ZS01 07:12 IFL Total (2) 1.01%	
		061A67-7 69.33%		Linux Nodes (z/VM-Guests)			

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





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
- Set or remove personal startup view

LPAR

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

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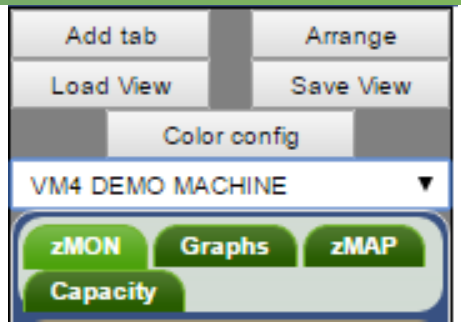

Color config

- 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

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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
  - Use 37 if using zOPERATOR and Linux
- Debug

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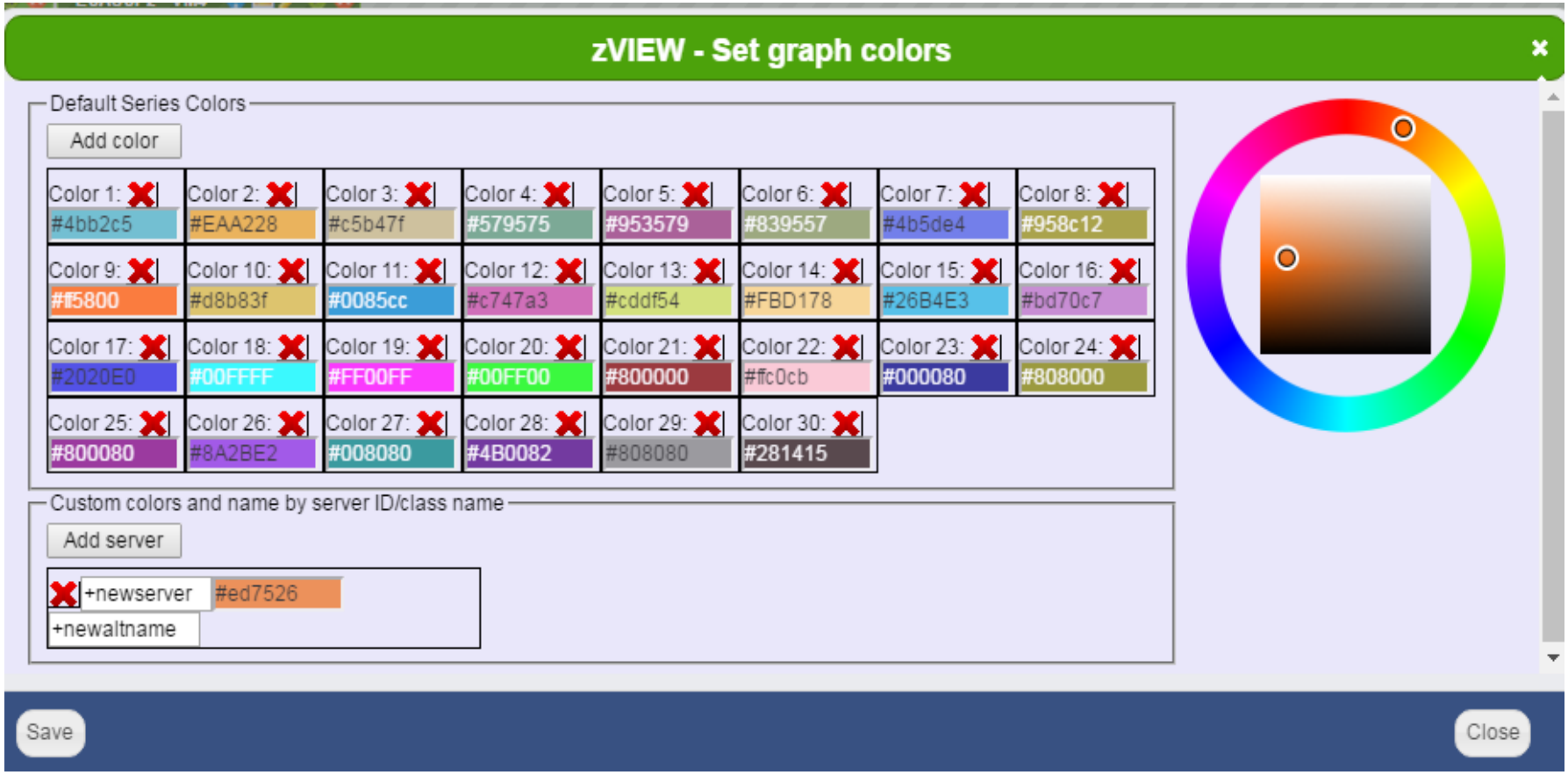
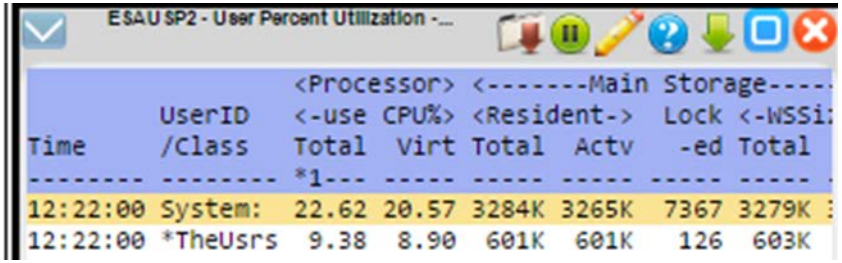
- Graph options
  - Graph names from graph Preferences, About
  - Default threshold values
  - Default graph type
    - Vertical and horizontal bar and stacked bar
    - Area and stacked area
    - Line
    - Table
    - Pie and pie percentage
- Excluded ZMON screens
  - Excluded from screen index

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



Performance data and adhoc queries

- ZMON reports
  - Over 200 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

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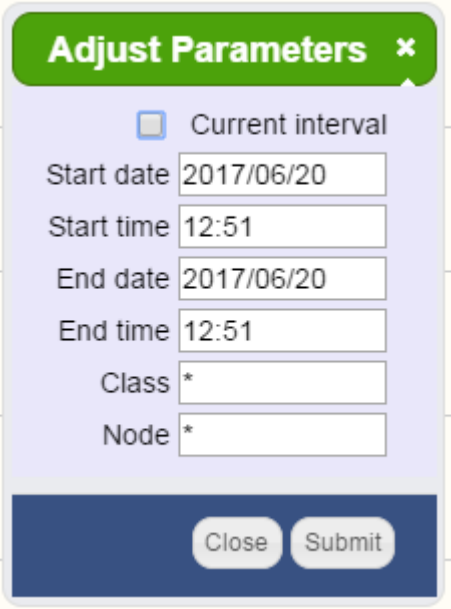
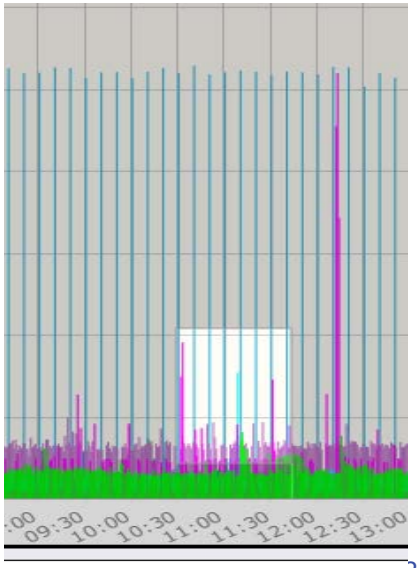
- Graphs
  - 180 graphs
  - Symbols across the top
    - Drill down available – last interval get last 30 minutes of data
    - Title with host name – click and hold to move
    - Download graph – PDF, PNG or JPG
    - Hide or show legend
    - Pause or resume
    - Change time range, node, user, class, 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 or ESAEXTR name and zVIEW version

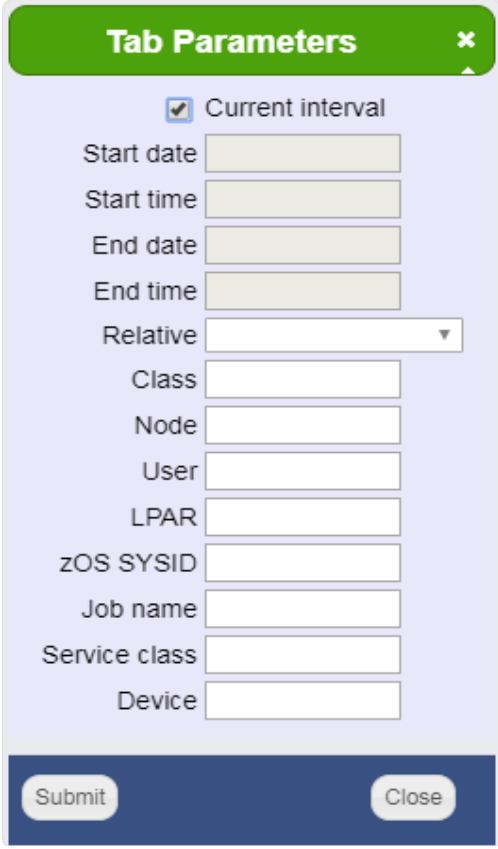


- Graphs
  - Preferences
    - Thresholds
      - Threshold and warning values and bars
      - Refresh clear
        - Clear title and tab colors when data refreshed
      - Relative CPU
        - Enter values between 0 and 100%
        - Thresholds adjusted based on the number of processors
      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

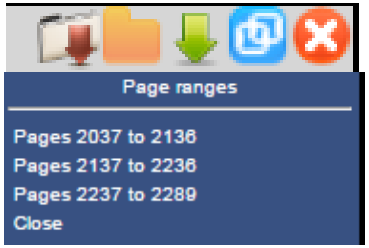


- Tabs
  - Organize by server, LPAR, etc
  - Views will load in new tab
  - Symbols on tab
    - Graph or report title in focus or view name and host name
    - General zVIEW help
    - Window list – bring hidden windows into focus
    - Tab parameters
      - All existing and new graphs or reports will 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



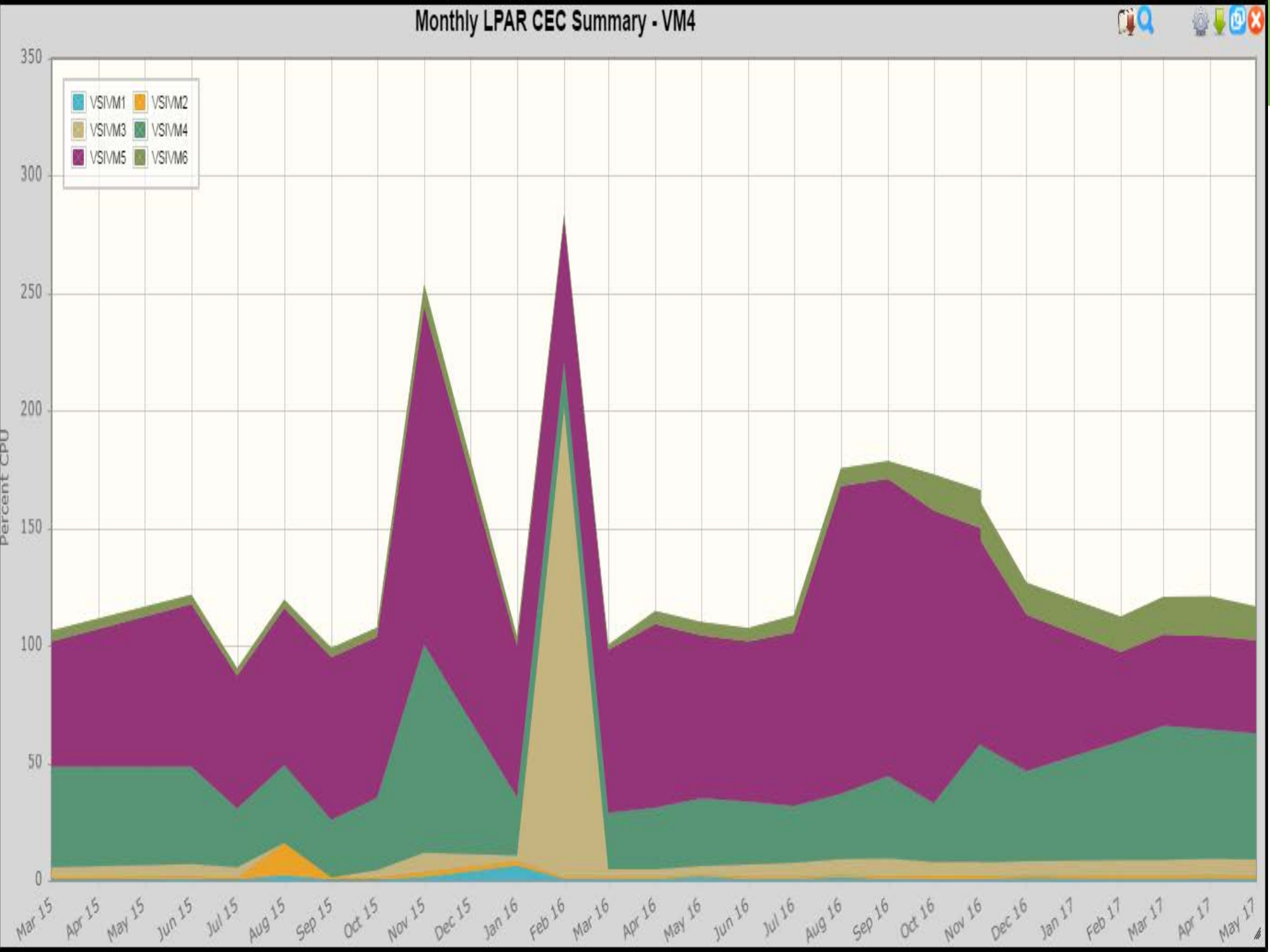
ZMAP reports

- 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

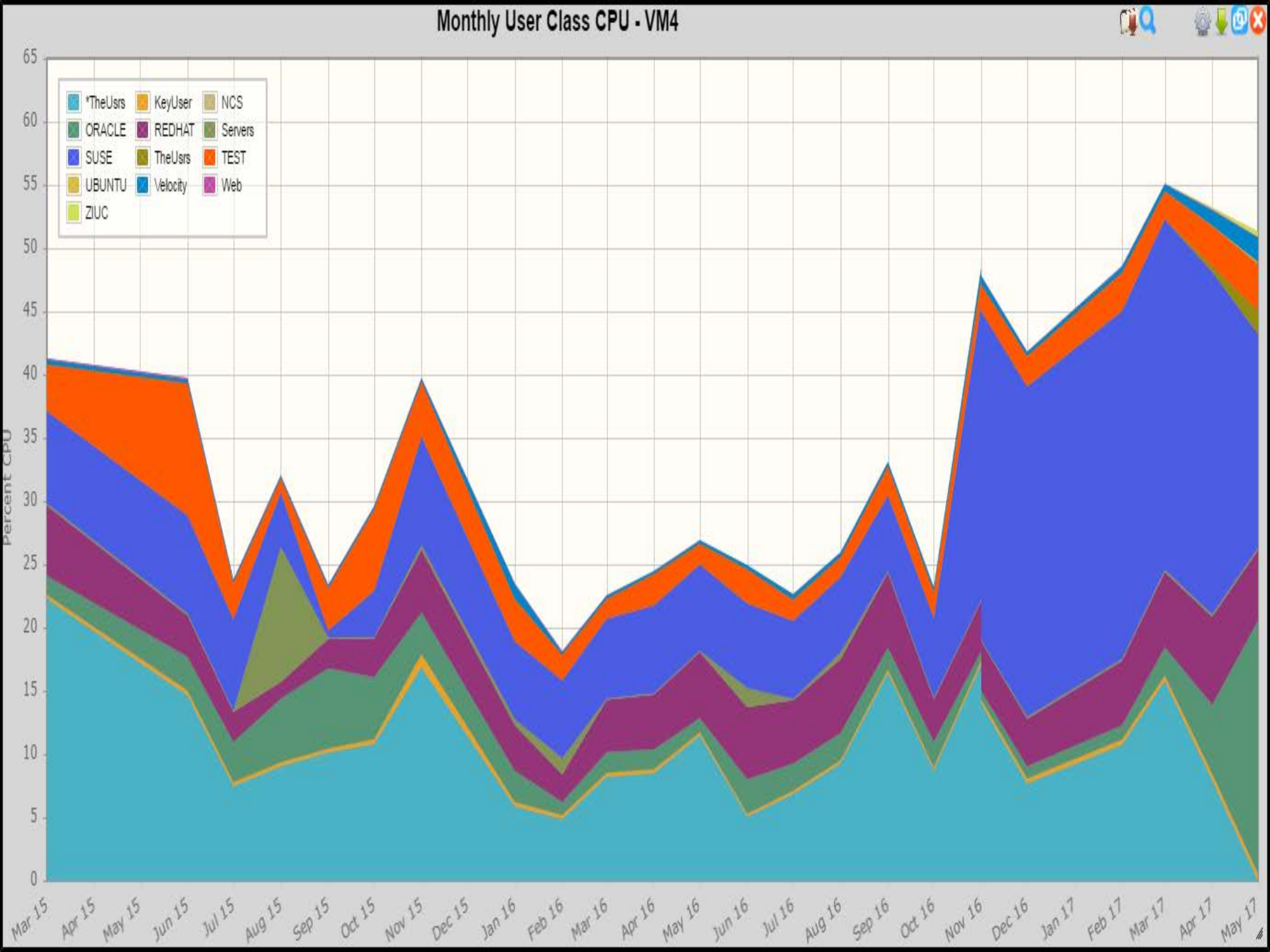


Capacity Graphs

- 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
VSIVM1
VSIVM2
VSIVM3
VSIVM4
VSIVM5
VSIVM6
Percent CPU
350
300
250
200
150
100
50
0
Mar 15
Apr 15
May 15
Jun 15
Jul 15
Aug 15
Sep 15
Oct 15
Nov 15
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Oct 16
Nov 16
Dec 16
Jan 17
Feb 17
Mar 17
Apr 17
May 17

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 to save view
  - 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
    - &heading=no – No heading/title for embedding into web page

- 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
    - &sysid - zOS sysid
    - &srvcls - zOS service class
    - &job - zOS job name

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
  - VSIMAINT 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
```

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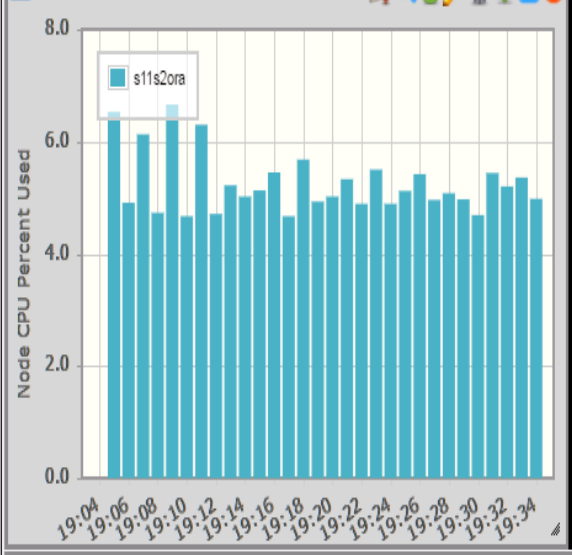
zVIEW - Tim's Test Machine (TIM2)

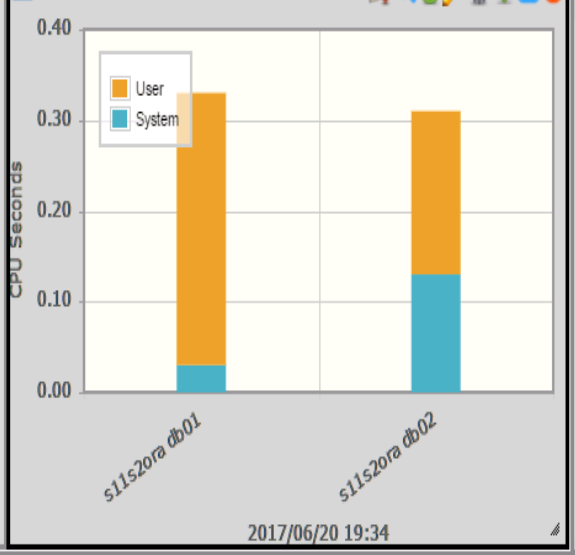
Performance Displays for zVM and Linux on System z

LNXNODE

S11S2ORA CPU Node Utilization - TIM2



Oracle CPU Seconds - TIM2



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	Process ID	Process PPID	Process Group	Appl Appl	Appl Name	User Id Userid
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	Process Ident ID	PPID	GRP	CPU Percents Total	sys	user	syst	usrt	nice value	CPU Seconds Total	sys	user	syst	usrt	Stg (k) Size	RSS	Faults/Second min	maj	mint	majt	Pr User
19:34:00	s11s2ora	oracle	51755	1	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	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	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	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	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	468K	14K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50770	1	0	0.5	0.2	0.2	0	0	0	0.3	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	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	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	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	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	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	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	415K	14K	0	0	0	0	oracle
19:34:00	s11s2ora	oracle	50615	1	0	0.5	0.2	0.3	0	0	0	0.3	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	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	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_TTL
- ZVWS PASSWORD_TIMEOUT parameter
  - Set in CONFIG ZVWS
  - Inactivity time to reprompt for password
  - Default 15 minutes

Recent changes

- New reports
  - ESAHDR – More information and applied major PTFs
  - ESADOCK1-2 – Docker reports
  - ESAGPFSx – GPFS/Spectrum Scale reports
  - ESAMNG1-5 – Mongo reports
  - ESAILMT – ILMT report
  - ZOSxxxx – zOS CEC, LPAR, CPU, JOB, USS and workload reports
- New drilldowns
  - ESALNXP (process usage) to ESALNXI (process I/O)
  - ESAPOOL (resource pools) to ESAUSP2 (users in pool)

Recent changes

- New graphs
  - zOS, zVSE, CHPID, spool and page utilization
- Capacity graphs
  - Peak utilization graphs
  - Multiple ESAEXTR for OR conditions
  - Scale and threshold specifications
  - User defined menu names
- New views
  - MYZOS, MYVSE, MYUSER, ORACLE, JAVA
- New selections
  - LPAR, SYSID, SRVCLS and JOB

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
  - ESACLDSK_PERCENT in ESAPARM EXEC
- ESAXACT report
- Use tab parameters to specify date, time and other parameters of interest

Questions ?