zVPS, zView and zPro Product Update

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Agenda

Product updates

- Global Installer
- zMON
- zWRITE
- zTCP
- zVWS
- Portal
- zMAP
- zView
- zALERT
- zPRO

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Velocity Software continues to invest in FULL performance management

- Performance Analysis
  - PAV, etc...
- Capacity Planning
  - zView monthly charting
  - Weekly/Monthly reporting
- Operations
  - zOperator
  - zAlert
- System Adminstration, Cloud, Chargeback
  - zPro

Handle console files

- Console files from all products go to ZVPS
- Provide a pre-configured SFPURGER setup
- Require an easy way for customers to send logs
  - ZVPS can be autologged nightly
  - Read in and consolidate console logs
  - View consolidated logs with Portal

Handle console files

```
 ZVPS     FILELIST A0  V 169  Trunc=169 Size=115 Line=1 Col=1 Alt=0
Directory = SFSZVPS:ZVPS.CONSOLES
Cmd   Filename Filetype Fm Format Lrecl    Records     Blocks   Date     Time
      INSTALL  20130115 Z1 V        102        330          6  1/16/13  0:00:11
      INSTALL  20130116 Z1 V         95          7          1  1/16/13  0:00:11
      SFPURGER 20130115 Z1 V        102         44          2  1/16/13  0:00:11
      ZALERT   20130114 Z1 V        102       1301         18  1/16/13  0:00:11
      ZALERT   20130115 Z1 V        102       2676         37  1/16/13  0:00:11
      ZMAP     20130115 Z1 V        102        324          5  1/16/13  0:00:11
      ZMON     20130115 Z1 V        122        863         14  1/16/13  0:00:11
      ZTCP     20130115 Z1 V        102       2225         42  1/16/13  0:00:11
      ZVWS     20130115 Z1 V        107         98          2  1/16/13  0:00:11
      ZWRITE   20130115 Z1 V        102        295          5  1/16/13  0:00:11
      INSTALL  20130114 Z1 V        111        135          3  1/15/13  0:00:11
      ZMAP     20130114 Z1 V        102        409          7  1/15/13  0:00:11
      ZMON     20130114 Z1 V        122        865         15  1/15/13  0:00:11
      ZTCP     20130114 Z1 V        102       2214         42  1/15/13  0:00:11
      ZVWS     20130114 Z1 V        129         99          2  1/15/13  0:00:11
      ZWRITE   20130114 Z1 V        102        302          5  1/15/13  0:00:11
1= Help       2= Refresh  3= Quit   4= Cancel      5= Sort(dir)   6= Sort(size)
7= Backward   8= Forward  9= FL /n 10= Share      11= XEDIT/LIST 12= Cursor
DMSWFL1249I Directory has been temporarily accessed as filemode Z
====>
                                                          X E D I T  1 File
```

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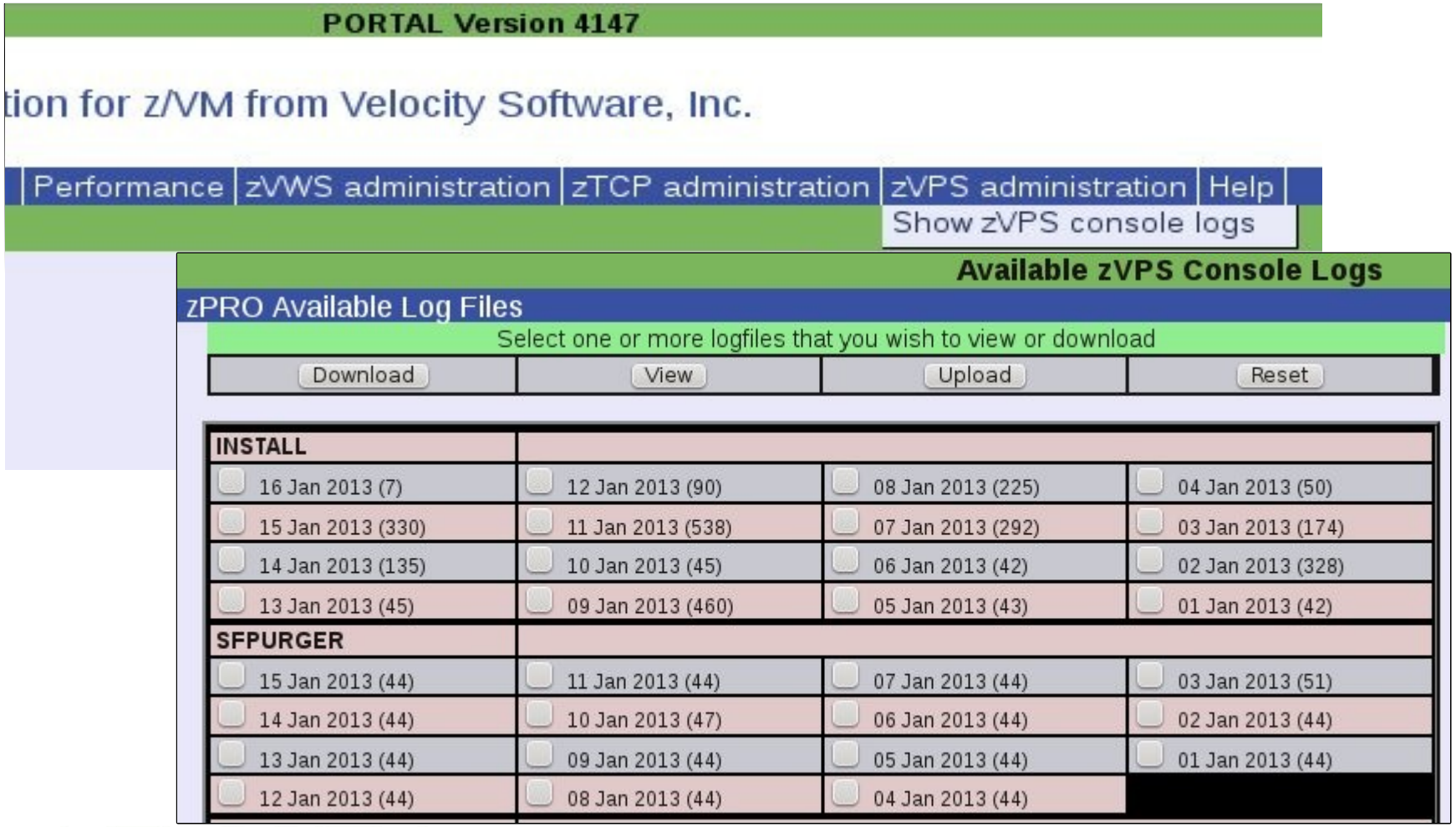
Handle console files



Handle console files

zVPS Console Log Display - INSTALL
12 Jan 2013

Display 25 records Showing 1 to 25 of 90 entries First Previous 1 2 3 4 Next Last Search:

Seq	Origin	Date	Message
1	ZVPS	2013-01-12	LOGOFF AT 09:30:57 PDT SATURDAY 01/12/13
2	ZVPS	2013-01-12	CONNECT= 00:44:10 VIRTCPU= 000:00.03 TOTCPU= 000:00.04
3	ZVPS	2013-01-12	log
4	ZVPS	2013-01-12	Ready; T=0.01/0.01 09:30:56
5	ZVPS	2013-01-12	filel * * z
6	ZVPS	2013-01-12	Ready(00028); T=0.01/0.01 09:28:46
7	ZVPS	2013-01-12	DMSWFL002E File * Z not found
8	ZVPS	2013-01-12	filel * z
9	ZVPS	2013-01-12	Ready; T=0.01/0.01 09:28:43
10	ZVPS	2013-01-12	DMSVML2060I SFSZVPS:ZALERT. accessed FORCERW as file mode Z
11	ZVPS	2013-01-12	vmlink .dir zalert. (w
12	ZVPS	2013-01-12	09:27:16 * MSG FROM ZALERT : PAGE RATE IS 47 (30)
13	ZVPS	2013-01-12	09:26:16 * MSG FROM ZALERT : PAGE RATE IS 35 (30)
14	ZVPS	2013-01-12	09:23:16 * MSG FROM ZALERT : PAGE RATE IS 31 (30)
15	ZVPS	2013-01-12	09:22:16 * MSG FROM ZALERT : PAGE RATE IS 49 (30)

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Show availability of MIB groups on ESALNXUP

ESALNXUP

Linux Node Status

Time	Node	State	<Source>	<-Uptime-> days:hh:mm	<-Local Time->	<------- Metrics Available ------->
15:02:00	roblx2	Up	VSI 4131	52 06:27	13/01/18 00:01	TCP UDP IP ICMP IF SYS UCD HOST VSI
15:02:00	vpnbrc	Up	VSI 4131	122 02:48	13/01/18 08:05	TCP UDP IP ICMP IF SYS UCD HOST vsi
15:02:00	redhat6x	Up	VSI 4131	401 22:41	13/01/17 15:01	TCP UDP IP ICMP IF SYS UCD HOST VSI

Add memory overcommit to ESASTR1

- Also in *subsum.overcommit*

<MDC> Rsdnt	Diag 98	Capt-ure Ratio	Over-commit Ratio
42801	16K	0.994	6.81
42861	16K	0.994	6.81
44677	16K	0.994	6.81
42945	16K	0.994	6.81
43266	16K	0.994	6.81
42773	16K	0.994	6.81

Additional return code

- When a criteria option results in no returned data
- RC=309

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ESAPARM EXEC can specify multiple virtual machines that are autologged at midnight

- ESAMAP = 'ZMAP ZVPS'

Read-only mount points can be detected

- hstmem.rwflag TM 01

ESAHST2

LINUX HOST Storage

Time	Node/ Group	Index	<-Utilization-> <MegaByte> Size	Used	Pct Full	Err	Alloc Units	R/W	Boot	Storage Description
14:59:00	sles11x	10	4219	0	0.0	0	1K			Swap space
14:59:00	sles11x	7	293	293	100	0	1K			Cached memory
14:59:00	sles11x	32	247	0	0.0	0	4K	r/w	No	/dev
14:59:00	sles11x	6	494	129	26.1	0	1K			Memory buffers
14:59:00	sles11x	3	4713	489	10.4	0	1K			Virtual memory
14:59:00	sles11x	31	11080	3714	33.5	0	4K	r/w	Yes	/
14:59:00	sles11x	1	494	489	98.9	0	1K			Physical memory
14:59:00	sles11	31	6929	3786	54.6	0	4K	r/w	Yes	/
14:59:00	sles11	10	4211	0	0	0	1K			Swap space
14:59:00	sles11	7	160	160	100	0	1K			Cached memory
14:59:00	sles11	6	495	141	28.5	0	1K			Memory buffers
14:59:00	sles11	3	4705	369	7.8	0	1K			Virtual memory
14:59:00	sles11	1	495	369	74.7	0	1K			Physical memory

Allow for 32 byte mount point display

- hstmem.desc||hstmem.descr

Several Linux screens support node groups

Per-CPU metrics display on ESALNXS

- 32 bit counters for DASD I/O
- Enhanced LPAR metrics
- Support for longer mount point name
- When storage constrained
  - SHARE ABSOLUTE 3%
  - COMMAND SET RESERVED * 5000
- Support up to 32 virtual CPUs
- Support z196/EC12
- Additional updates and fixes

Stability, resiliency and performance fixes

To make sure zTCP can get resources

- SHARE ABS 3%
- COMMAND SET RESERVED * 3000

Verify that SNMP has a 'nice' setting of -10

Stability and bug fixes

Significant amount of work on SSL

- Packaged as zSSL
- Soon to include client certificate support

Web server works very well with VM SSL

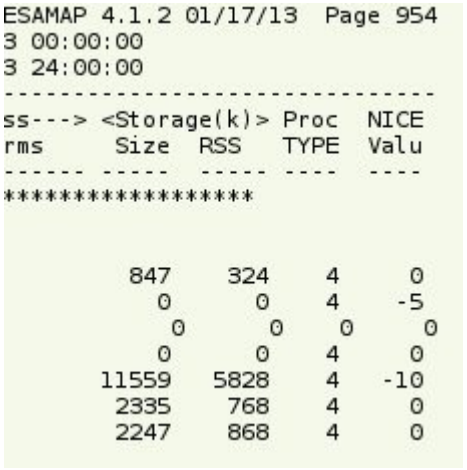
zVWS is instrumental in use of zView and zPro

Ships with 5 web server virtual machines

Javascript updates

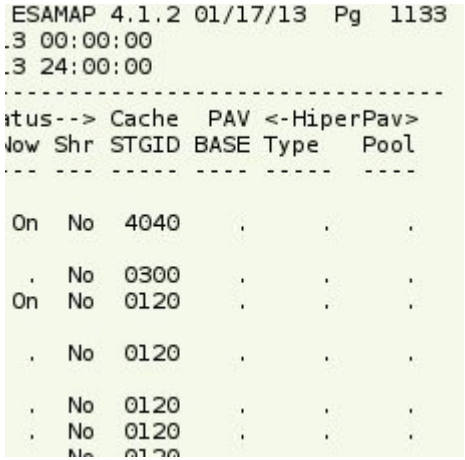
Add console handling screen

- Stability and bug fixes
- Include process 'nice' value on ESALNXC
- Increase counter sizes
- HiperPAV information on ESADSD1
- FCX/zHPF report changes
- Support up to 32 vCPUs
- Support z196/EC12



```
ESAMAP 4.1.2 01/17/13  Page 954
3 00:00:00
3 24:00:00
--------------------------------
ss---> <Storage(k)> Proc  NICE
rms      Size  RSS   TYPE  Valu
------ -----  ----- ----  ----
******************


         847    324    4     0
           0      0    4    -5
             0      0    0     0
           0      0    4     0
       11559   5828    4   -10
        2335    768    4     0
        2247    868    4     0
```



```
ESAMAP 4.1.2 01/17/13  Pg  1133
.3 00:00:00
.3 24:00:00
--------------------------------
atus--> Cache  PAV <-HiperPav>
Now Shr STGID BASE Type   Pool
--- --- ----- ---- -----  ----

On  No  4040    .      .      .

 .  No  0300    .      .      .
On  No  0120    .      .      .

 .  No  0120    .      .      .

 .  No  0120    .      .      .
 .  No  0120    .      .      .
```

Capacity planning charts

- Many requests for custom graphs
- Provide a mechanism to create graphs with any data that can be generated with ESAEXTR
- Runs automatically with ZMAP
- Charts appear in zView
- Chart data is available for custom use outside of zMAP/zView

Capacity planning charts

- Introduces a new control file RUNCHART PARMS
- Charts can be generated by MINUTE, DAY, WEEK, MONTH or a user selected period

```
;Chart Syntax: type days strt stop extr parm
; Where type is MINUTE/DAILY/WEEK/MONTH
;  "days" is the previous "n" days
;  TimesT is called with these parms

;      type   days  strttime stop   extractname  parm
CHART  MINUTE    1    08:00   17:00   LXCPUMIN   LINUX001
CHART  MINUTE    1    08:00   17:00   LXSTORMN   LINUX001
CHART  MINUTE    1    08:00   17:00   LXSWAP     LINUX001
CHART  MINUTE    1    08:00   17:00   LXBLKIO    LINUX001

;HART  DAILY     1    00:00   24:00   LPARCPUS
;HART  DAILY     1    00:00   24:00   LPARCPUS   lparname
CHART  DAILY     1    00:00   24:00   UXACT      System:
CHART  DAILY     1    00:00   24:00   UXACT      LINUX001

CHART  WEEK      7    00:00   24:00   UXACT      System:
CHART  WEEK      7    07:00   17:00   LXCPU      LINUX001

CHART  MONTH    31    00:00   24:00   UXACT      System:
CHART  MONTH    31    *       *       LXCPUM     LINUX001
CHART  MONTH    31    *       *       LXSTOREM   LINUX001

CHART  NDAYS    31    *       *       LXCPU      LINUX001
CHART  NDAYS    31    *       *       LXSTORE    LINUX001

CHART  NDAYS    35    *       *       UDIO       LINUX001
CHART  NDAYS    35    *       *       USTOR      LINUX001
CHART  NDAYS    35    *       *       UCPU       LINUX001
```

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Capacity planning charts

- Extracting data LXCPUMIN ESAEXTR
- 'Title' becomes the heading of the graph
  - Variables &USERID, &SDATE, &EDATE
  - &USERID is the qualifying parameter passed
- Additional 'Title' statements define the graph labels and Y-Axis legend

```
EXTRACT:            ; First extract system data
Title = 'Linux CPU Analysis by Node &USERID &SDATE'
Title = '*Labels CPU Sys_CPU User_CPU'
TITLE = '*Yaxis Percent'

X = 'STOPTIME'
Y = 'NODE'
Y = 'UCDSYS.TOTCPU '  ;cpu utilization
Y = 'UCDSYS.SYSTPCT'
Y = 'UCDSYS.USERPCT'
```

Capacity planning charts

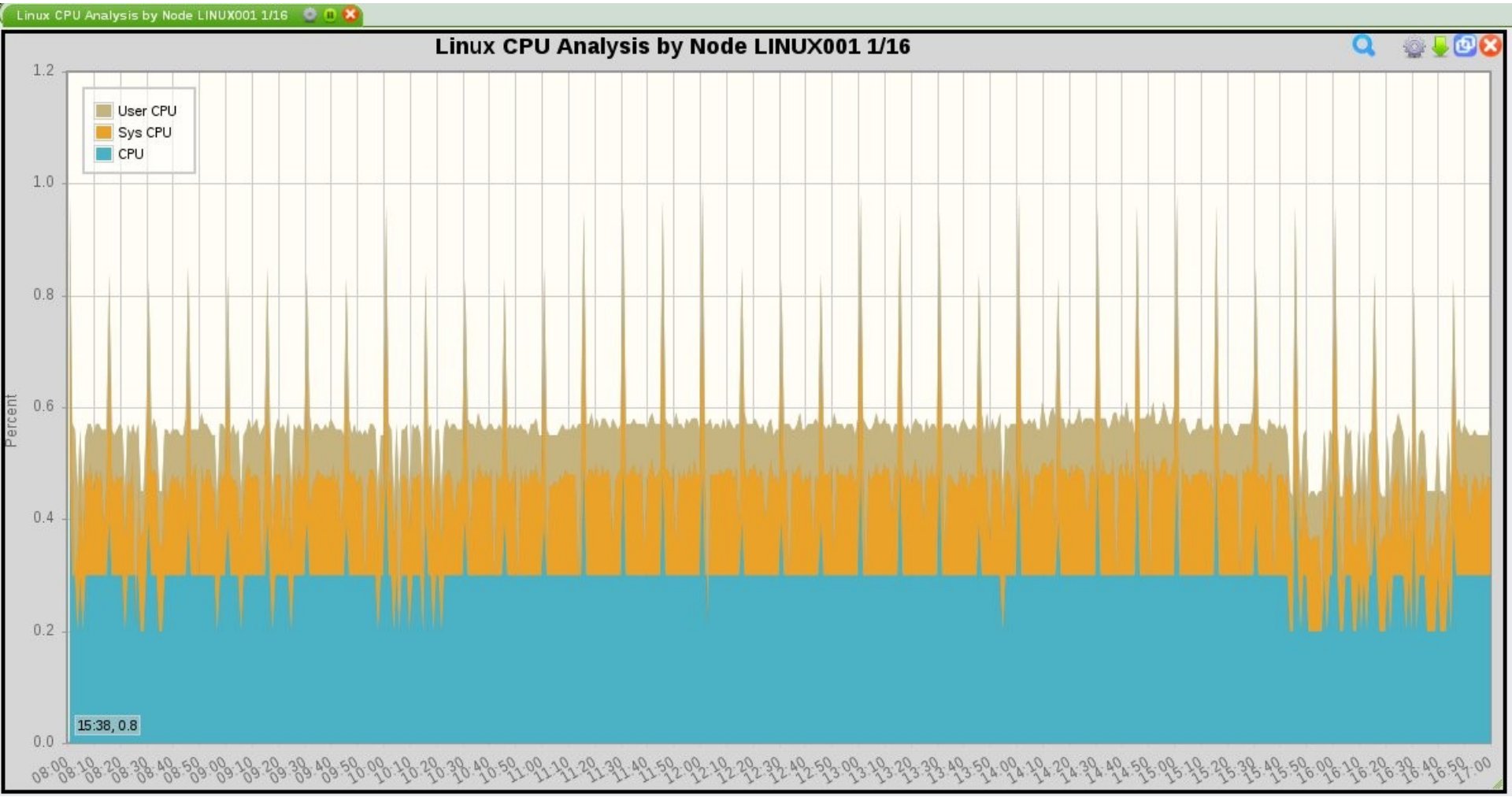
- Output data uses specific file names for identification

```
 LINUX001 CTLXC016 A2  V 80  Trunc=80 Size=543 Line=0 Col=1 Alt=0

      |...+....1....+....2....+....3....+....4....+....5....+....6.
===== * * * Top of File * * *
===== TITLE: Linux CPU Analysis by Node &USERID &SDATE
===== Labels: CPU Sys_CPU User_CPU
===== Yaxis: Percent
===== "20130116","080000","080100","linux001","0.5","0.31","0.16"
===== "20130116","080100","080200","linux001","0.3","0.20","0.07"
===== "20130116","080200","080300","linux001","0.3","0.00","0.26"
===== "20130116","080300","080400","linux001","0.2","0.15","0.10"
===== "20130116","080400","080500","linux001","0.3","0.19","0.07"
===== "20130116","080500","080600","linux001","0.2","0.15","0.10"
```

Capacity planning charts

- In zView



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Capacity planning charts

- The following samples are provided

LPARCPUS – LPAR utilization
LXBLKIO - Linux block I/O
LXCPU - Linux CPU utilization by type
LXCPUM – Monthly Linux CPU utilization by type
LXCPUMIN – Minute Linux CPU utilization by type
LXSTORE – Linux storage usage by type
LXSTOREM – Monthly Linux storage usage by type
LXSTORMN – Minute Linux storage usage by type
LXSWAP – Linux swap rate
UCPU – User CPU utilization
UDIO – User DASD I/O rate
USTOR – User storage usage
UXACT - User wait analysis

Capacity planning charts

- Graphs can be generated manually
  - Testing new
  - Recovering graph data from history
- From ZMAP (always log off when completed)
  RUNCHART parms

  where parms are as follows:

  DAILY yyyymmdd

  WEEK week_number

  MONTH month_number

  NDAYS

  MINUTE yyyymmddd

Capacity planning charts

- Automatic chart deletion
- In RUNAUTO PARMS

CHARTCNT 6 8 7 3 1

Keeps 6 monthly files,
8 weekly files,
7 daily files,
3 minute files and
1 NDAYS file
for each graph specified in RUNCHART PARMS file.

Stability and support fixes

Reduced local browser storage requirements

Capacity Planning chart processing/display

Newer functions (eg: Capacity charts) require updates in other base products

- Make sure everything is up to date to get the latest support

zView

zView menu

- Expandable sections
- Select a list item to display
- Tabbed display area
- Tab can be saved as a view
- Loaded later
- Made into default

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zView display

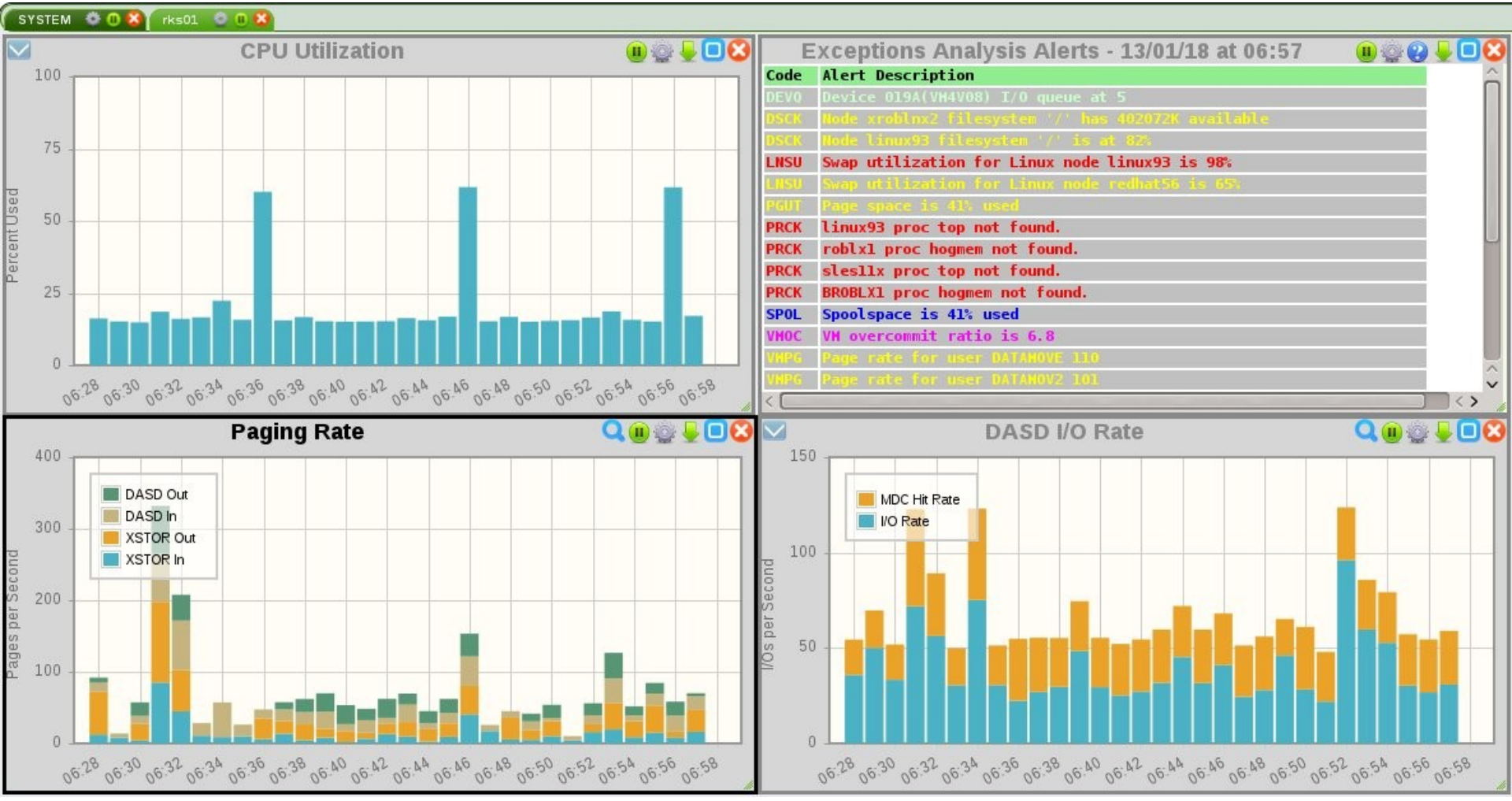
- Default startup view

zView display

- View handling

zView display

- View handling



Future development...

- CECLIST enhancements
  - Enterprise view
- Security
- Sort display columns
- CSV downloads
- Tablet support
- Single server view
- Distributed server view
  (Windows, other Linux/Unix, etc)

Allow specification of TRAP on LEVEL statement

- Synonym of ALERT
- Triggers an SNMP trap

Support cascading alerts

- One alert triggers another alert

Add new standard variables

- &code – Alert code
- &tlevel – Trigger level

Generalized notification system

- Allows specification of emails or traps that can be sent to users for specific alerts
- Triggered by NOTIFY on the LEVEL statement
- Messages can be sent out at certain times of day
- Calendar mechanism available to exclude specified dates

Added SMSG support when running disconnected

- Available commands, STATUS, RESTART, STOP
- Configuration file allows specification of authorized users

When running disconnected, alerts execute at 15 seconds after each minute

New LTEXT directive which allows a separate text message on LEVEL statements

Alert counting support

- Turned on with COUNT option on ALERT statement
- Display with &tcount variable

Code optimizations and fixes

Coming soon...

- Initial notification when using LIMIT statement
  - Provides first notice that a threshold has been exceeded
- Better handling of disconnected session
  - Allow re-connect and disconnect from 3270
- Alert logging
  - All alerts that would come up on the display
  - Controlled at alert level
  - Retention of both alert and notification log files

Support for VM:Secure as directory manager, ESM and SMAPI

- New configuration keywords
- VM:Secure config requirements in README

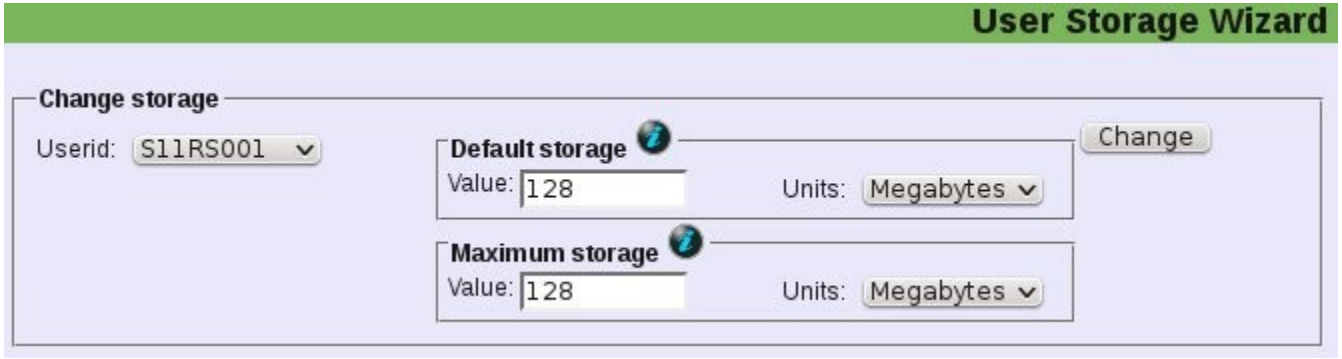
Wizards

- Allows common tasks to be done quickly

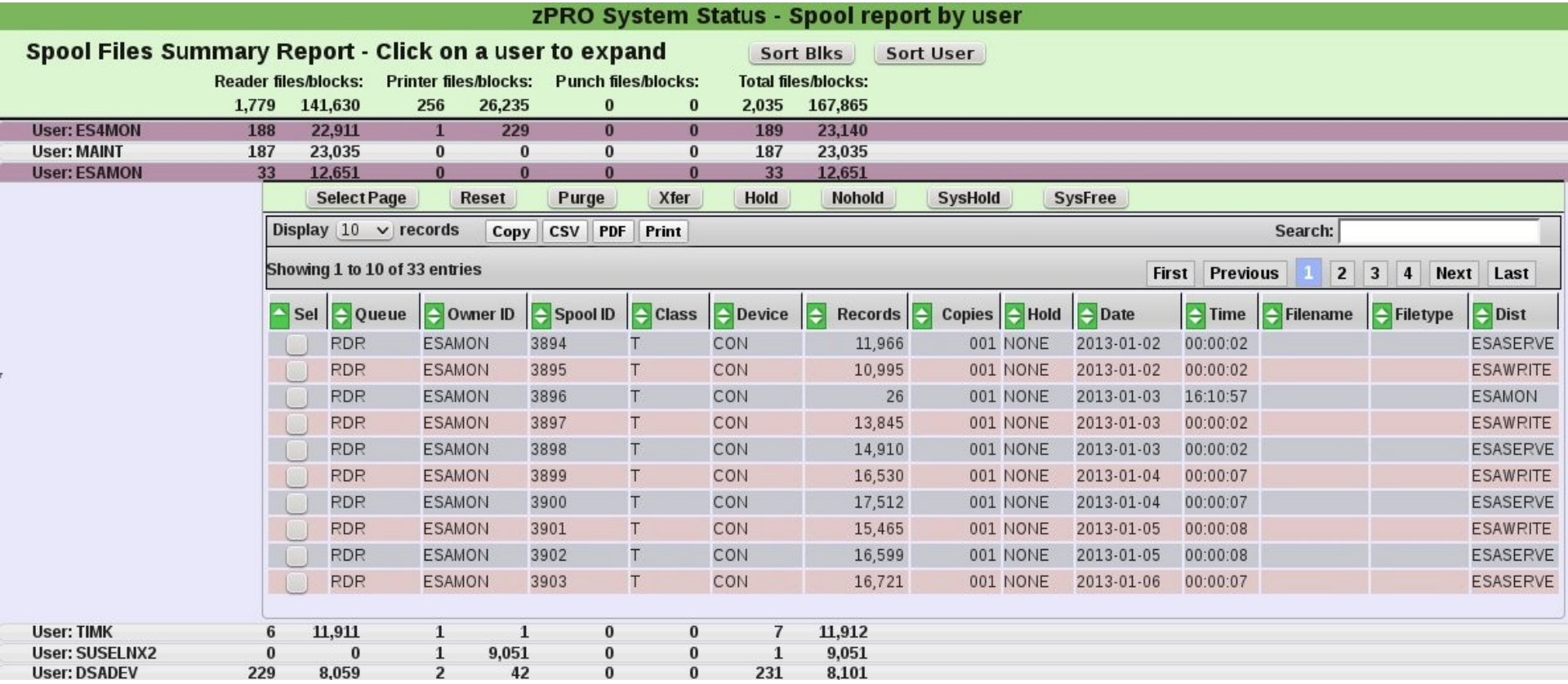
Wizards

- Add minidisk wizard

- Storage wizard



New spool display option



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New spool display option

zPRO System Status - Spool all system

Select Page | Reset | Purge | Xfer | Hold | Nohold | SysHold | SysFree

Display 25 records | Copy | CSV | PDF | Print | Search:

Showing 1 to 25 of 2,035 entries | First | Previous | 1 | 2 | 3 | 4 | 5 | Next | Last

Sel	Queue	Owner ID	Spool ID	Class	Device	Records	Copies	Hold	Date	Time	Filename	Filetype	Dist
	RDR	DSADEV	0353	T	CON	76	001	USER	2011-04-21	14:42:18			VSIMAINT
	RDR	DSADEV	0304	T	CON	14	001	USER	2011-03-09	16:56:01			VSIMAINT
	RDR	DSADEV	0290	T	CON	14	001	USER	2010-12-14	12:42:27			SYSPROG
	RDR	DSADEV	0287	T	CON	32	001	USER	2010-12-10	14:13:29			SYSPROG
	RDR	DSADEV	0350	T	CON	99	001	USER	2011-04-20	16:20:07			VSIMAINT
	RDR	DSADEV	0302	T	CON	1,849	001	USER	2011-02-18	14:42:56			SYSPROG
	RDR	DSADEV	0301	T	CON	54	001	USER	2011-02-18	14:12:54			VSIMAINT
	RDR	DSADEV	0246	T	CON	69	001	USER	2010-09-15	11:19:26			VSIMAINT
	RDR	DSADEV	0317	T	CON	195	001	USER	2011-03-22	09:42:20			VSIMAINT
	RDR	DSADEV	0316	T	CON	141	001	USER	2011-03-22	08:51:48			VSIMAINT
	RDR	DSADEV	0303	T	CON	54	001	USER	2011-03-07	16:45:51			VSIMAINT
	RDR	DSADEV	0307	T	CON	23	001	USER	2011-03-18	14:56:17			VSIMAINT
	RDR	DSADEV	0484	T	CON	482	001	USER	2011-08-15	14:42:29			VSIMAINT

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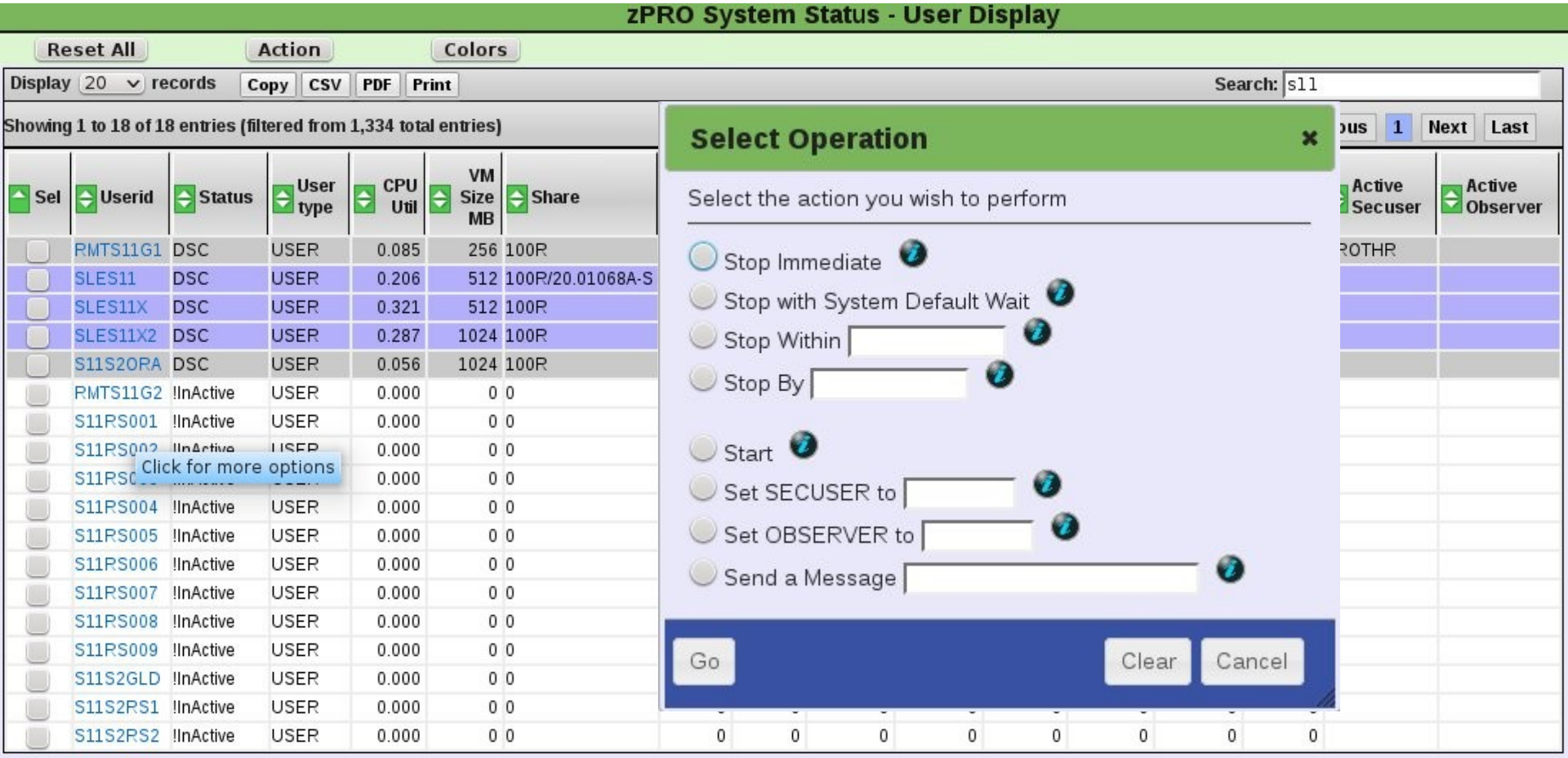
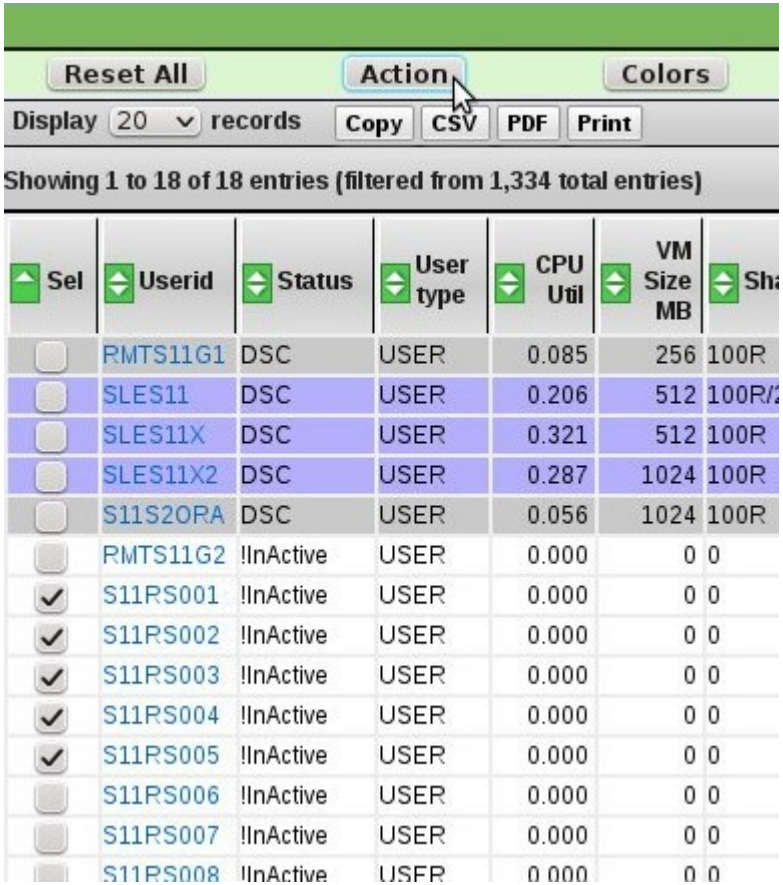
User status actions

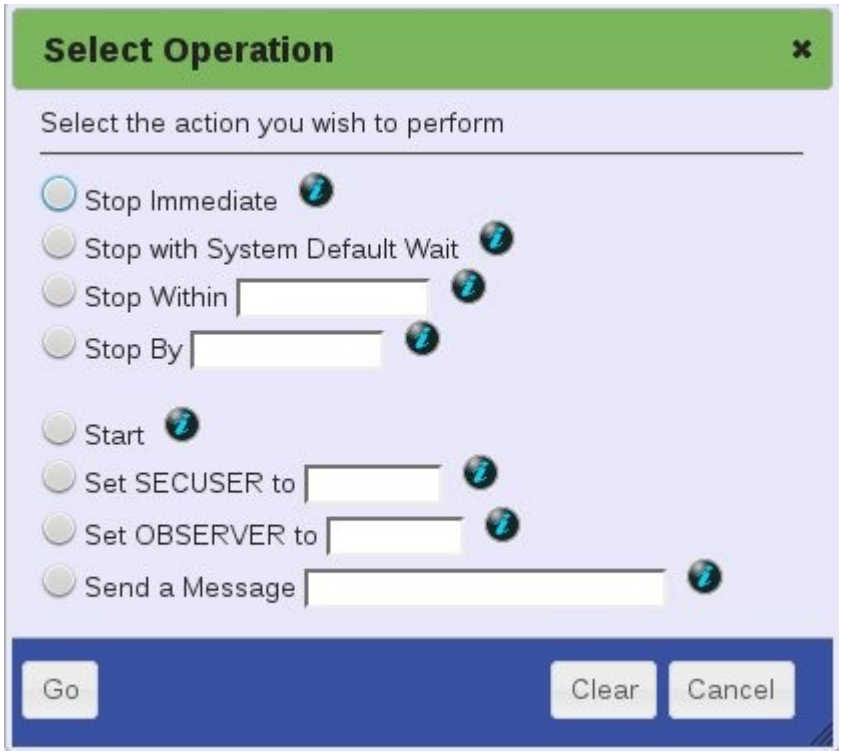
- On a single user



User status actions

- Or select multiple users





Security changes

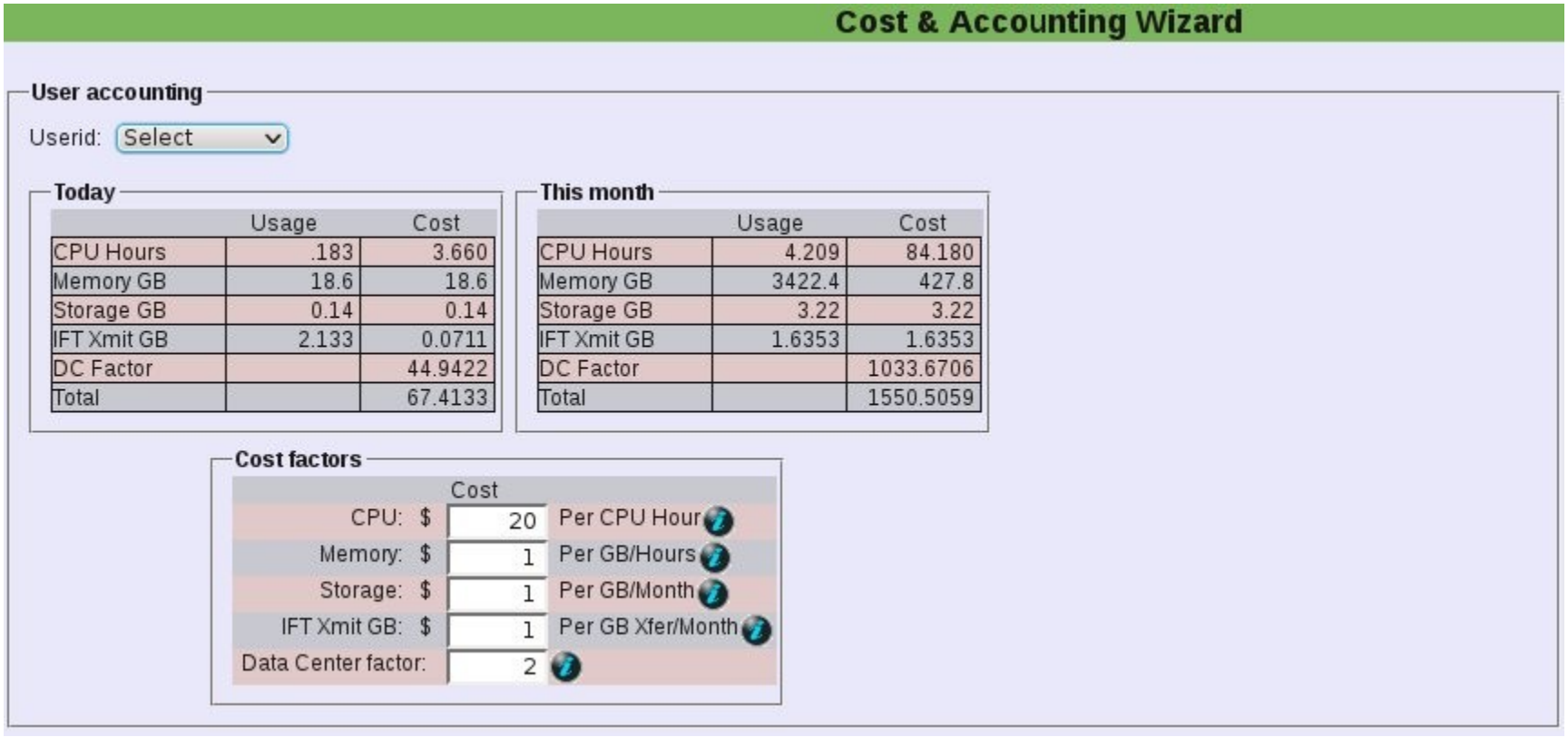
- Control which directory options a user can set
- Maximum amount of storage
- Maximum absolute share
- Allow RACF user to not have to reset their password on first login
- Allow RACF user to not be required to change their password at set intervals
- Designate who can view/alter
  - DASD, CTC, OSA, FCP, Vswitch

Development ideas

- User accounting setup and tracking
- Auto start server after cloning
- Dirmaint configuration
- Multiple device attach at clone time
- DCSS waterfall
- Specific userid/IP address at clone time
- Mobile/tablet support

User accounting setup and tracking

User accounting setup and tracking



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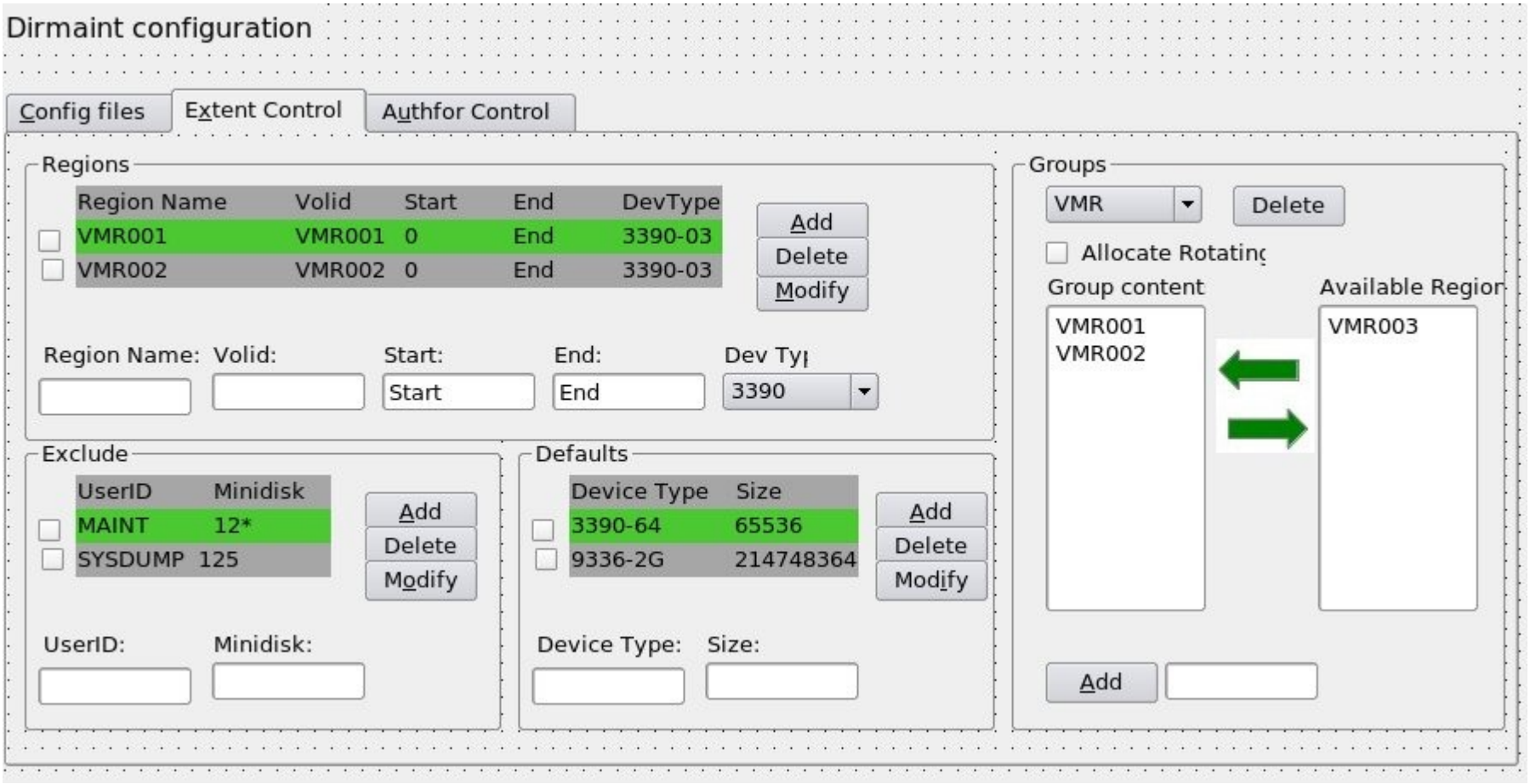
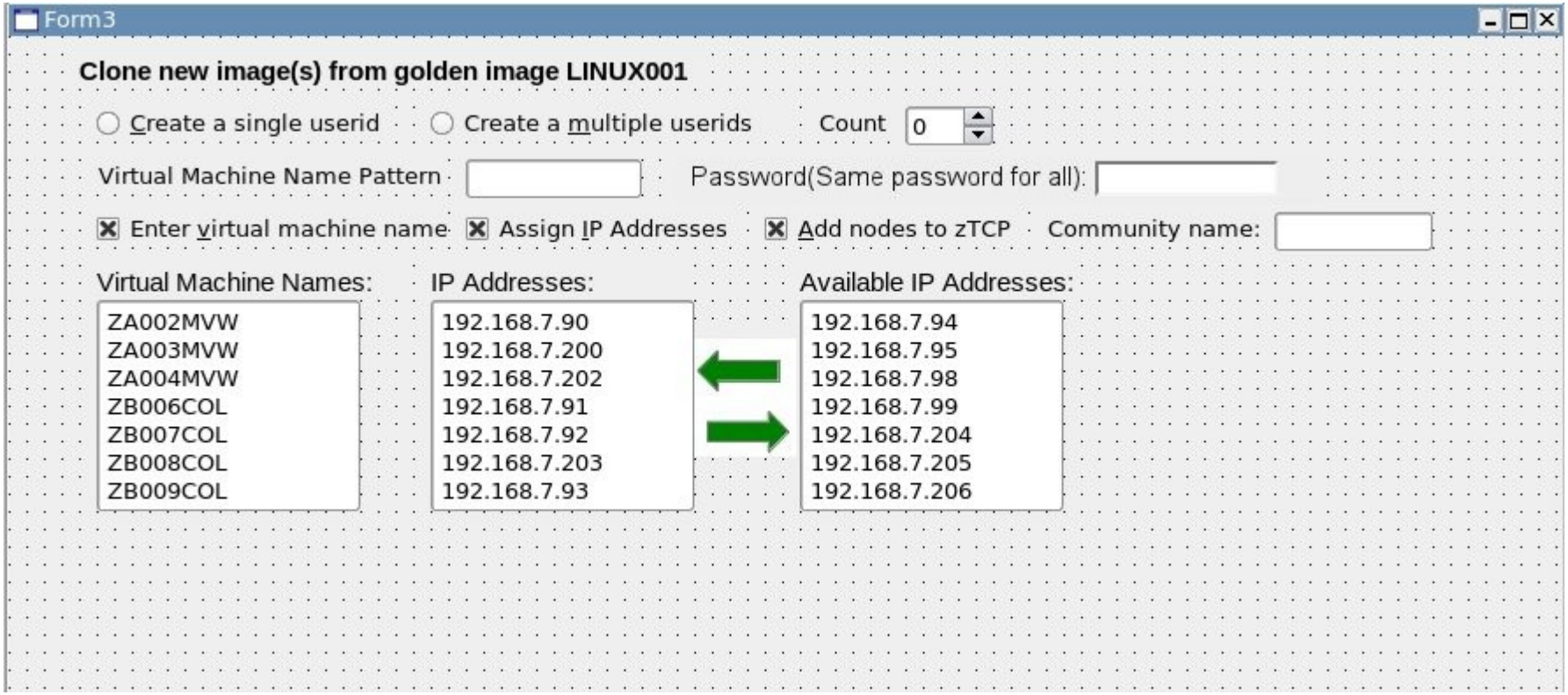
Dirmaint configuration



Specific userid/IP address at clone time



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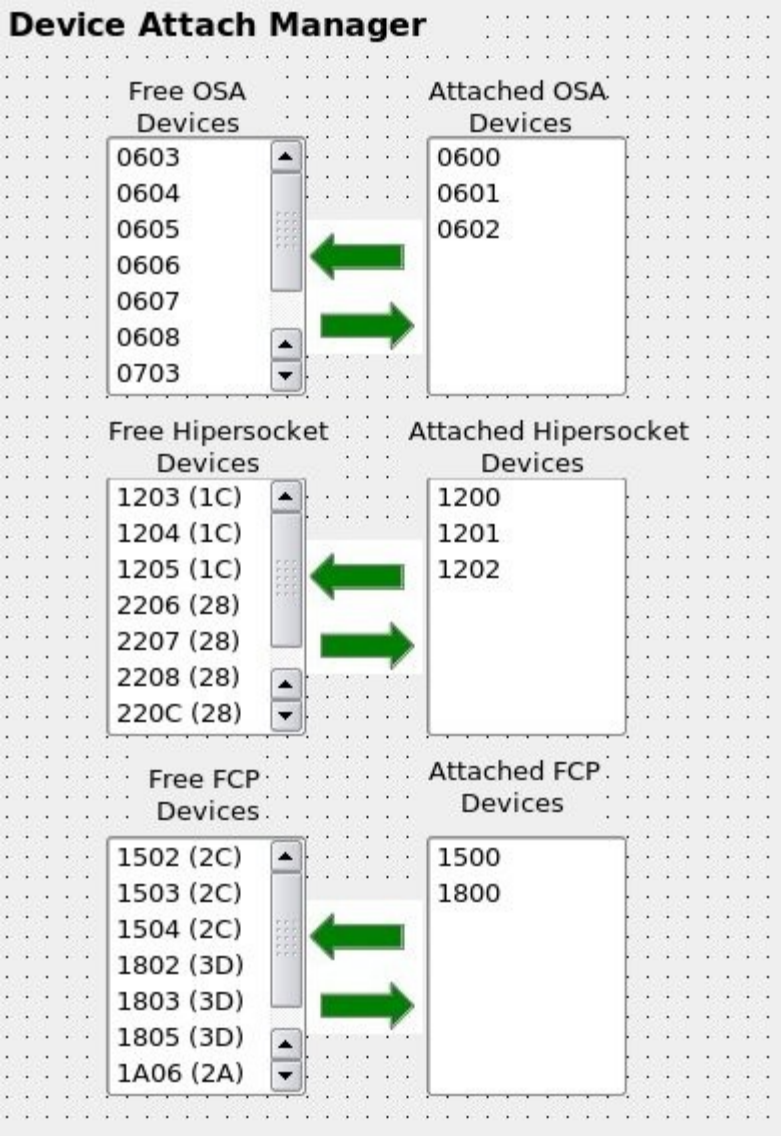
Multiple device attach at clone time



Operator console display and control

Provides a full screen interface for system messages

Allows message actions

- Hold, highlight, color, non-display
- Send a message, run an EXEC
- Initiate a trap
- Trigger zAlert

Extensive command interface

- Controls operator console
- Any DIALed terminal sessions

Locate forward/backward

- Date/Time

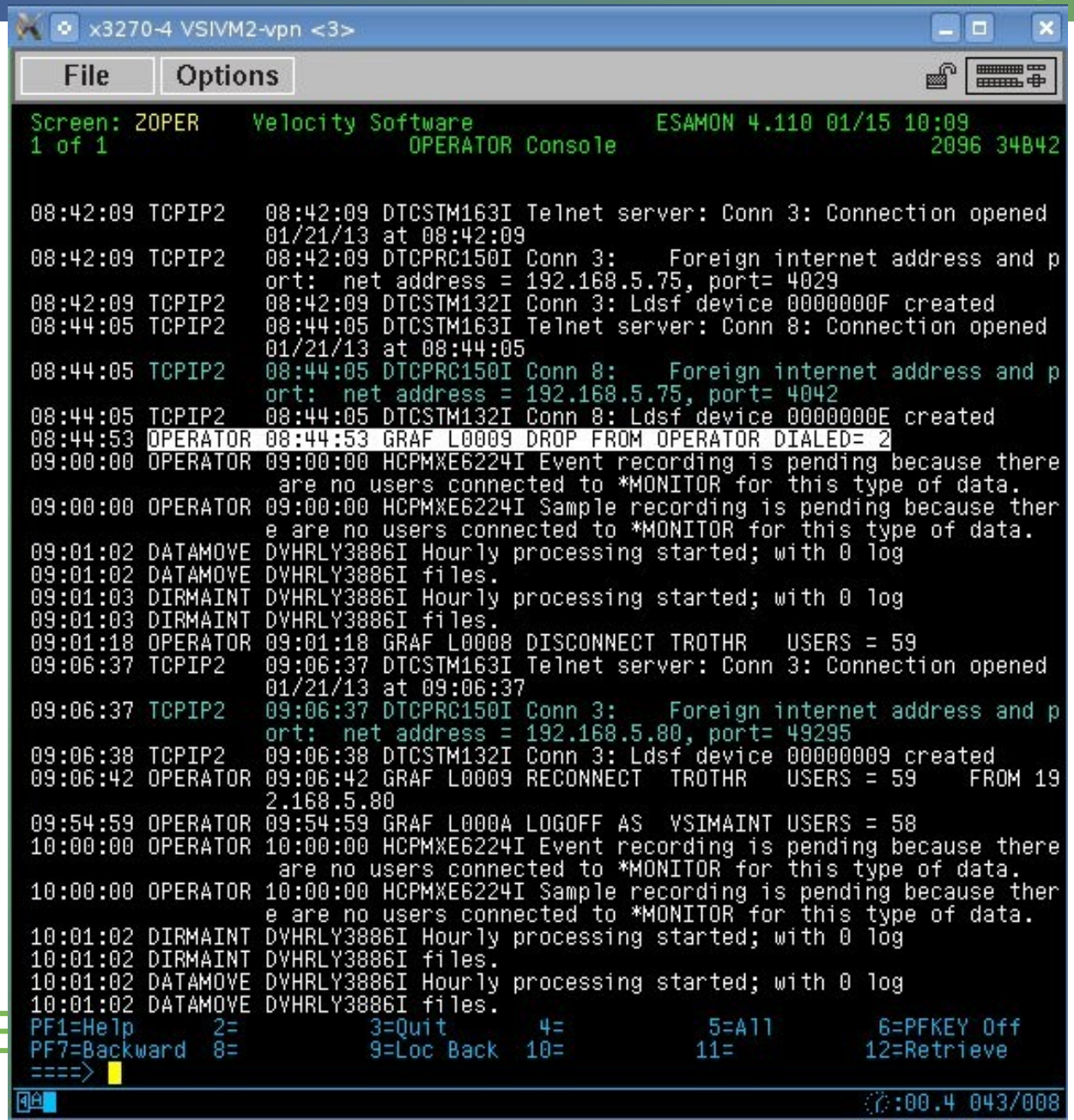
Redisplay

Split screen

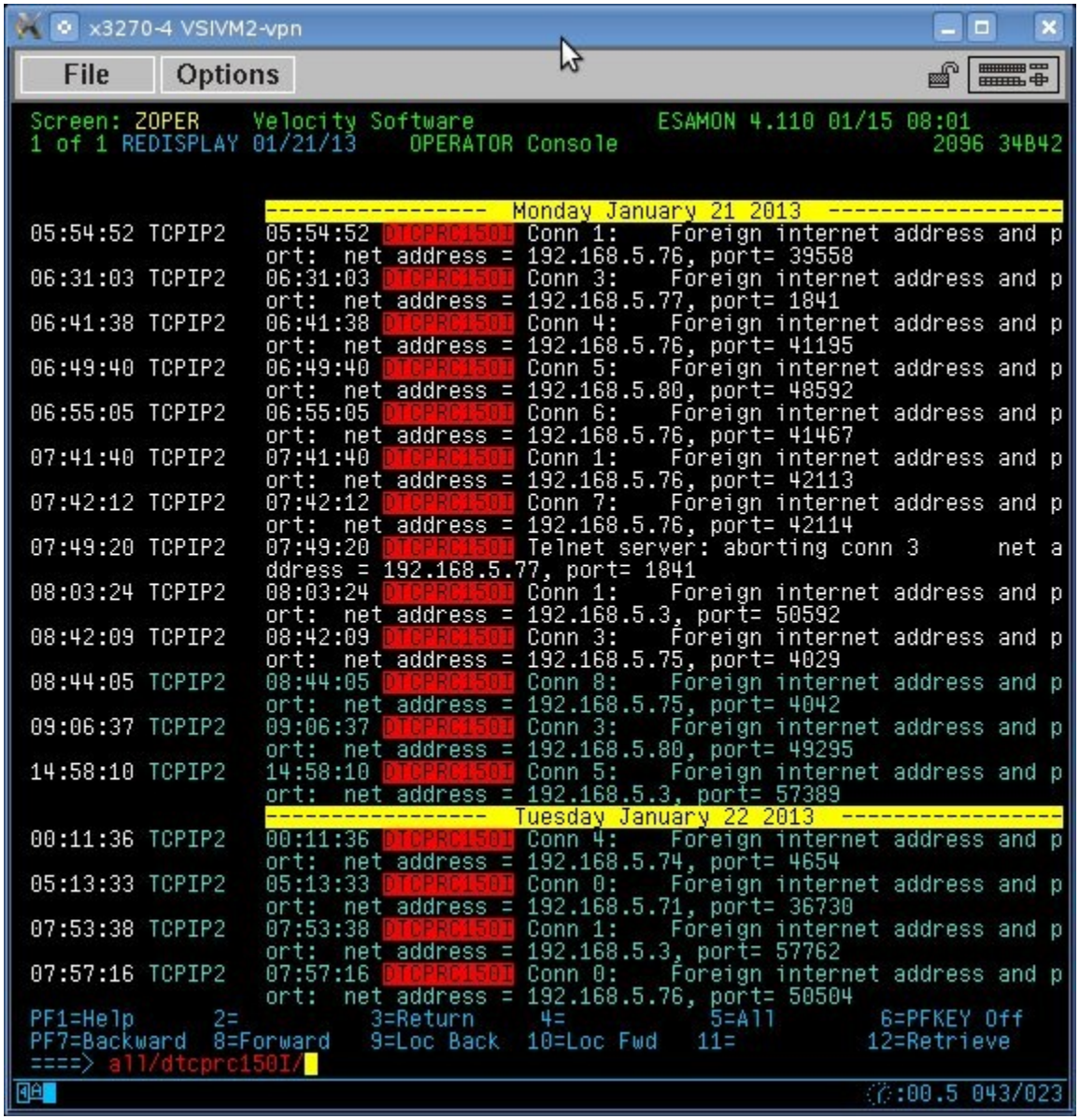
Messages retained in daily files

- Retention defaults to 90 days
- Configurable

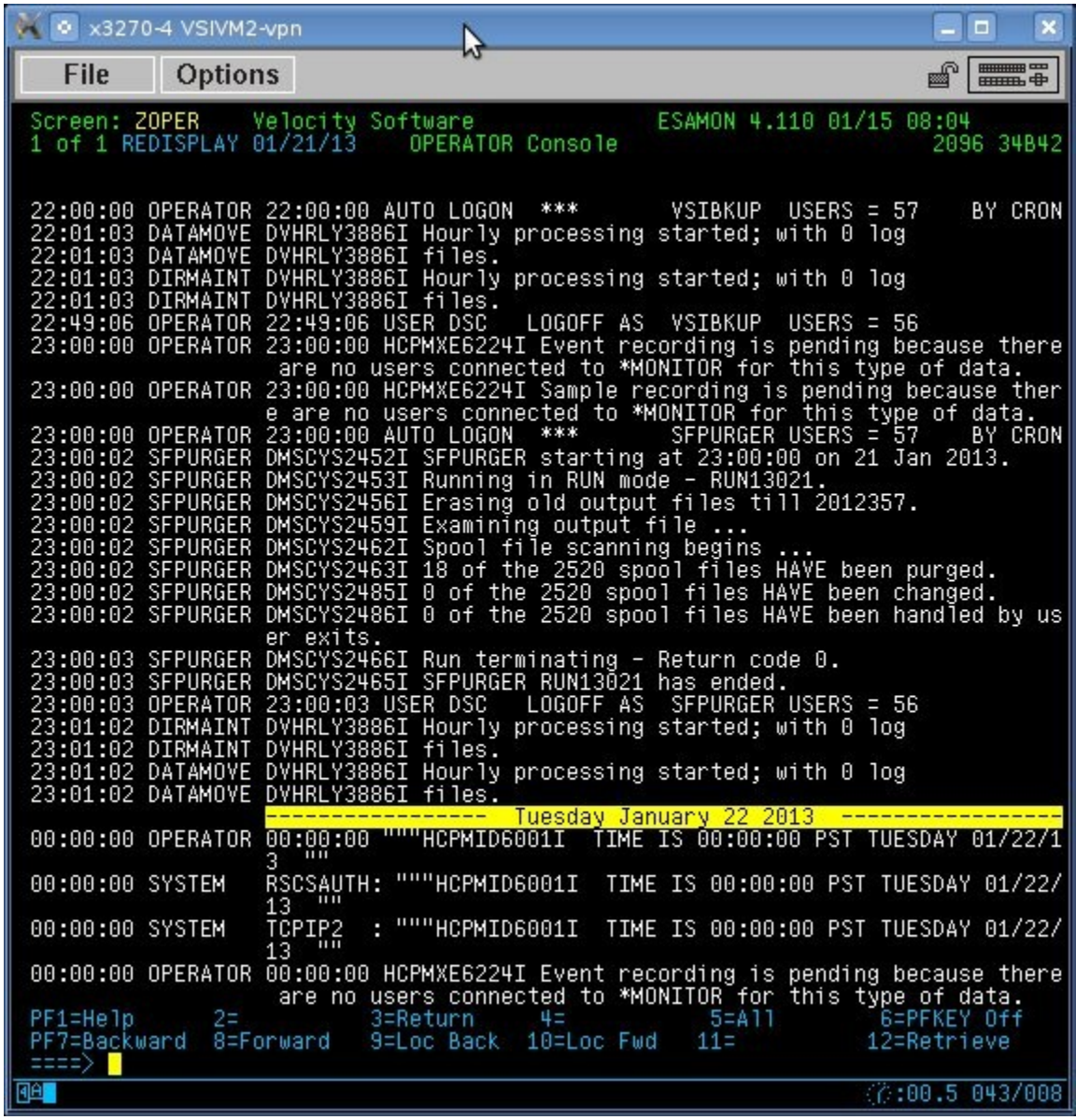
zOperator


x3270-4 VSIVM2-vpn <3>
File
Options
Screen: ZOPER Velocity Software ESAMON 4.110 01/15 10:09
1 of 1 OPERATOR Console 2096 34B42
08:42:09 TCPIP2 08:42:09 DTCSTM163I Telnet server: Conn 3: Connection opened 01/21/13 at 08:42:09
08:42:09 TCPIP2 08:42:09 DTCPRC150I Conn 3: Foreign internet address and port: net address = 192.168.5.75, port= 4029
08:42:09 TCPIP2 08:42:09 DTCSTM132I Conn 3: Ldsf device 0000000F created
08:44:05 TCPIP2 08:44:05 DTCSTM163I Telnet server: Conn 8: Connection opened 01/21/13 at 08:44:05
08:44:05 TCPIP2 08:44:05 DTCPRC150I Conn 8: Foreign internet address and port: net address = 192.168.5.75, port= 4042
08:44:05 TCPIP2 08:44:05 DTCSTM132I Conn 8: Ldsf device 0000000E created
08:44:53 OPERATOR 08:44:53 GRAF L0009 DROP FROM OPERATOR DIALED= 2
09:00:00 OPERATOR 09:00:00 HCPMXE6224I Event recording is pending because there are no users connected to *MONITOR for this type of data.
09:00:00 OPERATOR 09:00:00 HCPMXE6224I Sample recording is pending because there are no users connected to *MONITOR for this type of data.
09:01:02 DATAMOVE DVHRLY3886I Hourly processing started; with 0 log
09:01:02 DATAMOVE DVHRLY3886I files.
09:01:03 DIRMAINT DVHRLY3886I Hourly processing started; with 0 log
09:01:03 DIRMAINT DVHRLY3886I files.
09:01:18 OPERATOR 09:01:18 GRAF L0008 DISCONNECT TROTHR USERS = 59
09:06:37 TCPIP2 09:06:37 DTCSTM163I Telnet server: Conn 3: Connection opened 01/21/13 at 09:06:37
09:06:37 TCPIP2 09:06:37 DTCPRC150I Conn 3: Foreign internet address and port: net address = 192.168.5.80, port= 49295
09:06:38 TCPIP2 09:06:38 DTCSTM132I Conn 3: Ldsf device 00000009 created
09:06:42 OPERATOR 09:06:42 GRAF L0009 RECONNECT TROTHR USERS = 59 FROM 192.168.5.80
09:54:59 OPERATOR 09:54:59 GRAF L000A LOGOFF AS VSIMAINT USERS = 58
10:00:00 OPERATOR 10:00:00 HCPMXE6224I Event recording is pending because there are no users connected to *MONITOR for this type of data.
10:00:00 OPERATOR 10:00:00 HCPMXE6224I Sample recording is pending because there are no users connected to *MONITOR for this type of data.
10:01:02 DIRMAINT DVHRLY3886I Hourly processing started; with 0 log
10:01:02 DIRMAINT DVHRLY3886I files.
10:01:02 DATAMOVE DVHRLY3886I Hourly processing started; with 0 log
10:01:02 DATAMOVE DVHRLY3886I files.
PF1=Help 2= 3=Quit 4= 5=All 6=PFKEY Off
PF7=Backward 8= 9=Loc Back 10= 11= 12=Retrieve
====>

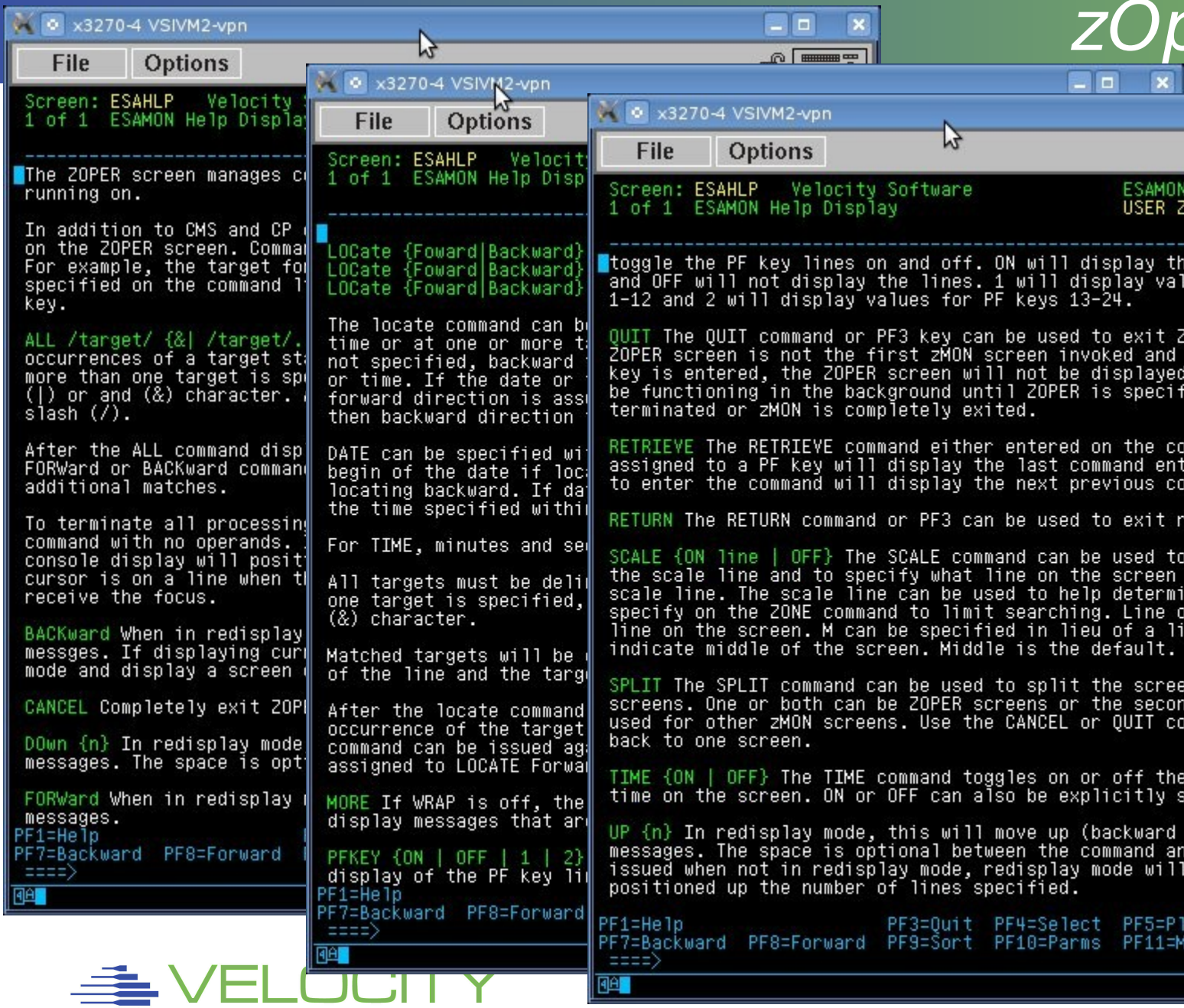
Display all messages with certain text



Locate a specific date



zOperator


x3270-4 VSIVM2-vpn
File
Options
Screen: ESAHLP Velocity Software ESAMON 4.110 01/22 08:11-08:12
1 of 1 ESAMON Help Display USER ZOPER 2096 34B42
toggle the PF key lines on and off. ON will display the PF key lines and OFF will not display the lines. 1 will display values for PF keys 1-12 and 2 will display values for PF keys 13-24.
QUIT The QUIT command or PF3 key can be used to exit ZOPER. If the ZOPER screen is not the first zMON screen invoked and the QUIT or PF3 key is entered, the ZOPER screen will not be displayed, but will still be functioning in the background until ZOPER is specifically terminated or zMON is completely exited.
RETRIEVE The RETRIEVE command either entered on the command line or assigned to a PF key will display the last command entered. Continuing to enter the command will display the next previous command.
RETURN The RETURN command or PF3 can be used to exit redisplay mode.
SCALE {ON line | OFF} The SCALE command can be used to turn on or off the scale line and to specify what line on the screen to display the scale line. The scale line can be used to help determine columns to specify on the ZONE command to limit searching. Line one is the fourth line on the screen. M can be specified in lieu of a line number to indicate middle of the screen. Middle is the default.
SPLIT The SPLIT command can be used to split the screen into two screens. One or both can be ZOPER screens or the second screen can be used for other zMON screens. Use the CANCEL or QUIT command to revert back to one screen.
TIME {ON | OFF} The TIME command toggles on or off the display of the time on the screen. ON or OFF can also be explicitly specified.
UP {n} In redisplay mode, this will move up (backward in time) n messages. The space is optional between the command and n. If UP is issued when not in redisplay mode, redisplay mode will be entered and positioned up the number of lines specified.
PF1=Help PF3=Quit PF4=Select PF5=Plot PF6=Reset PA1=CP
PF7=Backward PF8=Forward PF9=Sort PF10=Parms PF11=More PF12=Exit PA2=Copy
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Questions?

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