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What's New from IBM for Automated Operations on z/VM and Linux on System z

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Agenda

- **Product overview – Operations Manager for z/VM**
- **What's new in V1.4**
 - Scheduling
 - Security
 - Networking
 - Action processing
 - Usability enhancements
- **Demos**

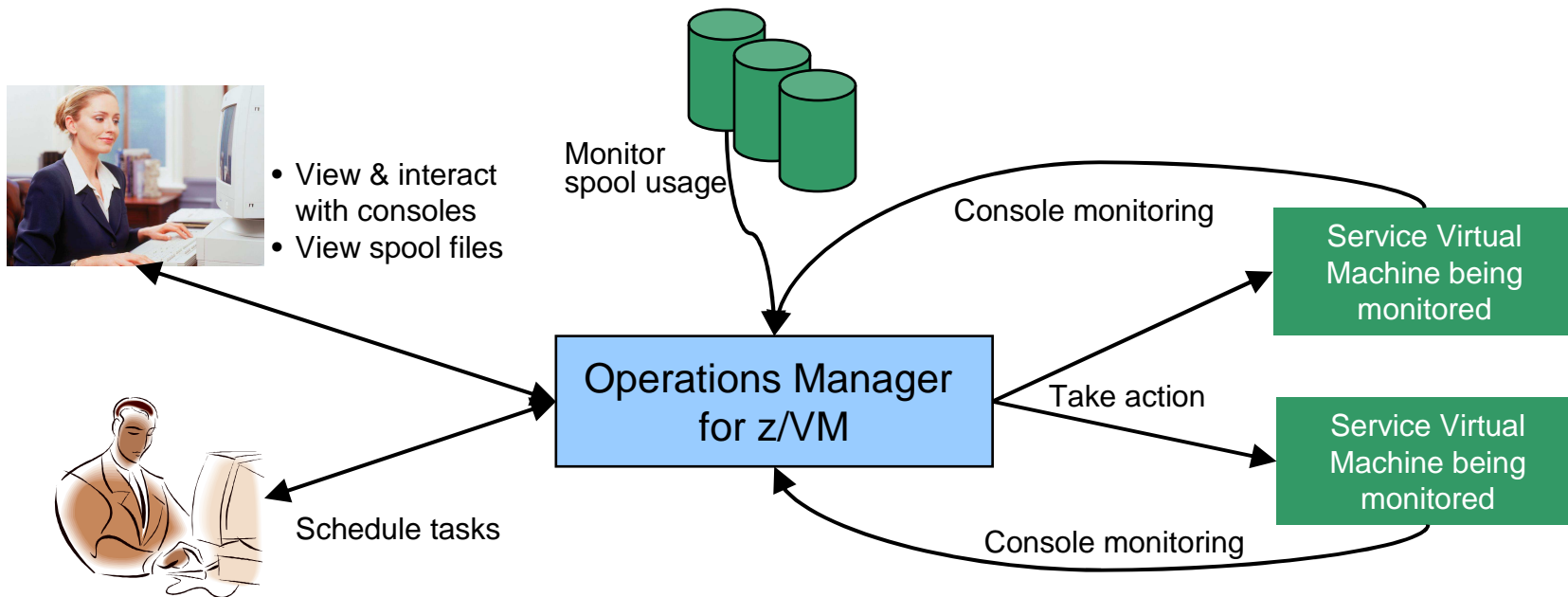
Operations Manager for z/VM

Increase productivity

- Authorized users view and interact with monitored virtual machines without logging onto them
- Multiple users view/interact with a virtual machine simultaneously

Improve system availability

- Monitor virtual machines and processes
- Take automated actions based on console messages
- Reduce problems due to operator error



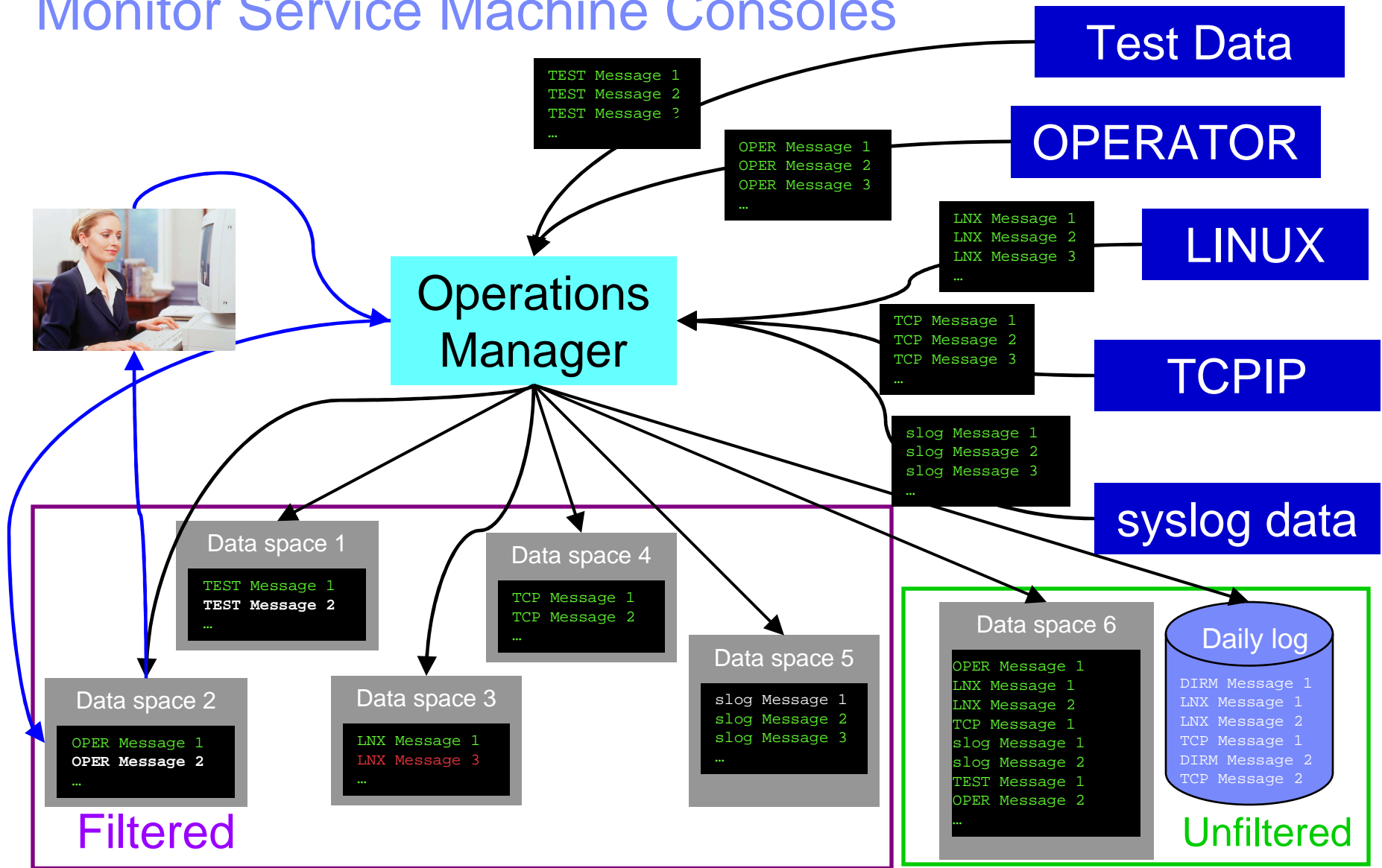
Automation

- Routine activities done more effectively with minimal operations staff
- Schedule tasks to occur on a regular basis

Integration

- Fulfill take action requests from OMEGAMON XE on z/VM and Linux
- Send alerts to Netcool/OMNIBus

Monitor Service Machine Consoles



Monitor Service Machines

- **Define rules to**
 - Scan console messages for text matching
 - Includes column, wildcard, and exclusion support
 - Optionally restrict to or exclude from specific user ID(s)
 - Take actions based on matches
 - Predefined actions include highlight, suppress, change color
 - User defined actions can call CP/CMS commands or REXX EXECs
- **Multiple rules can apply to one message**
 - Rules processed in order of definition in the configuration file
 - FINAL option available to indicate no additional rules should be evaluated

View and Interact with Consoles

- **Authorized users can view live consoles of monitored service machines and guests**
 - Multiple users can view the same console simultaneously
 - No need to logon to the service machine to see its console
 - Test data and Linux syslog data treated as a “console”
 - Views can be defined to look at a group of consoles in one view
- **Full screen mode**
 - Scroll up and down to view and search historical data
 - Auto scroll (on or off) as new output is displayed on the console
 - From command line, issue commands back to the monitored console
- **Amount of data that is visible depends on specified or default data space size**
- **Rules/actions may modify the view**
 - Suppress messages from the console
 - Hold or highlight messages with color, blinking, etc.
- **Authorized users can view the log file**
 - Can also request a copy of the log file from today or a previous day

Monitor and View Spool Files

- **Create spool monitors to trigger actions when**
 - Percent of spool usage falls within a specified range
 - Percent of spool usage increases at a specified rate
- **Actions triggered can be the same actions used by console monitoring**
- **Authorized users can**
 - Display a list of spool files based on one or more attributes
 - Owner
 - Size
 - Date created
 - From the list the user can
 - View the contents of an individual spool file
 - Transfer, change, or purge a spool file

Schedule Events and Actions

- **Define schedules**
 - Hourly, daily, weekly, monthly, or yearly
 - Once on specified month, day, year, and time
 - At regular intervals
 - Every x hours and y minutes
 - Within a specified window of time
 - Specify start time
 - Specify conflicting schedules
 - Specify maximum time to defer this schedule
 - Within limits
 - Restrict to specific days of the week: Monday through Sunday plus holidays
 - Restrict to certain hours of the day

- **Specify the action associated with the schedule**
 - Actions specified are the same as those for console and spool monitoring

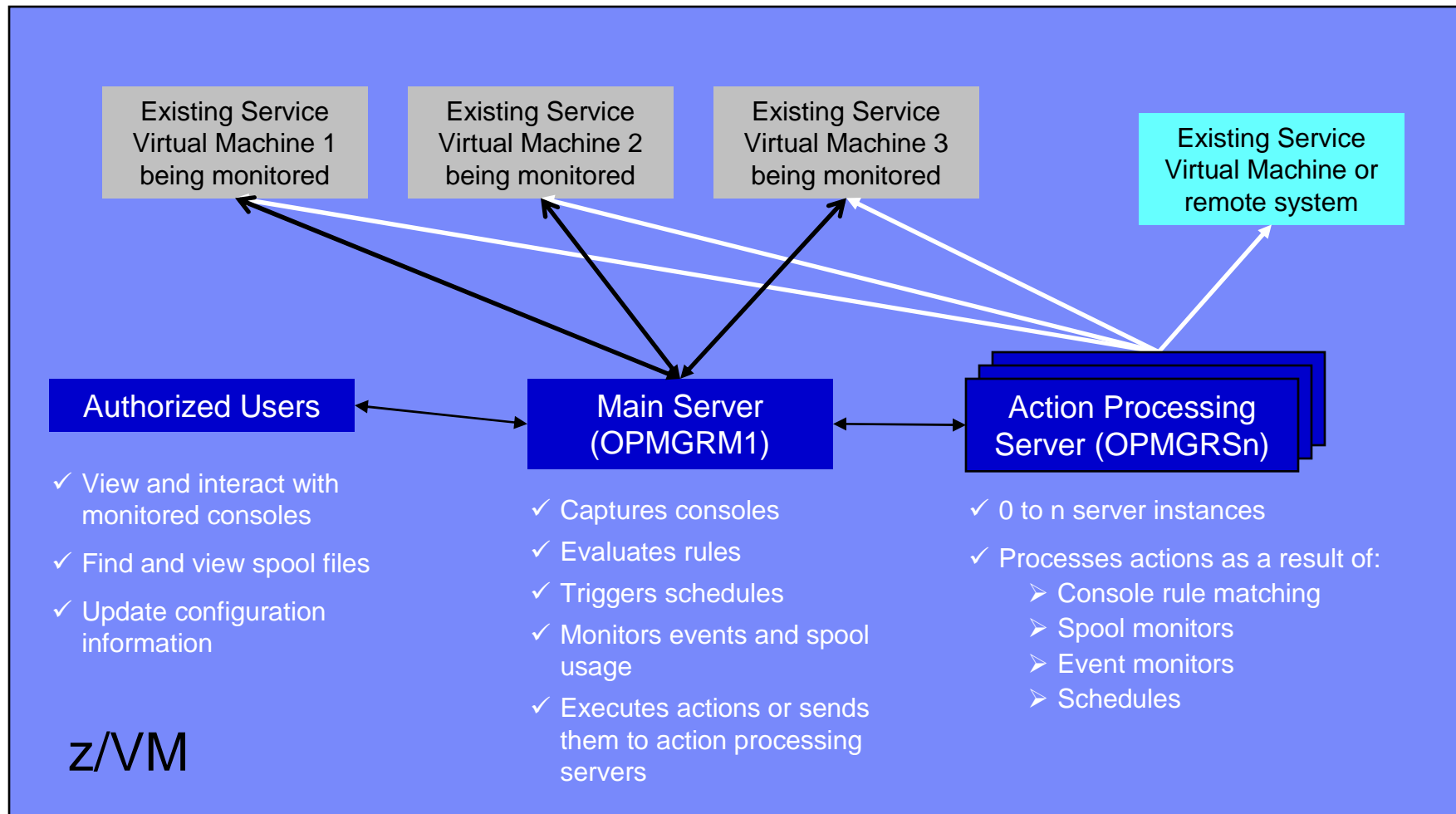
Respond to System Events

- **Create monitors for z/VM system events (*VMEVENT) related to user IDs**
 - Logon
 - Logoff
 - Failure condition (typically CP READ)
 - Logoff timeout started
 - Forced sleep started
 - Runnable state entered (VM READ)
 - Free storage limit exceeded
- **Optionally restrict to specific user ID(s)**
- **Specify the action associated with the event**
 - Actions specified are the same as those for schedules and console and spool monitors

Dynamic Configuration

- **Initial configuration file loaded at startup**
 - May imbed other configuration files
- **Most configuration options can be updated while Operations Manager is running**
 - Add, delete, or change:
 - Rules, actions, monitors, schedules, holidays, groups, user authorization
 - Suspend or resume rules, monitors, schedules
- **Multiple methods**
 - GOMCMD command interface
 - Load a new or updated configuration file
 - Commands in DEFACTN statements

Operations Manager



Summary

- **Use Operations Manager to**
 - Automate daily operations
 - Prevent problems rather than react to them
 - Automate reactions to problems when they can't be prevented
 - Improve problem determination procedures
 - Increase programmer and operator productivity



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New in Operations Manager V1.4

Announced: September 7, 2010
Available: September 10, 2010

Scheduling

- **Scheduling support for nth weekday of the month**
 - Example: Every 3rd Monday

```
DEFSCHD NAME( 3RDMON) , +
  WHEN( 3RDMON-2:30) , +
  ACTION(RUNREPT) , +
  ENV( SVM)
```
 - nth day of month can be 1ST, 2ND, 3RD, 4TH, 5TH, or LST
- **In addition to schedules already supported:**
 - Hourly, daily, yearly
 - At regular intervals
 - Weekly on a specified day of the week
 - Monthly on the nth or last day of the month
 - Specified number of hours and minutes from now
 - Once on specified date and time

Security

- **Operations Manager already supports RACF for access control**
 - Includes support for other ESMs
- **New in V1.4: Customizable profile prefix**
 - Prefix specified in Operations Manager configuration file
 - Will have GOM “pre-pended” to it
 - Example:
 - Customer specifies prefix of ACME in Operations Manager configuration file
 - Operations Manager will look for RACF FACILITY class profiles starting with GOM.ACME

Action Processing

- **Share state information or data between action processing servers**
 - “GLOBALV across user IDs”
 - No need to write data to disk
 - No need to restrict all related actions to the same action processing server (to use GLOBALV)
 - Data stored in a DCSS
 - Commands provided to store or retrieve the data

Shared Data in Action Processing - Examples

- From a REXX EXEC, save the value of the variable *total* into a shared variable named *totalservers*:
GOMGLBL FROM total NAME totalservers
- From a REXX EXEC, retrieve the value of the shared variable named *totalservers* into the variable *total*
GOMGLBL INTO total NAME totalservers
- From a REXX EXEC, save the value 10 into a shared variable named *totalservers* :
GOMGLBL VALUE 10 NAME totalservers
- From a REXX EXEC, save the value of the variable *total* into a shared variable named by the variable *varname*:
GOMGLBL FROM total VAR varname

Networking

■ Support for IPv6

- Receiving Linux syslog data
 - Or any UDP data sent on the specified port
- Receiving test data
- Examples

IPv4

```
DEFTCPA NAME(SYSLOG1),+  
TCPUSER(TCPIP),+  
TCPAPPL(GOMRSYL),+  
TCPADDR(000.000.000.000),+  
TCPPORT(514),+  
PARM(SYSLOG1 03330417UTF8)
```

IPv6

```
DEFTCPA NAME(SYSLOG1),+  
TCPUSER(TCPIP),+  
TCPAPPL(GOMRSYL),+  
TCPADDR(::),+  
TCPPORT(514),+  
PARM(SYSLOG1 03330417UTF8)
```

Usability Enhancements

- **Create a file using VIEWSP, VIEWCON, and VIEWLOG commands**
 - Sends a file to your reader instead of opening a full screen view
 - Allows you to use more powerful tools to view or process the file
 - PEEK, XEDIT, BROWSE, CMS Pipelines
 - New option on VIEWCON and VIEWLOG commands:
`VIEWCON USER (OPERATOR) , MODE (RDR)`
 - New options on VIEWSP command:
`VIEWSP SFID (userid , nnnn) , MODE (RDR)`
- **Option to display function key assignments in VIEWSP, VIEWCON, and VIEWLOG**
 - New option in PROFILE VIEWCON, PROFILE VIEWLOG, and PROFILE VIEWSP
`SHOWPF=Y`
- **Option to disable autscroll on initial display of VIEWCON or VIEWLOG**
 - New option on VIEWCON and VIEWLOG commands:
`VIEWCON USER (OPERATOR) , MODE (NOSROLL)`

Summary

- **Use Operations Manager to**
 - Automate daily operations
 - Prevent problems rather than react to them
 - Automate reactions to problems when they can't be prevented
 - Improve problem determination procedures
 - Increase programmer and operator productivity
- **V1.4 provides improvements in**
 - Scheduling
 - Security
 - Networking
 - Action processing
 - Usability

Reference Information

- **Product Web site**

- Start at
<http://www.ibm.com/software/sysmgmt/zvm/operations/>
- Product pages include
 - Publications
 - Pre-requisites
 - Announcements
 - Presentations
 - Support

- **e-mail**

- Tracy Dean, tld1@us.ibm.com, Product Manager



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Demonstration Scenarios

Demos Available

1. **Send an e-mail based on a console message**
2. **Send an alert to Netcool/OMNIbus based on a console message**
 - a. Using POSTZMSG interface to Netcool/OMNIbus
 - b. Using SNMP interface to Netcool/OMNIbus
3. **Send a message or e-mail based on spool usage**
4. **View and clean up spool files**
5. **Automated spool cleanup**
6. **Archiving DIRMAINT's log files when disk gets full**
7. **Process a file of test messages as a console**
8. **Process Linux syslog data as a console**
9. **Create a central operations console on one z/VM system**
10. **Create a central operations console across multiple z/VM systems**
11. **Integration with OMEGAMON XE on z/VM and Linux**
 - Take action based on CPU usage of a Linux guest
12. **Monitor service machines for logoff – and autolog them**

Scenario 2b:

Send an Alert to OMNIbus – Using SNMP

- **Watch all monitored consoles for an error message that includes the word “abend”**
 - Message must also contain the word “snmp” (for demo purposes only)
- **Send an alert to OMNIbus if this word appears on a console**
 - Use SNMPTRAP command on z/VM
- **Dynamically include in the alert**
 - User ID that received the error message
 - Text of the abend message

Scenario 2b: Detailed Steps

- **View “All Events” in OMNIbus**

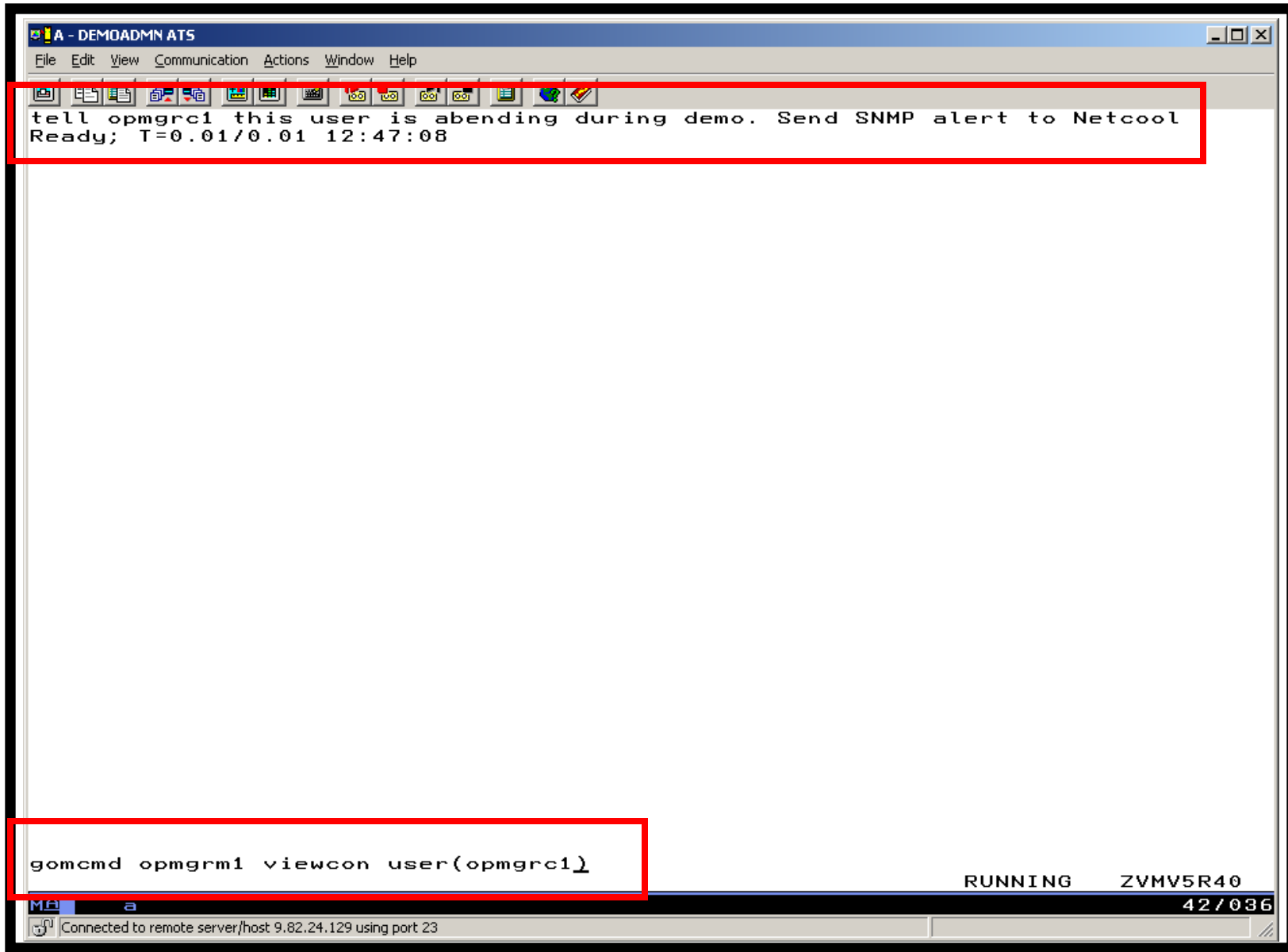
- **From any VM user ID:**

```
tell opmgrc1 this user is abending during demo. Send SNMP alert to Netcool
```

- **From an authorized VM user ID, view the console of OPMGRC1:**

```
gomcmd opmgrml viewcon user(opmgrc1)
```

- **View the OMNIbus console to see the alert**



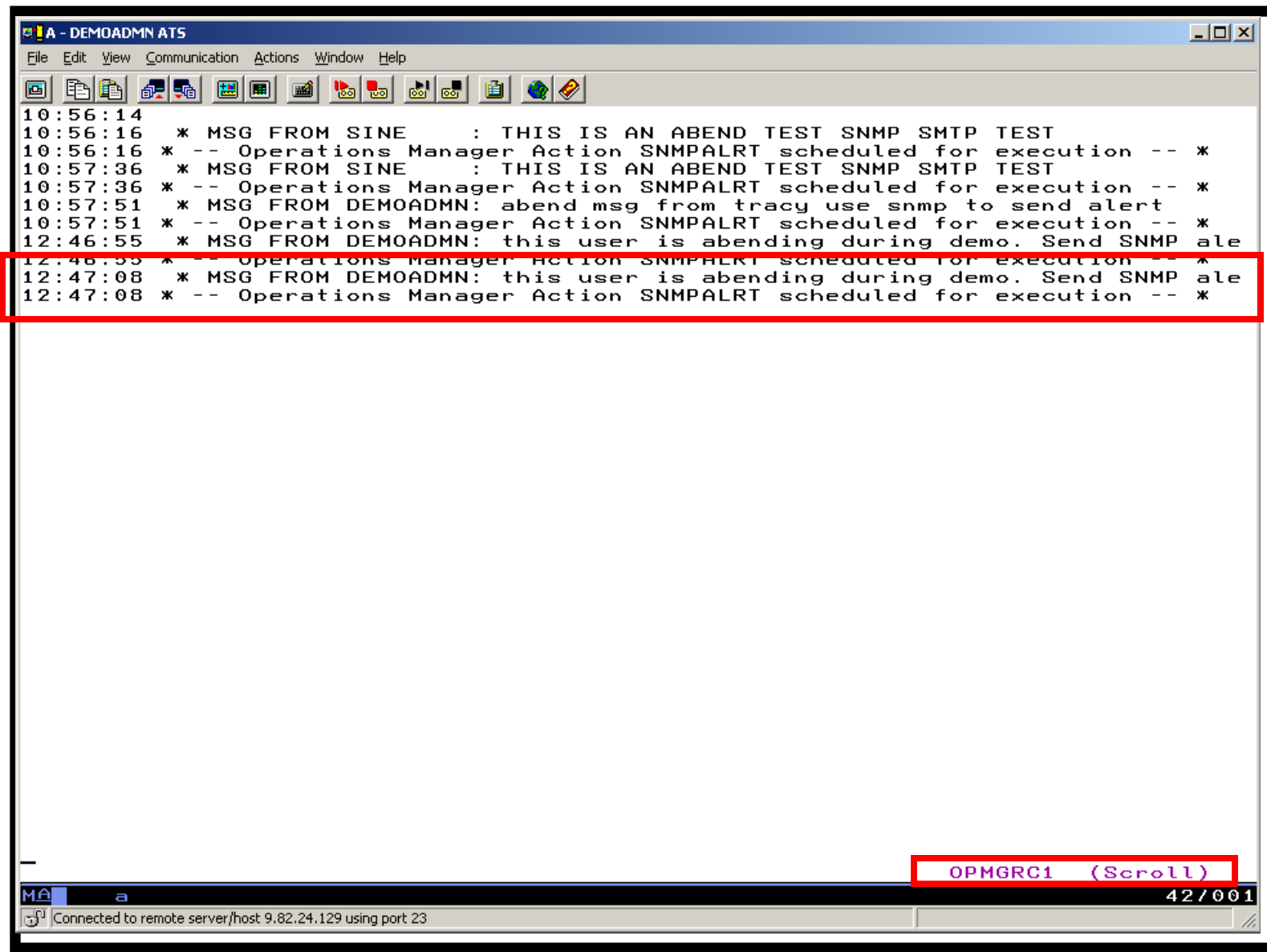
The screenshot shows a terminal window with a menu bar (File, Edit, View, Communication, Actions, Window, Help) and a toolbar. The terminal content is as follows:

```
tell opmgrc1 this user is abending during demo. Send SNMP alert to Netcool  
Ready; T=0.01/0.01 12:47:08
```



```
gomcmd opmgrm1 viewcon user(opmgrc1)
```

At the bottom right of the terminal, the status 'RUNNING ZVMV5R40' is displayed, with '42/036' below it. The status bar at the very bottom indicates 'Connected to remote server/host 9.82.24.129 using port 23'.



```
A - DEMOADMN ATS
File Edit View Communication Actions Window Help
10:56:14
10:56:16 * MSG FROM SINE      : THIS IS AN ABEND TEST SNMP SMTP TEST
10:56:16 * -- Operations Manager Action SNMPALRT scheduled for execution -- *
10:57:36 * MSG FROM SINE      : THIS IS AN ABEND TEST SNMP SMTP TEST
10:57:36 * -- Operations Manager Action SNMPALRT scheduled for execution -- *
10:57:51 * MSG FROM DEMOADMN: abend msg from tracy use snmp to send alert
10:57:51 * -- Operations Manager Action SNMPALRT scheduled for execution -- *
12:46:55 * MSG FROM DEMOADMN: this user is abending during demo. Send SNMP ale
12:46:55 * -- Operations Manager Action SNMPALRT scheduled for execution -- *
12:47:08 * MSG FROM DEMOADMN: this user is abending during demo. Send SNMP ale
12:47:08 * -- Operations Manager Action SNMPALRT scheduled for execution -- *

OPMGRC1 (Scroll)
MA a 42/001
Connected to remote server/host 9.82.24.129 using port 23
```

Netcool/OMNIBus Event List : Filter="All Events", View="Default"

File Edit View Alerts Tools Help

All Events Default Top [OFF]

Node	Alert Group	Summary	Last Occurrence(+)	Count	Type	Expire Time	
mwbtp	TEST	Test_Message	07/10/2008 02:45:57 PM	4	Problem	Not Set	
hasl125	TESTEIF	test_message_from_eif_2	08/19/2008 03:30:51 PM	2	Problem	Not Set	USSJAVA
USIBMWZV.HSLV12	TBSMV3_SOURCE390		09/05/2008 09:38:25 AM	1	Problem	Not Set	USIBMWZ
OPMGRC1	WARN_EVENT	fatal_error_on_guest	04/24/2009 11:26:56 AM	2	Problem	Not Set	OpsMgr
hasle313:LZ	ITM_Linux_CPU	Linux_High_CPU_Overload[(Idle_CPU<10.	02/10/2010 07:39:46 PM	1	ITM Problem	Not Set	ITM
hasle332	JJELD	A JJELD process running on hasle332 ha	02/14/2010 11:05:10 PM	1	Problem	Not Set	
9.65.208.193	Generic	Egp Neighbour Loss	02/15/2010 09:00:59 PM	3	Type Not Set	Not Set	mttrapd
Primary:HASLE337:	ITM_NT_Monitored_Log	NT_Log_Space_Low[(%_Usage>=95) ON	02/16/2010 12:12:47 PM	1	ITM Problem	Not Set	ITM
Primary:HASLE337:	ITM_NT_Monitored_Log	NT_Log_Space_Low[(%_Usage>=95) ON	02/16/2010 12:12:47 PM	1	ITM Problem	Not Set	ITM
9.82.24.129	Generic	Cold Start	03/03/2010 02:25:12 PM	1	Type Not Set	Not Set	mttrapd
hasle332	IducMissed	Disconnecting e@09522621@09522621:1.	03/03/2010 04:54:00 PM	1	Problem	Not Set	
hasle332	Unix Event List	A e@09522621@09522621:1.0 process e	03/08/2010 08:09:44 AM	1	Problem	Not Set	
OPMGRC1	SCARY_EVENT	guest_is_abending	03/08/2010 12:25:42 PM	28	Problem	Not Set	OpsMgr
WSCZPLEX:MVS:SY	ITM_Sysplex_DASD_Gr	KM5_No_Sysplex_DASD_Filter_Warn[(Vol	03/09/2010 03:42:32 PM	2	ITM Problem	Not Set	ITM
Primary:HASLE337:	ITM_NT_Logical_Disk	NT_Logical_Disk_Space_Warning[(%_Fre	03/09/2010 04:28:37 PM	3	ITM Problem	Not Set	ITM
Primary:HASLE327:	ITM_NT_Monitored_Log	NT_Log_Space_Low[(%_Usage>=95) ON	03/11/2010 03:27:47 PM	1	ITM Problem	Not Set	ITM
HIAVSYSL:MVS:SY	ITM_Sysplex_DASD_Gr	KM5_No_Sysplex_DASD_Filter_Warn[(Vol	03/11/2010 03:38:17 PM	1	ITM Problem	Not Set	ITM
hasle313:PA	ITM_Disk_Utilization_LT	Warning threshold for disk utilization on o	03/11/2010 11:24:46 PM	1	ITM Problem	Not Set	ITM
hasle332		mttrapd probe on hasle332: Heartbeat Me	03/12/2010 12:37:53 PM	2312	Type Not Set	Not Set	mttrapd
9.82.24.129	Generic	Authentication	03/12/2010 12:50:23 PM	1652	Type Not Set	Not Set	mttrapd
9.82.24.129	Z/VM SNMP	this user is abending during demo. Send	03/12/2010 12:46:23 PM	9	Problem	Not Set	mttrapd

0 4 12 2 1 2 All Events

0 row(s) inserted, 1 row(s) updated and 0 row(s) deleted. 03/12/2010 12:52:37 PM root NCOMS[PR]I

Scenario 2b: How Do You Do That?

Rule and action in Operations Manager:

*

* Send an alert to OMNibus using SNMP for abend

* msgs on consoles

```
DEFRULE NAME (ABNDSNMP) , +
```

```
  MATCH ( *abend*snmp* ) , +
```

```
  ACTION ( SNMPALRT ) , +
```

```
  PARM ( ABEND )
```

*

```
DEFACTN NAME ( SNMPALRT ) , +
```

```
  COMMAND ( EXEC SNMP2OMN &T ) , +
```

```
  ENV ( SVM )
```

Scenario 2b: How Did You Do That?

SNMP2OMN EXEC

```
/* SNMP2OMN action routine for Operations Mgr */  
address command  
parse arg ":" msgtext  
msgtext2 = "'msgtext '"  
/* Send message */  
snmptrap trape 1.1 number 30 1.2 text "UXZVM001" 1.3 text msgtext2 ent 1.3.6.1.4.1.9545.6  
exit
```

Scenario 2b: Additional Steps Required on z/VM

- **SNMPD user ID configured and running**
- **Update files on TCPMAINT 198 disk**
 - Add OMNIbus IP address to SNMPTRAP DEST file
 - Open SNMPD and SNMPQE ports in PROFILE TCPIP
 - Update SNMPMIBX TEXT section of MIB_EXIT DATA
- **Give OPMGRM1 and OPMGRSn access to SNMPTRAP command**
 - On TCPMAINT 592 disk

Scenario 2b: Additional Steps Required on OMNibus

- **Install the IBM Tivoli Netcool/OMNibus SNMP Probe**
 - Install it on same platform as target OMNibus server
- **Customize operational information in the probe properties (mttrapd.props)**
 - Listening port, heartbeat interval, mibs and mibs locations, etc.
- **Customize the probe rules (mttrapd.rules)**
 - Map variables created by the probe (from data extracted from the SNMP trap) into the desired OMNibus event fields
 - Default mappings for the SNMP generic traps (trap types 0-5)
 - Enterprise-specific traps (trap type 6) require customization
- **Documentation for installation and customization**
 - IBM Tivoli Netcool/OMNibus SNMP Probe Reference Guide (SC23-6003-04)

Scenario 3:

Send a Message or E-mail if Spool Usage is Too High

- **Operations Manager monitors the spool usage (percent full)**
- **Usage exceeds the specified limit**
 - For demo purposes, we'll dynamically resume (re-activate) an existing spool monitor that requires the spool to only be 25% full
- **Automatically send an e-mail to someone who can evaluate and take action**
- **For demo purposes, suspend (de-activate) the spool monitor when complete**

Scenario 3: Detailed Steps

- **From an authorized VM user ID, see the spool usage:**

```
gomcmd opmgrm1 viewspl
```

- **From a user ID with Operations Manager privileges:**

```
gomcmd opmgrm1 resume spool(splfull12)
```

- **Check the Operations Manager log to see the spool monitor triggered:**

```
gomcmd opmgrm1 viewlog
```

- **Check the inbox of the appropriate person to see the e-mail**

- **From a user ID with Operations Manager privileges:**

```
gomcmd opmgrm1 suspend spool(splfull12)
```

B - DEMOADMN ATS

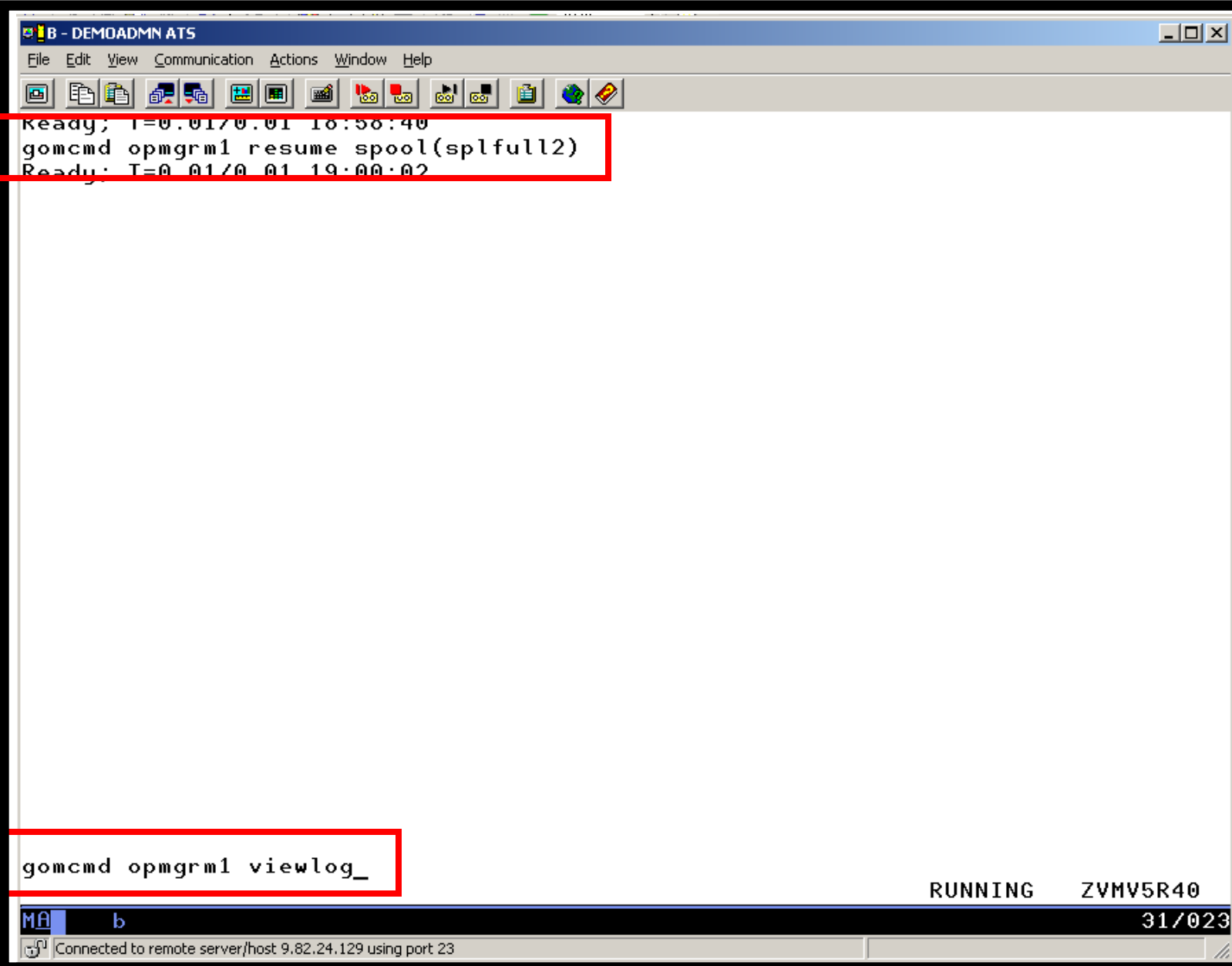
File Edit View Communication Actions Window Help

System: ZVMV5R40 Spool: 48% Used Files: 0% Used 1 of 339
 Max: 2.4G Max: 1655640

Cmd	Owner	File	CLS	QUE	TYP	Size	Hold	Date	Time	Name	Type
BLDSEG	0022	T	RDR	CON	8K	NONE	11/18	15:19:45			
TCPMAINT	0011	T	RDR	CON	8K	NONE	11/18	14:42:34			
TCPMAINT	0010	T	RDR	CON	8K	NONE	11/18	14:26:11			
TCPMAINT	0008	T	RDR	CON	8K	NONE	11/09	17:41:40			
TCPMAINT	0009	T	RDR	CON	12K	NONE	11/09	17:41:25			
TCPMAINT	0007	T	RDR	CON	8K	NONE	11/09	17:00:28			
TCPMAINT	0006	T	RDR	CON	16K	NONE	10/27	16:02:16			
OPERATOR	0015	T	RDR	CON	20K	NONE	10/27	16:02:14			
TCPMAINT	0003	T	RDR	CON	8K	NONE	05/26	15:47:09			
TCPMAINT	0002	T	RDR	CON	4K	NONE	05/26	15:47:03			
TCPMAINT	0001	T	RDR	CON	4K	NONE	05/26	15:46:54			
MAINT	0087	T	RDR	CON	8K	NONE	05/26	15:39:32			
MAINT	0062	A	RDR	PUN	4K	NONE	05/06	15:02:06			
MAINT	0053	T	RDR	CON	4K	NONE	03/16	16:39:52			
MAINT	0120	T	RDR	CON	16K	NONE	11/18	16:56:56			
TCPMAINT	0013	T	RDR	CON	8K	NONE	11/18	16:56:33			
MAINT	0117	T	RDR	CON	16K	NONE	11/18	15:22:33			
MAINT	0118	T	RDR	CON	4K	NONE	11/18	15:22:28			
MAINT	0119	T	RDR	CON	4K	NONE	11/18	15:22:28			
MAINT	0085	T	RDR	CON	4K	NONE	05/26	15:37:45			
MAINT	0083	A	RDR	PUN	4K	NONE	05/26	15:37:45			
MAINT	0027	T	RDR	CON	4K	NONE	12/18	09:20:43			
MAINT	0028	T	RDR	CON	4K	NONE	12/18	09:20:43			
MAINT	0014	T	RDR	CON	4K	NONE	08/21	16:02:18			
MAINT	0015	T	RDR	CON	4K	NONE	08/21	15:08:03			
MAINT	0003	T	RDR	CON	4K	NONE	08/21	14:40:03			
MAINT	0016	T	RDR	CON	4K	NONE	08/21	15:08:03			
TCPMAINT	0012	T	RDR	CON	8K	NONE	11/18	15:22:28			

MA b 05/001

Connected to remote server/host 9.82.24.129 using port 23



The screenshot shows a terminal window with a menu bar (File, Edit, View, Communication, Actions, Window, Help) and a toolbar. The terminal content is as follows:

```
Ready; T=0.01/0.01 18:58:40  
gomcmd opmgrm1 resume spool(splfull2)  
Ready; T=0.01/0.01 19:00:02
```

At the bottom of the terminal, the command `gomcmd opmgrm1 viewlog_` is entered. The status bar at the bottom right shows `RUNNING ZVMV5R40` and `31/023`. The status bar at the bottom left shows `MA b` and `Connected to remote server/host 9.82.24.129 using port 23`.

```

b - DEMOADMN ATS
File Edit View Communication Actions Window Help
03/14/2010 18:35:50 GOMCMD0216L BKRCATLG "BKRCAT8510I 03/14/10 18:35:50 WAKEUP
03/14/2010 18:35:50 GOMCMD0216L BKRCATLG "BKRCAT8512I The stack contains 0 ent
03/14/2010 18:37:56 GOMCMD0216L BKRBAKUP "BKRBAK8510I 03/14/10 18:37:56 WAKEUP
03/14/2010 18:37:56 GOMCMD0216L BKRBAKUP "BKRBAK8512I The stack contains 0 ent
03/14/2010 18:50:50 GOMCMD0216L BKRCATLG "BKRCAT8510I 03/14/10 18:50:50 WAKEUP
03/14/2010 18:50:50 GOMCMD0216L BKRCATLG "BKRCAT8512I The stack contains 0 ent
03/14/2010 18:52:04 GOMCMD0201L DEMOADMN "VIEWSPL" VID=DEMOADMN SRC=MASIUCV C
03/14/2010 18:52:56 GOMCMD0216L BKRBAKUP "BKRBAK8510I 03/14/10 18:52:56 WAKEUP
03/14/2010 18:52:56 GOMCMD0216L BKRBAKUP "BKRBAK8512I The stack contains 0 ent
03/14/2010 18:55:19 GOMCMD0201L DEMOADMN "VIEWSPL" VID=DEMOADMN SRC=MASIUCV C
03/14/2010 18:59:23 GOMCMD0224L MAINT EVENT TYPE 0 VID=*VMEVENT SRC=MASIUCV
03/14/2010 18:59:23 GOMCMD0224L MAINT EVENT TYPE 5 VID=*VMEVENT SRC=MASIUCV
03/14/2010 19:00:02 GOMCMD0201L DEMOADMN "RESUME SPOOL(SPLFULL2)" VID=DEMOADMN
03/14/2010 19:00:06 GOMSM00403I SPOOL ALERT: MONITOR SPLFULL2 USAGE CONDITI
03/14/2010 19:00:06 GOMSM00401I SPOOL USE: MONITOR SPLFULL2 SPACE 48 PERCENT,
03/14/2010 19:00:06 GOMSM00402I SPOOL CHG: MONITOR SPLFULL2 SPACE 0 PERCENT, F
03/14/2010 19:00:06 GOMACT0260I SPOOL SPLFULL2 ACTION SPLEMAIL TRIGGERED BY
03/14/2010 19:00:06 GOMACT0262I ACTION SPLEMAIL BEGIN FOR SPOOL SERVER OPMG
03/14/2010 19:00:06 GOMACT0269L COMMAND "EXEC SMTPNOTE TLD1 AT US.IBM.COM 48 S
03/14/2010 19:00:06 GOMACT0270L DMSXS0587I XEDIT:
03/14/2010 19:00:06 GOMACT0270L NOTE OPMGRM1 NOTE A1 sent to TLD1 at US.IBM.CO
03/14/2010 19:00:06 GOMACT0267I ACTION SPLEMAIL END RC=0 SERVER OPMGRM1
03/14/2010 19:00:06 GOMCMD0216L SMTP "RDR FILE 0065 SENT FROM OPMGRM1 PUN
03/14/2010 19:00:06 GOMCMD0216L SMTP "* From SMTP: Received Spool File 006
03/14/2010 19:00:08 GOMCMD0216L SMTP "* From SMTP: Mail delivered to: <TLD
03/14/2010 19:00:28 GOMCMD0201L DEMOADMN "VIEWLOG" VID=DEMOADMN SRC=MASIUCV C
03/14/2010 19:01:06 GOMSM00403I SPOOL ALERT: MONITOR SPLFULL2 USAGE CONDITI
03/14/2010 19:01:06 GOMSM00401I SPOOL USE: MONITOR SPLFULL2 SPACE 48 PERCENT,
03/14/2010 19:01:06 GOMSM00402I SPOOL CHG: MONITOR SPLFULL2 SPACE 0 PERCENT, F
03/14/2010 19:01:06 GOMACT0260I SPOOL SPLFULL2 ACTION SPLEMAIL TRIGGERED BY
MASALOG
MA b 31/001
Connected to remote server/host 9.82.24.129 using port 23

```

The screenshot shows the IBM Lotus Notes interface. The search bar contains 'lucie' and the search results are displayed in a table. The table has columns for Sender, Subject, Date, and Size. The search results are grouped into 'High Importance' and 'Normal' categories. The 'Normal' category contains five entries, all with the subject 'Spool is 48% full on z/VM system' and the sender 'OPMGRM1'. The dates range from 03/14/2010 05:00 PM to 03/14/2010 05:04 PM. The sizes are all 3K. Two rows in the 'Normal' category are highlighted with red boxes.

Sender	Subject	Date	Size
[Redacted]	[Redacted]	[Redacted]	38K
[Redacted]	[Redacted]	[Redacted]	26K
[Redacted]	[Redacted]	[Redacted]	86K
OPMGRM1	Spool is 48% full on z/VM system	03/14/2010 05:04 PM	3K
OPMGRM1	Spool is 48% full on z/VM system	03/14/2010 05:03 PM	3K
OPMGRM1	Spool is 48% full on z/VM system	03/14/2010 05:02 PM	3K
OPMGRM1	Spool is 48% full on z/VM system	03/14/2010 05:01 PM	3K
OPMGRM1	Spool is 48% full on z/VM system	03/14/2010 05:00 PM	3K

Spool is 48% full on z/VM system
OPMGRM1 to: Tracy Dean 03/14/2010 05:04 PM
 Default custom expiration date: 03/14/2011 [Show Details](#)

The following message was received on GDP4.GDPSPLEX.WSCLAB.WASHINGTON.IBM.COM :

```
Spool is 48% full on z/VM system
```

DO NOT REPLY - This e-mail was generated by an automated service machine

Scenario 3: How Do You Do That?

Spool monitor and action in Operations Manager:

*
*

```
DEFSMON NAME(SPLFULL2),+  
  USAGE(025-099),+  
  ACTION(SPLEMAIL),+  
  PARM(SPOOL)
```

*

```
DEFACTN NAME(SPLEMAIL),+  
  COMMAND(EXEC SMTPNOTE tld1 at us.ibm.com &4 &p),+  
  ENV(LVM)
```

Scenario 3: How Do You Do That?

SMTPNOTE EXEC (excerpts)

```
/* */
Parse arg mail_user dummyat mail_node baduser errtype msgtext
if errtype = 'ABEND' then
  errtext = 'Abend on user ID' baduser 'on z/VM system'
else
  if errtype = 'SPOOL' then do
    errtext = 'Spool is' baduser'% full on z/VM system'
    msgtext = errtext
  end
  else errtext = msgtext /* Construct the e-mail */
line.1 = 'OPTIONS: NOACK    LOG    SHORT    NONOTEBOOK ALL CLASS A'
line.2 = 'Date: ' Date() ',' Time()
line.3 = 'From: Operations Manager for z/VM'
line.4 = 'To: ' mail_user 'at' mail_node
line.5 = 'Subject: ' errtext
...
line.7 = msgtext
line.8 = ' '
line.9 = 'DO NOT REPLY - This e-mail was generated by an automated service machine
line.0 = 9
'PIPE stem line. | > TEMP NOTE A'
'EXEC SENDFILE TEMP NOTE A (NOTE SMTP'
```


Scenario 8: Process Linux Syslog Data as a Console

- **Route syslog data from a Linux guest to Operations Manager for z/VM**
 - Supports syslog and syslog-ng
 - syslog-ng includes hostname or IP address in message
- **Treat it as the console of a “fake” user ID**
- **Trigger rules and actions based on syslog data**
- **View the “console” containing syslog data**
- **Option to create one console per syslog or combine multiple syslogs into one console**

Scenario 8: Detailed Steps

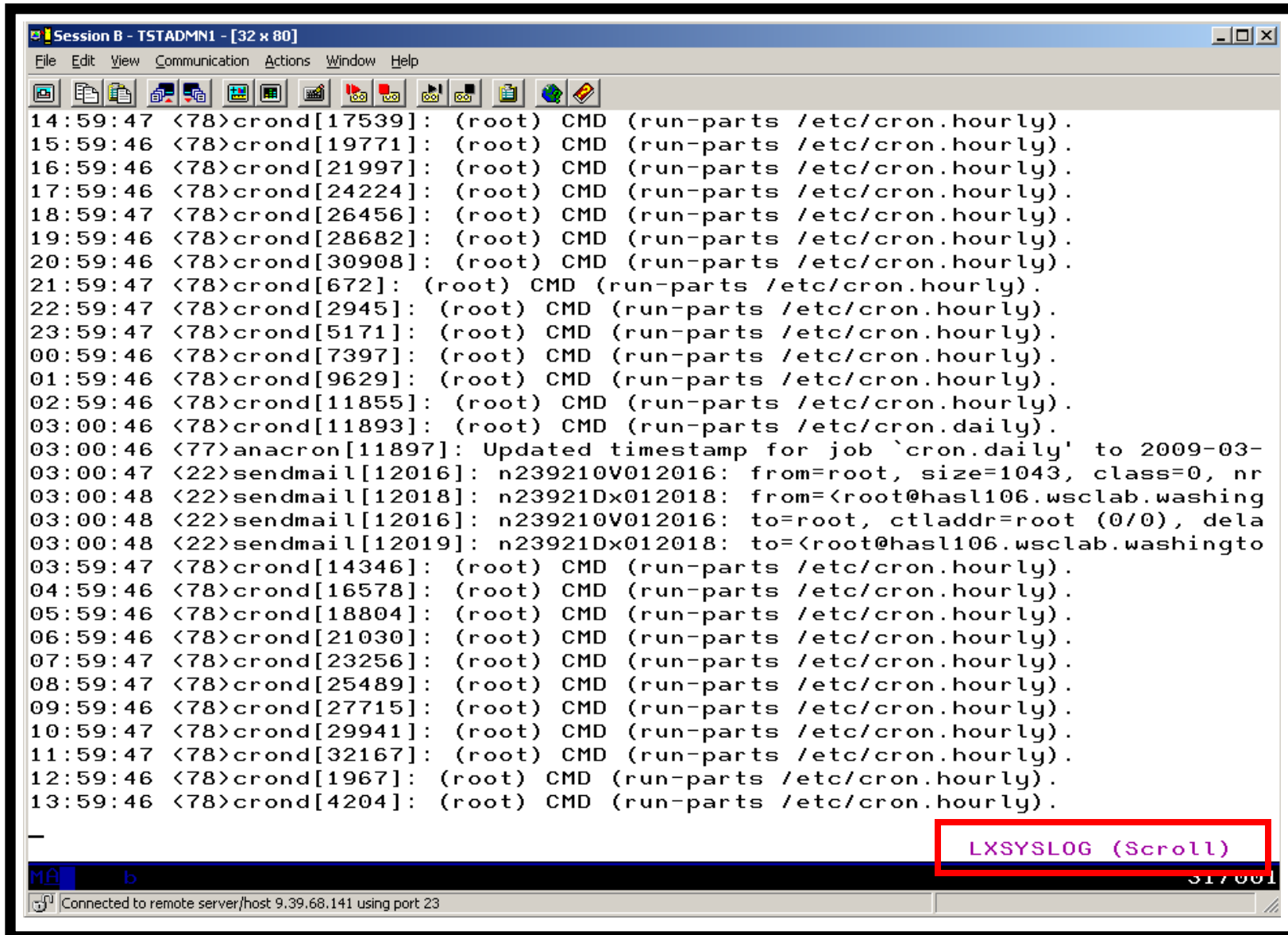
- **From an authorized z/VM user ID, view any syslog data already received**

```
gomcmd opmgrm1 viewcon user(lxsyslog)
```

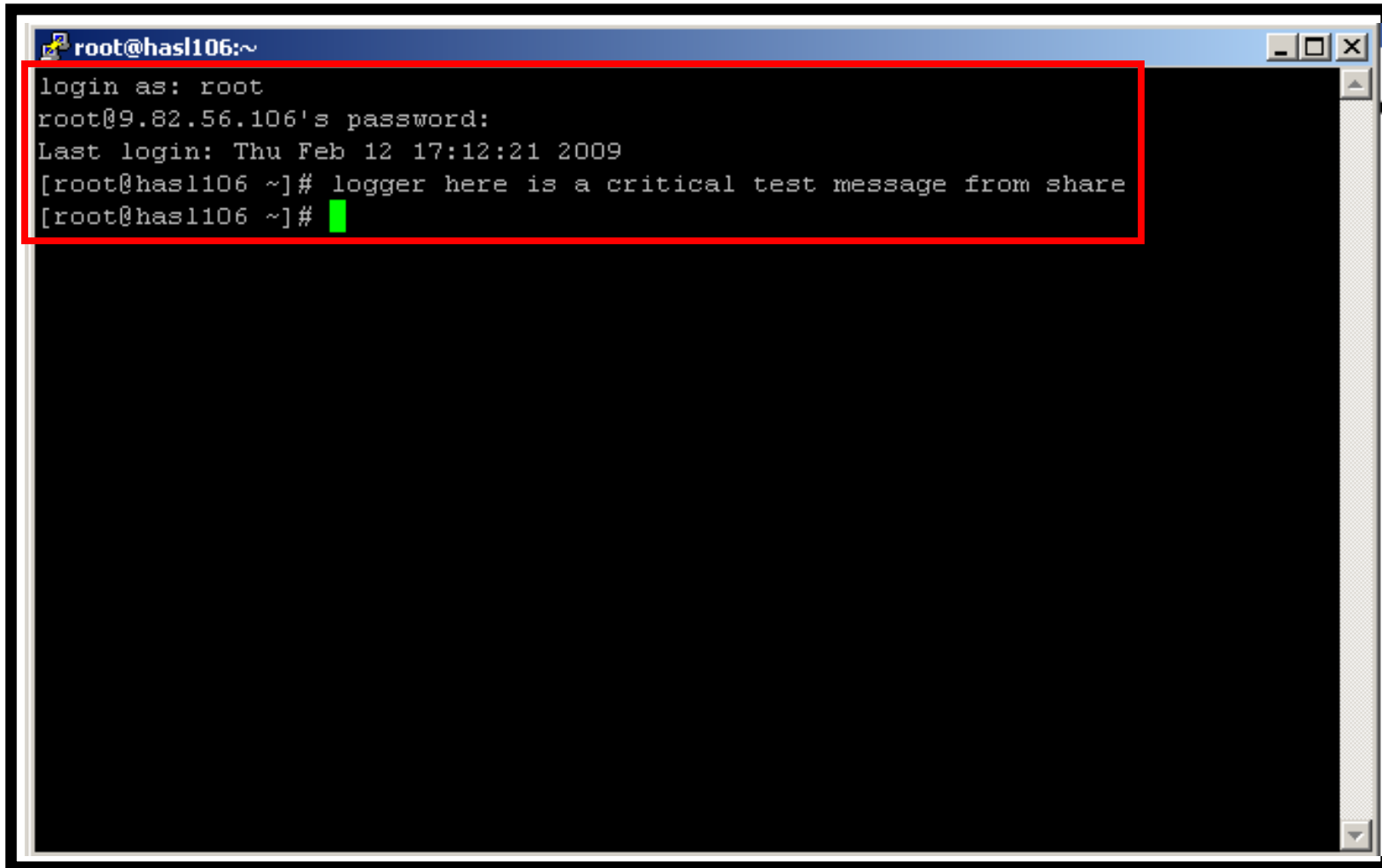
- **Use PUTTY to connect to a Linux guest**
- **Login as root and issue the command**

```
logger here is a critical test message from SHARE
```

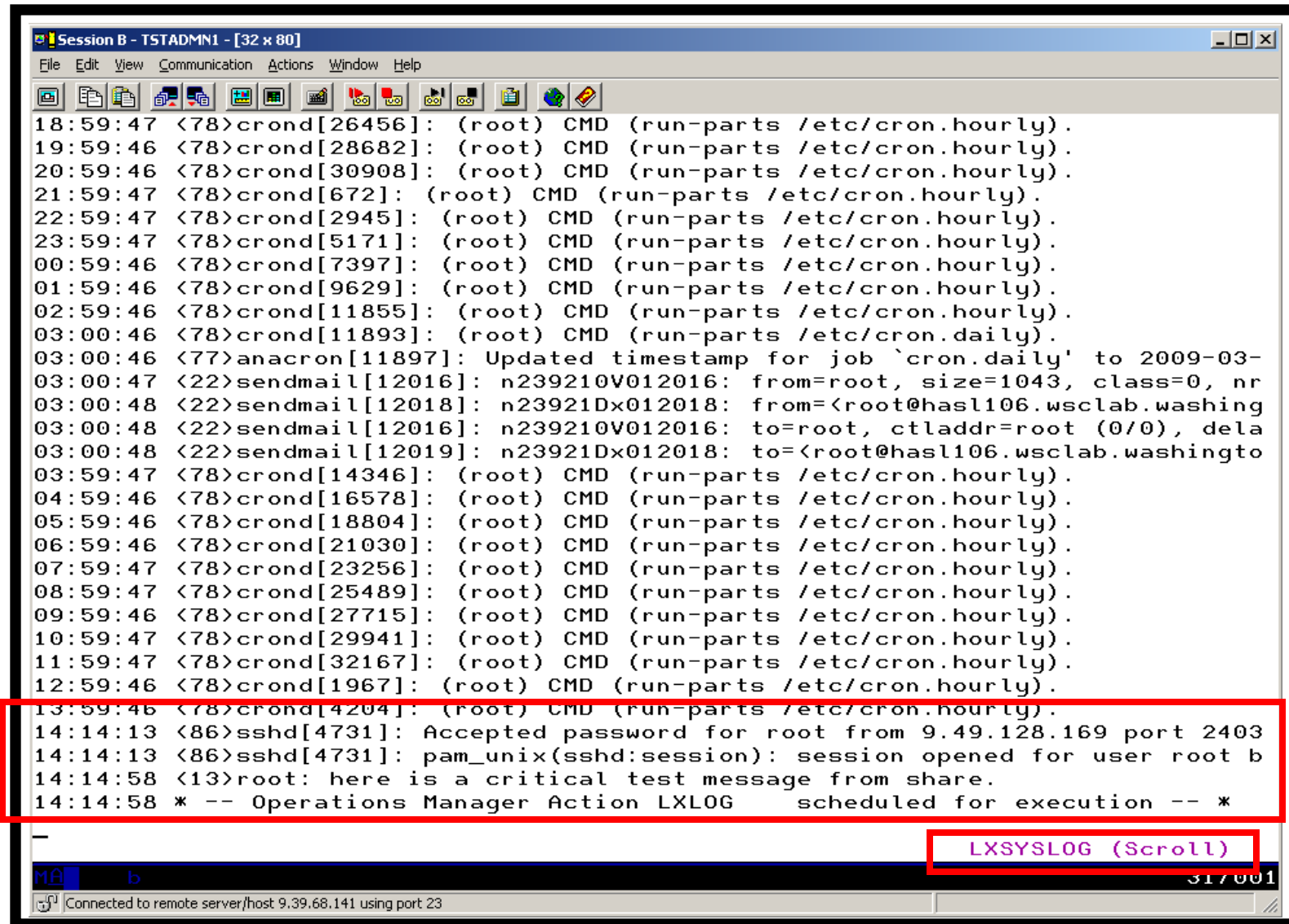
- **Return to the VIEWCON session**
 - See the message in the syslog “console”
 - Using syslog, so no hostname or IP address
- **Repeat from a different Linux guest that uses syslog-ng**



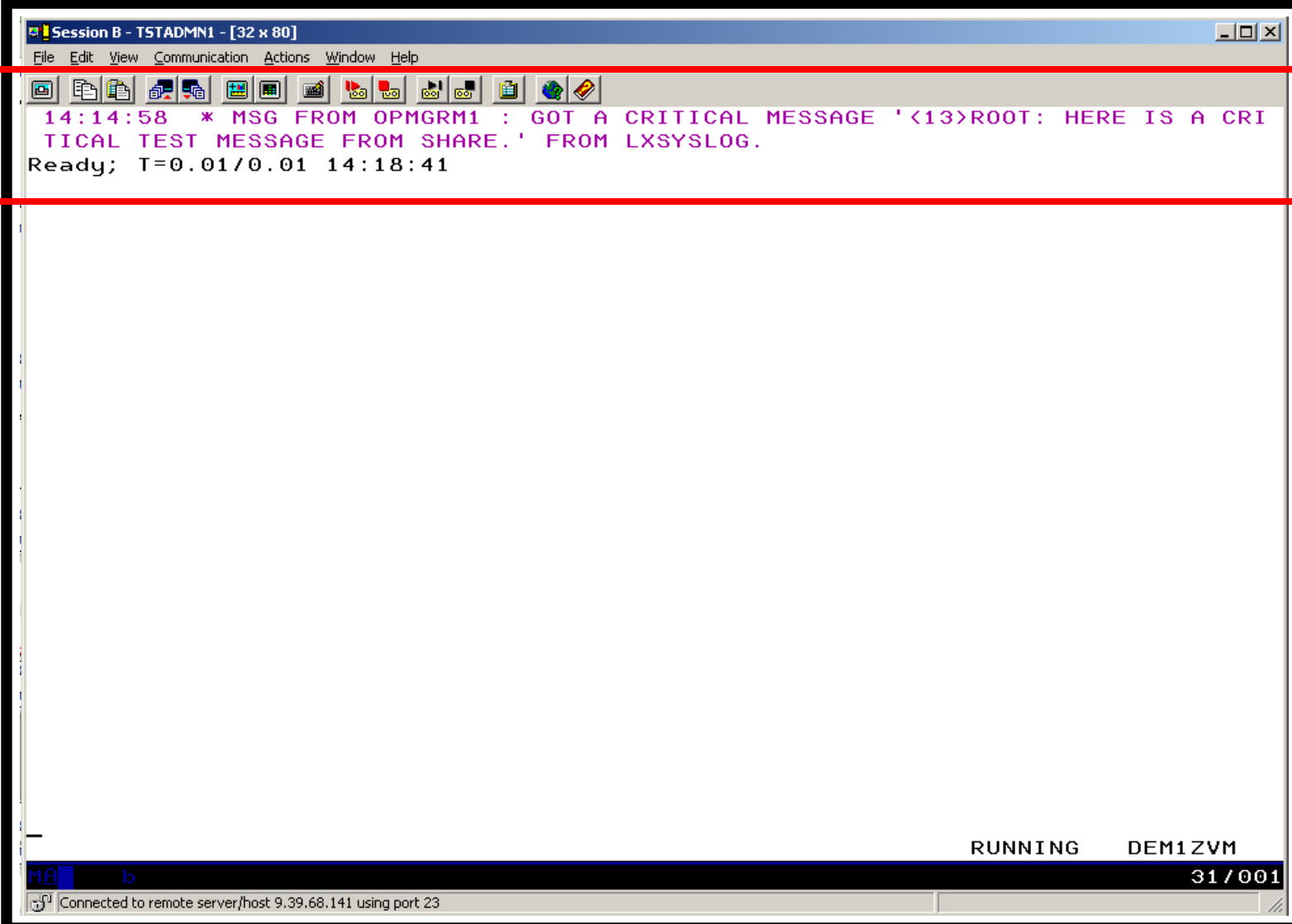
```
Session B - TSTADMIN1 - [32 x 80]
File Edit View Communication Actions Window Help
14:59:47 <78>crond[17539]: (root) CMD (run-parts /etc/cron.hourly).
15:59:46 <78>crond[19771]: (root) CMD (run-parts /etc/cron.hourly).
16:59:46 <78>crond[21997]: (root) CMD (run-parts /etc/cron.hourly).
17:59:46 <78>crond[24224]: (root) CMD (run-parts /etc/cron.hourly).
18:59:47 <78>crond[26456]: (root) CMD (run-parts /etc/cron.hourly).
19:59:46 <78>crond[28682]: (root) CMD (run-parts /etc/cron.hourly).
20:59:46 <78>crond[30908]: (root) CMD (run-parts /etc/cron.hourly).
21:59:47 <78>crond[672]: (root) CMD (run-parts /etc/cron.hourly).
22:59:47 <78>crond[2945]: (root) CMD (run-parts /etc/cron.hourly).
23:59:47 <78>crond[5171]: (root) CMD (run-parts /etc/cron.hourly).
00:59:46 <78>crond[7397]: (root) CMD (run-parts /etc/cron.hourly).
01:59:46 <78>crond[9629]: (root) CMD (run-parts /etc/cron.hourly).
02:59:46 <78>crond[11855]: (root) CMD (run-parts /etc/cron.hourly).
03:00:46 <78>crond[11893]: (root) CMD (run-parts /etc/cron.daily).
03:00:46 <77>anacron[11897]: Updated timestamp for job `cron.daily' to 2009-03-
03:00:47 <22>sendmail[12016]: n239210V012016: from=root, size=1043, class=0, nr
03:00:48 <22>sendmail[12018]: n23921Dx012018: from=<root@hasl106.wsclab.washing
03:00:48 <22>sendmail[12016]: n239210V012016: to=root, ctladdr=root (0/0), dela
03:00:48 <22>sendmail[12019]: n23921Dx012018: to=<root@hasl106.wsclab.washingto
03:59:47 <78>crond[14346]: (root) CMD (run-parts /etc/cron.hourly).
04:59:46 <78>crond[16578]: (root) CMD (run-parts /etc/cron.hourly).
05:59:46 <78>crond[18804]: (root) CMD (run-parts /etc/cron.hourly).
06:59:46 <78>crond[21030]: (root) CMD (run-parts /etc/cron.hourly).
07:59:47 <78>crond[23256]: (root) CMD (run-parts /etc/cron.hourly).
08:59:47 <78>crond[25489]: (root) CMD (run-parts /etc/cron.hourly).
09:59:46 <78>crond[27715]: (root) CMD (run-parts /etc/cron.hourly).
10:59:47 <78>crond[29941]: (root) CMD (run-parts /etc/cron.hourly).
11:59:47 <78>crond[32167]: (root) CMD (run-parts /etc/cron.hourly).
12:59:46 <78>crond[1967]: (root) CMD (run-parts /etc/cron.hourly).
13:59:46 <78>crond[4204]: (root) CMD (run-parts /etc/cron.hourly).
-
LXSYSLOG (Scroll)
MA b 317001
Connected to remote server/host 9.39.68.141 using port 23
```



```
root@has1106:~  
login as: root  
root@9.82.56.106's password:  
Last login: Thu Feb 12 17:12:21 2009  
[root@has1106 ~]# logger here is a critical test message from share  
[root@has1106 ~]# █
```



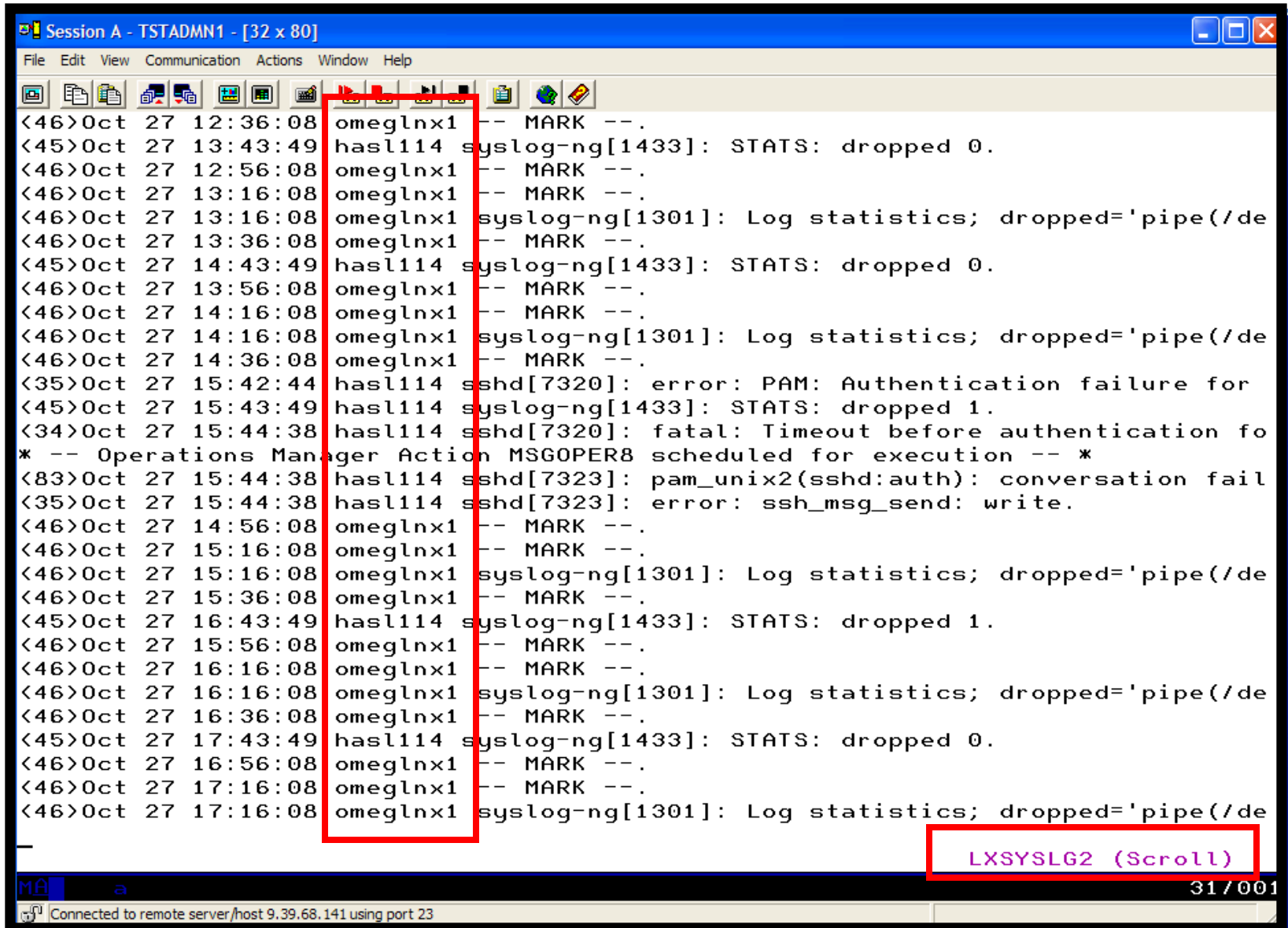
```
Session B - TSTADMIN1 - [32 x 80]
File Edit View Communication Actions Window Help
18:59:47 <78>crond[26456]: (root) CMD (run-parts /etc/cron.hourly).
19:59:46 <78>crond[28682]: (root) CMD (run-parts /etc/cron.hourly).
20:59:46 <78>crond[30908]: (root) CMD (run-parts /etc/cron.hourly).
21:59:47 <78>crond[672]: (root) CMD (run-parts /etc/cron.hourly).
22:59:47 <78>crond[2945]: (root) CMD (run-parts /etc/cron.hourly).
23:59:47 <78>crond[5171]: (root) CMD (run-parts /etc/cron.hourly).
00:59:46 <78>crond[7397]: (root) CMD (run-parts /etc/cron.hourly).
01:59:46 <78>crond[9629]: (root) CMD (run-parts /etc/cron.hourly).
02:59:46 <78>crond[11855]: (root) CMD (run-parts /etc/cron.hourly).
03:00:46 <78>crond[11893]: (root) CMD (run-parts /etc/cron.daily).
03:00:46 <77>anacron[11897]: Updated timestamp for job `cron.daily' to 2009-03-
03:00:47 <22>sendmail[12016]: n239210V012016: from=root, size=1043, class=0, nr
03:00:48 <22>sendmail[12018]: n23921Dx012018: from=<root@hasl106.wsclab.washing
03:00:48 <22>sendmail[12016]: n239210V012016: to=root, ctladdr=root (0/0), dela
03:00:48 <22>sendmail[12019]: n23921Dx012018: to=<root@hasl106.wsclab.washingto
03:59:47 <78>crond[14346]: (root) CMD (run-parts /etc/cron.hourly).
04:59:46 <78>crond[16578]: (root) CMD (run-parts /etc/cron.hourly).
05:59:46 <78>crond[18804]: (root) CMD (run-parts /etc/cron.hourly).
06:59:46 <78>crond[21030]: (root) CMD (run-parts /etc/cron.hourly).
07:59:47 <78>crond[23256]: (root) CMD (run-parts /etc/cron.hourly).
08:59:47 <78>crond[25489]: (root) CMD (run-parts /etc/cron.hourly).
09:59:46 <78>crond[27715]: (root) CMD (run-parts /etc/cron.hourly).
10:59:47 <78>crond[29941]: (root) CMD (run-parts /etc/cron.hourly).
11:59:47 <78>crond[32167]: (root) CMD (run-parts /etc/cron.hourly).
12:59:46 <78>crond[1967]: (root) CMD (run-parts /etc/cron.hourly).
13:59:46 <78>crond[4204]: (root) CMD (run-parts /etc/cron.hourly).
14:14:13 <86>sshd[4731]: Accepted password for root from 9.49.128.169 port 2403
14:14:13 <86>sshd[4731]: pam_unix(sshd:session): session opened for user root b
14:14:58 <13>root: here is a critical test message from share.
14:14:58 * -- Operations Manager Action LXLOG scheduled for execution -- *
-
LXSYSLOG (Scroll)
MA b 31/001
Connected to remote server/host 9.39.68.141 using port 23
```



The screenshot shows a terminal window titled "Session B - TSTADMIN1 - [32 x 80]". The window has a menu bar with "File", "Edit", "View", "Communication", "Actions", "Window", and "Help". Below the menu bar is a toolbar with various icons. The main area of the terminal displays the following text:

```
14:14:58 * MSG FROM OPMGRM1 : GOT A CRITICAL MESSAGE '<13>ROOT: HERE IS A CRI  
TICAL TEST MESSAGE FROM SHARE.' FROM LXSYSLOG.  
Ready; T=0.01/0.01 14:18:41
```

The text is highlighted with a red rectangular box. At the bottom of the terminal window, the status bar shows "RUNNING DEM1ZVM" and "31/001". The bottom-most status bar indicates "Connected to remote server/host 9.39.68.141 using port 23".



Session A - TSTADMN1 - [32 x 80]

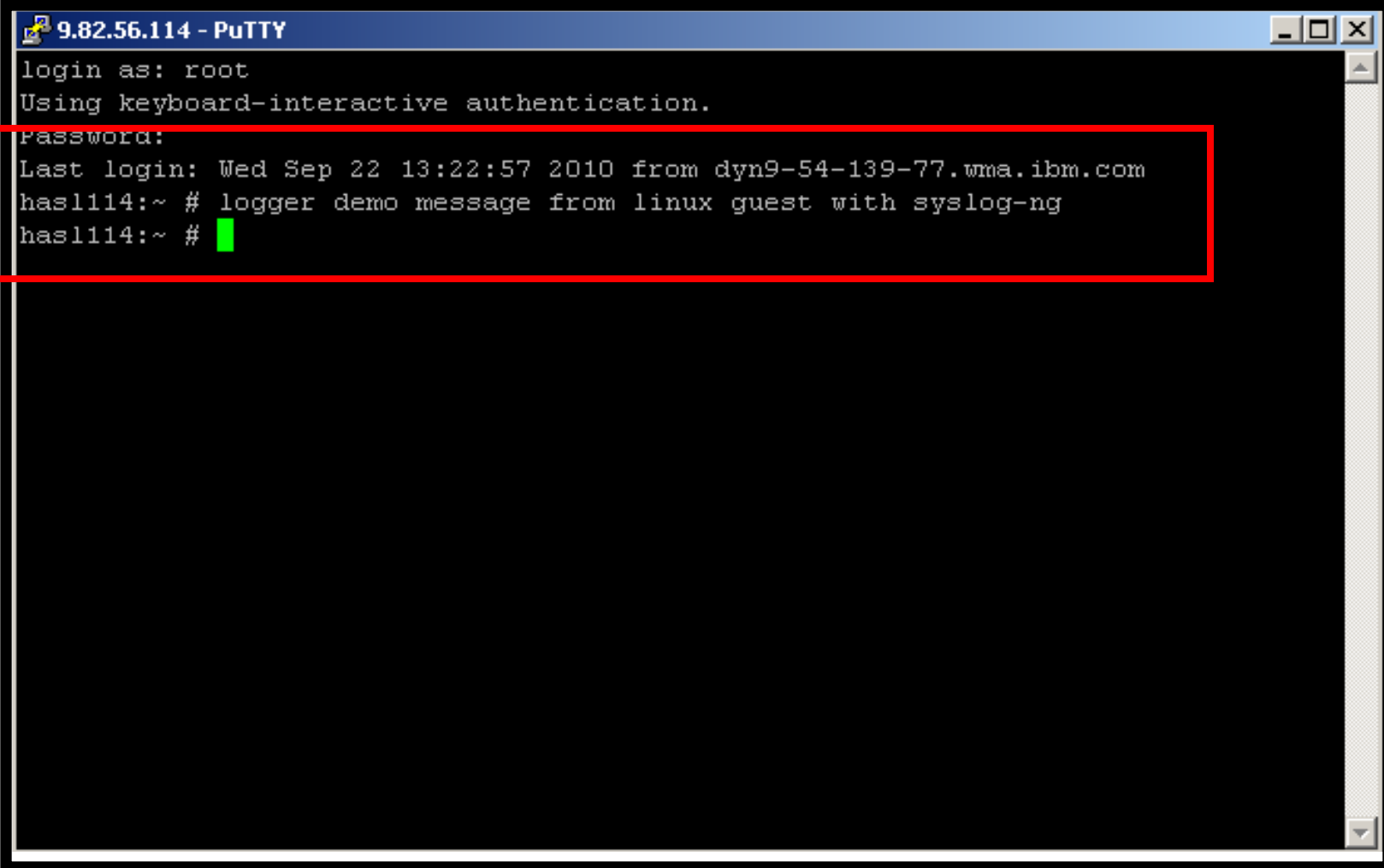
File Edit View Communication Actions Window Help

```
<46>Oct 27 12:36:08 omeglrx1 -- MARK --.
<45>Oct 27 13:43:49 hasl114 syslog-ng[1433]: STATS: dropped 0.
<46>Oct 27 12:56:08 omeglrx1 -- MARK --.
<46>Oct 27 13:16:08 omeglrx1 -- MARK --.
<46>Oct 27 13:16:08 omeglrx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
<46>Oct 27 13:36:08 omeglrx1 -- MARK --.
<45>Oct 27 14:43:49 hasl114 syslog-ng[1433]: STATS: dropped 0.
<46>Oct 27 13:56:08 omeglrx1 -- MARK --.
<46>Oct 27 14:16:08 omeglrx1 -- MARK --.
<46>Oct 27 14:16:08 omeglrx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
<46>Oct 27 14:36:08 omeglrx1 -- MARK --.
<35>Oct 27 15:42:44 hasl114 sshd[7320]: error: PAM: Authentication failure for
<45>Oct 27 15:43:49 hasl114 syslog-ng[1433]: STATS: dropped 1.
<34>Oct 27 15:44:38 hasl114 sshd[7320]: fatal: Timeout before authentication fo
* -- Operations Manager Action MSGOPER8 scheduled for execution -- *
<83>Oct 27 15:44:38 hasl114 sshd[7323]: pam_unix2(sshd:auth): conversation fail
<35>Oct 27 15:44:38 hasl114 sshd[7323]: error: ssh_msg_send: write.
<46>Oct 27 14:56:08 omeglrx1 -- MARK --.
<46>Oct 27 15:16:08 omeglrx1 -- MARK --.
<46>Oct 27 15:16:08 omeglrx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
<46>Oct 27 15:36:08 omeglrx1 -- MARK --.
<45>Oct 27 16:43:49 hasl114 syslog-ng[1433]: STATS: dropped 1.
<46>Oct 27 15:56:08 omeglrx1 -- MARK --.
<46>Oct 27 16:16:08 omeglrx1 -- MARK --.
<46>Oct 27 16:16:08 omeglrx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
<46>Oct 27 16:36:08 omeglrx1 -- MARK --.
<45>Oct 27 17:43:49 hasl114 syslog-ng[1433]: STATS: dropped 0.
<46>Oct 27 16:56:08 omeglrx1 -- MARK --.
<46>Oct 27 17:16:08 omeglrx1 -- MARK --.
<46>Oct 27 17:16:08 omeglrx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
```

LXSYSLG2 (Scroll)

31 / 001

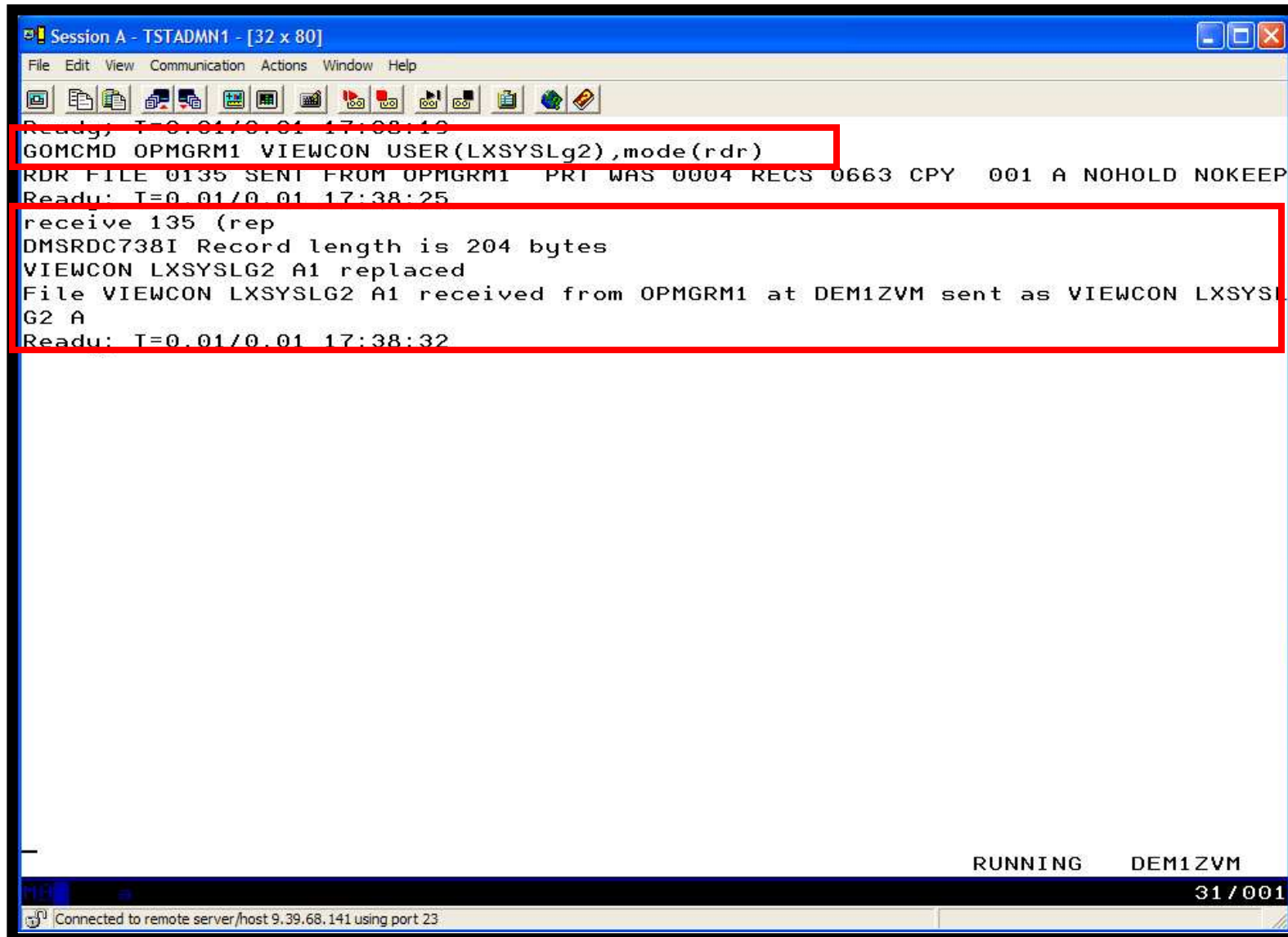
Connected to remote server/host 9.39.68.141 using port 23



```
9.82.56.114 - PuTTY
login as: root
Using keyboard-interactive authentication.
Password:
Last login: Wed Sep 22 13:22:57 2010 from dyn9-54-139-77.wma.ibm.com
has114:~ # logger demo message from linux guest with syslog-ng
has114:~ # █
```



```
Session A - TSTADMN1 - [32 x 80]
File Edit View Communication Actions Window Help
<46>Oct 27 13:16:08 omeglinx1 -- MARK --.
<46>Oct 27 13:16:08 omeglinx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
<46>Oct 27 13:36:08 omeglinx1 -- MARK --.
<45>Oct 27 14:43:49 hasl114 syslog-ng[1433]: STATS: dropped 0.
<46>Oct 27 13:56:08 omeglinx1 -- MARK --.
<46>Oct 27 14:16:08 omeglinx1 -- MARK --.
<46>Oct 27 14:16:08 omeglinx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
<46>Oct 27 14:36:08 omeglinx1 -- MARK --.
<35>Oct 27 15:42:44 hasl114 sshd[7320]: error: PAM: Authentication failure for
<45>Oct 27 15:43:49 hasl114 syslog-ng[1433]: STATS: dropped 1.
<34>Oct 27 15:44:38 hasl114 sshd[7320]: fatal: Timeout before authentication fo
* -- Operations Manager Action MSGOPER8 scheduled for execution -- *
<83>Oct 27 15:44:38 hasl114 sshd[7323]: pam_unix2(sshd:auth): conversation fail
<35>Oct 27 15:44:38 hasl114 sshd[7323]: error: ssh_msg_send: write.
<46>Oct 27 14:56:08 omeglinx1 -- MARK --.
<46>Oct 27 15:16:08 omeglinx1 -- MARK --.
<46>Oct 27 15:16:08 omeglinx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
<46>Oct 27 15:36:08 omeglinx1 -- MARK --.
<45>Oct 27 16:43:49 hasl114 syslog-ng[1433]: STATS: dropped 1.
<46>Oct 27 15:56:08 omeglinx1 -- MARK --.
<46>Oct 27 16:16:08 omeglinx1 -- MARK --.
<46>Oct 27 16:16:08 omeglinx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
<46>Oct 27 16:36:08 omeglinx1 -- MARK --.
<45>Oct 27 17:43:49 hasl114 syslog-ng[1433]: STATS: dropped 0.
<46>Oct 27 16:56:08 omeglinx1 -- MARK --.
<46>Oct 27 17:16:08 omeglinx1 -- MARK --.
<46>Oct 27 17:16:08 omeglinx1 syslog-ng[1301]: Log statistics; dropped='pipe(/de
<46>Oct 27 17:36:08 omeglinx1 -- MARK --.
<38>Oct 27 18:32:35 hasl114 sshd[8168]: Accepted keyboard-interactive/pam for r
<13>Oct 27 18:32:35 hasl114 root: demo message from linux guest with syslog-ng.
-
MA a LXSYSLG2 (Scroll) 317001
Connected to remote server/host 9.39.68.141 using port 23
```



The screenshot shows a terminal window titled "Session A - TSTADMN1 - [32 x 80]". The window contains the following text:

```
Ready: T=0.01/0.01 17:38:19  
GOMCMD OPMGRM1 VIEWCON USER(LXSYSLG2),mode(rdr)  
RDR FILE 0135 SENT FROM OPMGRM1 PRT WAS 0004 RECS 0663 CPY 001 A NOHOLD NOKEEP  
Ready: T=0.01/0.01 17:38:25  
receive 135 (rep  
DMSRDC738I Record length is 204 bytes  
VIEWCON LXSYSLG2 A1 replaced  
File VIEWCON LXSYSLG2 A1 received from OPMGRM1 at DEM1ZVM sent as VIEWCON LXSYSL  
G2 A  
Ready: T=0.01/0.01 17:38:32
```

At the bottom right of the terminal, the text "RUNNING DEM1ZVM" is displayed. At the bottom center, "31 / 001" is shown. At the bottom left, a status bar indicates "Connected to remote server/host 9.39.68.141 using port 23".

```

Session A - TSTADMN1 - [32 x 80]
File Edit View Communication Actions Window Help
VIEWCON LXSYSLG2 A1 F 204 Trunc=204 Size=663 Line=0 Col=1 Alt=0
====>
T...+...1...+...2...+...3...+...4...+...5...+...6...+...7..

==== * * * Top of File * * *
==== 10/22/2010 11:39:59 <43>Oct 22 12:34:53 hasl114 syslog-ng[1433]: Connect
==== 10/22/2010 11:47:31 <45>Oct 22 12:43:25 hasl114 syslog-ng[1433]: STATS:
==== 10/22/2010 11:57:08 <46>Oct 22 11:56:07 omeglrx1 -- MARK --.
==== 10/22/2010 11:57:08 <43>Oct 22 11:56:07 omeglrx1 syslog-ng[1301]: I/O er
==== 10/22/2010 11:57:08 <43>Oct 22 11:56:07 omeglrx1 syslog-ng[1301]: Connec
==== 10/22/2010 12:05:21 <12>Oct 22 13:01:15 hasl114 zmd: ShutdownManager (WA
==== 10/22/2010 12:05:21 <12>Oct 22 13:01:15 hasl114 zmd: ShutdownManager (WA
==== 10/22/2010 12:16:08 <46>Oct 22 12:16:07 omeglrx1 -- MARK --.
==== 10/22/2010 12:16:08 <46>Oct 22 12:16:07 omeglrx1 syslog-ng[1301]: Log st
==== 10/22/2010 12:36:08 <46>Oct 22 12:36:07 omeglrx1 -- MARK --.
==== 10/22/2010 12:47:31 <45>Oct 22 13:43:25 hasl114 syslog-ng[1433]: STATS:
==== 10/22/2010 12:56:08 <46>Oct 22 12:56:07 omeglrx1 -- MARK --.
==== 10/22/2010 13:16:08 <46>Oct 22 13:16:07 omeglrx1 -- MARK --.
==== 10/22/2010 13:16:08 <46>Oct 22 13:16:07 omeglrx1 syslog-ng[1301]: Log st
==== 10/22/2010 13:36:08 <46>Oct 22 13:36:07 omeglrx1 -- MARK --.
==== 10/22/2010 13:47:31 <45>Oct 22 14:43:25 hasl114 syslog-ng[1433]: STATS:
==== 10/22/2010 13:56:08 <46>Oct 22 13:56:07 omeglrx1 -- MARK --.
==== 10/22/2010 14:16:08 <46>Oct 22 14:16:07 omeglrx1 -- MARK --.
==== 10/22/2010 14:16:08 <46>Oct 22 14:16:07 omeglrx1 syslog-ng[1301]: Log st
==== 10/22/2010 14:36:08 <46>Oct 22 14:36:07 omeglrx1 -- MARK --.
==== 10/22/2010 14:47:31 <45>Oct 22 15:43:25 hasl114 syslog-ng[1433]: STATS:
==== 10/22/2010 14:56:08 <46>Oct 22 14:56:07 omeglrx1 -- MARK --.
==== 10/22/2010 15:16:08 <46>Oct 22 15:16:07 omeglrx1 -- MARK --.
==== 10/22/2010 15:16:08 <46>Oct 22 15:16:07 omeglrx1 syslog-ng[1301]: Log st
==== 10/22/2010 15:36:08 <46>Oct 22 15:36:07 omeglrx1 -- MARK --.
==== 10/22/2010 15:47:31 <45>Oct 22 16:43:26 hasl114 syslog-ng[1433]: STATS:

```

02/007

Connected to remote server /host 9.39.68.141 using port 23

Scenario 8: How Do You Do That?

Console rule and action in Operations Manager:

*

```
DEFRULE NAME(LXLOG),+  
  MATCH(*critical test message*),+  
  ACTION(LXLOG),+  
  USER(LXSYSLOG)
```

*

```
DEFACTN NAME(LXLOG),+  
  COMMAND(CP MSG TSTADMN1 Got a critical message '&T' from &U.),+  
  OUTPUT(LOG),+  
  ENV(LVM)
```

Scenario 8: How Do You Do That?

- **Set up TCP/IP listener for syslog data**

*

```
DEFTCPA NAME(LNXSYSLG),+  
  TCPUSER(TCPIP),+  
  TCPAPPL(GOMRSYL),+  
  TCPADDR(000.000.000.000),+  
  TCPPORT(00514),+  
  PARM(LXSYSLOG03330417UTF8)
```

*

```
DEFTCPA NAME(LNXSYSL2),+  
  TCPUSER(TCPIP),+  
  TCPAPPL(GOMRSYL),+  
  TCPADDR(000.000.000.000),+  
  TCPPORT(00515),+  
  PARM(LXSYSLG203330417UTF8)
```

- **Update TCP/IP configuration to allow Operations Manager to listen for UDP traffic on the specified port(s)**

- Ports 514 and 515 used here

- **Update the Linux guest to send its syslog data to the IP address and port of your z/VM system**

Scenario 8: How Do You Do That?

Console rule and action in Operations Manager:

*

```
DEFRULE NAME(LXLOG),+  
  MATCH(*critical test message*),+  
  ACTION(LXLOG),+  
  USER(LXSYSLOG)
```

*

```
DEFACTN NAME(LXLOG),+  
  COMMAND(CP MSG TSTADMN1 Got a critical message '&T' from &U.),+  
  OUTPUT(LOG),+  
  ENV(LVM)
```

Scenario 8: How Do You Do That?

- **Set up TCP/IP listener for syslog data**

*

```
DEFTCPA NAME(LNXSYSLG),+  
  TCPUSER(TCPIP),+  
  TCPAPPL(GOMRSYL),+  
  TCPADDR(000.000.000.000),+  
  TCPPORT(00514),+  
  PARM(LXSYSLOG03330417UTF8)
```

*

```
DEFTCPA NAME(LNXSYSL2),+  
  TCPUSER(TCPIP),+  
  TCPAPPL(GOMRSYL),+  
  TCPADDR(000.000.000.000),+  
  TCPPORT(00515),+  
  PARM(LXSYSLG203330417UTF8)
```

- **Update TCP/IP configuration to allow Operations Manager to listen for UDP traffic on the specified port(s)**

- Ports 514 and 515 used here

- **Update the Linux guest to send its syslog data to the IP address and port of your z/VM system**

Scenario 10:

Create a Central Operations Console across multiple z/VM systems

- **Use Operations Manager to watch for error, warning, fatal messages on service machine consoles**
 - OPERATOR, DIRMAINT, TCP/IP, RACF, etc.
 - Linux guests
 - Linux syslog
- **Route these messages to a central operations console on another z/VM system**
- **Operations staff watches operations console for signs of trouble across multiple z/VM systems**
 - View individual service machine consoles for more details when needed

Scenario 10: Detailed Steps

- **On System A (DEM1ZVM) put an “error” message on the OPERATOR console**
 - Must contain the text “remote error”

```
msgnoh operator here is a remote error message
```

- **View the “Operations Console” on System B (ZVMV5R40) to see the message**

```
gomcmd opmgrm1 viewcon user(opmgrc1)
```

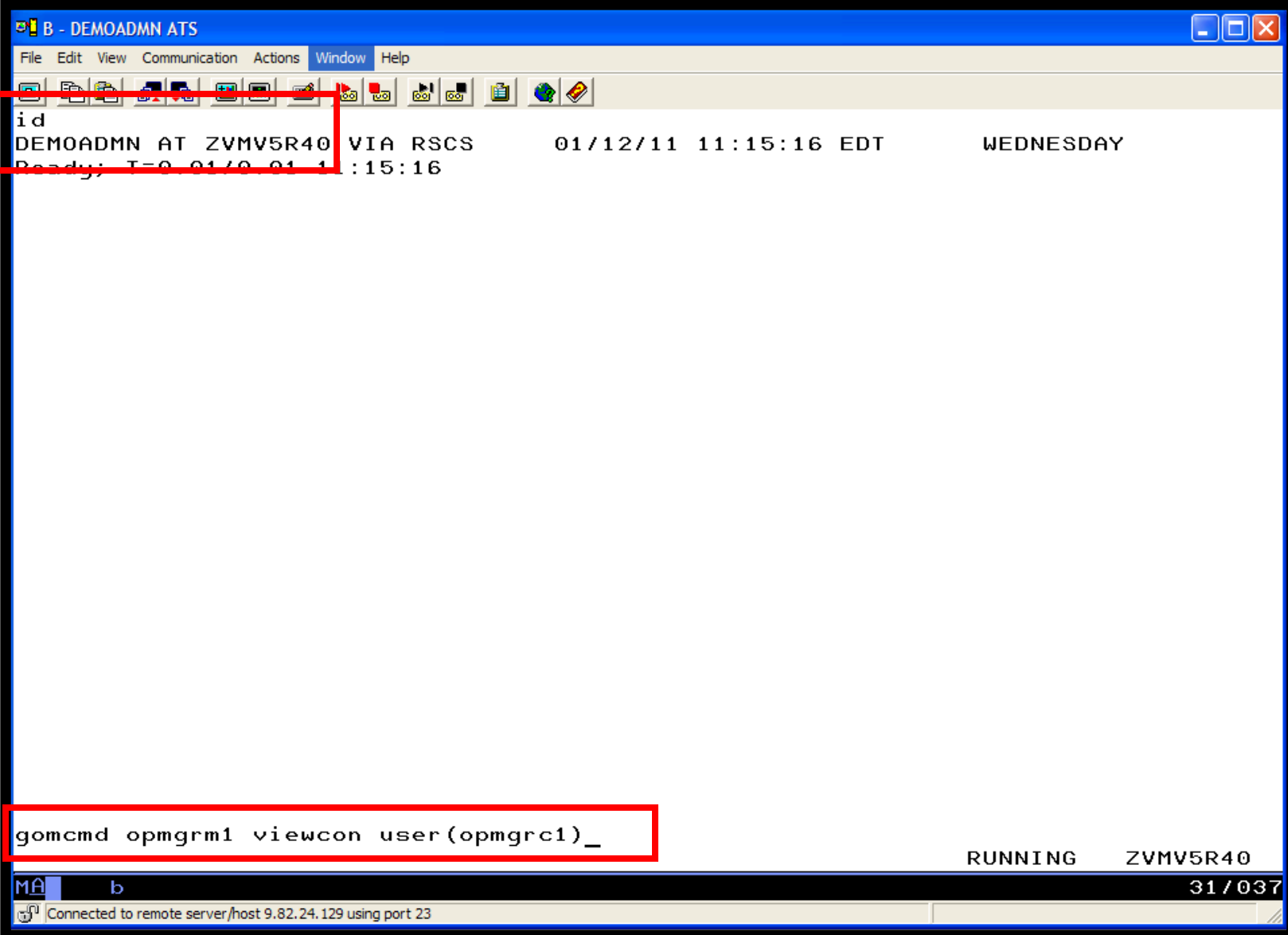
- **Note the message received on OPMGRC1 on ZVMV5R40 from OPERATOR on DEM1ZVM**

The screenshot shows a terminal window titled "Session C - TSTADMN1 - [32 x 80]". The window has a menu bar with "File", "Edit", "View", "Communication", "Actions", "Window", and "Help". Below the menu bar is a toolbar with various icons. The main content area displays the output of an 'id' command: "id TSTADMN1 AT DEM1ZVM VIA RSCS 01/12/11 09:36:12 CST WEDNESDAY Ready; T=0.01/0.01 09:36:12". A red box highlights the first two lines of this output. At the bottom of the terminal, a message from "msgnoh" is displayed: "msgnoh operator here is a remote error message". A second red box highlights this message. To the right of the message, the text "RUNNING DEM1ZVM" is visible. At the very bottom of the terminal, there is a status bar with "MA c" on the left, "31 / 001" on the right, and a connection status "Connected to remote server/host 9.39.68.141 using port 23" on the left.

```
id
TSTADMN1 AT DEM1ZVM VIA RSCS 01/12/11 09:36:12 CST WEDNESDAY
Ready; T=0.01/0.01 09:36:12

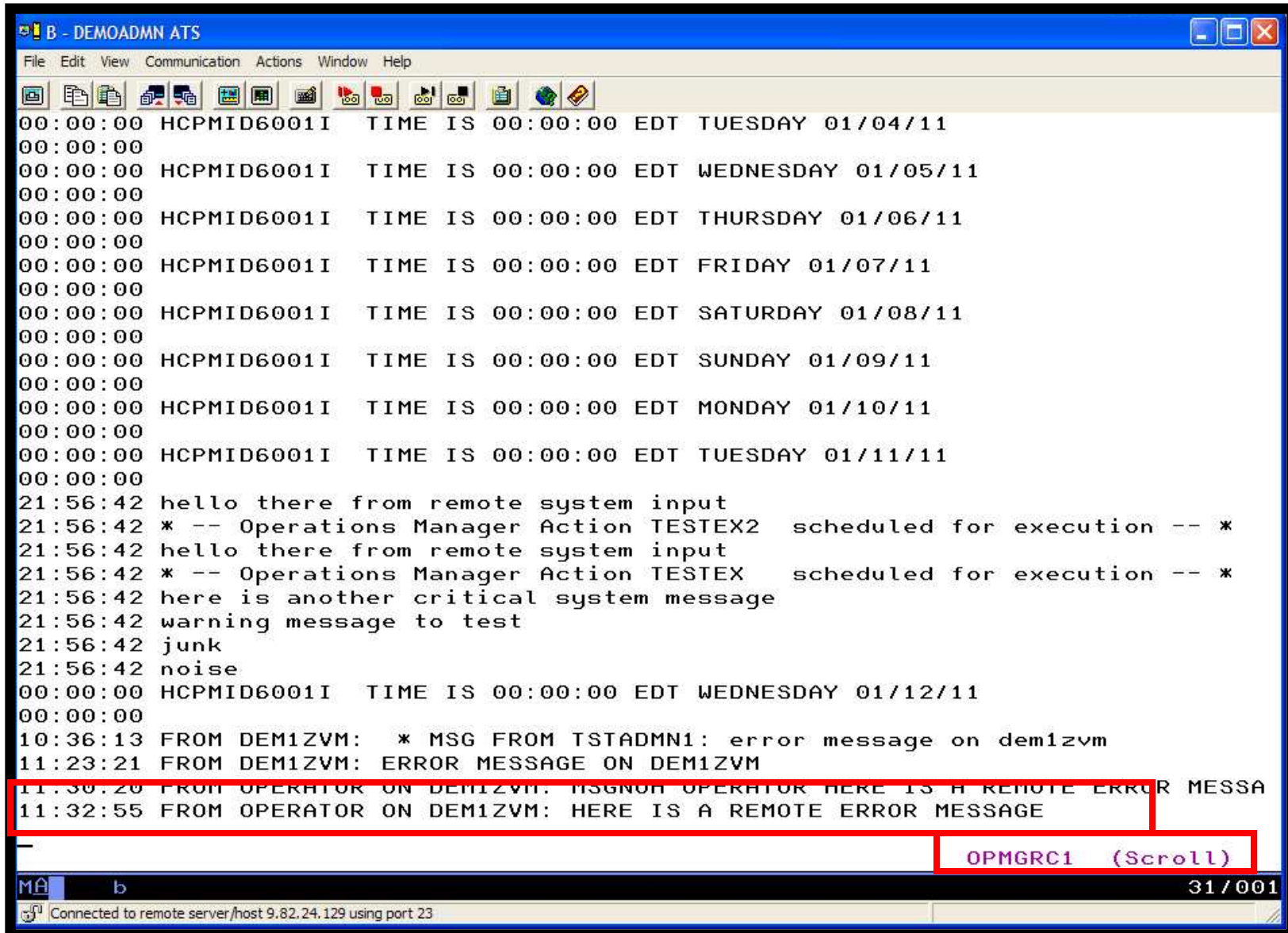
msgnoh operator here is a remote error message

RUNNING DEM1ZVM
MA c 31 / 001
Connected to remote server/host 9.39.68.141 using port 23
```



```
B - DEMOADMN ATS
File Edit View Communication Actions Window Help
id
DEMOADMN AT ZVMV5R40 VIA RSCS      01/12/11 11:15:16 EDT      WEDNESDAY
Ready: T=0 01/12/11 11:15:16

gomcmd opmgrm1 viewcon user(opmgrc1)_
RUNNING      ZVMV5R40
MA b 31/037
Connected to remote server/host 9.82.24.129 using port 23
```



```
B - DEMOADMN ATS
File Edit View Communication Actions Window Help
00:00:00 HCPMID6001I  TIME IS 00:00:00 EDT TUESDAY 01/04/11
00:00:00
00:00:00 HCPMID6001I  TIME IS 00:00:00 EDT WEDNESDAY 01/05/11
00:00:00
00:00:00 HCPMID6001I  TIME IS 00:00:00 EDT THURSDAY 01/06/11
00:00:00
00:00:00 HCPMID6001I  TIME IS 00:00:00 EDT FRIDAY 01/07/11
00:00:00
00:00:00 HCPMID6001I  TIME IS 00:00:00 EDT SATURDAY 01/08/11
00:00:00
00:00:00 HCPMID6001I  TIME IS 00:00:00 EDT SUNDAY 01/09/11
00:00:00
00:00:00 HCPMID6001I  TIME IS 00:00:00 EDT MONDAY 01/10/11
00:00:00
00:00:00 HCPMID6001I  TIME IS 00:00:00 EDT TUESDAY 01/11/11
00:00:00
21:56:42 hello there from remote system input
21:56:42 * -- Operations Manager Action TESTEX2  scheduled for execution -- *
21:56:42 hello there from remote system input
21:56:42 * -- Operations Manager Action TESTEX  scheduled for execution -- *
21:56:42 here is another critical system message
21:56:42 warning message to test
21:56:42 junk
21:56:42 noise
00:00:00 HCPMID6001I  TIME IS 00:00:00 EDT WEDNESDAY 01/12/11
00:00:00
10:36:13 FROM DEM1ZVM:  * MSG FROM TSTADMN1: error message on dem1zvm
11:23:21 FROM DEM1ZVM: ERROR MESSAGE ON DEM1ZVM
11:30:20 FROM OPERATOR ON DEM1ZVM: MSGNO# OPERATOR HERE IS A REMOTE ERROR MESSA
11:32:55 FROM OPERATOR ON DEM1ZVM: HERE IS A REMOTE ERROR MESSAGE
-
OPMGRC1 (Scroll)
MA b 31/001
Connected to remote server/host 9.82.24.129 using port 23
```

Scenario 10: How Do You Do That?

Console rule in Operations Manager on System A:

```
*  
DEFRULE NAME(OPERMSGS),+  
  MATCH(*remote error*),+  
  USER(OPERATOR),+  
  ACTION(MSG2GBRG)
```

Action in Operations Manager on System A:

```
*  
DEFACTN NAME(MSG2GBRG),+  
  COMMAND(EXEC MSG2OPS OPMGRC1 From &u on DEM1ZVM: &t),+  
  OUTPUT(LOG),+  
  ENV(LVM)
```

Scenario 10: How Do You Do That?

MSG2OPS EXEC on System A:

```
/* Send a message to a console in Ops Mgr on another system */
/* */
trace r
Address Command
Parse arg cons_user msgtext
'PIPE var msgtext | > TEMP NOTE A'
'EXEC GOMRSIF TEMP NOTE A 9.82.24.129 63000' cons_user
Exit
```

Scenario 10: How Do You Do That?

TCP/IP listener definition in Operations Manager on System B:

*

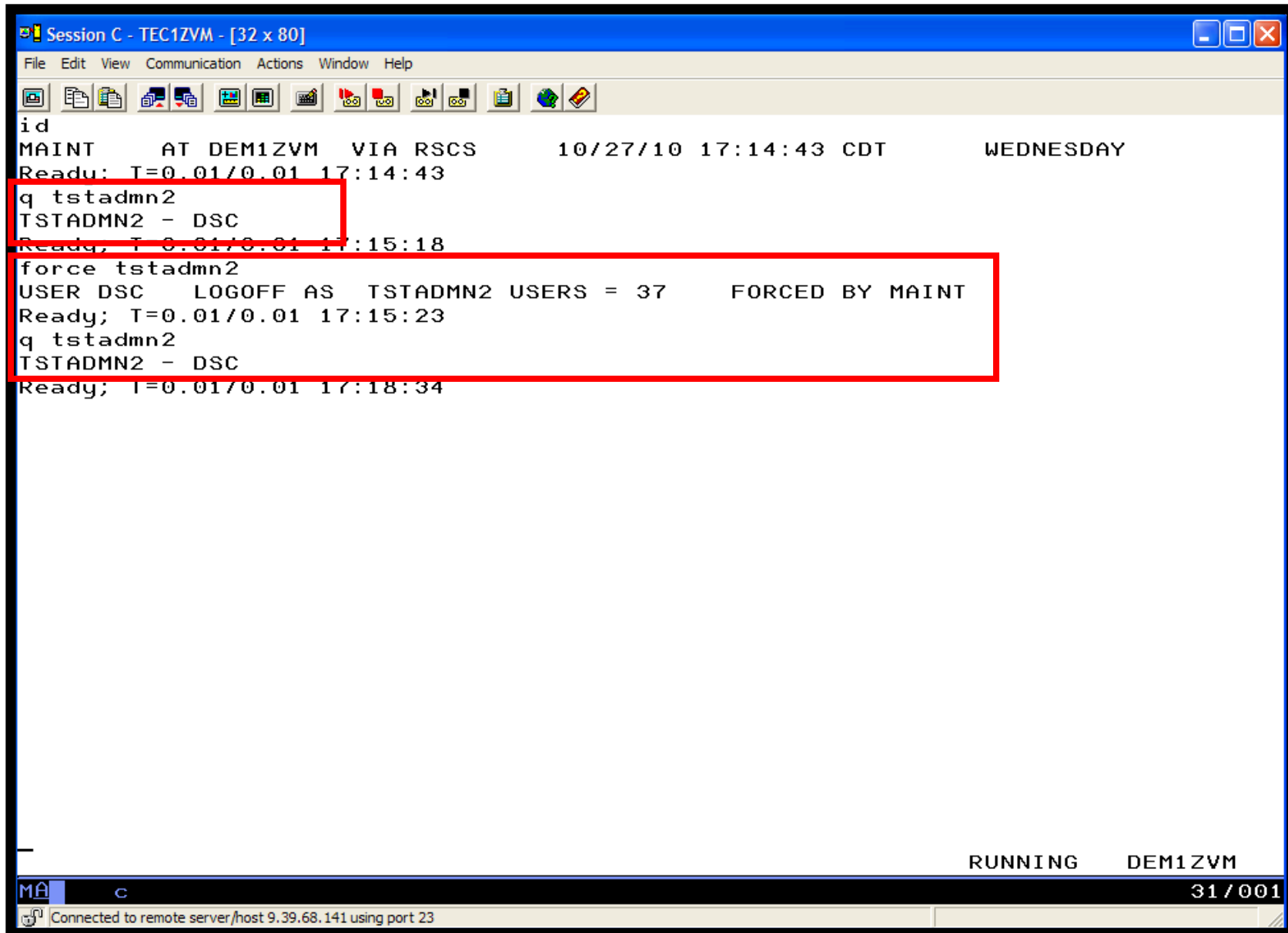
```
DEFTCPA NAME( TESTDATA ), +  
  TCPUSER( TCPIP ), +  
  TCPAPPL( GOMRSIF ), +  
  TCPADDR( 000.000.000.000 ), +  
  TCPPORT( 63000 )
```

- **May also need to update TCPIP on System B to allow Operations Manager to listen on port 63000**
- **Can alternatively use TELL (instead of GOMRSIF) to send messages from System A to System B, but requires RSCS**

Scenario 12:

Monitor Service Machines for LOGOFF Status – and AUTOLOG them

- **Monitor specific service machines to make sure they stay logged on**
 - Demo will monitor TSTADMN2 user ID
 - If it changes from logged on to logged off status, then restart it
- **Dynamically pass the user ID to the action**
 - Re-use action for multiple user IDs



```
id
MAINT AT DEM1ZVM VIA RSCS 10/27/10 17:14:43 CDT WEDNESDAY
Ready; T=0.01/0.01 17:14:43
q tstadm2
TSTADMN2 - DSC
Ready; T=0.01/0.01 17:15:18
force tstadm2
USER DSC LOGOFF AS TSTADMN2 USERS = 37 FORCED BY MAINT
Ready; T=0.01/0.01 17:15:23
q tstadm2
TSTADMN2 - DSC
Ready; T=0.01/0.01 17:18:34
```

RUNNING DEM1ZVM

MÂ c 31 / 001

Connected to remote server /host 9.39.68.141 using port 23

```

Session A - TSTADMN1 - [32 x 80]
File Edit View Communication Actions Window Help
TSTADMN2 "CONNECT= 00:55:46 VIRTCPU= 000:00.00 TOTCPU= 000:00.00" VID=*MSG
TSTADMN2 "LOGOFF AT 17:15:23 CDT WEDNESDAY 10/27/10 BY MAINT" VID=*MSG SRC
OPERATOR "USER DSC LOGOFF AS TSTADMN2 USERS = 37 FORCED BY MAINT" VID=*M
TSTADMN2 EVENT TYPE 1 VID=*VMEVENT SRC=MASIUCV CLS=1
EVENT ADMIN2 ACTION AUTOLOG1 TRIGGERED BY _GOMEMON
ACTION AUTOLOG1 BEGIN FOR _GOMEMON SERVER OPMGRS1
COMMAND "CP SLEEP 3 SEC"
ACTION AUTOLOG1 END RC=0 SERVER OPMGRS1
EVENT ADMIN2 ACTION AUTOLOG2 TRIGGERED BY _GOMEMON
ACTION AUTOLOG2 BEGIN FOR _GOMEMON SERVER OPMGRS1
COMMAND "CP XAUTOLOG TSTADMN2"
OPERATOR "AUTO LOGON *** TSTADMN2 USERS = 38 BY OPMGRS1" VID=*MSG
TSTADMN2 EVENT TYPE 0 VID=*VMEVENT SRC=MASIUCV CLS=0
Command accepted
AUTO LOGON *** TSTADMN2 USERS = 38
ACTION AUTOLOG2 END RC=0 SERVER OPMGRS1
TSTADMN2 EVENT TYPE 5 VID=*VMEVENT SRC=MASIUCV CLS=5
TSTADMN2 "z/VM V5.4.0 2009-09-23 15:29" VID=*MSG SRC=MASIUCV CLS=8
TSTADMN2 "DMSACP723I C (198) R/O" VID=*MSG SRC=MASIUCV CLS=8
TSTADMN2 "Ready; T=0.01/0.01 17:15:26" VID=*MSG SRC=MASIUCV CLS=8
OPMGRM1 "HCPQCS150A User TSTADMN2 has issued a VM read" VID=*MSG SRC=MASI
DIRMAINT "DVHWAI2142I Wakeup caused by elapsed time on 10/10/27 at 17:16:02."
DIRMAINT "DIRMAINT DEM1ZVM. - 2010/10/27; T=0.01/0.01 17:16:02" VID=*MSG S
DIRMAINT "DVHWAI2140I Waiting for work on 10/10/27 at 17:16:02." VID=*MSG
LXSYSLG2 "<46>Oct 27 17:16:08 omeglrx1 -- MARK --." VID=LXSYSLG2 SRC=MASRSYL
LXSYSLG2 "<46>Oct 27 17:16:08 omeglrx1 syslog-ng[1301]: Log statistics; droppe
BKRCATLG "BKRCAT8510I 10/27/10 17:16:45 WAKEUP exited on a timer interrupt." V
BKRCATLG " " VID=*MSG SRC=MASIUCV CLS=8
BKRCATLG "BKRCAT8512I The stack contains 0 entries. There are 0 lines on the c
TSTADMN1 "VIEWLOG" VID=TSTADMN1 SRC=MASIUCV CLS=99
GOMALOG (Scroll)
31/001
Connected to remote server/host 9.39.68.141 using port 23

```

Scenario 12: How Do You Do That?

Console rule and action in Operations Manager:

*

```
DEFEMON NAME(ADMIN2),+  
  TYPE(1),+  
  USER(TSTADMN2),+  
  ACTION(AUTOLOG1)
```

*

```
DEFACTN NAME(AUTOLOG1),+  
  COMMAND(CP SLEEP 3 SEC),+  
  NEXTACTN(AUTOLOG2),+  
  OUTPUT(LOG),+  
  ENV(OPMGRS1)
```

*

```
DEFACTN NAME(AUTOLOG2),+  
  COMMAND(CP XAUTOLOG &3),+  
  OUTPUT(LOG),+  
  ENV(OPMGRS1)
```

धन्यवाद

Hindi

多謝

Traditional Chinese

감사합니다

Korean

Спасибо

Russian

Gracias

Spanish

شكراً

Arabic

Thank You

English

Obrigado

Brazilian Portuguese

Grazie

Italian

Danke

German

多谢

Simplified Chinese

Merci

French

நன்றி

Tamil

ありがとうございました

Japanese

ขอบคุณ

Thai