



IBM Software

## What's New from IBM for Tape Management on z/VM

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# Agenda

- **Product overview – Tape Manager for z/VM**
- **What's new in V1.3**
  - Share a tape catalog across multiple z/VM systems
    - Demos
  - Catalog backup utility
  - Support for RACF
  - Support for Oracle STK silos
  - Usability enhancements

# Product Overview – Tape Manager for z/VM

## ■ Manage tapes

- Define tapes in a catalog, including:
  - Free or used
  - Retention/expiration information
  - ATL/VTs or manual mount
  - Data Security Erase
- Group tapes together into pools
  - Ownership and access control
  - Media type

## ■ Manage devices

- Define available devices
  - Dedicated or assignable
- Group devices together into device pools
  - ATL/VTs or manual mount
  - Any other grouping you choose (read only vs. write, location, etc.)
- Share devices with other systems

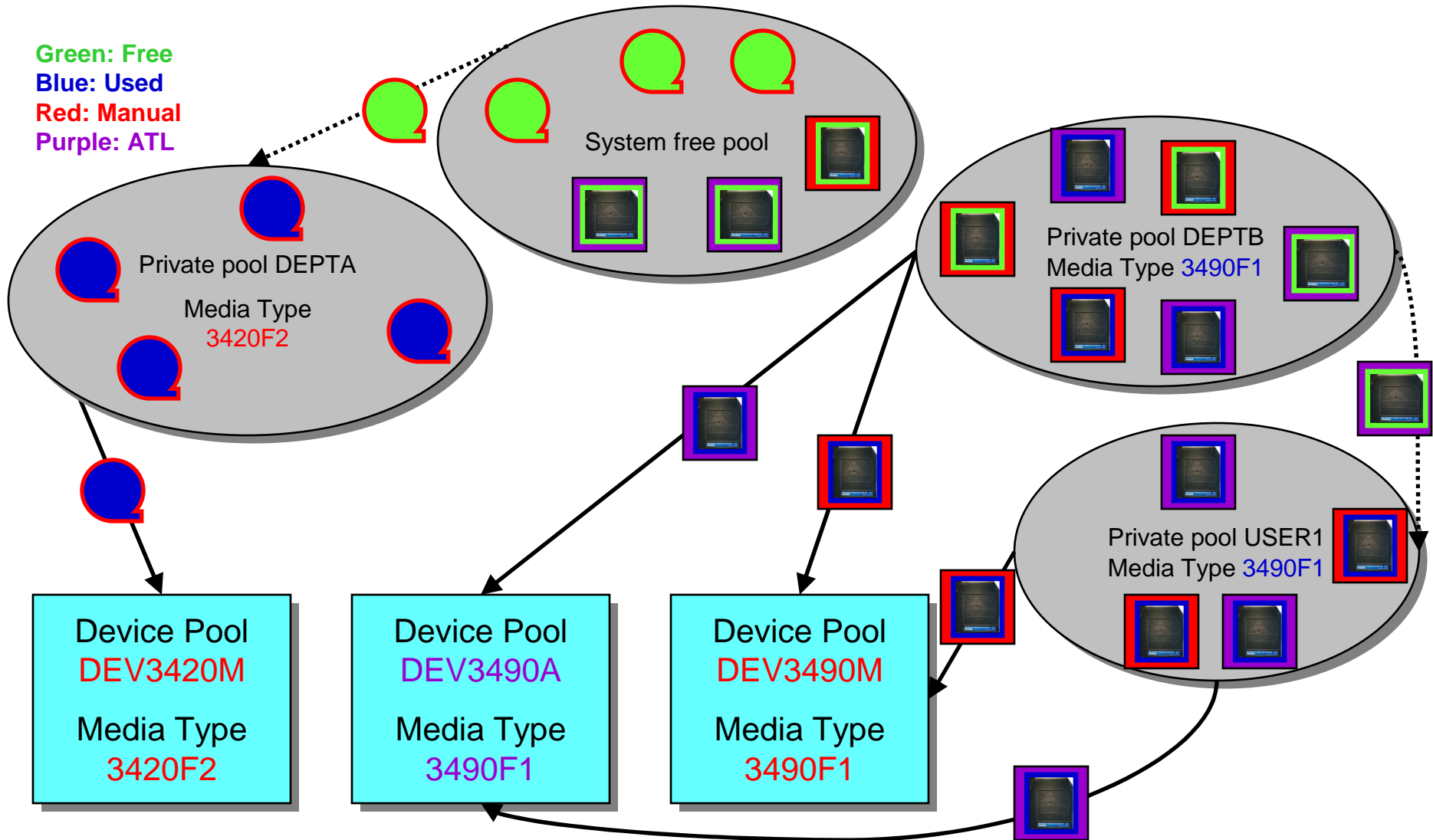
## ■ Manage mount requests

- Volume specific and scratch requests
  - Standard Label
  - Non-Label
  - Bypass Label Processing

## Key Benefits

- **Effective management of tapes in ATL or VTS**
  - Granular access control
  - Expiration processing
  - Notification for low threshold for tape resources
  - Interacts with devices through DFSMSRMS on z/VM
  
- **Improved accuracy of manual tape processing**
  - Granular access control
  - Automated interface to Operator for manual mounts
  - Internal label verification at attach/give and detach (SL only)
  - Read/Write verification at attach/give
  
- **Integrated management of z/OS and z/VM tapes using DFSMSrmm on z/OS**
  - Optionally use RMM on z/OS as the tape catalog for z/VM and z/OS tapes
  - Tapes, access control, and retention managed by the existing RMM catalog
  - Accessible via Tape Manager on z/VM
  - Tapes managed by RMM
  - Devices managed by Tape Manager

# Tape Volumes, Tape, Pools, and Device Pools



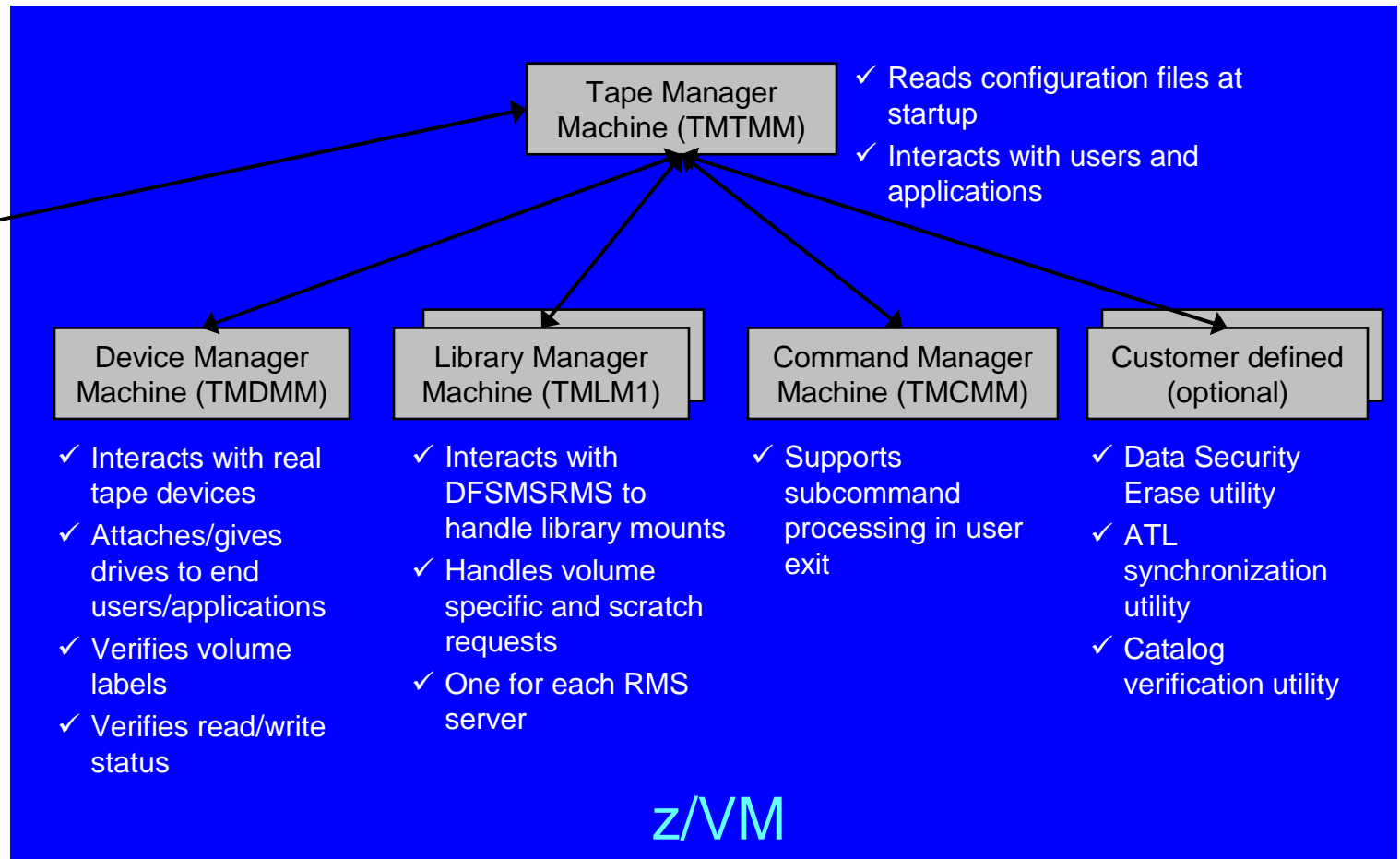
# Access Control

Authority	Modify Pool Attributes and Delete Pool	Modify Tape Attributes	Add Tapes to the System Inventory (System Free Pool or Private Pools)	Delete Tapes from the System Inventory	Transfer Tapes into or out of this Pool; Delete External Tapes from this Private Pool	Modify Tapes	Read Tapes	Tape Attributes Modified Only as a Byproduct of Other Commands	Use Tape Pool as a Free Pool	Receive messages related to this pool
Sys Admin	✓	✓	✓	✓	✓	✓	✓	✓		
Pool Admin	✓	✓			✓	✓	✓	✓		
Tape					✓	✓	✓	✓		
Write						✓	✓	✓		
Read							✓	✓		
None										
Free									✓	
ExceptID										Threshold messages
MntID1 and MntID2										Mount messages, query and cancel mounts

## Data Security Erase (DSE)

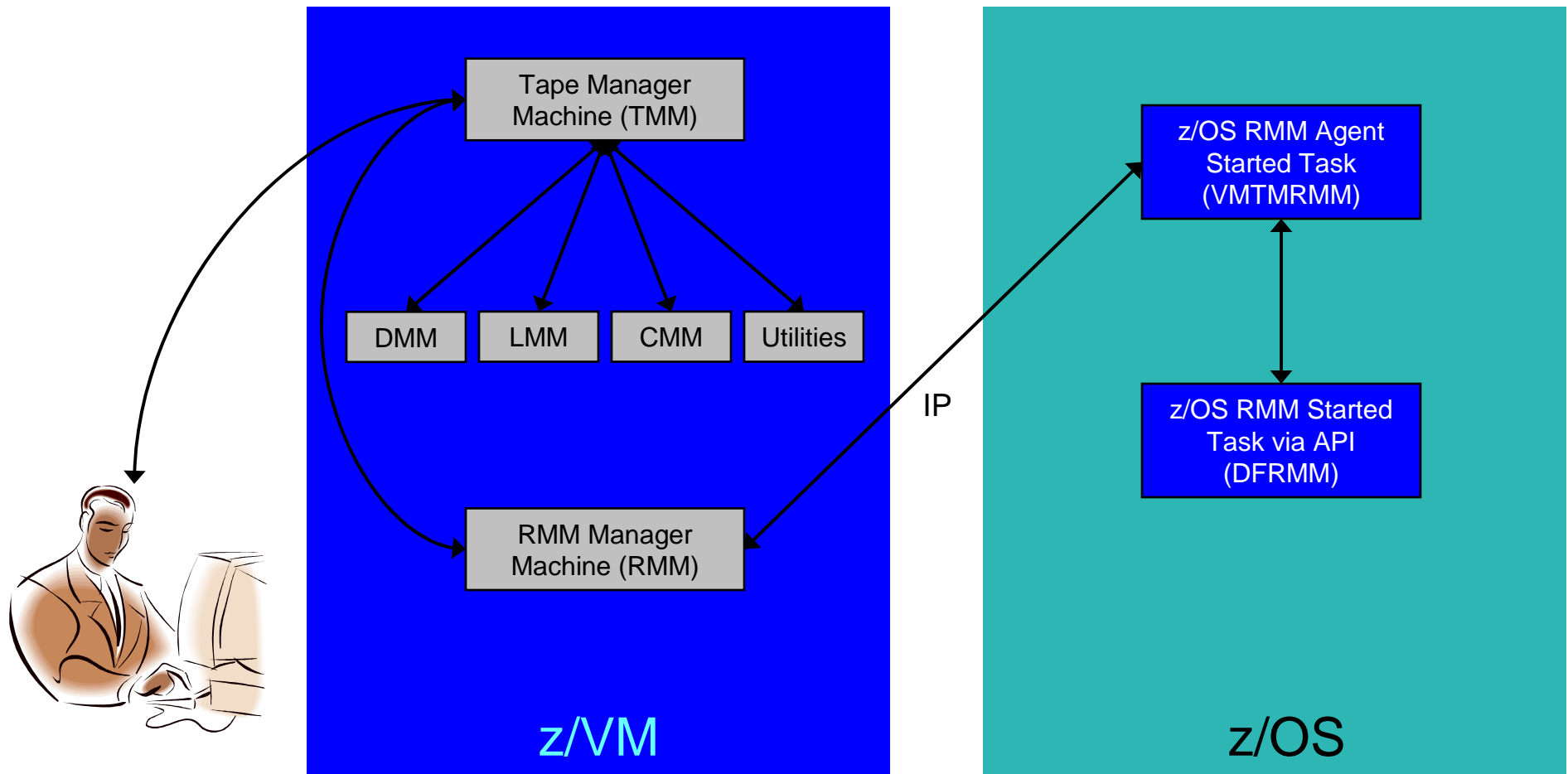
- **Erase (sensitive) data before tape is reused**
- **Option to enable DSE at tape pool or individual tape level**
  - DSE-enabled flag included in each catalog entry
- **DSE-enabled tapes marked as DSE-ready when freed**
- **Tape Manager DSE utility (TMDSE) executed on a separate user ID**
  - Started manually or automatically with Operations Manager
  - Queries the catalog to find all tapes with DSE-ready flag on
  - Mounts each tape
    - Verifies volume label if possible
      - Configuration option to perform DSE on NL tapes or not
    - Erases tape
    - Turns off DSE-ready flag in catalog
  - Tape is now available for scratch unless its HOLD flag is on

# Tape Manager in Standard Mode



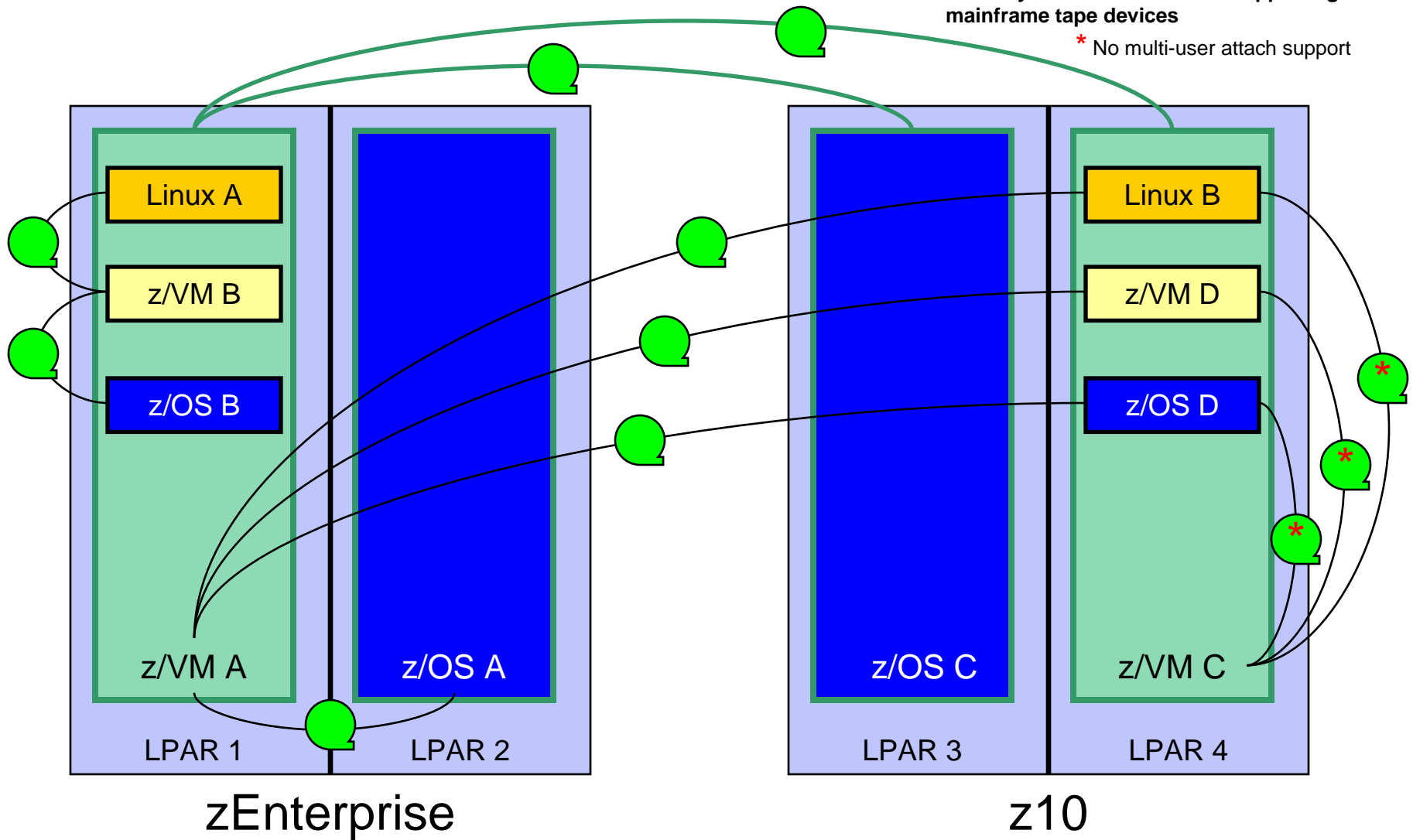


# Tape Manager in RMM Mode



# Sharing of Tape Devices

- z/VM systems with IBM Tape Manager
  - z/OS systems with IBM Automated Tape Allocation Manager
  - Linux systems with software supporting mainframe tape devices
- \* No multi-user attach support



## Summary

- **Use Tape Manager to**
  - Manage and share devices
  - Manage tape volumes
    - Access control
    - Retention
    - Data Security
  - Improve accuracy of mount requests



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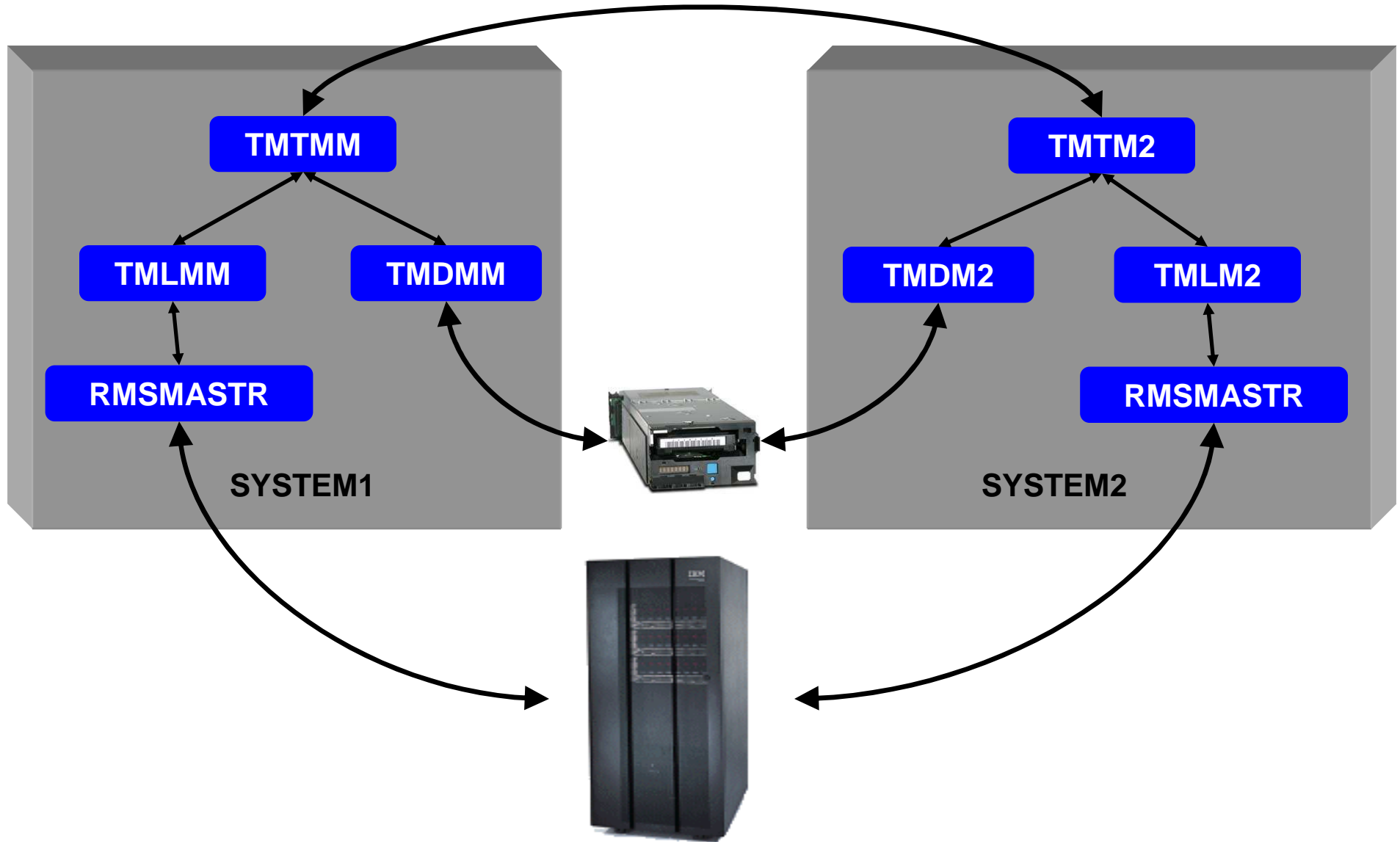
## New in Tape Manager V1.3

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

## Support for One Tape Catalog Across Multiple z/VM Systems

- **One “catalog node”**
  - Responsible for the tape catalog contents
- **Multiple “request nodes”**
  - Manage requests on the local system
  - Communicate with catalog node to read or update catalog data
- **One catalog used by multiple z/VM systems**
  - No longer need to create a catalog on each z/VM system, each with its own range of volsers
  - All z/VM systems share one catalog
- **IP used for communication between systems**

# Communication Between Service Machines and Systems





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## Shared Catalog Demos

## Infrastructure on the Demo System

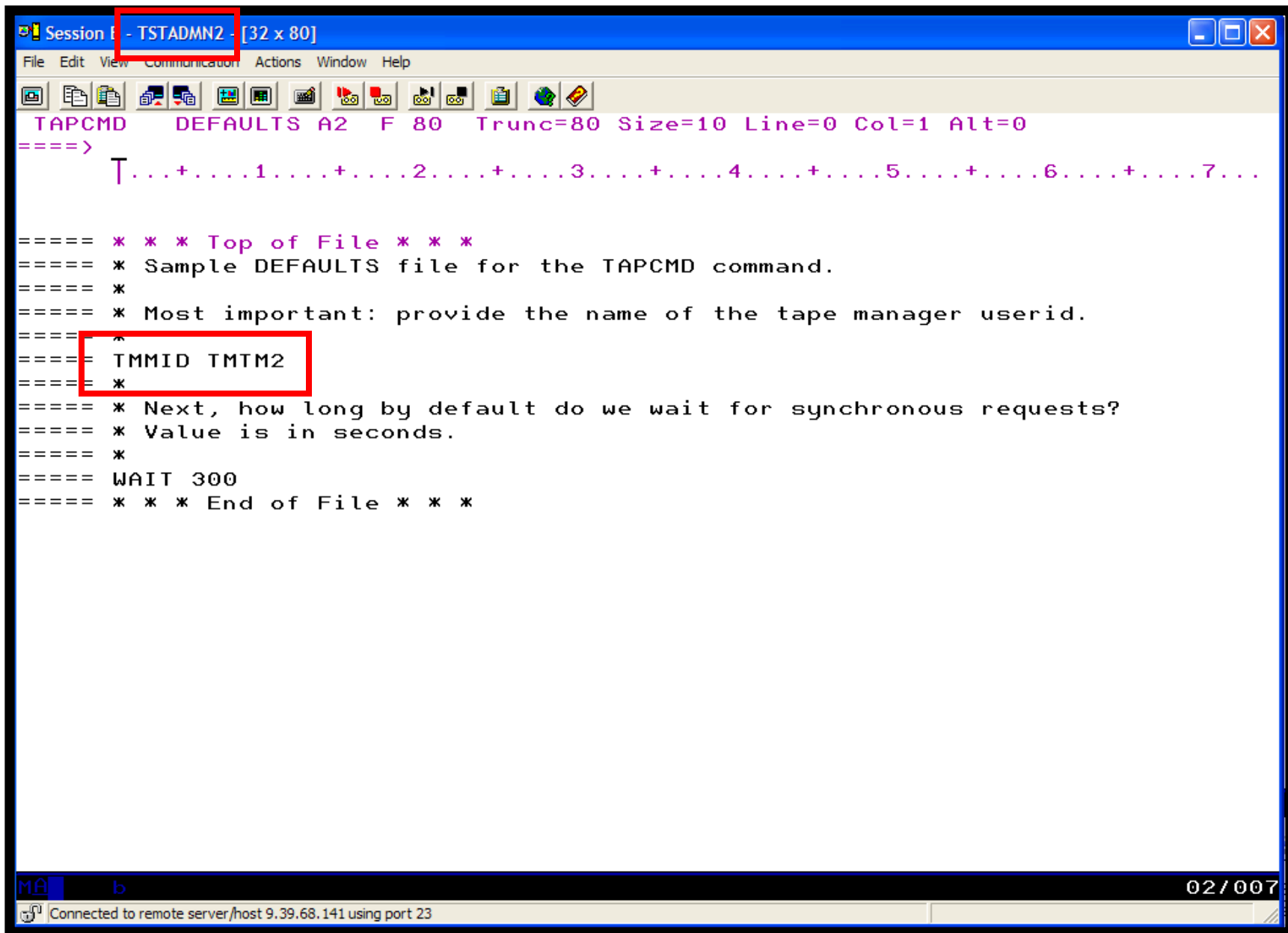
- **SYSTEM1 – catalog node**
  - Admin id: TSTADMN1
  - Tape Manager service machines
    - TMTMM
    - TMDMM
    - TMLMM
- **SYSTEM2 – request node**
  - Admin id: TSTADM2
  - Tape Manager service machines
    - TMTM2
    - TMDM2
    - TMLM2
  - No actual tape mounts will occur
    - No operators and no ATL on demo system
- **Technically SYSTEM1 and SYSTEM2 are on the same z/VM system**
  - In the real world, they would be on different z/VM systems



## Create Tape Pools and Add Tapes to Catalog

- **Verify TAPCMD DEFAULTS file specifies correct TMM**
- **Admin on SYSTEM2 must be defined in SYS CONFIG file on SYSTEM1 to administer the catalog**
- **Create tape pools from either system**
  - POOLDEF command
  - Handled by TMM on catalog node
- **Add and query tapes to the catalog from either system**
  - TAPEADD and TAPEQRY commands
  - Handled by TMM on catalog node
- **Mount tapes from either system**
  - TAPEMNT command
  - Handled by TMM on catalog node and DMM on local node

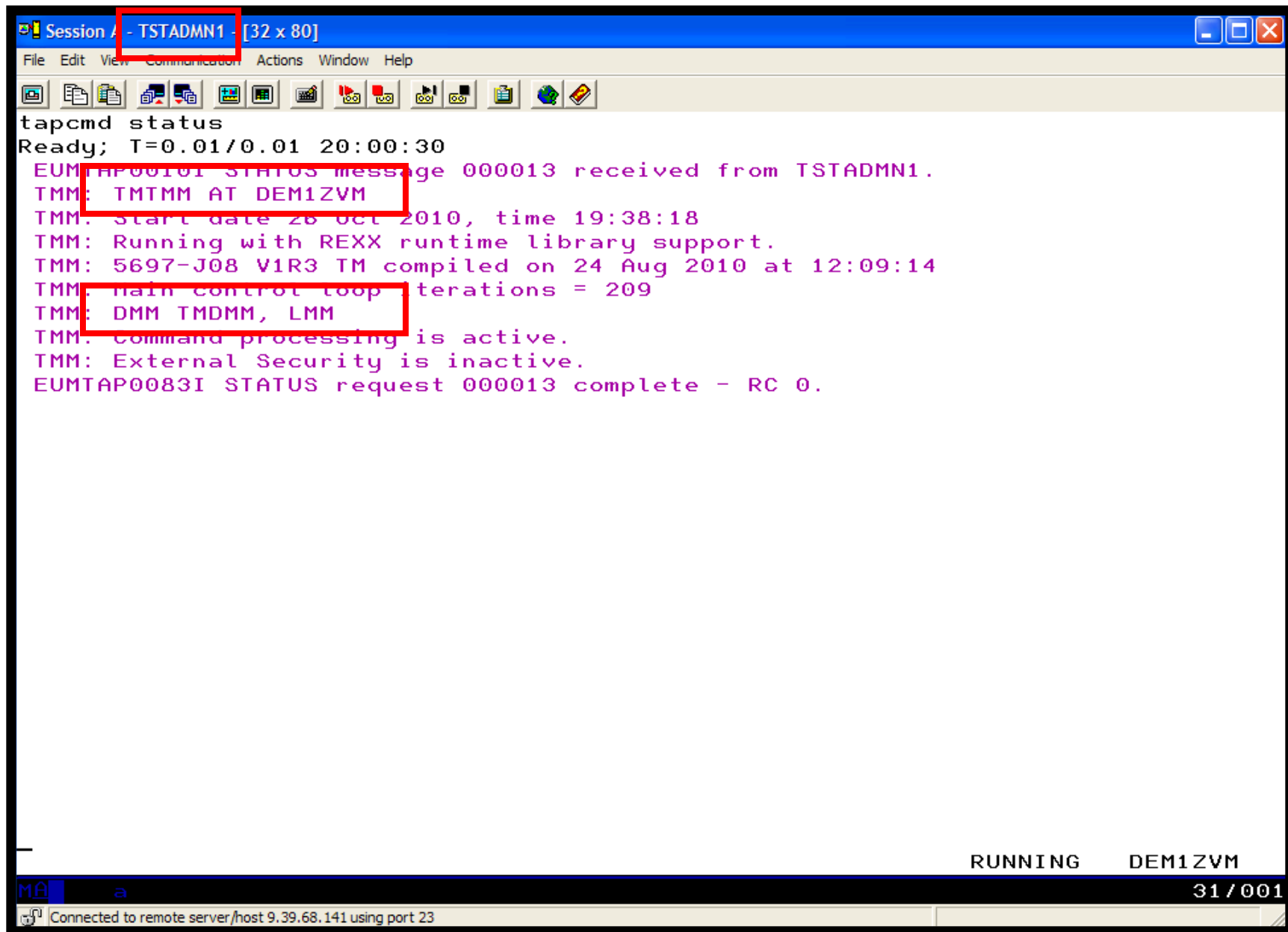
```
Session A - TSTADMN1 [32 x 80]
File Edit View Communication Actions Window Help
TAPCMD DEFAULTS Y2 F 80 Trunc=80 Size=10 Line=0 Col=1 Alt=1
====>
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====
* * * Top of File * * *
* Sample DEFAULTS file for the TAPCMD command.
*
* Most important: provide the name of the Tape Manager userid.
*
* TMMID TMTMM
*
* Next, how long by default do we wait for synchronous requests?
* Value is in seconds.
*
* WAIT 300
* * * End of File * * *
02/007
Connected to remote server/host 9.39.68.141 using port 23
```



```
Session - TSTADMN2 - [32 x 80]
File Edit View Communication Actions Window Help
TAPCMD  DEFAULTS A2  F 80  Trunc=80  Size=10  Line=0  Col=1  Alt=0
====>
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...

==== * * * Top of File * * *
==== * Sample DEFAULTS file for the TAPCMD command.
==== *
==== * Most important: provide the name of the tape manager userid.
==== *
==== TMMID TMTM2
==== *
==== * Next, how long by default do we wait for synchronous requests?
==== * Value is in seconds.
==== *
==== WAIT 300
==== * * * End of File * * *

MA  b  02/007
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
tapcmd status
Ready; T=0.01/0.01 20:00:30
EUMTAP0010I STATUS message 000013 received from TSTADMN1.
TMM: TMTMM AT DEM1ZVM
TMM: Start date 26 Oct 2010, time 19:38:18
TMM: Running with REXX runtime library support.
TMM: 5697-J08 V1R3 TM compiled on 24 Aug 2010 at 12:09:14
TMM: Main control loop iterations = 209
TMM: DMM TMDMM, LMM
TMM: Command processing is active.
TMM: External Security is inactive.
EUMTAP0083I STATUS request 000013 complete - RC 0.

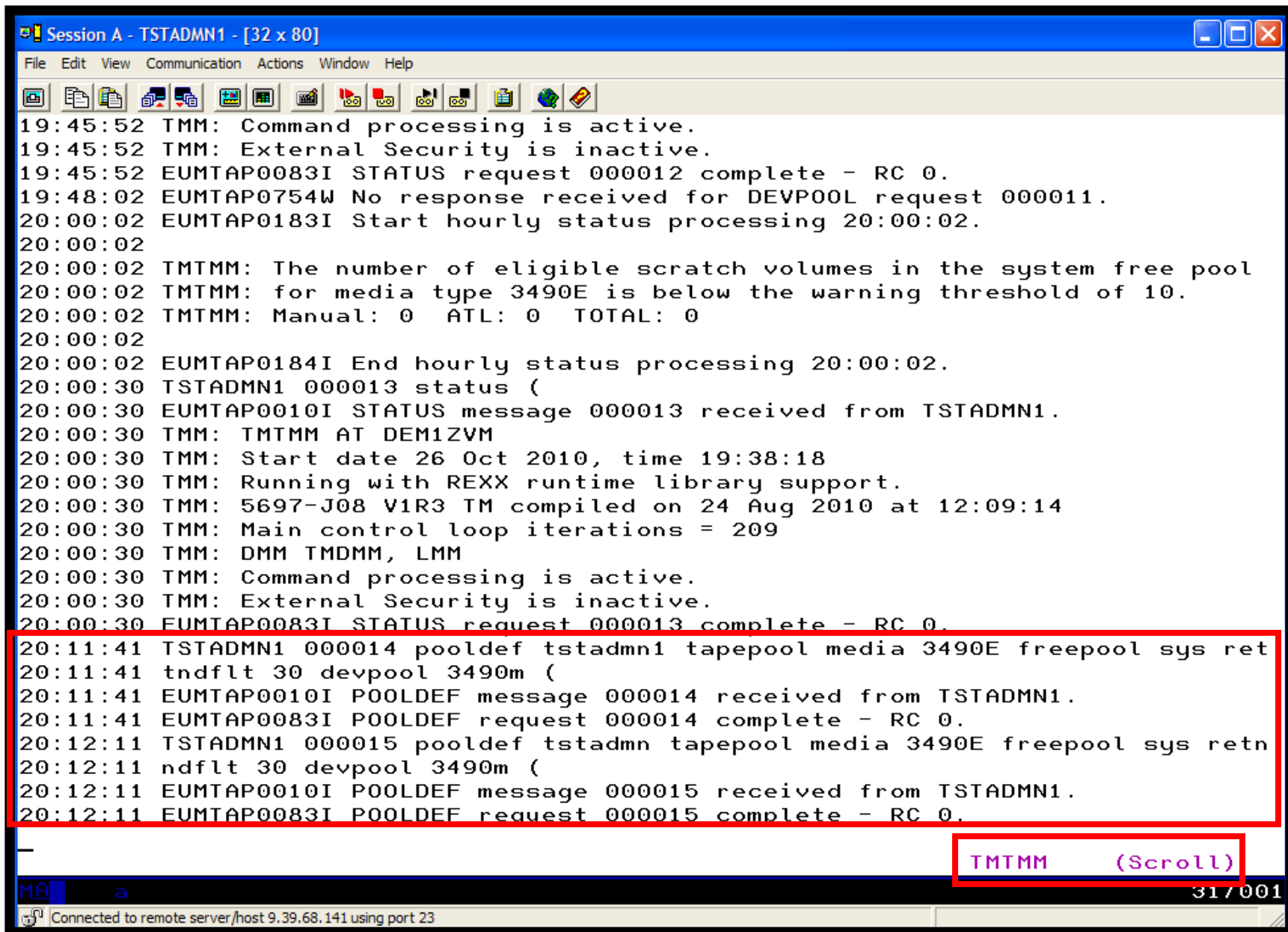
RUNNING DEM1ZVM
31 / 001
Connected to remote server/host 9.39.68.141 using port 23
```

```
Session - TSTADMN2 [32 x 80]
File Edit View Communication Actions Window Help
tapcmd status
Ready; T=0.01/0.01 20:00:44
EUMTAP0010I STATUS message 000003 received from TSTADMN2.
TMM: TMTM2 AT DEM1ZVM
TMM: Start date 26 Oct 2010, time 19:42:34
TMM: Running with REXX runtime library support.
TMM: 5697-J08 V1R3 TM compiled on 24 Aug 2010 at 12:09:14
TMM: Main control loop iterations = 151
TMM: DMM TMDM2, LMM TMDMM
TMM: Command processing is active.
TMM: External Security is inactive.
EUMTAP0083I STATUS request 000003 complete - RC 0.

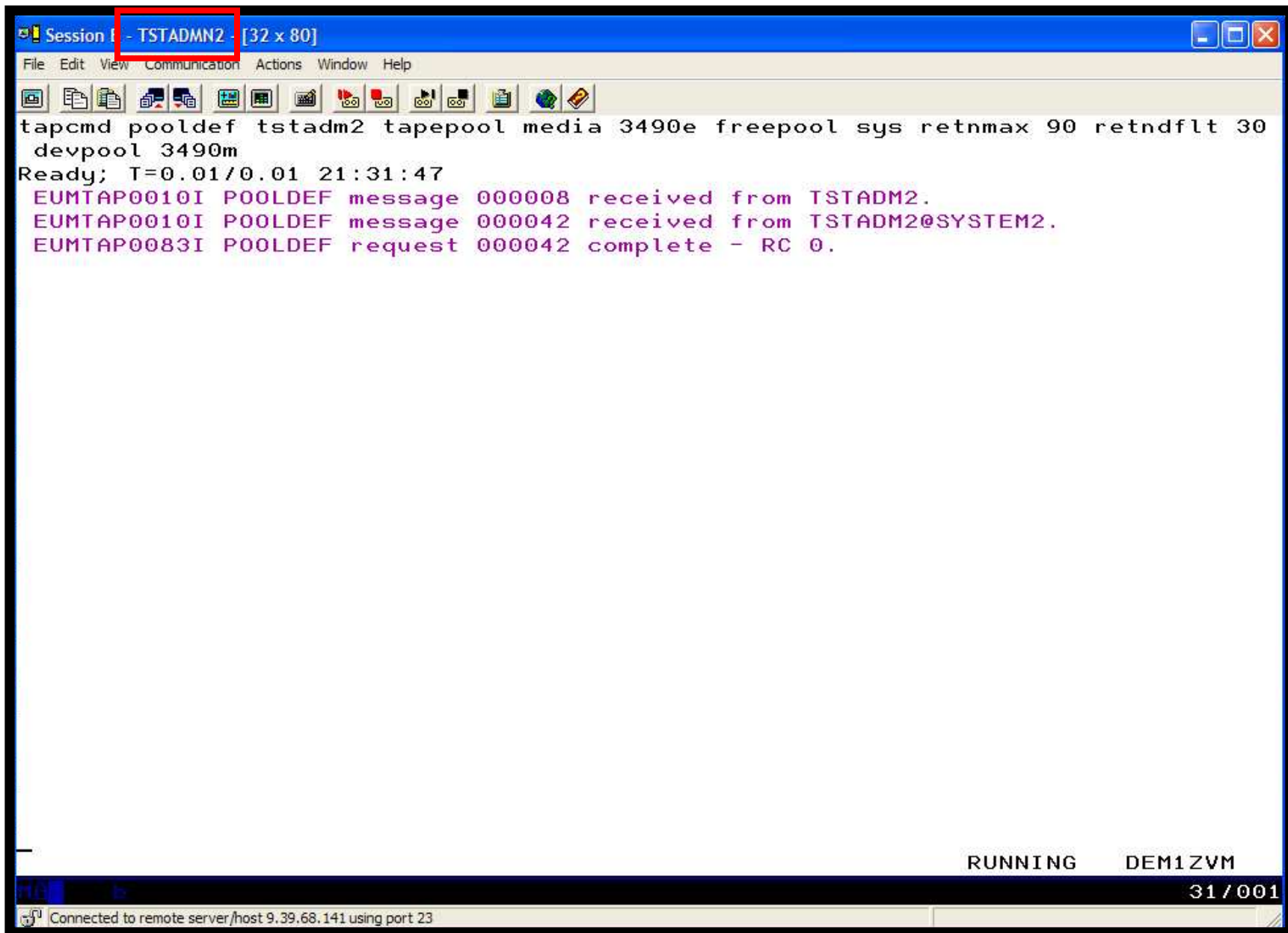
RUNNING DEM1ZVM
MA b 31/001
Connected to remote server/host 9.39.68.141 using port 23
```

```
Session - TSTADMN1 [32 x 80]
File Edit View Communication Actions Window Help
Ready; T=0.01/0.01 20:10:27
tapcmd pooldef tstadm1 tapepool media 3490E freepool sys retmax 90 retndflt 30
devpool 3490m
Ready; T=0.01/0.01 20:11:41
EUMTAP0010I POOLDEF message 000014 received from TSTADMN1.
EUMTAP0083I POOLDEF request 000014 complete - RC 0.
tapcmd pooldef tstadm tapepool media 3490E freepool sys retmax 90 retndflt 30
devpool 3490m
Ready; T=0.01/0.01 20:12:11
EUMTAP0010I POOLDEF message 000015 received from TSTADMN1.
EUMTAP0083I POOLDEF request 000015 complete - RC 0.

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



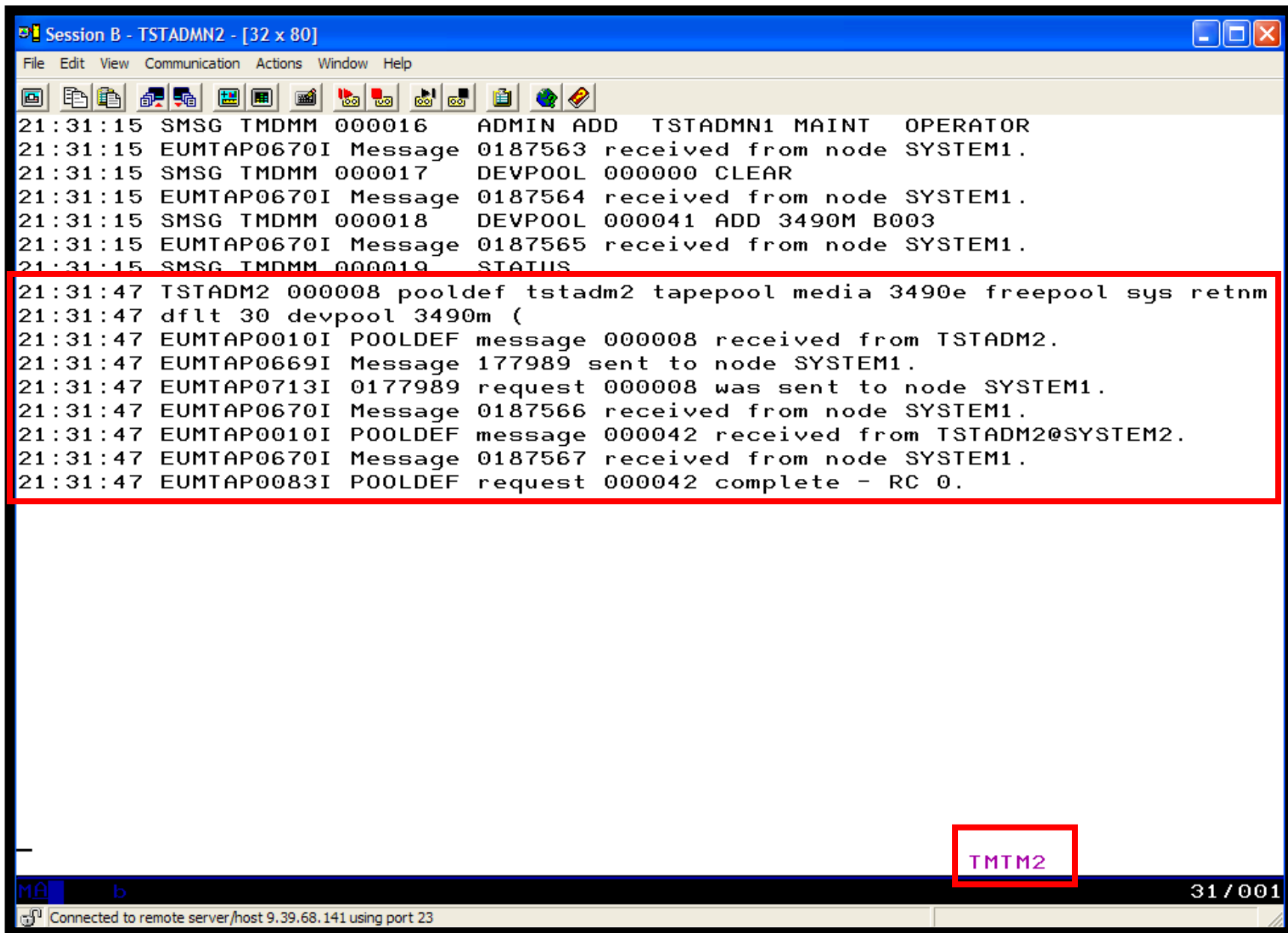
```
Session A - TSTADMN1 - [32 x 80]
File Edit View Communication Actions Window Help
19:45:52 TMM: Command processing is active.
19:45:52 TMM: External Security is inactive.
19:45:52 EUMTAP0083I STATUS request 000012 complete - RC 0.
19:48:02 EUMTAP0754W No response received for DEVPPOOL request 000011.
20:00:02 EUMTAP0183I Start hourly status processing 20:00:02.
20:00:02
20:00:02 TMTMM: The number of eligible scratch volumes in the system free pool
20:00:02 TMTMM: for media type 3490E is below the warning threshold of 10.
20:00:02 TMTMM: Manual: 0 ATL: 0 TOTAL: 0
20:00:02
20:00:02 EUMTAP0184I End hourly status processing 20:00:02.
20:00:30 TSTADMN1 000013 status (
20:00:30 EUMTAP0010I STATUS message 000013 received from TSTADMN1.
20:00:30 TMM: TMTMM AT DEM1ZVM
20:00:30 TMM: Start date 26 Oct 2010, time 19:38:18
20:00:30 TMM: Running with REXX runtime library support.
20:00:30 TMM: 5697-J08 V1R3 TM compiled on 24 Aug 2010 at 12:09:14
20:00:30 TMM: Main control loop iterations = 209
20:00:30 TMM: DMM TMDMM, LMM
20:00:30 TMM: Command processing is active.
20:00:30 TMM: External Security is inactive.
20:00:30 EUMTAP0083I STATUS request 000013 complete - RC 0.
20:11:41 TSTADMN1 000014 pooldef tstadm1 tapepool media 3490E freepool sys ret
20:11:41 tndflt 30 devpool 3490m (
20:11:41 EUMTAP0010I P00LDEF message 000014 received from TSTADMN1.
20:11:41 EUMTAP0083I P00LDEF request 000014 complete - RC 0.
20:12:11 TSTADMN1 000015 pooldef tstadm1 tapepool media 3490E freepool sys ret
20:12:11 ndflt 30 devpool 3490m (
20:12:11 EUMTAP0010I P00LDEF message 000015 received from TSTADMN1.
20:12:11 EUMTAP0083I P00LDEF request 000015 complete - RC 0.
-
TMTMM (Scroll)
317001
Connected to remote server/host 9.39.68.141 using port 23
```



```
Session 1 - TSTADMN2 [32 x 80]
File Edit View Communication Actions Window Help
tapcmd pooldef tstadm2 tapepool media 3490e freepool sys retnmax 90 retnflt 30
devpool 3490m
Ready; T=0.01/0.01 21:31:47
EUMTAP0010I POOLDEF message 000008 received from TSTADM2.
EUMTAP0010I POOLDEF message 000042 received from TSTADM2@SYSTEM2.
EUMTAP0083I POOLDEF request 000042 complete - RC 0.

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





The screenshot shows a terminal window titled "Session B - TSTADM2 - [32 x 80]". The window contains a list of messages and system output. A red rectangular box highlights a specific block of text starting with "21:31:47 TSTADM2 000008 pooldef".

```
21:31:15 SMSG TMDMM 000016 ADMIN ADD TSTADM1 MAINT OPERATOR
21:31:15 EUMTAP0670I Message 0187563 received from node SYSTEM1.
21:31:15 SMSG TMDMM 000017 DEVPPOOL 000000 CLEAR
21:31:15 EUMTAP0670I Message 0187564 received from node SYSTEM1.
21:31:15 SMSG TMDMM 000018 DEVPPOOL 000041 ADD 3490M B003
21:31:15 EUMTAP0670I Message 0187565 received from node SYSTEM1.
21:31:15 SMSG TMDMM 000019 STATUS
21:31:47 TSTADM2 000008 pooldef tstadm2 tapepool media 3490e freepool sys retnm
21:31:47 dflt 30 devpool 3490m (
21:31:47 EUMTAP0010I POOLDEF message 000008 received from TSTADM2.
21:31:47 EUMTAP0669I Message 177989 sent to node SYSTEM1.
21:31:47 EUMTAP0713I 0177989 request 000008 was sent to node SYSTEM1.
21:31:47 EUMTAP0670I Message 0187566 received from node SYSTEM1.
21:31:47 EUMTAP0010I POOLDEF message 000042 received from TSTADM2@SYSTEM2.
21:31:47 EUMTAP0670I Message 0187567 received from node SYSTEM1.
21:31:47 EUMTAP0083I POOLDEF request 000042 complete - RC 0.
```

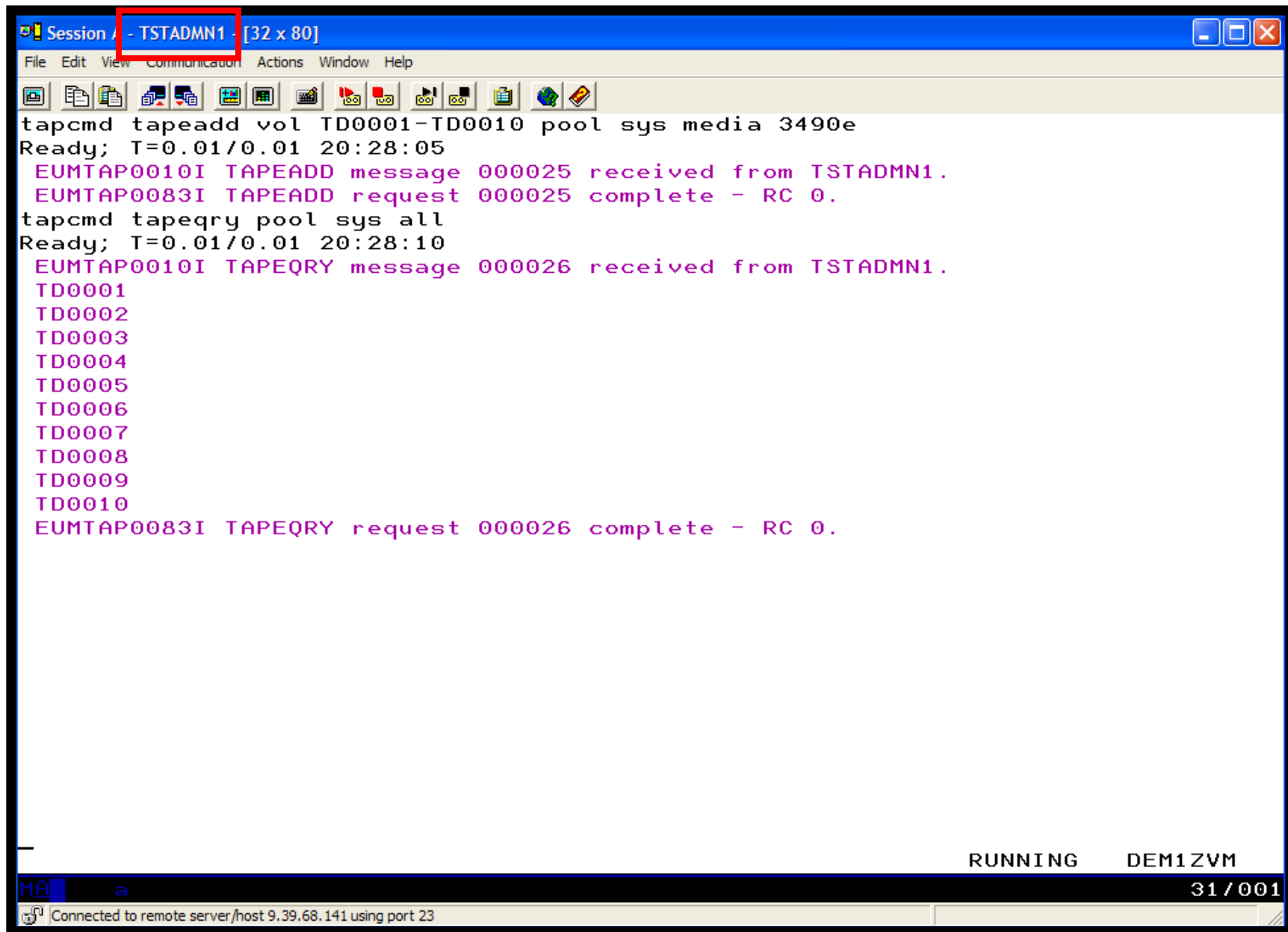
At the bottom right of the terminal window, the text "TMTM2" is displayed in a red box. The status bar at the bottom shows "MB b" on the left, "31 / 001" on the right, and "Connected to remote server/host 9.39.68.141 using port 23" at the bottom left.

```
Session A - TSTADMN1 - [32 x 80]
File Edit View Communication Actions Window Help
21:31:10 EUMTAP0669I Message 187562 sent to node SYSTEM2.
21:31:10 EUMTAP0737I The ADMIN message was sent to node SYSTEM2.
21:31:10 EUMTAP0669I Message 187563 sent to node SYSTEM2.
21:31:10 EUMTAP0737I The DEVP00L message was sent to node SYSTEM2.
21:31:10 EUMTAP0669I Message 187564 sent to node SYSTEM2.
21:31:10 EUMTAP0737I The DEVP00L message was sent to node SYSTEM2.
21:31:10 EUMTAP0669I Message 187565 sent to node SYSTEM2.
21:31:10 EUMTAP0737I The STATUS message was sent to node SYSTEM2.
21:31:47 EUMTAP0670I Message 0177989 received from node SYSTEM2.
21:31:47 TSTADM2 000042 pooldef tstadm2 tapepool media 3490e freepool sys retnm
21:31:47 dflt 30 devpool 3490m (
21:31:47 EUMTAP0010I POOLDEF message 000042 received from TSTADM2@SYSTEM2.
21:31:47 EUMTAP0669I Message 187566 sent to node SYSTEM2.
21:31:47 EUMTAP0083I POOLDEF request 000042 complete - RC 0.
21:31:47 EUMTAP0669I Message 187567 sent to node SYSTEM2.

TMTMM
31 / 001
Connected to remote server/host 9.39.68.141 using port 23
```

```
Session - TSTADMN1 [32 x 80]
File Edit View Communication Actions Window Help
Ready; T=0.01/0.01 20:34:24
tapcmd poolacc tstadm tapepool user tstadm2 tape
Ready; T=0.01/0.01 20:36:32
EUMTAP0010I POOLACC message 000027 received from TSTADMN1.
EUMTAP0083I POOLACC request 000027 complete - RC 0.

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



```
Session - TSTADMN1 [32 x 80]
File Edit View Communication Actions Window Help
tapcmd tapeadd vol TD0001-TD0010 pool sys media 3490e
Ready; T=0.01/0.01 20:28:05
  EUMTAP0010I TAPEADD message 000025 received from TSTADMN1.
  EUMTAP0083I TAPEADD request 000025 complete - RC 0.
tapcmd tapeqry pool sys all
Ready; T=0.01/0.01 20:28:10
  EUMTAP0010I TAPEQRY message 000026 received from TSTADMN1.
  TD0001
  TD0002
  TD0003
  TD0004
  TD0005
  TD0006
  TD0007
  TD0008
  TD0009
  TD0010
  EUMTAP0083I TAPEQRY request 000026 complete - RC 0.

RUNNING DEM1ZVM
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
20:27:18 EUMTAP0084I TAPEQRY request 000020 error - RC 24.
20:27:28 TSTADMN1 000021 tapedel vol TD0001-TD0010 pool sys (
20:27:28 EUMTAP0010I TAPEDEL message 000021 received from TSTADMN1.
20:27:28 EUMTAP0083I TAPEDEL request 000021 complete - RC 0.
20:27:46 TSTADMN1 000022 tapeadd vol TD0001-TD0010 pool sys media 3490e (
20:27:46 EUMTAP0010I TAPEADD message 000022 received from TSTADMN1.
20:27:46 EUMTAP0083I TAPEADD request 000022 complete - RC 0.
20:27:51 TSTADMN1 000023 tapeqry pool sys all long (
20:27:51 EUMTAP0010I TAPEQRY message 000023 received from TSTADMN1.
20:27:51 The TAPEQRY was issued by the DSEID.
20:27:51 EUMTAP0083I TAPEQRY request 000023 complete - RC 0.
20:27:59 TSTADMN1 000024 tapedel vol TD0001-TD0010 pool sys (
20:27:59 EUMTAP0010I TAPEDEL message 000024 received from TSTADMN1.
20:27:59 EUMTAP0083I TAPEDEL request 000024 complete - RC 0.
20:28:05 TSTADMN1 000025 tapeadd vol TD0001-TD0010 pool sys media 3490e (
20:28:05 EUMTAP0010I TAPEADD message 000025 received from TSTADMN1.
20:28:05 EUMTAP0083I TAPEADD request 000025 complete - RC 0.
20:28:10 TSTADMN1 000026 tapeqry pool sys all (
20:28:10 EUMTAP0010I TAPEQRY message 000026 received from TSTADMN1.
20:28:10 The TAPEQRY was issued by the DSEID.
20:28:10 EUMTAP0083I TAPEQRY request 000026 complete - RC 0.

TMTMM
31 / 001
Connected to remote server/host 9.39.68.141 using port 23
```

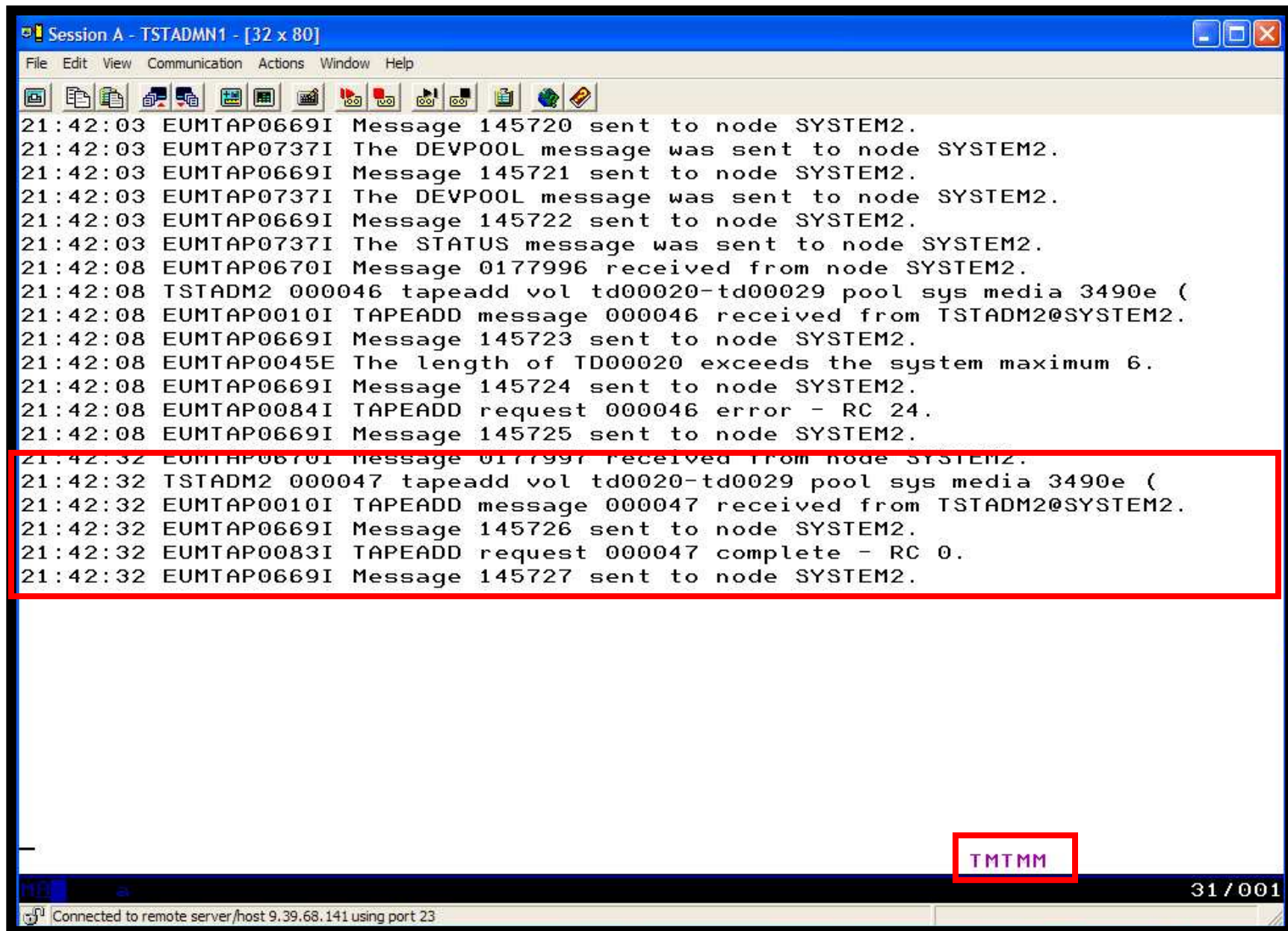
```
Session 1 - TSTADMN2 - [32 x 80]
File Edit View Communication Actions Window Help
tapcmd tapeadd vol td0020-td0029 pool sys media 3490e
Ready; T=0.01/0.01 21:42:32
EUMTAP0010I TAPEADD message 000011 received from TSTADM2.
EUMTAP0010I TAPEADD message 000047 received from TSTADM2@SYSTEM2.
EUMTAP0083I TAPEADD request 000047 complete - RC 0.

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

```
Session B - TSTADMN2 - [32 x 80]
File Edit View Communication Actions Window Help
21:42:03 SMSG TMDMM 000020 ADMIN ADD TSTADMN1 TSTADM2 MAINT OPERATOR
21:42:03 EUMTAP0670I Message 0145720 received from node SYSTEM1.
21:42:03 SMSG TMDMM 000021 DEVP00L 000000 CLEAR
21:42:03 EUMTAP0670I Message 0145721 received from node SYSTEM1.
21:42:03 SMSG TMDMM 000022 DEVP00L 000045 ADD 3490M B003
21:42:03 EUMTAP0670I Message 0145722 received from node SYSTEM1.
21:42:03 SMSG TMDMM 000023 STATUS
21:42:08 TSTADM2 000010 tapeadd vol td00020-td00029 pool sys media 3490e (
21:42:08 EUMTAP0010I TAPEADD message 000010 received from TSTADM2.
21:42:08 EUMTAP0669I Message 177996 sent to node SYSTEM1.
21:42:08 EUMTAP0713I 0177996 request 000010 was sent to node SYSTEM1.
21:42:08 EUMTAP0670I Message 0145723 received from node SYSTEM1.
21:42:08 EUMTAP0010I TAPEADD message 000046 received from TSTADM2@SYSTEM2.
21:42:08 EUMTAP0670I Message 0145724 received from node SYSTEM1.
21:42:08 EUMTAP0045E The length of TD00020 exceeds the system maximum 6.
21:42:08 EUMTAP0670I Message 0145725 received from node SYSTEM1.
21:42:08 EUMTAP0084I TAPEADD request 000046 error - RC 24.
21:42:32 TSTADM2 000011 tapeadd vol td00020-td00029 pool sys media 3490e (
21:42:32 EUMTAP0010I TAPEADD message 000011 received from TSTADM2.
21:42:32 EUMTAP0669I Message 177997 sent to node SYSTEM1.
21:42:32 EUMTAP0713I 0177997 request 000011 was sent to node SYSTEM1.
21:42:32 EUMTAP0670I Message 0145726 received from node SYSTEM1.
21:42:32 EUMTAP0010I TAPEADD message 000047 received from TSTADM2@SYSTEM2.
21:42:32 EUMTAP0670I Message 0145727 received from node SYSTEM1.
21:42:32 EUMTAP0083I TAPEADD request 000047 complete - RC 0.

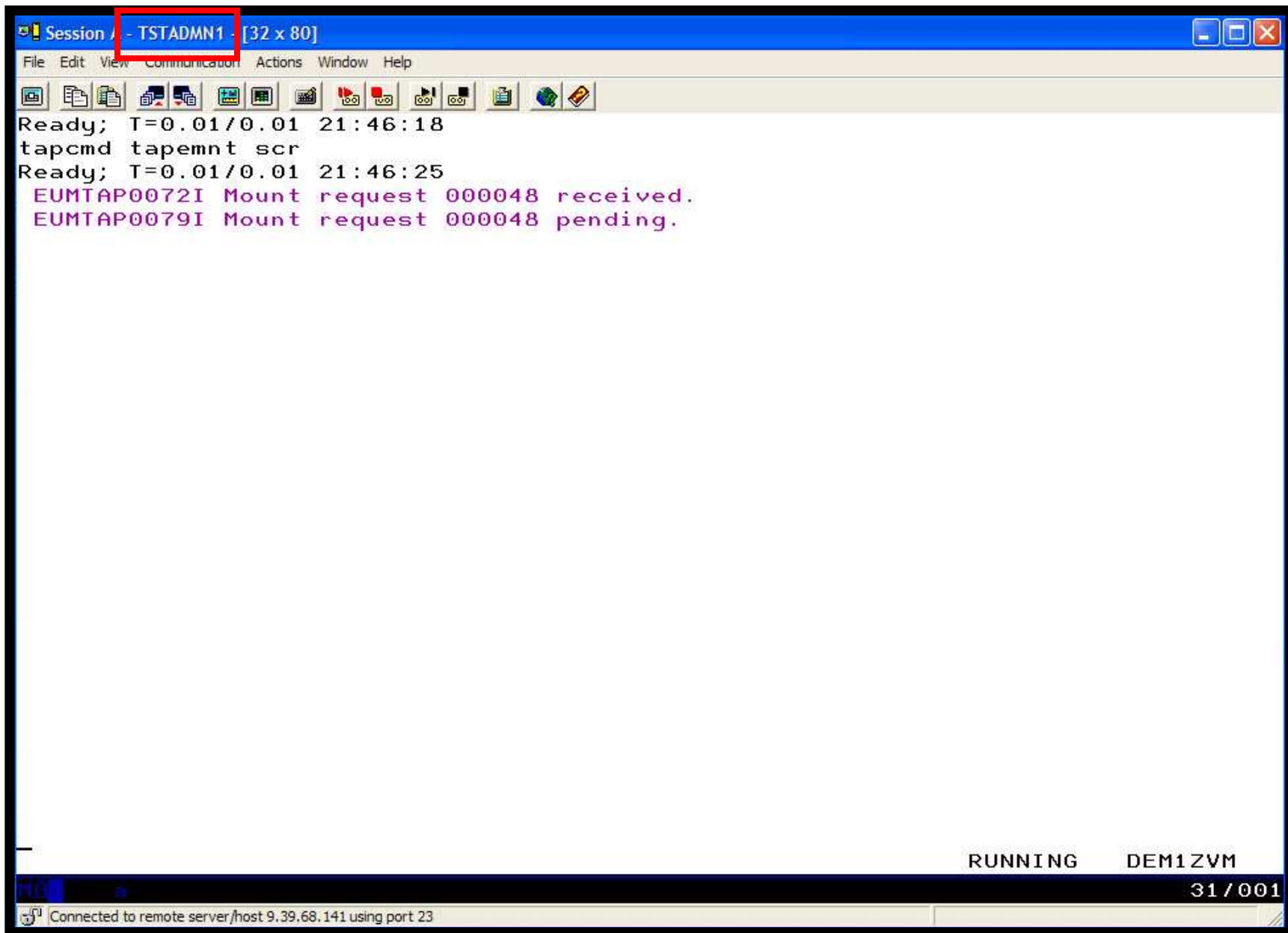
TMTM2
31 / 001
Connected to remote server /host 9.39.68.141 using port 23
```





```
Session A - TSTADM1 - [32 x 80]
File Edit View Communication Actions Window Help
21:42:03 EUMTAP0669I Message 145720 sent to node SYSTEM2.
21:42:03 EUMTAP0737I The DEVP00L message was sent to node SYSTEM2.
21:42:03 EUMTAP0669I Message 145721 sent to node SYSTEM2.
21:42:03 EUMTAP0737I The DEVP00L message was sent to node SYSTEM2.
21:42:03 EUMTAP0669I Message 145722 sent to node SYSTEM2.
21:42:03 EUMTAP0737I The STATUS message was sent to node SYSTEM2.
21:42:08 EUMTAP0670I Message 0177996 received from node SYSTEM2.
21:42:08 TSTADM2 000046 tapeadd vol td00020-td00029 pool sys media 3490e (
21:42:08 EUMTAP0010I TAPEADD message 000046 received from TSTADM2@SYSTEM2.
21:42:08 EUMTAP0669I Message 145723 sent to node SYSTEM2.
21:42:08 EUMTAP0045E The length of TD00020 exceeds the system maximum 6.
21:42:08 EUMTAP0669I Message 145724 sent to node SYSTEM2.
21:42:08 EUMTAP0084I TAPEADD request 000046 error - RC 24.
21:42:08 EUMTAP0669I Message 145725 sent to node SYSTEM2.
21:42:32 EUMTAP0670I Message 0177997 received from node SYSTEM2.
21:42:32 TSTADM2 000047 tapeadd vol td00020-td00029 pool sys media 3490e (
21:42:32 EUMTAP0010I TAPEADD message 000047 received from TSTADM2@SYSTEM2.
21:42:32 EUMTAP0669I Message 145726 sent to node SYSTEM2.
21:42:32 EUMTAP0083I TAPEADD request 000047 complete - RC 0.
21:42:32 EUMTAP0669I Message 145727 sent to node SYSTEM2.
TMTMM
31 / 001
Connected to remote server/host 9.39.68.141 using port 23
```





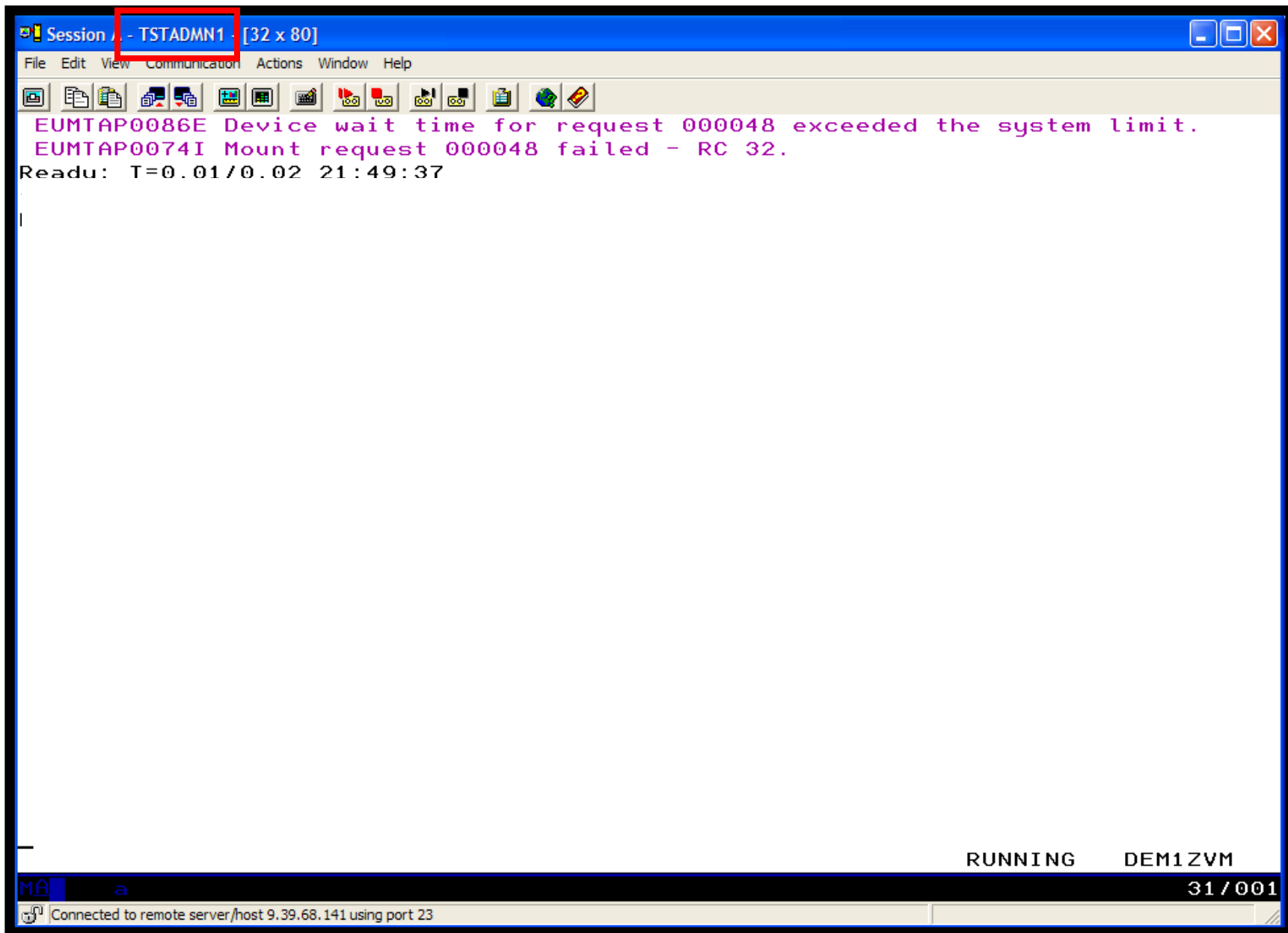
The screenshot shows a terminal window titled "Session - TSTADMN1 [32 x 80]". The window has a menu bar with "File", "Edit", "View", "Communication", "Actions", "Window", and "Help". Below the menu bar is a toolbar with various icons. The terminal content displays the following text:

```
Ready; T=0.01/0.01 21:46:18
tapcmd tapemnt scr
Ready; T=0.01/0.01 21:46:25
EUMTAP0072I Mount request 000048 received.
EUMTAP0079I Mount request 000048 pending.
```

At the bottom right of the terminal, the text "RUNNING DEM1ZVM" is displayed. Below the terminal area, a status bar shows "31 / 001" and "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
21:42:08 TSTADM2 000046 tapeadd vol td00020-td00029 pool sys media 3490e (
21:42:08 EUMTAP0010I TAPEADD message 000046 received from TSTADM2@SYSTEM2.
21:42:08 EUMTAP0669I Message 145723 sent to node SYSTEM2.
21:42:08 EUMTAP0045E The length of TD00020 exceeds the system maximum 6.
21:42:08 EUMTAP0669I Message 145724 sent to node SYSTEM2.
21:42:08 EUMTAP0084I TAPEADD request 000046 error - RC 24.
21:42:08 EUMTAP0669I Message 145725 sent to node SYSTEM2.
21:42:32 EUMTAP0670I Message 0177997 received from node SYSTEM2.
21:42:32 TSTADM2 000047 tapeadd vol td00020-td00029 pool sys media 3490e (
21:42:32 EUMTAP0010I TAPEADD message 000047 received from TSTADM2@SYSTEM2.
21:42:32 EUMTAP0669I Message 145726 sent to node SYSTEM2.
21:42:32 EUMTAP0083I TAPEADD request 000047 complete - RC 0.
21:42:32 EUMTAP0669I Message 145727 sent to node SYSTEM2.
21:46:25 TSTADMN1 000048 tapemnt scr (
21:46:25 EUMTAP0010I TAPEMNT message 000048 received from TSTADMN1.
21:46:25 EUMTAP0072I Mount request 000048 received.
21:46:25 The TAPEMNT was issued by the DSEID.
21:46:25 EUMTAP0079I Mount request 000048 pending.
21:46:25 SMSG TMDMM 000056 ATG 000048 3490M TD0029
21:46:25 EUMTAP0128I TAPEMNT request 000048 processed - RC 0.
21:46:25 TMDMM 39 ATG 000048 3490M B003
21:46:25 EUMTAP0010I ATG message 39 received from TMDMM.
21:46:25 EUMTAP0100I MOUNT USER=TSTADMN1 RQST=000048 VOL=TD0029 DEV=B003 LOC=
21:46:25 SMSG TMDMM 000057 DISP B003 01010000 M_TD0029 TSTADMN1
21:46:25 EUMTAP0128I ATG request 39 processed - RC 0.
21:46:25 TMDMM 40 DISP B003 *OK*
21:46:25 EUMTAP0010I DISP message 40 received from TMDMM.
21:46:25 EUMTAP0128I DISP request 40 processed - RC 0.
21:46:35 EUMTAP0118I Request 000048 waiting on device B003.
21:47:05 EUMTAP0754W No response received for DEVP00L request 000045.
-
TMTMM (Scroll)
31/001
Connected to remote server/host 9.39.68.141 using port 23
```

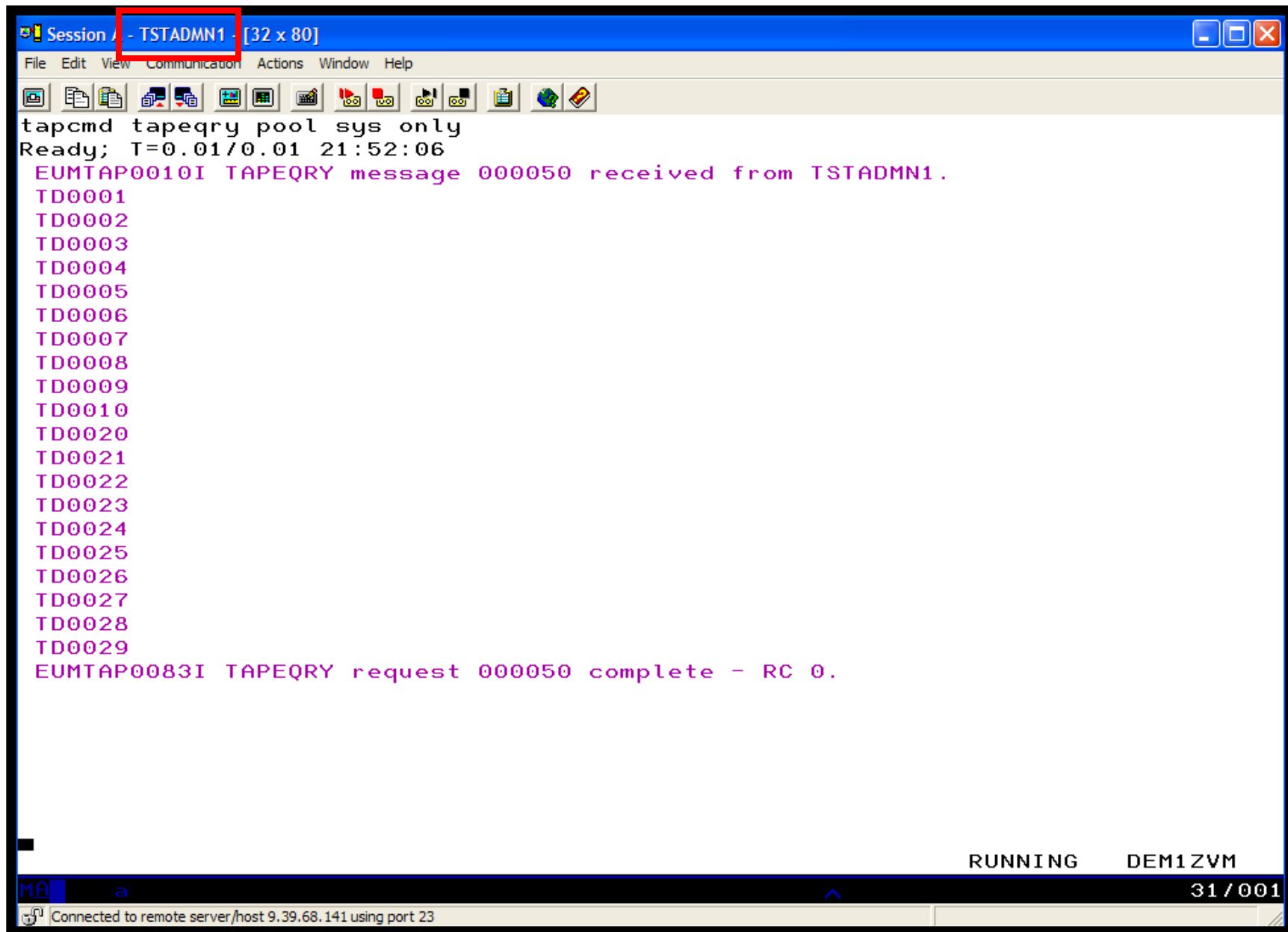
```
Session A - TSTADMN1 - [32 x 80]
File Edit View Communication Actions Window Help
[Icons]
21:42:32 EUMTAP0669I Message 145726 sent to node SYSTEM2.
21:42:32 EUMTAP0083I TAPEADD request 000047 complete - RC 0.
21:42:32 EUMTAP0669I Message 145727 sent to node SYSTEM2.
21:46:25 TSTADMN1 000048 tapemnt scr (
21:46:25 EUMTAP0010I TAPEMNT message 000048 received from TSTADMN1.
21:46:25 EUMTAP0072I Mount request 000048 received.
21:46:25 The TAPEMNT was issued by the DSEID.
21:46:25 EUMTAP0079I Mount request 000048 pending.
21:46:25 SMSG TMDMM 000056 ATG 000048 3490M TD0029
21:46:25 EUMTAP0128I TAPEMNT request 000048 processed - RC 0.
21:46:25 TMDMM 39 ATG 000048 3490M B003
21:46:25 EUMTAP0010I ATG message 39 received from TMDMM.
21:46:25 EUMTAP0100I MOUNT USER=TSTADMN1 RQST=000048 VOL=TD0029 DEV=B003 LOC=
21:46:25 SMSG TMDMM 000057 DISP B003 01010000 M_TD0029 TSTADMN1
21:46:25 EUMTAP0128I ATG request 39 processed - RC 0.
21:46:25 TMDMM 40 DISP B003 *OK*
21:46:25 EUMTAP0010I DISP message 40 received from TMDMM.
21:46:25 EUMTAP0128I DISP request 40 processed - RC 0.
21:46:35 EUMTAP0118I Request 000048 waiting on device B003.
21:47:05 EUMTAP0754W No response received for DEVP00L request 000045.
21:48:35 EUMTAP0086E Device wait time for request 000048 exceeded the system li
21:48:35 SMSG TMDMM 000058 DISP B003 00000000 *
21:48:35 EUMTAP0074I Mount request 000048 failed - RC 32.
21:48:35 SMSG TMDMM 000059 DET B003
21:48:35 EUMTAP0101I CNCLD USER=TSTADMN1 RQST=000048 VOL=TD0029 DEV=B003
21:48:35 EUMTAP0010I DISP message 41 received from TMDMM.
21:48:35 EUMTAP0128I DISP request 41 processed - RC 0.
21:48:35 TMDMM 42 DET B003 *OK*
21:48:35 EUMTAP0010I DET message 42 received from TMDMM.
21:48:35 EUMTAP0128I DET request 42 processed - RC 0.
-
TMTMM (Scroll)
31 / 001
Connected to remote server/host 9.39.68.141 using port 23
```



The screenshot shows a terminal window titled "Session - 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 area of the terminal displays the following text:

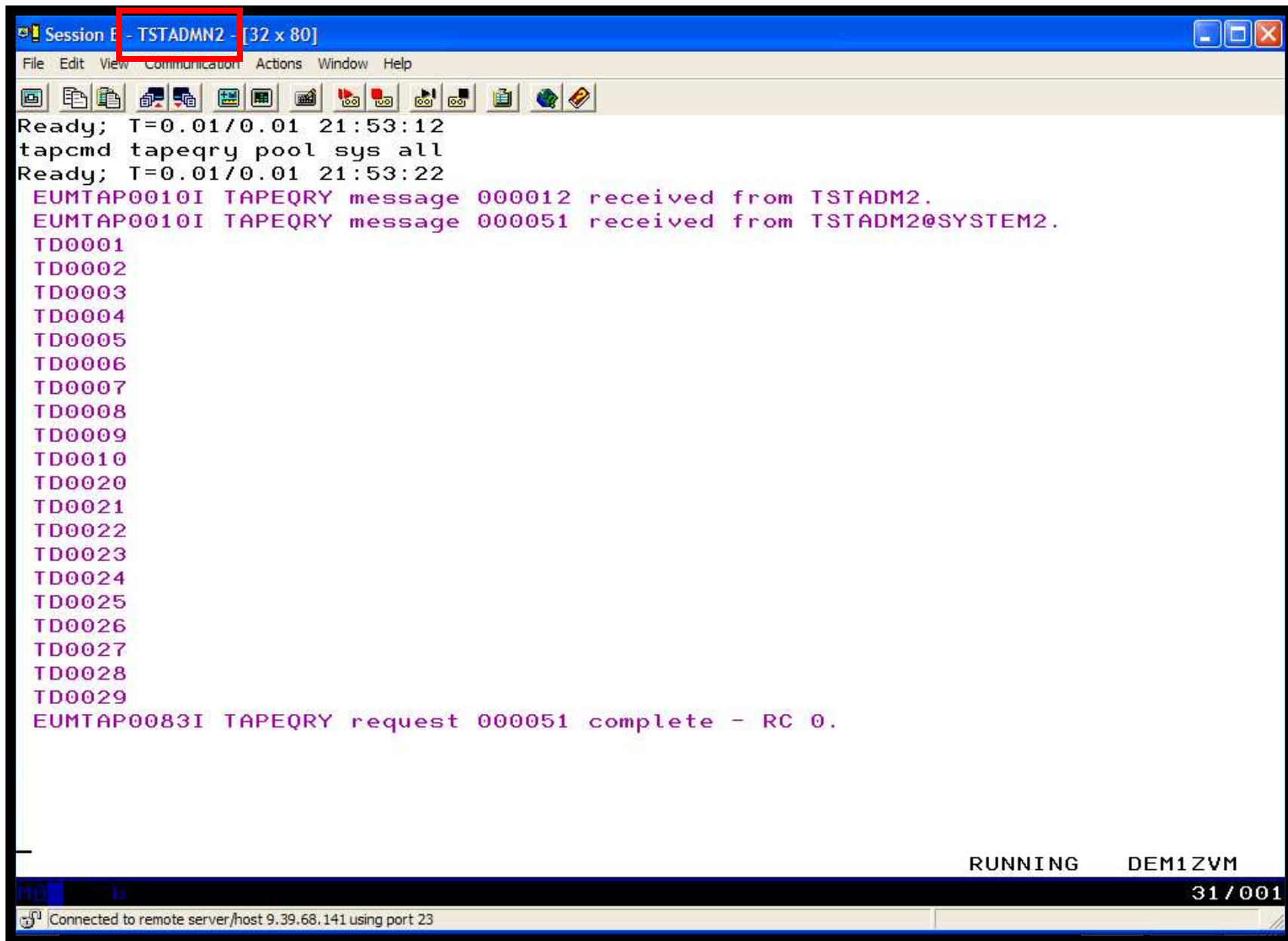
```
EUMTAP0086E Device wait time for request 000048 exceeded the system limit.  
EUMTAP0074I Mount request 000048 failed - RC 32.  
Readu: T=0.01/0.02 21:49:37
```

At the bottom of the terminal, the status "RUNNING DEM1ZVM" is displayed. The bottom status bar shows "MA a" on the left, "31 / 001" on the right, and "Connected to remote server/host 9.39.68.141 using port 23" at the bottom left.



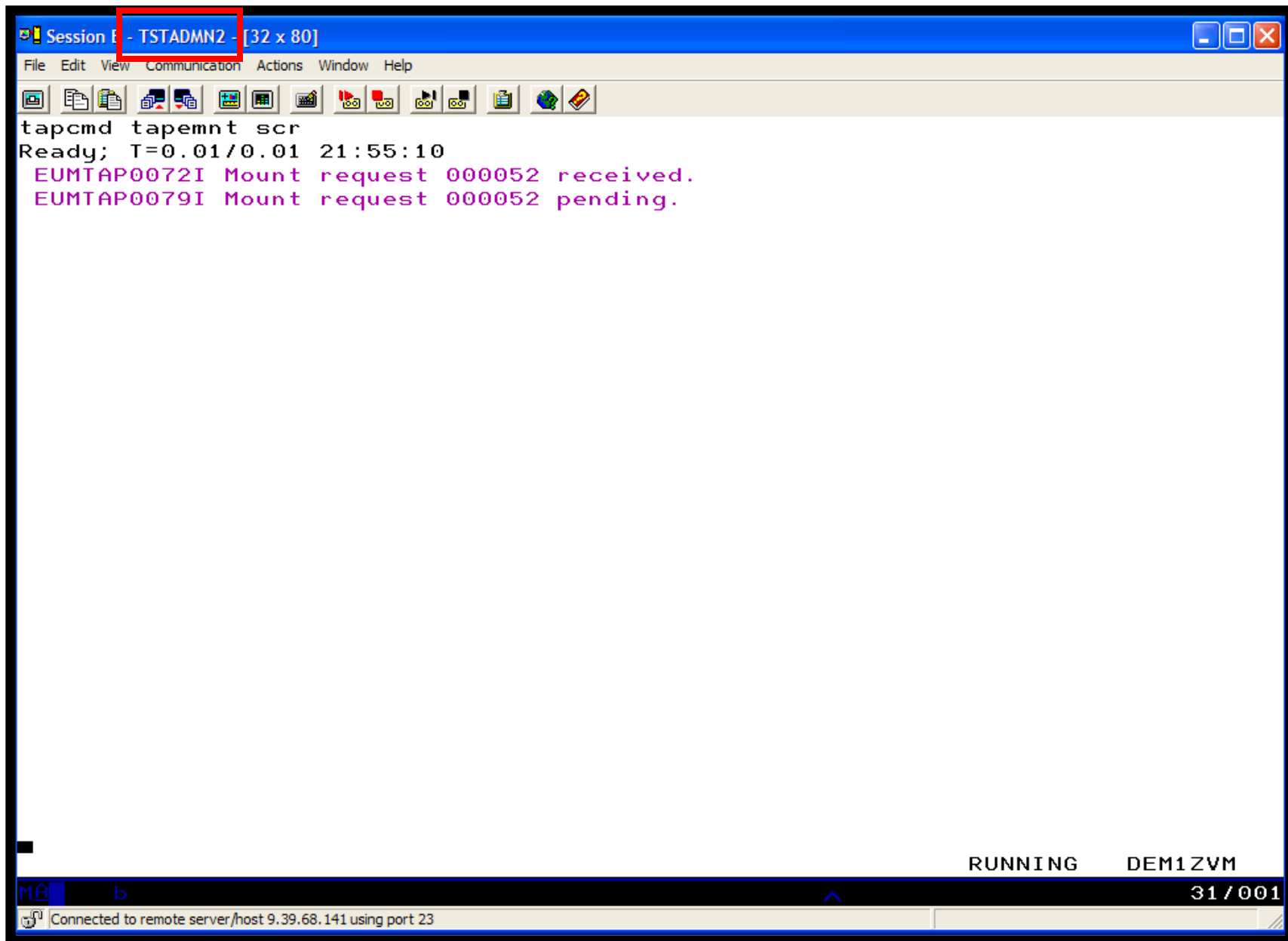
```
Session - TSTADMN1 [32 x 80]
File Edit View Communication Actions Window Help
tapcmd tapeqry pool sys only
Ready; T=0.01/0.01 21:52:06
EUMTAP0010I TAPEQRY message 000050 received from TSTADMN1.
TD0001
TD0002
TD0003
TD0004
TD0005
TD0006
TD0007
TD0008
TD0009
TD0010
TD0020
TD0021
TD0022
TD0023
TD0024
TD0025
TD0026
TD0027
TD0028
TD0029
EUMTAP0083I TAPEQRY request 000050 complete - RC 0.

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



```
Session E - TSTADMN2 - [32 x 80]
File Edit View Communication Actions Window Help
Ready; T=0.01/0.01 21:53:12
tapcmd tapeqry pool sys all
Ready; T=0.01/0.01 21:53:22
EUMTAP0010I TAPEQRY message 000012 received from TSTADM2.
EUMTAP0010I TAPEQRY message 000051 received from TSTADM2@SYSTEM2.
TD0001
TD0002
TD0003
TD0004
TD0005
TD0006
TD0007
TD0008
TD0009
TD0010
TD0020
TD0021
TD0022
TD0023
TD0024
TD0025
TD0026
TD0027
TD0028
TD0029
EUMTAP0083I TAPEQRY request 000051 complete - RC 0.

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



The screenshot shows a terminal window titled "Session 1 - TSTADMN2 - [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 terminal content displays the following text:

```
tapcmd tapemnt scr
Ready; T=0.01/0.01 21:55:10
EUMTAP0072I Mount request 000052 received.
EUMTAP0079I Mount request 000052 pending.
```

At the bottom of the terminal window, the status "RUNNING DEM1ZVM" is displayed on the right, and "31 / 001" is on the left. The status bar at the very bottom indicates "Connected to remote server/host 9.39.68.141 using port 23".

```
Session B - TSTADM2 - [32 x 80]
File Edit View Communication Actions Window Help
21:42:32 EUMTAP0669I Message 177997 sent to node SYSTEM1.
21:42:32 EUMTAP0713I 0177997 request 000011 was sent to node SYSTEM1.
21:42:32 EUMTAP0670I Message 0145726 received from node SYSTEM1.
21:42:32 EUMTAP0010I TAPEADD message 000047 received from TSTADM2@SYSTEM2.
21:42:32 EUMTAP0670I Message 0145727 received from node SYSTEM1.
21:42:32 EUMTAP0083I TAPEADD request 000047 complete - RC 0.
21:53:22 TSTADM2 000012 tapeqry pool sys all (
21:53:22 EUMTAP0010I TAPEQRY message 000012 received from TSTADM2.
21:53:22 EUMTAP0669I Message 177998 sent to node SYSTEM1.
21:53:22 EUMTAP0713I 0177998 request 000012 was sent to node SYSTEM1.
21:53:22 EUMTAP0670I Message 0145728 received from node SYSTEM1.
21:53:22 EUMTAP0010I TAPEQRY message 000051 received from TSTADM2@SYSTEM2.
21:53:22 EUMTAP0670I Message 0145729 received from node SYSTEM1.
21:53:22 EUMTAP0670I Message 0145730 received from node SYSTEM1.
21:53:22 EUMTAP0670I Message 0145731 received from node SYSTEM1.
21:53:22 EUMTAP0083I TAPEQRY request 000051 complete - RC 0.
21:55:10 TSTADM2 000013 tapemnt scr (
21:55:10 EUMTAP0010I TAPEMNT message 000013 received from TSTADM2.
21:55:10 EUMTAP0669I Message 177999 sent to node SYSTEM1.
21:55:10 EUMTAP0713I 0177999 request 000013 was sent to node SYSTEM1.
21:55:10 EUMTAP0670I Message 0145732 received from node SYSTEM1.
21:55:10 EUMTAP0010I TAPEMNT message 000052 received from TSTADM2@SYSTEM2.
21:55:11 EUMTAP0670I Message 0145733 received from node SYSTEM1.
21:55:11 EUMTAP0072I Mount request 000052 received.
21:55:11 EUMTAP0670I Message 0145734 received from node SYSTEM1.
21:55:11 EUMTAP0079I Mount request 000052 pending.
21:55:11 EUMTAP0670I Message 0145735 received from node SYSTEM1.
21:55:11 SMSG TMDMM 000024 ATG 000052 3490M TD0029
21:55:11 EUMTAP0670I Message 0145736 received from node SYSTEM1.
21:55:11 EUMTAP0128I TAPEMNT request 000052 processed - RC 0.
-
TMTM2 (Scroll)
31 / 001
Connected to remote server/host 9.39.68.141 using port 23
```



```
Session B - TSTADM2 - [32 x 80]
File Edit View Communication Actions Window Help
21:53:22 EUMTAP0713I 0177998 request 000012 was sent to node SYSTEM1.
21:53:22 EUMTAP0670I Message 0145728 received from node SYSTEM1.
21:53:22 EUMTAP0010I TAPEQRY message 000051 received from TSTADM2@SYSTEM2.
21:53:22 EUMTAP0670I Message 0145729 received from node SYSTEM1.
21:53:22 EUMTAP0670I Message 0145730 received from node SYSTEM1.
21:53:22 EUMTAP0670I Message 0145731 received from node SYSTEM1.
21:53:22 EUMTAP0083I TAPEQRY request 000051 complete - RC 0.
21:55:10 TSTADM2 000013 tapemnt scr (
21:55:10 EUMTAP0010I TAPEMNT message 000013 received from TSTADM2.
21:55:10 EUMTAP0669I Message 177999 sent to node SYSTEM1.
21:55:10 EUMTAP0713I 0177999 request 000013 was sent to node SYSTEM1.
21:55:10 EUMTAP0670I Message 0145732 received from node SYSTEM1.
21:55:10 EUMTAP0010I TAPEMNT message 000052 received from TSTADM2@SYSTEM2.
21:55:11 EUMTAP0670I Message 0145733 received from node SYSTEM1.
21:55:11 EUMTAP0072I Mount request 000052 received.
21:55:11 EUMTAP0670I Message 0145734 received from node SYSTEM1.
21:55:11 EUMTAP0072I Mount request 000052 pending.
21:55:11 EUMTAP0670I Message 0145735 received from node SYSTEM1.
21:55:11 SMSG TMDMM 000024 ATG 000052 3490M TD0029
21:55:11 EUMTAP0670I Message 0145736 received from node SYSTEM1.
21:55:11 EUMTAP0128I TAPEMNT request 000052 processed - RC 0.
21:57:21 EUMTAP0670I Message 0145737 received from node SYSTEM1.
21:57:21 EUMTAP0086E Device wait time for request 000052 exceeded the system li
21:57:21 EUMTAP0670I Message 0145738 received from node SYSTEM1.
21:57:21 EUMTAP0074I Mount request 000052 failed - RC 32.

TMTM2
31 / 001
Connected to remote server/host 9.39.68.141 using port 23
```



IBM Software

## Other Enhancements

## Backup Utility for Catalog

- **New function to automatically back up the catalog**
- **Utility initially called automatically to save V1.2 catalog before migrating it to V1.3**
  - Catalog database disks copied to secondary database disks
    - TMTMM 200 and 210 to TMTMM 1200 and 1210
- **Optionally used during normal operations to schedule backups of the catalog within Tape Manager**
  - Run at top of the hour between specified start and end times
  - Details in EUMHRLY EXEC on samples disk

## RACF Support

- **Use RACF to control:**
  - Access to tape pools
  - System Administrator and Operations authority
  - Authorization to various Tape Manager commands
  - Pool administrator authority for private tape pools
  - Access to the system free pool from private tape pools
- **Must define FACILITY class profiles in RACF**
- **Includes support for other External Security Managers**
- **Alternative to existing internal Tape Manager security mechanisms**

## New Hardware Support – Oracle STK Silos

- **Support for Oracle StorageTek silos**
- **Requires**
  - Oracle StorageTek VM/Host Software Component V6.1
  - PTF for Tape Manager V1.3 APAR PM20384
- **Architecture similar to ATL/VTS support via DFSMSRMS for z/VM**

## Usability Enhancements

- **Support continuation characters in config file**
- **Text field in catalog for tape volsers expanded from 16 to 32 characters**
- **Specify DSE when a tape volume is added to the catalog**
- **Warning when scratch tapes getting low for each media type in system free pool**
- **Improved config file management**
  - Data previously in SYS MEDIA now in main config file (SYS CONFIG)
  - SYS CONFIG can be on any accessed disk
    - Recommend R/O by TMTMM so administrators can update it while server is running
    - Shut down and restart server to pick up changes

## Migration from V1.2

- **Migration of Tape Manager catalog will be required**
  - Utility provided to migrate the catalog automatically at Tape Manager startup
  - Includes automatically backing up existing catalog before migration begins
- **Several other changes required to configuration data, CP directory entries, etc.**
  - Details in the Program Directory

## Summary

- **Use Tape Manager to**
  - Manage and share devices
  - Manage tape volumes
    - Access control
    - Retention
    - Data Security
  - Improve accuracy of mount requests
- **V1.3 provides**
  - Shared catalog support
  - Additional security options
  - Additional hardware support
  - Usability enhancements



## Reference Information

- **Product Web site**

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

- **e-mail**

- Tracy Dean, [tld1@us.ibm.com](mailto:tld1@us.ibm.com), Product Manager

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