Instructor Lesson Guides

for

Xyplex
Terminal Server
Training and Configuration

Prepared for

HQ AFMC/CIXR
Wright-Patterson AFB, Ohio 45433

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# Instructor Lesson Guides for Xplex Terminal Server

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Instructor Lesson Guides for Xplex Terminal Server Training and Configuration

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## 13. ABSTRACT (Maximum 200 words)
This document provides training material to assist the technician in installing and configuring data communications terminal servers. These instructions are specific to SM-FMDDs communications environment.

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Xyplex 1600
Installation and Configuration Procedures

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Foreword

The following is configuration data for the Xyplex Terminal Servers located at McClellan AFB. This data has been compiled as a result of the testing efforts at Sacramento Air Logistics Center (SM-ALC) and reflects the specific changes required for SM-ALC. Installation at the sites other than SM-ALC will require modification to these procedures.

These installation and configuration procedures have been prepared for a single 16 port Xyplex terminal server. The procedures for installing and configuring an 8 port terminal server are identical to the 16 port instructions except for the modification of the number of ports specified.

These steps can be duplicated for the remaining Terminal Servers
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Section 1.0  Xyplex 1600 Installation

Power Requirements

1-110 Volt 15 Ampere outlet

Cable Requirements

4 Pair twisted pair wire

1-Thinwire or AUI Ethernet connection

Software Requirements

Xyplex 1600 (versions 4.1.3 or 4.1.3S26)

Miscellaneous Equipment

16-RJ 45 Connectors (for the 4 pair terminal connectivity wire)

*The terminal server must be plugged into an electrical outlet and booted with the software prior to the configuration of the device.*

Section 2.0  Xyplex 1600 (versions 4.1.3 and 4.1.3S26) Configuration

This document details the configuration of the Xyplex 1600 terminal server, including:

- network use configuration
- terminal use configuration
- printer use configuration

The commands between version 4.1.3 and 4.1.3S26 are not different.

For the purpose of this document, the term ‘terminal’ refers to either a dumb terminal or PC using a terminal emulation package, such as SmartTerm 220 or 320.

When delivered from the factory, the Xyplex 1600 can be configured for use by connecting a terminal. The terminal should be configured with the following parameter settings:

Baud: 9600  
Parity: None  
Stop Bits: 1  
Character Bits: 8

The Xyplex "Using the TCP/IP-LAT Terminal Server" manual should be referenced to determine the proper cable pinning configuration for terminal connection.
There are a couple of commonly used concepts and configuration and monitoring commands used on the Xyplex terminal server.

- **Active Database**
  The active database includes the configuration of the terminal server in the current running status. Changes made in the active database will not be in effect when the terminal server is reinitialized.

- **Permanent Database**
  The permanent database includes the configuration for the terminal server during the initialization, process. Changes made in the permanent database will not be in effect until the terminal server is reinitialized.

- **Set**
  The SET command is used to change the configuration in the active database.

- **Define**
  The DEFINE command is used to change the configuration in the permanent database.

- **List**
  The LIST command is used to list configuration characteristics and terminal server activity in the permanent database.

- **Show**
  The SHOW command is used to list configuration characteristics and terminal server activity in the active database, providing a status listing at the time the command was entered, a "snapshot.

- **Monitor**
  The MONITOR command is used to continually show configuration characteristics in the active database and terminal server activity.
The following text appearances are used in this appendix:

- **Regular**

  Terminal Server screen output as it appears during terminal server use and configuration

- **Bold**

  Commands typed in during the configuration of the terminal server. For many commands, the input shown is provided as an example and should not be entered. Actual IP addresses and associated information should be obtained from a completed "Ethernet Node Address Request Form" obtained from SM-ALC/SCCB for each terminal server.

- **Italic**

  Brief description of the command typed in. For a detailed explanation of the command, the TCP/IP-LAT Software Software Management Guide and Xyplex TCP/IP-LAT Software Commands Reference Guide manual should be referred to.

The following sample configuration was captured during an actual terminal server configuration session.
Welcome to the Xyplex Terminal Server.

Enter username> Tim

This allows the user to enter their user name. The name input does not impact unit operation.

Xyplex -901- Default Parameters being used
Xyplex> show unit

This command shows unit information. The information is presented to show factory default settings.

Hardware Type: 74
Hardware Revision: 00.00.00
Rom Revision: 440000
Software Type: Terminal Server Level 3
Software Revision: 4.1.3S26
Protocol Type: LAT, TELNET, RLOGIN

Enabled Feature(s): HELP
Xyplex> show port

This command shows the characteristics of the port connected to. The information is presented to show factory default settings.

Port 1: Tim 10 Nov 1992 01:46:29

Character Size: 8  Input Speed: 9600
Flow Control: XON  Output Speed: 9600
Parity: None  Modem Control: Disabled
Access: Local  Local Switch: None
Backwards Switch: None  Name: PORT_1
Break: Local  Session Limit: 4
Forwards Switch: None  Type: Soft
Preferred Service: None

Authorized Groups: 0
(Current) Groups: 0

Enabled Characteristics:

Autobaud, Autoprompt, Broadcast, Input Flow Control, Internet Connections, Line Editor, Loss Notification, Message Codes, Output Flow Control, Verification
Xyplex> show server

This command shows information about the server as a unit. This information is presented to show factory default settings.

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 00:01:54

Address: 08-00-87-01-62-2E Name: X01622E Number: 0

Identification: Xyplex Terminal Server Welcome: Welcome to the Xyplex Terminal Server.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circuit Timer</td>
<td>80</td>
</tr>
<tr>
<td>Console Port</td>
<td>0</td>
</tr>
<tr>
<td>Inactivity Timer</td>
<td>30</td>
</tr>
<tr>
<td>Keepalive Timer</td>
<td>20</td>
</tr>
<tr>
<td>Multicast Timer</td>
<td>30</td>
</tr>
<tr>
<td>Node Limit</td>
<td>100</td>
</tr>
<tr>
<td>Textpool Size</td>
<td>16384</td>
</tr>
<tr>
<td>Accounting Entries</td>
<td>0</td>
</tr>
<tr>
<td>Password Limit</td>
<td>3</td>
</tr>
<tr>
<td>Queue Limit</td>
<td>24</td>
</tr>
<tr>
<td>Retransmit Limit</td>
<td>8</td>
</tr>
<tr>
<td>Session Limit</td>
<td>64</td>
</tr>
<tr>
<td>Software</td>
<td>MX1500</td>
</tr>
<tr>
<td>Identification Size</td>
<td>63</td>
</tr>
<tr>
<td>Timezone</td>
<td>00:00</td>
</tr>
<tr>
<td>Packet Count</td>
<td>80</td>
</tr>
</tbody>
</table>

Enabled Characteristics:

Announcements, Broadcast, Dump, Lock, Parameter Polling, TCP/IP Parameters, Proprietary Parameters, Purge Node
Xyplex> show server internet characteristics

This command shows the characteristics of the server, related to the Internet (TCP/IP) protocol and settings. This information is presented to show factory default settings.

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 0 00:02:02

Address: 08-00-87-01-62-2E    Name: X01622E    Number: 0

Identification: Xyplex Terminal Server

Internet Address: 0.0.0.0    Internet TTL: 64
Internet Broadcast Address: 255.255.255.255

Domain Name:
Domain Suffix:

Domain TTL: 0
Primary Domain Address: 0.0.0.0
Secondary Domain Address: 0.0.0.0

Primary Gateway Address: 0.0.0.0
Secondary Gateway Address: 0.0.0.0
Subnet Mask: 255.255.255.0
Subnet Mask Auto-Configure: ENABLED
Section 2.1  Network Configuration

Xyplex> set privilege

This command is used to enter privileged mode. Privileged mode is required to change most unit parameters and characteristics.

Password>

Prior to setting a unit password, the factory default password is enabled. The factory default password can be obtained from the Xyplex 1600 manual. When the password is entered, it is not echoed to the screen.
Xyplex>> define change enable

This command enables server parameter changing commands to be active upon entering (active database) and active after a unit reboot (permanent database).
Xyplex> define server protocol lat enabled telnet enabled

This command activates the LAT and TELNET protocols on the server. The factory default configuration has both of these protocols enabled (SHOW UNIT. This command is provided to show the activation of the protocols in the event a protocol becomes disabled.

Press <RETURN> to modify configuration, any other key to abort.

Xyplex -705- Change leaves approximately 2285328 bytes free
Xyplex>> define server internet address 137.243.36.13

This command sets the internet (IP) address of the unit. The IP address is assigned by SCCB upon the submittal of an Ethernet Address Request Form to SCCB. The form is returned with the relevant IP address information filled in by SCCB staff.
Xyplex>> define server int subnet mask auto config dis

This command sets the internet (IP) subnet mask auto configuration parameter to a disabled state, allowing the user to configure a tailored subnet mask. i.e: utilizing a bit offset in the subnet mask.
Xyplex>> **define server internet subnet mask 255.255.254.0**

*This command sets the internet (IP) subnet mask. The subnet mask is provided on the returned Ethernet Address Request Form.*
Xyplex>> define server internet broadcast address 137.248.37.255

This command sets the internet (IP) broadcast mask. The broadcast address is provided on the returned Ethernet Address Request Form.
Xyplex>> define server internet default domain suffix .mcclellan.af.mil

This command sets the internet (IP) default domain suffix. This suffix is appended to all internet alias names entered. Check with the SCCB point of contact providing the information on the Ethernet Address Request Form for the current domain suffix.
Xyplex>> define server internet domain address 192.42.248.81

This command sets the internet (IP) domain address, used to identify the on-site domain name server. The domain name server address is provided on the returned Ethernet Address Request Form.
Xyplex>> define server internet primary gateway address 137.243.37.244

This command sets the internet (IP) primary gateway address, used to connect to other IP subnets or networks. The primary gateway address is provided on the returned Ethernet Address Request Form and is commonly referred to as the default gateway.
Xynplex>> define server internet primary domain address 192.42.248.81

This command defines the address of the primary domain name server, used to provide conversion between "user-friendly" host names and IP addresses. So users can 'connect logdis1', the domain name server is queried to locate the IP address of logdis1. The domain name server provides the terminal server with The IP address so a telnet session can be established. All this is transparent to the user. The primary domain name server address is provided on the returned Ethernet Address Request Form.
Xyplex>> define server protocol tn3270 enabled

This command activates the use of the TN3270 protocol.

TN3270 Password>

The activation of the TN3270 protocol is password protected. The password to activate the TN3270 protocol is unique to each server and can obtained from Xyplex. SM-ALC has a site-license for the use of TN3270. The password is entered but is not echoed to the screen when entered.

Press RETURN to modify configuration, any other key to abort.
Xyplex -705- Change leaves approximately 2234830 bytes free
Xyplex>> define server console logout enabled

This command controls the administrative function of logging into the console port of the terminal server. By having this feature enabled, when the remote console user logs out of the remote unit, the session is immediately disconnected. If disabled, the remote user must break the session and disconnect the session.
**Xyplex>> define server help enabled**

**Xyplex -705- Change leaves approximately 2239678 bytes free**

This command activates the HELP facility on all ports of the server. Since all levels of users may be using any server, the help facility should be activated on all units. The amount of free bytes may be different.
Xyplex>> **define server node limit none**

This command sets the LAT node limit to unlimited. Since the number of LAT-accessible nodes varies on the SM-ALC network, setting the number of nodes stored to unlimited ensures all LAT-accessible nodes are retained. By setting this parameter to unlimited, an unknown amount of unit memory will be used. The larger the number of nodes, the more unit free memory is required.
Xyplex>> **define server login password**

*This command establishes a login password all users are required to enter in order to gain access to the server prompt.*

Password>
Verification>

*The person configuring the unit is required to enter the password and to re-enter it for verification. The password is not echoed to the screen. This command only sets the login password.*
Section 2.2   Terminal Configuration

Xyplex>> define port all password enabled

*This command activates login password access on all ports on the configured unit. This command activates the requirement for users to enter a password to gain access to the unit.*
Xyplex>> define port all internet connection enabled

This command activates the ability to establish connections to an IP address rather than relying on the domain name server and ensures the connection made will be made using the TCP/IP protocol.
Xyplex>> define port all noloss enabled

This command provides a "type-ahead" buffer so the user can enter data during connection establishment and the data will be entered when the connection is established. If set to disabled, the entered data would be lost and have to be re-entered.
Xyplex>> define port all pause enabled

This command provides a pause prompting the user to continue after each screenfull of information. During a session, the pause feature is not used, but during unit examination and statistics checking, the user is prompted to press return after each screenfull of information on output requiring more than one screen.
Xyplex>> define port all prompt "S35529"

This command allows the configurer to set the prompt for the unit. The prompt will be determined by the SCCB staff. In this example, the server's name is used to allow the user to be able to identify which server they are connected to.
Xyplex>> define port all resolve service any

This command allows the terminal server to use LAT and then TELNET to establish a session to a desired host. When set to any, a LAT connection is attempted first. Upon failure, a TELNET session is attempted This feature should be enabled for all DMMIS terminal servers to ensure connectivity to the DMMIS host.
Xyplex>> define port all session limit 4

This command defines the number of concurrent sessions a user at each port may have active. The value of 4 is strongly recommended and should not be exceeded.
Xyplex>> **define server name** s35529

*The command defines the name of the server, which appears in the 'SHOW SERVER' command as well as the TSM and SNMP output.*
Xyplex>> define priv password

This command allows the configurer to redefine the privileged password, used to enter privileged mode. Since the factory default password is published in the Xyplex 1600 manual, it should be changed. Since this is the define command, the password will be changed in the permanent database and will not be active until the unit has been rebooted.

Password>
Verification>

The configurer will be prompted for the password and prompted to re-enter the password for verification. The passwords will not be echoed to the screen.
**Xyplex>> set priv password**

*This command allows the configurer to redefine the privileged password, used to enter privileged mode. Since the factory default password is published in the Xyplex 1600 manual, it should be changed. Since this is the set command, the password will be changed in the active database and will only be active until the unit has been rebooted.*

Password>
Verification>

*The configurer will be prompted for the password and prompted to re-enter the password for verification. The passwords will not be echoed to the screen.*
Xyplex>> show unit

This command is being entered at this time to show the unit's information after all the previous commands have been entered. Notice on the 'Protocol Type' line, TN3270 does not appear. TN3270 is not activated until the unit has been rebooted even though the TN3270 protocol has been enabled.

Hardware Type: 74
Hardware Revision: 00.00.00
Rom Revision: 440000
Software Type: Terminal Server Level 3
Software Revision: 4.1.3S26
Protocol Type: LAT, TELNET, RLOGIN

Enabled Feature(s): HELP
Xyplex>> show server

This command is being entered at this time to show the server information in the active (current) database after the configuration commands have been entered. This configuration will remain until the unit is rebooted.

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 0 00:01:54
Address: 08-00-87-01-62-2E Name: S35529 Number: 0

Identification: Xyplex Terminal Server Welcome: Welcome to the Xyplex Terminal Server.

Circuit Timer: 80 Password Limit: 3
Console Port: 0 Queue Limit: 24
Inactivity Timer: 30 Retransmit Limit: 8
Keepalive Timer: 20 Session Limit: 64
Multicast Timer: 30 Software: MX1500
Node Limit: 100 Identification Size: 63
Textpool Size: 16384 Timezone: 00:00
Accounting Entries: 0 Packet Count: 80

Service Groups: 0

Enabled Characteristics:

Announcements, Broadcast, Change, Console Logout, Dump, Lock, Parameter Polling, TFTP Parameters, Proprietary Parameters, Purge Node
Xyplex>> show server internet characteristic

This command is being entered at this time to show the internet characteristics information in the active (current) database after the configuration commands have been entered. This configuration will remain until the unit is rebooted. Notice the addresses and other information have not been changed in the active database during the configuration process.

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 0 00:02:02

Address: 08-00-87-01-62-2E Name: X01622E Number: 0

Identification: Xyplex Terminal Server

Internet Address: 0.0.0.0 Internet TTL: 64
Internet Broadcast Address: 255.255.255.255

Domain Name:
Domain Suffix:

Domain TTL: 0
Primary Domain Address: 0.0.0.0
Secondary Domain Address: 0.0.0.0

Primary Gateway Address: 0.0.0.0
Secondary Gateway Address: 0.0.0.0
Subnet Mask: 255.255.255.0
Subnet Mask Auto-Configure: ENABLED
XYPLEX>> list unit

List unit shows the server's information in the permanent database, the database that will be used when the server is rebooted. Notice the TN3270 protocol has been enabled and will be activated when the unit is rebooted.

Hardware Type: 74
Hardware Revision: 00.00.00
Rom Revision: 440000
Software Type: Terminal Server Level 3
Software Revision: 4.1.3S26
Protocol Type: LAT, TELNET, RLOGIN, TN3270

Enabled Feature(s): HELP
Xyplex>> list server

List server shows the server's information in the permanent database, the database that will be used when the server is rebooted. Notice the TN3270 protocol has been enabled and will be activated when the unit is rebooted.

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 0 00:01:54
Address: 08-00-87-01-62-2E Name: X01622E Number: 0

Identification: Xyplex Terminal Server Welcome: Welcome to the Xyplex Terminal Server.

Circuit Timer: 80 Password Limit: 3
Console Port: 0 Queue Limit: 24
Inactivity Timer: 30 Retransmit Limit: 8
Keapalive Timer: 20 Session Limit: 64
Multicast Timer: 30 Software: MX1500
Node Limit: 100 Identification Size: 63
Textpool Size: 16384 Timezone: 00:00
Accounting Entries: 0 Packet Count: 80

Service Groups: 0

Enabled Characteristics:
Announcements, Broadcast, Change, Console Logout, Dump, Lock, Parameter Polling, TFTP Parameters, Proprietary Parameters, Purge Node
Xyplex>> list server inter char

List server internet characteristic shows the server's information in the permanent database, the database that will be used when the server is rebooted. Notice the addresses and other unit characteristics have been set in the permanent database and will be active when the unit has been rebooted.

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 0 00:02:02

Address: 08-00-87-01-62-2E  Name: X01622E  Number: 0

Identification: Xyplex Terminal Server

Internet Address: 137.243.36.13  Internet TTL: 64
Internet Broadcast Address: 137.243.37.255

Domain Name:
Domain Suffix:

Domain TTL: 0
Primary Domain Address: 0.0.0.0
Secondary Domain Address: 0.0.0.0

Primary Gateway Address: 137.243.37.244
Secondary Gateway Address: 0.0.0.0
Subnet Mask: 255.255.254.0
Subnet Mask Auto-Configure: DISABLED
Xyplex>> show server inter char

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 0 00:02:02

Address: 08-00-87-01-62-2E     Name: X01622E     Number: 0

Identification: Xyplex Terminal Server

<table>
<thead>
<tr>
<th>Internet Address:</th>
<th>0.0.0.0</th>
<th>Internet TTL:</th>
<th>64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Broadcast Address:</td>
<td>255.255.255.255</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Domain Name: 
Domain Suffix: 

<table>
<thead>
<tr>
<th>Domain TTL:</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Domain Address:</td>
<td>0.0.0.0</td>
</tr>
<tr>
<td>Secondary Domain Address:</td>
<td>0.0.0.0</td>
</tr>
</tbody>
</table>

| Primary Gateway Address: | 0.0.0.0 |
| Secondary Gateway Address: | 0.0.0.0 |
| Subnet Mask: | 255.255.254.0 |
| Subnet Mask Auto-Configure: | DISABLED |
Xyplex>> list server inter char

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 0 00:02:02

Address: 08-00-87-01-62-2E Name: S35529 Number: 0

Identification: Xyplex Terminal Server

Internet Address: 137.243.36.13 Internet TTL: 64
Internet Broadcast Address: 137.243.37.255

Domain Name:
Domain Suffix:

Domain TTL: 0
Primary Domain Address: 192.42.248.81
Secondary Domain Address: 0.0.0.0

Primary Gateway Address: 137.243.37.244
Secondary Gateway Address: 0.0.0.0
Subnet Mask: 255.255.254.0
Subnet Mask Auto-Configure: DISABLED
Xyplex>> init delay 0

Welcome to the Xyplex Terminal Server.

Enter username> Tim
S35529> set priv

Password>
Port 1: Tim  

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abort Output Character:</td>
<td>None</td>
<td>Newline:</td>
<td>CR/NULL</td>
</tr>
<tr>
<td>Attention Character:</td>
<td>None</td>
<td>Newline Filtering:</td>
<td>None</td>
</tr>
<tr>
<td>Default Port:</td>
<td>23</td>
<td>Query Character:</td>
<td>None</td>
</tr>
<tr>
<td>Echo Mode:</td>
<td>Remote</td>
<td>Remote Port:</td>
<td>2100</td>
</tr>
<tr>
<td>Erase Keystroke Character:</td>
<td>None</td>
<td>Synchronize Character:</td>
<td>None</td>
</tr>
<tr>
<td>Erase Line Character:</td>
<td>None</td>
<td>Transmit:</td>
<td>Buffered</td>
</tr>
<tr>
<td>Interrupt Character:</td>
<td>None</td>
<td>Binary Session Mode:</td>
<td>PASTHRU</td>
</tr>
<tr>
<td>Terminal Type:</td>
<td>None</td>
<td>Tn3270 Device:</td>
<td>None</td>
</tr>
<tr>
<td>Tn3270 Translation Table:</td>
<td>None</td>
<td>Tn3270 Printer Port:</td>
<td>Any</td>
</tr>
</tbody>
</table>

Enabled Characteristics:

Tn3270 EOR
S35529>> def port all telnet tn3270 device vt220-7
Port 1: Tim

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abort Output Character</td>
<td>None</td>
</tr>
<tr>
<td>Attention Character</td>
<td>None</td>
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<td>Default Port</td>
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<td>Remote Port</td>
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<td>Synchronize Character</td>
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<td>Transmit</td>
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<td>Th3270 Device</td>
<td>VT220-7</td>
</tr>
<tr>
<td>Th3270 Printer Port</td>
<td>Any</td>
</tr>
</tbody>
</table>

Enabled Characteristics:

Th3270 EOR
S35529>> def port all a telnet tn3270 xtdattr enabl
S35529>> set port all telnet tn3270 xtdattr enabl
### show port tel char

**Port 1: Tim**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abort Output Character:</td>
<td>None</td>
</tr>
<tr>
<td>Attention Character:</td>
<td>None</td>
</tr>
<tr>
<td>Default Port:</td>
<td>23</td>
</tr>
<tr>
<td>Echo Mode:</td>
<td>Remote</td>
</tr>
<tr>
<td>Erase Keystroke Character:</td>
<td>None</td>
</tr>
<tr>
<td>Erase Line Character:</td>
<td>None</td>
</tr>
<tr>
<td>Interrupt Character:</td>
<td>None</td>
</tr>
<tr>
<td>TerminalType:</td>
<td>None</td>
</tr>
<tr>
<td>Tn3270 Translation Table:</td>
<td>None</td>
</tr>
<tr>
<td>Newline:</td>
<td>CR/NULL</td>
</tr>
<tr>
<td>Newline Filtering:</td>
<td>None</td>
</tr>
<tr>
<td>Query Character:</td>
<td>None</td>
</tr>
<tr>
<td>Remote Port:</td>
<td>2100</td>
</tr>
<tr>
<td>Synchronize Character:</td>
<td>None</td>
</tr>
<tr>
<td>Transmit:</td>
<td>Buffered</td>
</tr>
<tr>
<td>Binary Session Mode:</td>
<td>PASTHRU</td>
</tr>
<tr>
<td>Tn3270 Device:</td>
<td>VT220-7</td>
</tr>
<tr>
<td>Tn3270 Printer Port:</td>
<td>Any</td>
</tr>
</tbody>
</table>

**Enabled Characteristics:**

- Tn3270 EOR
- Tn3270 XtdAttrs
S35529>> defín change ended
S35529>> sh unit

Hardware Type: 74
Hardware Revision: 00.00.00
Rom Revision: 440000
Software Type: Terminal Server Level 3
Software Revision: 4.1.3S26
Protocol Type: LAT, TELNET, RLOGIN, TN3270

Enabled Feature(s): HELP
S35529>> show server

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 0 00:01:54

Address: 08-00-87-01-62-2E Name: X01622E Number: 0

Identification: Xyplex Terminal Server Welcome: Welcome to the Xyplex Terminal Server.

   Circuit Timer:   80     Password Limit:  3
   Console Port:   0     Queue Limit:  24
   Inactivity Timer: 30     Retransmit Limit:  8
   Keepalive Timer: 20     Session Limit:  64
   Multicast Timer: 30     Software:        MX1500
   Node Limit:     100     Identification Size:  63
   Textpool Size: 16384     Timezone:        00:00
   Accounting Entries: 0     Packet Count:  80

Service Groups:  0

Enabled Characteristics:

Announcements, Broadcast, Change, Console Logout, Dump, Lock,

press <RETURN> to continue...
Parameter Polling, TFTP Parameters, Proprietary Parameters, Purge Node
S35529>> sho server inter char

MAXserver V4.1.3S26 Rom 440000 HW 00.00.00 Lat Protocol V5.1 Uptime: 0 00:02:02

Address: 08-00-87-01-62-2E Name: S35529 Number: 0

Identification: Xyplex Terminal Server

<table>
<thead>
<tr>
<th>Internet Address:</th>
<th>Internet Broadcast Address:</th>
<th>Internet TTL:</th>
</tr>
</thead>
<tbody>
<tr>
<td>137.243.36.13</td>
<td>137.243.37.255</td>
<td>64</td>
</tr>
</tbody>
</table>

Domain Name:  
Domain Suffix:  

<table>
<thead>
<tr>
<th>Domain TTL:</th>
<th>Primary Domain Address:</th>
<th>Secondary Domain Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>192.42.248.81</td>
<td>0.0.0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary Gateway Address:</th>
<th>Secondary Gateway Address:</th>
<th>Subnet Mask:</th>
<th>Subnet Mask Auto-Configure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>137.243.37.244</td>
<td>0.0.0.0</td>
<td>255.255.254.0</td>
<td>DISABLED</td>
</tr>
</tbody>
</table>
Section 2.3  Printer Configuration

S35529>> show port 16

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port 16: Tim</td>
<td>Tim</td>
</tr>
<tr>
<td>Character Size:</td>
<td>8</td>
</tr>
<tr>
<td>Flow Control:</td>
<td>XON</td>
</tr>
<tr>
<td>Parity:</td>
<td>None</td>
</tr>
<tr>
<td>Access:</td>
<td>Local</td>
</tr>
<tr>
<td>Backwards Switch:</td>
<td>None</td>
</tr>
<tr>
<td>Break:</td>
<td>Local</td>
</tr>
<tr>
<td>Forwards Switch:</td>
<td>None</td>
</tr>
<tr>
<td>Preferred Service:</td>
<td>None</td>
</tr>
<tr>
<td>Authorized Groups:</td>
<td>0</td>
</tr>
<tr>
<td>(Current) Groups:</td>
<td>0</td>
</tr>
<tr>
<td>Input Speed:</td>
<td>38400</td>
</tr>
<tr>
<td>Output Speed:</td>
<td>38400</td>
</tr>
<tr>
<td>Modem Control:</td>
<td>Disabled</td>
</tr>
<tr>
<td>Local Switch:</td>
<td>None</td>
</tr>
<tr>
<td>Name:</td>
<td>PORT_16</td>
</tr>
<tr>
<td>Session Limit:</td>
<td>4</td>
</tr>
<tr>
<td>Type:</td>
<td>Soft</td>
</tr>
</tbody>
</table>

Enabled Characteristics:

Autobaud, Autoprompt, Broadcast, Input Flow Control, Internet Connections, Line Editor, Loss Notification, Message Codes, Noloss, Output Flow Control,

press <RETURN> to continue...
Password, Pause, Verification
Xyplex>> def port 16 access remote
S35529>> def port 16 type hard
S35529>> def port 16 name S35529_16
Port 16: Tim

Character Size: 8
Flow Control: XON
Parity: None
Access: Local
Backwards Switch: None
Break: Local
Forwards Switch: None
Preferred Service: None

Input Speed: 38400
Output Speed: 38400
Modem Control: Disabled
Local Switch: None
Name: PORT_16
Session Limit: 1
Type: Hard

Enabled Characteristics:
Auto baud, Autoprompt, Broadcast, Input Flow Control, Internet Connections, Line Editor, Loss Notification, Message Codes, Noloss, Output Flow Control,

press <RETURN> to continue...
Password, Pause, Verification
S35529>> def port 16 speed 9600
S35529>> show port 16

Port 16: Tim 10 Nov 1992 01:46:29

Character Size: 8 Input Speed: 9600
Flow Control: XON Output Speed: 9600
Parity: None Modem Control: Disabled

Access: Local Local Switch: None
Backwards Switch: None Name: S35529_16
Break: Local Session Limit: 1
Forwards Switch: None Type: Hard

Preferred Service: None

Authorized Groups: 0
(Current) Groups: 0

Enabled Characteristics:

Autobaud, Autoprompt, Broadcast, Input Flow Control, Internet Connections,
Line Editor, Loss Notification, Message Codes, Noloss, Output Flow Control,

press <RETURN> to continue...
Password, Pause, Verification
def port 16 broadcast dis
S35529>> def port 16 local notif dis
S35529>> def port 16 mess code dis
S35529 >> def port 16 no loss dis
S35529>> def port 16 pass dis
S35529>> def port 16 pause dis
S35529>> def port 16 verify dis
S35529>> def port 16 sess limit 1

This command sets the number of connections to the port to 1. This is required for a printer port.
S35529>> show port 16

<table>
<thead>
<tr>
<th>Port 16: Tim</th>
<th>10 Nov 1992 01:46:29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character Size: 8</td>
<td>Input Speed: 9600</td>
</tr>
<tr>
<td>Flow Control: XON</td>
<td>Output Speed: 9600</td>
</tr>
<tr>
<td>Parity: None</td>
<td>Modem Control: Disabled</td>
</tr>
<tr>
<td>Access: Remote</td>
<td>Local Switch: None</td>
</tr>
<tr>
<td>Backwards Switch: None</td>
<td>Name: S35529_16</td>
</tr>
<tr>
<td>Break: Local</td>
<td>Session Limit: 1</td>
</tr>
<tr>
<td>Forwards Switch: None</td>
<td>Type: Hard</td>
</tr>
<tr>
<td>Preferred Service: None</td>
<td></td>
</tr>
<tr>
<td>Authorized Groups: 0</td>
<td></td>
</tr>
<tr>
<td>(Current) Groups: 0</td>
<td></td>
</tr>
</tbody>
</table>

Enabled Characteristics:

Autobaud, Autoprompt, Input Flow Control, Internet Connections, Output Flow Control,

press <RETURN> to continue...
S35529>> def port 16 autobaud dis
S35529>> def port 16 autoprom dis
Port 16: (Remote) 10 Nov 1992 01:46:29

Character Size: 8  Input Speed: 9600
Flow Control: XON  Output Speed: 9600
Parity: None  Modem Control: Disabled

Access: Remote  Local Switch: None
Backwards Switch: None  Name: S35529_16
Break: Local  Session Limit: 1
Forwards Switch: None  Type: Hard

Preferred Service: None

Authorized Groups: 0
(Current) Groups: 0

Enabled Characteristics:

Input Flow Control, Internet Connections, Output Flow Control,
press <RETURN> to continue...
Port 16: (Remote)  10 Nov 1992  02:08:01

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abort Output Character</td>
<td>None</td>
</tr>
<tr>
<td>Attention Character</td>
<td>None</td>
</tr>
<tr>
<td>Default Port</td>
<td>23</td>
</tr>
<tr>
<td>Echo Mode</td>
<td></td>
</tr>
<tr>
<td>Erase Keystroke Character</td>
<td>None</td>
</tr>
<tr>
<td>Erase Line Character</td>
<td>None</td>
</tr>
<tr>
<td>Interrupt Character</td>
<td>None</td>
</tr>
<tr>
<td>Terminal Type</td>
<td>None</td>
</tr>
<tr>
<td>tn3270 Translation Table</td>
<td>USENGLISH</td>
</tr>
<tr>
<td>Newline</td>
<td>CR/NUL</td>
</tr>
<tr>
<td>Newline Filtering</td>
<td>None</td>
</tr>
<tr>
<td>Query Character</td>
<td>None</td>
</tr>
<tr>
<td>Remote Port</td>
<td>3600</td>
</tr>
<tr>
<td>Synchronize Character</td>
<td>None</td>
</tr>
<tr>
<td>Transmit</td>
<td>Buffered</td>
</tr>
<tr>
<td>Binary Session Mode</td>
<td>PASTHRU</td>
</tr>
<tr>
<td>Tn3270 Device</td>
<td>VT220-7</td>
</tr>
<tr>
<td>Tn3270 Printer Port</td>
<td>Any</td>
</tr>
</tbody>
</table>

Enabled Characteristics:

Tn3270 EOR, Tn3270 XtdAttrs
Section 2.4  Connectivity Tests

S35529>> c 192.42.248.81

Xyplex -010- Session 1 to 192.42.248.81 established

4.3 BSD UNIX (smdis01.sm.aflc.af.mil)

login:
S35529>> C all2

Xyplex -101- 1 other session(s) active
Xyplex -010- Session 2 to ALL2 on node HERA established

[2J120A HERA [3B

Username:
Xyplex -101- 2 other session(s) active
Xyplex-010- Session 3 to 192.42.248.31 established

OS/MVS Server Telnet -- at Host SNAG-SM.AF.MIL
ACP c v2.00 > -- Mon, 9 Nov 92 18:05:51 PST

Welcome to the OPEN-Link TELNET server.

This implementation is OPEN-Link/MVS (tm) Release 2.00. Copyright 1991 by Network Solutions, Inc. All rights reserved.

Enter "NEWS" for announcements specific to this host.

ENTER COMMAND OR 'HELP':
sim3278
SIM3278/VTAM R5.0.0 BASE 11SEP89/10APR90 (C) COPYRIGHT SIMWARE INC 1989
* * * * * * * * * * * * * * * *
* SIM3278/VTAM *
* *
* by *
* *
* SIMWARE Inc. *
* *
* * * * * * * * * * * * * * * *

*** McClellan AFB, California ***
3278 Applid ASMSIM Real Terminal Name VSM1D011

Enter Application Name-->
Logon Data -->
Session Name --> SESSI
Virtual Terminal or POOL Name
Password-->

WP SCD PRODUCTION CICS--> SCDCP
WR SCD PRODUCTION CICS--> SCDCWP
OC SCD PRODUCTION CICS--> SDCOC
SA SCD PRODUCTION CICS--> SCDSA
OO SCD PRODUCTION CICS--> SCDOO
SM SCD PRODUCTION CICS--> SCDSM

PF8==> PF9==> F10==> FF11==> PF12==> LOGOFF Logoff SIMVTAM
S35529>> show sess

1: Tim Session Mode
   - session 1: Connected Interactive
   - Session 2: Disconnecting Interactive
   - Session 3: Connected Interactive

Current Session 3
192.42.248.81
ALL2 (HERA)
192.42.248.31
S35529>> set telnet option display enab
S35529>> sh sess

1: Tim Service Mode
   - Session 1: Connected Interactive
     [Do Echo] [Won't Echo] [Don't Binary] [Won't Binary]
     192.42.248.81
   - Session 2: Disconnecting Interactive
     ALL2 (HERA)
   - Session 3: Connected Interactive
     [Don't Echo Won't Echo] [Do Binary] [Will Binary]
     [Do Eor] [Will Eor] [Tn3278 Type Negotiated: IBM-3278-2]
S35529>> dis sess all

Xyplex -014- All sessions disconnected
S35529>> sh sess

1: Tim  Service Mode          Current Session NONE
S35529>> set nopriv
S35529> quit

Xyplex -020- Logged out port 1 on server S35529 at 10 Nov 1992 02:09:36
SECTION 3.0 TROUBLESHOOTING

Troubleshooting:

Under the default setting, the free Textpool fills up. Events which may indicate the free Textpool is full are:

- connections relying on domain name server queries do not resolve when the link to the name server is known to be functional (can be tested by connecting to the domain name server's IP address. If the telnet session is established, then access to name server is available).

- no new LAT services or nodes are added. Typically seen when a new service is added to the network but does not appear in a "SHOW SERVICE service" command.

To check the free Textpool, use the "SHOW SERVER ALTERNATE STATUS" command, as shown below. If the current free Textpool size is 0 and the error count is high, then the free Textpool is full and more memory must be allocated to the free Textpool.

The free Textpool size can be increased using the command "DEFINE SERVER TEXTPOOL SIZE xxxxxx". The default is 16384 the recommended size is 32768, so the command to increase the size to the recommended size would be "DEFINE SERVER TEXTPOOL SIZE 32768. The Textpool can not be modified using the SET command and the server must be reset after the Textpool size has been increased.