

TPNS Test Manager



User's Guide and Reference

Version 3 Release 5

TPNS Test Manager



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Version 3 Release 5

Note

Before using this document, read the general information under "Appendix C. Notices" on page 117.

First Edition (September 1998)

This document applies to the TPNS Test Manager, a product that requires Teleprocessing Network Simulator Version 3 Release 5 Service Level 9711 or later. TPNS Version 3 Release 5 (program number 5688-121) is an IBM licensed program that runs under the following operating systems:

MVS/370 (MVS/SP Version 1 or later)

MVS/Extended Architecture (MVS/SP Version 2 or later)

MVS/Enterprise System Architecture (MVS/SP Version 3 or later)

OS/390

Any VM system (with or without High Performance Option) that supports Group Control System (GCS)

Note: The TPNS Test Manager is not supported under VM.

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About This Book

This book is the user's guide and reference for the TPNS (Teleprocessing Network Simulator) Test Manager. It is organized into the following sections:

- "Chapter 1. Installing the TPNS Test Manager" on page 1 describes tasks involved and things to consider when planning the installation of the TPNS Test Manager.
- "Chapter 2. TPNS Test Manager Tutorials" on page 11 contains "paper" demonstrations of the TPNS Test Manager and shows by example how to use some of the functions and facilities of the TPNS Test Manager.
- "Chapter 3. TPNS Test Manager Reference" on page 69 is a reference guide for all of the various functions and facilities of the TPNS Test Manager.
- "Appendix A. TPNS Test Manager Debugging Hints" on page 111 describes errors that may occur while developing and testing TPNS scripts using the TPNS Test Manager and how to correct them.
- "Appendix B. TPNS Test Manager User Precautions" on page 115 describes precautions that the user should take when using the TPNS Test Manager.

Who Should Read this Book

- Systems Programmers or other personnel involved with installing TPNS Test Manager should read "Chapter 1. Installing the TPNS Test Manager" on page 1.
- New users of TPNS Test Manager should read "Chapter 2. TPNS Test Manager Tutorials" on page 11.
- More experienced users requiring information about specific TPNS Test Manager functions should review "Chapter 3. TPNS Test Manager Reference" on page 69.

TPNS Test Manager Overview

The IBM Teleprocessing Network Simulator (TPNS) Test Manager (TTM) is a usability enhancement that guides the user through the test process. Improved productivity is achieved through a logical flow that streamlines TPNS for anyone testing 3270 applications or LU 6.2 (APPC or CPI-C) transaction programs. TTM can also be utilized for other protocol tests when the TPNS model networks are used as a test base. Potential TPNS Test Manager customers are current and new TPNS users in both large and intermediate MVS accounts with installed or planned interactive applications or systems. This product complements TPNS, which enables the testing and evaluating of communications application programs (such as CICS, DBS, IMS, and TSO applications), communications access methods, control programs, subsystems, and networks. Users benefit from its ability to manage the test process and automatically generate TPNS scripts and networks. For the purpose of operational flexibility and accommodation of various skill levels, the TPNS Test Manager offers selectable modes of operation, test management services that support testcase organization, automatic script generation, and task automation. Additional benefits from the TPNS Test Manager stem from its ability to control the use of resources during TPNS runs, simplify the generation of end-of-run reports, and provide a means to archive testcases and results. Users also gain cost efficiencies through the improved organization, management and scheduling of stress, performance, regression, function, and capacity planning tests.

In summary, the TPNS Test Manager provides a number of management services to assist the TPNS user which include the capacity for testcase organization, script generation, task automation, and documentation production. These services yield increased productivity, control, and tracking of testcase status.

Testcase Management

Figure 1 shows the hierarchical testing structure of the TPNS Test Manager. The primary layer of this structure is the project. Each project is a set of libraries containing everything required for TPNS testing, enabling testing to be separated into specific projects, each with its own set of data sets. These projects can be archived and reused in new test situations as needed.

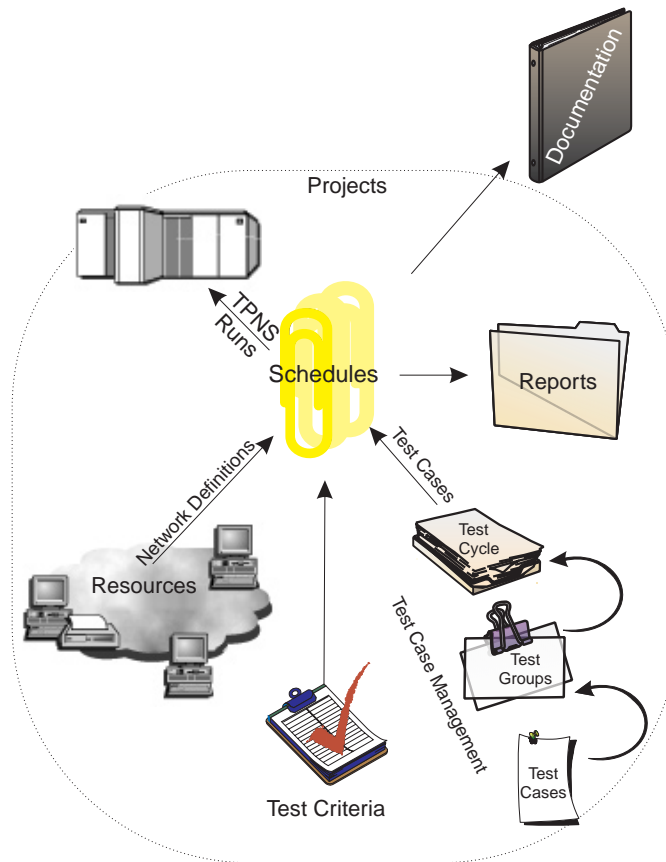


Figure 1. TPNS Test Manager Testing Structure

Within a project are schedules and test scenarios. Schedules define all that is necessary to execute a TPNS simulation run. A TPNS Test Manager schedule is a TPNS network definition and the associated test scenario definition.

Test scenarios are organized into three levels: a testcase, test group, or test cycle. At the most granular level, testcase, the TPNS Test Manager enables you to create, edit, delete, and manipulate testcases, which can be organized into test groups as ordered lists of testcases. This encourages the development of modular testcases while reducing development and rewrite cost by facilitating testcase reuse within

multiple test groups and localizing changes. At the third level, test cycles, ordered lists of test groups and testcases can be formed.

Script Generation

The TPNS Test Manager offers various ways to automate the development of testcases. A testcase is the sequence of the work steps that the simulated resources will perform. Testcases are TPNS scripts written in TPNS Structured Translator Language (STL). For 3270 test environments, the TPNS Test Manager can automate the TPNS script generation process from 3270 screen/keyboard capture (Interactive Data Capture or IDC), SNA traces, TPNS or IDC logs, or from an STL model or skeleton. Automated CPI-C testcase generation comes through using an SNA trace. The TPNS Test Manager also has facilities to allow you to create TPNS User Data Tables (also referred to as User Tables or UTBLs) containing modifiable string data. In addition, the STL source is automatically translated into TPNS MSGTXTs.

These testcases (which can be placed into groups or cycles) are then paired with network resource definitions as part of developing TPNS Test Manager schedules. The Test Manager schedule is used by the TPNS Test Manager to define and control the TPNS simulation run (or test). Test Manager schedules are archived and can be modified and reused as required.

Execution Automation

The TPNS Test Manager optimizes the use of TPNS functions by automating test runs and results analysis. A number of areas are supported through these automation services, including invocation and execution of TPNS utilities, creation of a schedule with the testcase resource, network definition statements, and documentation of the test results.

Documentation and Report Generation

Your test plans and procedures will be enhanced with TPNS Test Manager's documentation creation services. These services include a number of options for documenting test plans, completion criteria, set up requirements, run tracking, and analysis. The documentation services also provide output utilities containing skeletons that can assist in generating reports, scripting facilities, project reporting, and editing capabilities.

Modes of Operation

For ease of use, the TPNS Test Manager offers three modes of operation that control the amount of interaction the user may observe with TPNS. The three modes are Hide, Display, and Interactive. The default mode of operation is Hide, which hides various TPNS and Test Manager interactions. In the Display mode, the user is shown the entire TPNS and Test Manager process, but has no direct control over them. The third option is an Interactive mode in which the user has control over the TPNS and Test Manager interactions; it requires the pressing of the enter key to start and execute the various TPNS utilities.

Utilities

The TPNS Test Manager provides a number of Access Utilities to aid you in preparing the setup and execution of a test. These utilities include a variety of user actions, such as, specifying set up variables and options, data set editing, skeleton editing, and capabilities for refreshing TPNS Test Manager tables.

You can automatically build a testcase using IDC, a 3270 SNA trace, or using a TPNS/IDC log or a TPNS STL model or skeleton. You can build a CPI-C testcase using a SNA trace. The TPNS Test Manager also automatically translates the STL source into a MSGTXT, adds UTBLs to the STL scripts and allows you to replay these scripts.

Where to Find More Information

The following list shows the books in the TPNS library.

TPNS Function and Service Enhancements, SC31-8654-00

TPNS General Information, GH20-2487

TPNS Primer, SC31-6043

TPNS Planning and Installation, SH20-2488

Defining TPNS Networks, SC31-6008

Creating TPNS Message Generation Decks, SC31-6009

TPNS Language Reference, SH20-2489

TPNS Script Generating Utilities, SC30-3453

TPNS Samples, SC30-3454

TPNS STL Reference Card, SX75-0065

Using the TPNS Structured Translator Language (STL) and the STL Translator, SC31-6013

TPNS Operation, SC30-3289

TPNS Messages and Codes, SC30-3310

TPNS General Utilities, SC30-3290

TPNS User Exits, SC31-6071

TPNS Master Index, GC31-6059

TPNS Library (all manuals except TPNS General Information), SBOF-1426

IBM Online Library: IBM Networking Systems Softcopy Collection Kit (CD-ROM containing softcopy of all manuals except for TPNS Master Index and TPNS STL Reference Card), SK2T-6012

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- FAX your comments to this number:
919-254-4029
- Send comments electronically, using the following:
 - IBM Mail Exchange: USIB1LTD at IBMMAIL
 - IBMLink: TPNS at RALVM6
 - Internet: TPNS@VNET.IBM.COM

TPNS Test Manager Problem Reporting

If you encounter a problem with the TPNS Test Manager and have not been able to resolve it, do one of the following:

- Open a PMR on the RETAIN system.
- Call the TPNS/TM Hotline support at:
 - 1-800-835-8767
 - 919-543-5983
- FAX a description of the problem to this number:
919-254-4029
- Send a description of the problem electronically, using the following:
 - IBM Mail Exchange: USIB1LTD at IBMMAIL
 - IBMLink: TPNS at RALVM6
 - Internet: TPNS@VNET.IBM.COM

Chapter 1. Installing the TPNS Test Manager

This chapter provides an overview of tasks for installing the TPNS Test Manager, also known as TPNS/TM or TTM.

The TPNS Test Manager library contains the following data sets:

TPNS.SITMPNL

Contains all the panels used by TTM.

TPNS.SITMMMSG

Contains all the panel error messages issued by TTM.

TPNS.SITMEXEC

Contains all the REXX EXECs used by TTM.

TPNS.SITMSKEL

Contains skeleton files used by TTM for building VTAM definitions and TPNS model networks and scripts. It also contains control cards referenced when running TPNS utilities. Each user will also have a set of skeleton files in the userid.TTMUSER.SKELS data set.

TPNS.SITMTBL

Contains all the ISPF tables used by TTM.

TPNS.SITMSAMP

Contains the file used by TTM for building the ITMUSER batch job. The sample installation jobs are also included in this data set.

Before installing TTM, review the following sections:

- “Understanding the TPNS Test Manager Prerequisites”
- “Setting up the TPNS Test Manager Environment” on page 2
- “Setting up a New User” on page 5

The TPNS Test Manager Program Directory, which comes with the TTM distribution tape, contains detailed instructions needed to install the TPNS Test Manager. Follow the specific instructions listed in the program directory to install TTM.

After you have completed the described tasks and installed TTM, proceed to “Chapter 2. TPNS Test Manager Tutorials” on page 11 to verify the installation.

Understanding the TPNS Test Manager Prerequisites

The following are prerequisites for the TPNS Test Manager:

- TPNS Version 3 Release 5 Service Level 9711 or later for MVS (not VM).
TPNS and the TPNS/ISPF Interface must be installed for TTM to work. Refer to *TPNS Planning and Installation V3R5* for TPNS installation requirements and instructions.
- VTAM
- ISPF/PDF
- A user ID with the authority to update:
 - Logon procedures (for example, SYS1.PROCLIB)
 - VTAM entries (for example, SYS1.VTAMLST)

- TSO logon CLISTs
- RACF (for example, to give READ access to specific data sets or high level qualifiers)
- A means of unloading the TPNS Test Manager data sets (for example, a tape drive capable of reading a 3480 cartridge).
- DASD (in 3390 tracks):
 - 204 tracks for the TPNS Test Manager libraries
 - 110 tracks minimum per TPNS Test Manager user
 - 630 tracks minimum per project
 - 1000 tracks minimum for output data sets

Note: Allow sufficient space for growth in the project and output data sets.

Setting up the TPNS Test Manager Environment

The following tasks should be completed after the TPNS Test Manager is installed or when the TPNS product libraries are refreshed:

- Create a VTAM Application Major Node.
- Provide access to the TPNS Test Manager.

These tasks are described in the following sections.

Creating a VTAM Application Major Node

A VTAM (Virtual Telecommunications Access Method) Application Major node must be defined in SYS1.VTAMLST (or your installation's equivalent). An example is shown in Figure 2 on page 3.


```

**
* VTAM APPLICATION MAJOR NODE
**
APPLTPNS VBUILD TYPE=APPL
**
* TPNS DISPLAY MONITOR
TPNSDM01 APPL EAS=1,PARSESS=YES
TPNSDM02 APPL EAS=1,PARSESS=YES
TPNSDM03 APPL EAS=1,PARSESS=YES
**
* INTERACTIVE DATA CAPTURE
ITPIDC APPL EAS=1,SESSLIM=YES
ITPIDC1 APPL EAS=1,SESSLIM=YES
ITPIDC2 APPL EAS=1,SESSLIM=YES
ITPIDC3 APPL EAS=1,SESSLIM=YES
**
* TPNS APPLICATIONS for LU SESSION SIMULATION
**
VAPPL00 APPL EAS=1
VAPPL01 APPL EAS=1
VAPPL02 APPL EAS=1
**
* TPNS APPLICATIONS for CPI-C SIMULATION
**
APPL0 APPC=YES
APPL1 APPC=YES
APPL2 APPC=YES

```

Figure 2. Sample VTAM Application Major Node

Do not forget to update ATCCON00 (or your installation's equivalent) to ensure this new application major node is activated automatically at system startup.

This application major node can be activated through the system console or through NetView. Your network systems programmer should help you with this task.

Note: Each user must reference a unique name from the list of APPL statements for the TPNS Display Monitor and Interactive Data Capture (TPNSDM0x and TPNSIDCx).

Accessing the TPNS Test Manager

After the TPNS Test Manager is installed, decide how you will provide access to the tool. An entry point can be added to the main ISPF menu that allows access to anyone on the system, or individual access can be provided so that only those users that are defined to TTM can invoke it.

For both situations, make a copy of the TTM exec, **TPNSTM**, in the TPNS.SITMEXEC data set. For global access, make a copy of the **TPNSTM** exec in a data set that will be concatenated under the SYSPROC DD statement in the TSO logon procedure. For individual access, make a copy of the **TPNSTM** exec into a CLIST (sequential data set) using your own high level qualifier (for example, userid.TPNSTM.CLIST). Then modify the copy of the **TPNSTM** exec or CLIST by adding the TPNS Version 3 Release 5 Service Level 9711 or later data set names in the "update data set names" section. Because TTM invokes the TPNS utilities, TTM will not work if the TPNS data set names are missing or incorrect.

The **TPNSTM** exec concatenates the following data sets:

Note: Data set names for TTM may be different than those in the following list; for an SMP install, the TTM data set names are defined by the user.

TPNS.SITMPNL and TPNS.PANEL

Data sets concatenated to the ISPLIB DD statement

TPNS.SITMSG and TPNS.MSG

Data sets concatenated to the ISPLIB DD statement

TPNS.SITMEEXEC and TPNS.EXEC

Data sets concatenated to the SYSEEXEC DD statement

TPNS.SITMTBL

Data set concatenated to the ISPTLIB statement

userid.TTMUSER.SKELS

Data set concatenated to the ISPLIB DD statement (the prefix userid does not need to be specified in the TPNSTM exec for TTMUSER.SKELS)

Note: When using the TPNS Test Manager, the TSO profile user characteristic, PREFIX, is set to the user ID. This ensures that the user ID is added as the first qualifier for all non-fully qualified data set names. The TSO profile user characteristics, WTPMSG and MSGID, are set in order to show MVS messages and terminal message IDs for debugging purposes. The PREFIX, WTPMSG, and MSGID settings are restored to the original values when the TPNS Test Manager ends normally.

The **TPNSTM** exec or CLIST cannot be executed until the new user has been set up (as described in “Setting up a New User” on page 5).

Global Access to TTM

If you want to provide all the users on your system access to the TPNS Test Manager, add an entry point for TPNS Test Manager.

To invoke the TPNS Test Manager, your ISPF menu should be updated and a new entry point added. In the PROC part of the ISPF panel, shown in Figure 3 on page 5, add an entry similar to the following:

```
T, 'CMD(%TPNSTM)' /* Entry point for the TPNS Test Manager */
```

An example of an updated ISPF/PDF primary option menu definition for TTM is shown in Figure 3 on page 5.

```

%-----ISPF/PDF PRIMARY OPTION MENU-----
%OPTION ==>_ZCMD +
%
%                                +USERID- &ZUSER
%                                +TIME - &ZTIME
% 0 +ISPF PARS - Specify terminal and user parameters
% 1 +BROWSE - Display source data or output listings
% 2 +EDIT - Create or change source data
% 3 +UTILITIES - Perform utility functions
% 4 +FOREGROUND - Invoke foreground language processors
% 5 +BATCH - Submit job for language processing
% 6 +COMMAND - Enter TSO command or CLIST
% 7 +DIALOG TEST - Perform dialog testing
% T +TTM - Invoke TPNS Test Manager
% X +EXIT - Terminate ISPF
%
+Enter%END+command to terminate ISPF.
%
)INIT
 .HELP = ISR00003
 &ZPRIM; = YES /* ALWAYS A PRIMARY OPTION MENU */
 &ZHTOP; = ISR00003 /* TUTORIAL TABLE OF CONTENTS */
 &ZHINDEX; = ISR91000 /* TUTORIAL INDEX - 1STPAGE */
)PROC
 &ZSEL; = TRANS( TRUNC (&ZCMD;,'.')
 0,'PANEL(ISPOPTA)'
 1,'PGM(ISRBRO)'
 2,'PGM(ISREDIT)'
 3,'PANEL(ISRUTIL)'
 4,'PANEL(ISRFPA)'
 5,'PGM(ISRJB1) PARM(ISRJPA) NOCHECK'
 6,'PGM(ISRPTC)'
 7,'PGM(ISRYXDR) NOCHECK'
 T,'CMD(%TPNSTM)' /*Entry point for the TPNS Test Manager*/
 ','
 X,'EXIT'
 *,'?')
 &ZTRAIL; = .TRAIL
)END

```

Figure 3. Example of an updated ISPF/PDF primary option menu definition

The global version of the **TPNSTM** exec must exist if a TTM entry is specified in the main ISPF menu. Users can also invoke the TPNS Test Manager by typing “TPNSTM” from TSO or from ISPF option 6.

Individual Access to TTM

Use the modified **TPNSTM** exec as a CLIST to invoke the TPNS Test Manager.

Setting up a New User

Some setup activity is required for each new user. After you complete all the tasks described in “Setting up a New TPNS Test Manager (TTM) User”, installation and setup of TTM is complete.

Setting up a New TPNS Test Manager (TTM) User

To set up a new TPNS Test Manager user, do the following:

1. Copy the ITMUSER member from the TPNS.SITMSAMP data set to your own data set. Modify your copy of ITMUSER as follows:

- a. Add a jobcard (if required)
- b. Change **USERID** to the ID of the user being set up
- c. Change **HLI** (High Level Index) to the high level qualifier of the TTM data sets

This job creates the following:

userid.TTMUSER.IDCDFLT5

The TPNS IDC (Interactive Data Capture) defaults file.

userid.TTMUSER.IDCLOG

The TPNS IDC log data set. This is a partitioned data set.

userid.TTMUSER.SKELS

A copy of the TTM SKELS data set.

userid.TTMUSER.TABLES

A data set that will contain all the tables used or created by TTM.

2. Submit the job.
3. Create a CLIST for this user if not using an entry point in the main ISPF menu. See "Accessing the TPNS Test Manager" on page 3 for the description of this task.
4. Logon to the user ID being set up and select the TTM entry point or execute the user CLIST to invoke the TPNS Test Manager. The following panel should be displayed:

```

                                TPNS Test Manager V3R5

Select one of the following. Then press Enter.

      Command  Action
-  1. CASE    Create and Process Testcases
   2. GROUP   Create and Process Testgroups
   3. CYCLE   Create and Process Testcycles
   4. RUN     Create TPNS networks and Schedule TPNS Simulation Runs
   D. DOC     Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   T. TII     Invoke TPNS/ISPF Interface
   U. UTIL    Run TPNS Test Manager Utilities

Project:                                     Alternate HLI:

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Command ==> _____

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

5. Move the cursor to the command field and enter the command **VAR5**. The following panel is displayed:

Specify TPNS Test Manager Variables and Options

Update the fields, then press Enter to save the values. Press PF3 to end.

```
TPNS/ISPF Interface Access: HIDE      (hide, display or interact)
Panel Message Delay  : 2 seconds      (1-10)
Log Display Monitor  Chars: {}        Automatic REFRESH?      : N (Y/N)
Display Panel ID?    : N (Y/N)        Display Function Keys   : Y (Y/N)

TPNS Load Library    : TPNS.LOAD
IDC VTAM APPL name   : ITPIDC         Display Monitor VTAM APPL name: _____
Fully Validate TPNS Data Set Names? : Y (Y/N)

Work data sets HLI   : userid
Low Level names:    STL: STL          MSGTXTs: MSGTXTS      NTRKs: NTRKs

VTAM Name Model     : _____
TPNS Name Model     : _____
Numeric substitution start value: 0
```

```
F1=Help   F2=Split   F3=End     F4=Return   F5=       F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right F12=Retrieve
```

- The VARS panel has defaults filled in from information that was provided in the **TPNSTM** CLIST or exec. Fill in any missing fields. For a description of all the fields, see “VARS—Specify TPNS Test Manager Variables” on page 96. After you have verified the information and updated any blank fields on the **VARS** panel, press **ENTER** to save the values. Press **PF3** to return to the TPNS Test Manager main menu.
- Move the cursor to the command field and enter the command **SPACE**. The following panel is displayed:

```

                                Specify Data Set Attributes                Row 1 to 16 of 19
Command==>
Update the data set attributes listed below.                Press PF3 to end.
Line Commands: i Data set Information.

  Description                Pri Sec Dir  Type Unit/Volume (" for ditto)
_ TPNS Run SYSPRINT          1   2      CYL UNIT(SYSDA)
_ Compare Report SYSPRINTs   1   3      TRK UNIT(SYSDA)
_ Display Monitor panels     5   5   60  TRK UNIT(SYSDA)
_ Display Monitor SYSPRINT   5   5      TRK UNIT(SYSDA)
_ Display Monitor SYSIN      1   1      TRK UNIT(SYSDA)
_ Project CONTROL data set   1   1   40  CYL UNIT(SYSDA)
_ Project DOC data set       5   5      TRK UNIT(SYSDA)
_ Project MSGTXTS data set  10   5   40  CYL UNIT(SYSDA)
_ Project NTRKS data set     5   5   40  CYL UNIT(SYSDA)
_ Project NOTES data set    10  20   30  TRK UNIT(SYSDA)
_ Project CREP data set      30  30   50  TRK UNIT(SYSDA)
_ Project SCRIPT data set    1   1   40  CYL UNIT(SYSDA)
_ Project STL data set       10   5   40  CYL UNIT(SYSDA)
_ Project CPI-C SGEN STL     5   5   30  CYL UNIT(SYSDA)
_ Project MODELS data set    5   5   10  TRK UNIT(SYSDA)
_ Project TPNS logs         10  20      CYL UNIT(SYSDA)
F1=Help      F2=Split    F3=End      F4=Return   F5=         F6=
F7=Up        F8=Down     F9=Swap     F10=Left   F11=Right  F12=Retrieve

```

Use this panel to update data set attributes as required. You may want to update data set size or unit/volume specifications prior to creating a project. See "SPACE—Specify Data Set Attributes" on page 99 for more information on the data set attributes.

8. After you have made any required updates, press **ENTER** to save the values. Press **PF3** to return to the TPNS Test Manager main menu.
9. Move the cursor to the command field and enter the command **PROJECT** to add a new project. The following panel is displayed:

```

                                Process Projects
Command==>
                                Press PF3 to end.

Change the primary and alternate high level index fields as required
(for a list of projects, enter ? in the Project field).

To create a new project, enter the command add
To delete an entire project, enter the command delete

Project      : _____

Alternate HLI: _____
Alternate HLI Userid: _____

F1=Help      F2=Split    F3=End      F4=Return   F5=Add      F6=
F7=Up        F8=Down     F9=Swap     F10=Left   F11=Right  F12=Retrieve

```

See "Projects and Alternate High Level Indexes" on page 94 for an example of setting up a project.

10. In order to avoid name conflicts with existing data set names, you should specify `userid.TTM` as the high level index for your projects. This causes all TTM generated data set names to be in the form of `userid.TTM.name`. After you fill in all the required fields, press **ENTER** to save the values; the project files are created. Press **PF3** to return to the TPNS Test Manager main menu:

```
TPNS Test Manager V3R5

Select one of the following. Then press Enter.

  Command  Action
-  1. CASE  Create and Process Testcases
   2. GROUP Create and Process Testgroups
   3. CYCLE  Create and Process Testcycles
   4. RUN    Create TPNS networks and Schedule TPNS Simulation Runs
   D. DOC   Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   T. TII   Invoke TPNS/ISPF Interface
   U. UTIL  Run TPNS Test Manager Utilities

Project: DEMO                      Alternate HLI:

Command ==> _____

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve
```

Chapter 2. TPNS Test Manager Tutorials

Overview of the Tutorials

These tutorials are “paper demonstrations” of the TPNS Test Manager. The aim of the tutorials is to familiarize the reader with some of the functions of the TPNS Test Manager. For a detailed discussion of all TPNS Test Manager functions, see “Chapter 3. TPNS Test Manager Reference” on page 69. Each of the following tutorials should be run in Hide mode. This is the default mode set in the VARS panel.

1. Tutorial I—Interactive Data Capture (IDC)

This tutorial describes building a test process using IDC, the Interactive Data Capture facility of TPNS.

Complete the tutorial in the following order:

- a. “Specifying VARS Panel Values” on page 12 describes the values on the VARS panel that were either filled in by the system or added during the new user setup for this demo.
- b. “Adding and Selecting Projects” on page 14 describes how to specify a new project and select a project from the project list.
- c. “Creating Testcases” on page 17 describes how to create a new testcase using IDC.
- d. “Using the Log Display Monitor to Edit Testcases” on page 21 describes how to use the TPNS Log Display Monitor to find certain panels and to replace hardcoded values with User Data Tables (UTBLs).
- e. “Setting up Schedules” on page 30 describes how to set up a test schedule.
- f. “Running TPNS Simulations” on page 35 describes how to start the TPNS schedules and look at the various reports.

2. Tutorial II—CPI-C Script Generation

This tutorial describes adding a CPI-C test to the project created in Tutorial I. The CPI-C test is created from an LU 6.2 SNA trace using the TPNS script generation utility.

- a. “Specifying VARS Panel Values” on page 38 describes the values on the VARS panel that require special attention for CPI-C tests.
- b. “Creating Testcases” on page 40 describes how to create a new testcase and schedule using CPI-C script generation.
- c. “Working with Schedules” on page 46 describes how to modify the CPI-C schedule to simulate additional resources and how to start the TPNS schedules and look at the various reports.

3. Tutorial III—TCP/IP Using a Model Script

This tutorial describes adding a TCP/IP test to the project created in Tutorial I. The TCP/IP test is created using the TN3270 model network supplied with TPNS.

- a. “Specifying VARS Panel Values” on page 56 describes the values on the VARS panel that require special attention for test cases generated from TPNS model networks.

- b. "Creating Testcases" on page 58 describes how to create a new testcase and schedule using a TCP/IP model script.
 - c. "Working with Schedules" on page 62 describes how to start the TPNS schedules and look at the various reports.
4. "Resetting the Demonstration" on page 66 describes how to reset the demonstration once you have completed the tutorials.

The starting point for the tutorials is the TPNS Test Manager main menu:

```

TPNS Test Manager V3R5

Select one of the following. Then press Enter.

  Command  Action
-  1. CASE  Create and Process Testcases
   2. GROUP Create and Process Testgroups
   3. CYCLE Create and Process Testcycles
   4. RUN   Create TPNS networks and Schedule TPNS Simulation Runs
   D. DOC  Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   T. TII  Invoke TPNS/ISPF Interface
   U. UTIL  Run TPNS Test Manager Utilities

Project:                               Alternate HLI:

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Command ==> _____

F1=Help   F2=Split   F3=End    F4=Return  F5=       F6=
F7=Up     F8=Down    F9=Swap   F10=Left   F11=Right F12=Retrieve

```

Tutorial I—Interactive Data Capture (IDC)

Specifying VARS Panel Values

The values specified on the VARS panel are used by TTM during script generation and session startup. Consequently, you must verify that the specified values match the VTAM definition statements for TPNS, and that your simulated resource and low level names are correct.

If the values are incorrect, you will receive VTAM errors and the Interactive Data Capture and Display Monitor TPNS facilities will not run, or the generated scripts will be built incorrectly and the simulation run will fail.

From the TPNS Test Manager main menu, select option **U** or enter the command **UTIL**. The following panel is displayed:

Access Utilities

Select one of the following. Then press Enter.

Command	Action
1. VARS	Specify TPNS Test Manager Variables and Options
2. PUTBL	Process User Tables
3. SPACE	Specify data set attributes
4. SKELS	Edit TPNS Test Manager skeletons
5. MSGTXT	Edit MSGTXTs data set
6. NTRWK	Edit NTRWK data set
7. TTMVARS	Edit TPNS Test Manager variable @INCLUDE member
8. TRANSLATE	Translate all STL programs
9. REFRESH	Refresh all TTM Tables

Command ==> _____

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

On this panel, select option **1** or enter the command **VARS** to get the VARS panel:

Specify TPNS Test Manager Variables and Options

Update the fields, then press Enter to save the values. Press PF3 to end.

TPNS/ISPF Interface Access: HIDE (hide, display or interact)
 Panel Message Delay : 2 seconds (1-10)
 Log Display Monitor Chars: {} Automatic REFRESH? : N (Y/N)
 Display Panel ID? : N (Y/N) Display Function Keys : Y (Y/N)

TPNS Load Library : TPNS.LOAD
 IDC VTAM APPL name : ITPIDC Display Monitor VTAM APPL name: _____
 Fully Validate TPNS Data Set Names? : Y (Y/N)

Work data sets HLI : userid
 Low Level names: STL: STL MSGTXTs: MSGTXTS NTRWKS: NTRWKS

VTAM Name Model : _____
 TPNS Name Model : _____
 Numeric substitution start value: 0

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

Some fields on this panel are filled in automatically for you with system default values or with information detected in the **TPNSTM** CLIST or exec. Verify that this information is correct. You must enter values for the following fields:

- Display Monitor VTAM APPL name
- VTAM Name Model for VTAMAPPL resources
- TPNS Name Model for TPNS simulated resources

One of the TPNS Test Manager features enables you to simulate multiple resources automatically, without predefining the resources. The VTAM and TPNS NAME Model fields provide a pattern to be used by TTM when generating resource names in the TPNS network. The # character in the VTAM and TPNS Name Model fields is

a placeholder. For instance, if you specify VAPPL# for the VTAM Name Model and TPNSLU# for the TPNS Name Model, TTM will substitute a numeric value in place of the # characters when multiple resources are used in a test scenario. You can specify 1–7 # characters at the end of each name; however, each model must have the same number of # characters. The **Numeric substitution start value** field enables you to start the numbering sequence with different values.

Adding and Selecting Projects

The TPNS Test Manager organizes testing into projects. Each project is a set of libraries containing all the data sets required for TPNS testing.

1. From the TPNS Test Manager main menu, select option **P** or enter the command **PROJECT**. The following panel is displayed:

Process Projects Press PF3 to end.

Command==> _____

Change the primary and alternate high level index fields as required
(for a list of projects, enter ? in the Project field)

To create a new project, enter the command add.
To delete an entire project, enter the command delete.

Project : _____

Alternate HLI: _____
Alternate HLI Userid: _____

F1=Help	F2=Split	F3=End	F4=Return	F5=Add	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

2. To add a new project, move the cursor to the **Project** field and type the project name (for this tutorial, use the name **DEMO**).
3. Move the cursor to the command field at the top of the screen and type **ADD** or press **PF5**. The following pop-up panel is displayed:

```

Process Projects
----- Add New Project -----
Type Project Name, Description and High Level Index. Then press Enter.
Project Name   : DEMO
Description    : _____
High Level Index: _____

F1=Help   F2=Split  F3=End   F4=Return  F5=   F6=   F7=Up
F8=Down   F9=Swap   F10=Left F11=Right

F1=Help   F2=Split  F3=End   F4=Return  F5=   F6=
F7=Up     F8=Down   F9=Swap  F10=Left  F11=Right F12=Retrieve

```

4. Add an optional, free-form description in the **Description** field (for this tutorial, enter “demo project”). Enter **userid.TTM.DEMO** (where userid is your TSO user ID) in the **High Level Index** field. The TPNS Test Manager uses this high level index to create a number of data sets. Make sure there are no existing data sets that have userid.TTM.DEMO as the first three qualifiers. If a name conflict exists, choose another high level index that does not conflict with any existing data sets.

When you add a project, the new project is added to a projects table. Adding a project also allocates and initializes a number of control data sets. You cannot create any testcases, reports, or schedules using TTM without first creating a project.

See “Projects and Alternate High Level Indexes” on page 94 for the list of data sets that is created when a project is added.

When all the data sets have been created, the Project panel is displayed with a **Project Created** message in the top right hand corner:

```

                                Process Projects                                Project Created
Command==>                                                                Press PF3 to end.

Change the primary and alternate high level index fields as required
(for a list of projects, enter ? in the Project field).

To create a new project, enter the command add
To delete an entire project, enter the command delete

Project      : DEMO      Demo project
Alternate HLI: _____
Alternate HLI Userid: _____

F1=Help      F2=Split      F3=End      F4=Return      F5=Add      F6=
F7=Up        F8=Down      F9=Swap      F10=Left      F11=Right      F12=Retrieve

```

- To list all the current projects for this user ID, type over the first character in the **Project** field with a question mark (so that the **Project** field now contains ?EM0). A list of all the projects is displayed. To select a project, enter **S** before the project line. Select the DEMO project just created and press **ENTER**. Press **PF3** to return to the TPNS Test Manager main menu. The ISPF tables will now be refreshed from the Project control files. A pop-up panel is displayed to determine the type of refresh to be done. Press **ENTER** on this panel to select a “normal” refresh.

Alternate HLI Fields

The alternate HLI (high level index) fields enable you to use test items (testcases, MSGTXTs, and schedules) created under another high level index. These test items can belong to you or someone else. If you specify an alternate high level index, all test items for that index are flagged with ALT. You cannot modify any of the ALT test items. The data sets containing the ALT test items are available in BROWSE mode only.

Both the **Alternate HLI** and the **Alternate HLI Userid** fields must be completed to use this feature. Enter the high level index of the other project in the **Alternate HLI** field, and enter the owning user ID of the alternate high level index in the **Alternate HLI Userid** field. For example, if you wanted to include test items created by your team lead, Roger, in your project, you would need to know the HLI used by Roger for the project you are interested in, as well as Roger’s user ID. Assuming the high level index for the alternate project is ROGER.TTM and the user ID is ROGER, you would specify **ROGER.TTM** for the **Alternate HLI** field and **ROGER** for the **Alternate HLI Userid** field.

The value in the **Alternate HLI Userid** field is used to find the low level names for the alternate project. The project table in userid.TTMUSER.TABLES is accessed to determine the alternate project’s low level names.

Creating Testcases

An IDC testcase consists of a script defining simulated users, plus supporting User Data Tables and documentation. Each script describes key strokes and processing logic to be performed by simulated users at TPNS simulation time.

The TPNS Test Manager has a number of ways to help create testcases. This part of the tutorial demonstrates the use of the TPNS Interactive Data Capture (IDC) facility to capture resource activity and generate a testcase to simulate the activity.

Start from the TPNS Test Manager main menu:

```
TPNS Test Manager V3R5

Select one of the following. Then press Enter.

  Command  Action
-  1. CASE  Create and Process Testcases
   2. GROUP Create and Process Testgroups
   3. CYCLE  Create and Process Testcycles
   4. RUN    Create TPNS networks and Schedule TPNS Simulation Runs
   D. DOC   Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   T. TII   Invoke TPNS/ISPF Interface
   U. UTIL  Run TPNS Test Manager Utilities

Project: DEMO                      Alternate HLI:

Command ===> _____

F1=Help  F2=Split  F3=End    F4=Return  F5=      F6=
F7=Up    F8=Down   F9=Swap   F10=Left  F11=Right F12=Retrieve
```

1. Select option **1** or enter the command **CASE**. A list of all the testcases in this project is displayed. Because this is a new project, there are no existing testcases, and the list is empty:

```

                                Process Testcases
Command==>
Enter a line command or add to create a new Testcase.  Press PF3 to end.
Line commands: D Delete, N Notes, S STL, T Translate, U UTBLs, V View.

Name      Type UTBLs Notes Description
***** Bottom of data *****

F1=Help   F2=Split  F3=End    F4=Return  F5=Add     F6=
F7=Up     F8=Down   F9=Swap   F10=Left   F11=Right  F12=Retrieve

```

- To add a new testcase, enter the command **ADD** on the command line or press **PF5**. The following pop-up panel is displayed:

```

                                Process Testcases
----- Add New Testcase -----
Type Testcase Name, Description, and Source.  Then press Enter.

Testcase Name: _____
Description  : _____
Source      : ___ 1. Add a 3270 testcase using IDC
                2. Add a 3270 testcase using an SNA trace
                3. Add a 3270 testcase using a TPNS or IDC log
                4. Add a testcase using the TPNS STL models
                5. Add a testcase using an STL skeleton
                6. Add a CPI-C testcase using an LU 6.2 SNA trace

F1=Help   F2=Split  F3=End    F4=Return  F5=      F6=      F7=Up
F8=Down   F9=Swap   F10=Left  F11=Right

F1=Help   F2=Split  F3=End    F4=Return  F5=      F6=
F7=Up     F8=Down   F9=Swap   F10=Left  F11=Right F12=Retrieve

```

- In the **Testcase Name** field, type **DEMO**. In the **Description** field, type an optional, free-form description for this testcase.
- The **Source** field has a choice of options to generate the testcase. Select **1** (Add a 3270 testcase using IDC) and press **ENTER**. The following pop-up panel is displayed:


```

                                Process Testcases
Command== ----- "Milestones" -----
Enter a 1
Line comm | These are the steps to create a testcase using IDC. | to end.
Name      | Step 1 - ITPIDC - Invoke IDC. |
*****   | Step 2 - ITPLSGEN - Create STL Program from the IDC Log. |
          | Step 3 - ITMDCAS - Add TPNS/TM upgrades to STL program. |
          | Step 4 - ITPSTL - Translate STL Program into a MSGTXT. |
          |-----|

F1=Help   F2=Split   F3=End     F4=Return  F5=Add     F6=
F7=Up     F8=Down    F9=Swap    F10=Left  F11=Right  F12=Retrieve

```

This is a "Milestones" panel. This panel shows the steps needed to add a 3270 testcase using IDC. Step 1 is highlighted, which shows that the TPNS Test Manager is performing Step 1.

This panel will be replaced with the IDC main menu panel:

```

                                TPNS Interactive Data Capture (IDC) Utility

Select one of the following, then press Enter.

_ 1. Start a session with a host application and capture data

   2. Generate an STL program from captured data
   3. Generate a message generation deck from captured data

   4. End the IDC utility program

TPNS Version 3 Release 5.0.1 Program Number 5688-121

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restricted by GSA ADP Schedule Contract with IBM Corporation.
F1=Help F3=Exit F12=Cancel

```

5. Select option 1. The following panel is displayed:

```

IDCSSP          TPNS IDC:  Start Session with Host Application

Type information, then press Enter.

Session Data
Host application name . . . . .
Logon mode name . . . . . LSX32702 (Optional)
Logon user data . . . . . _____ (Optional)

IDC log data set name . . . . . userid.TTMUSER.IDCLOG(DEMO)
If data set already exists, specify R      (R=Replace or A=Append)

Start capturing data immediately? . . Y      (Y=Yes or N=No)

IDC Escape key . . . . . PA1      (PAn, PFnn, CLEAR, or ATTN)

F1=Help F3=Exit F5=Refresh F11=Save F12=Cancel

```

6. Enter **TSO** in the **Host application name** field and press **ENTER** to start the recording.
7. One or more initial logon screens appear. Enter the logon user ID. Perform some normal TSO/ISPF activities and then logoff.

When logoff completes, the IDC Start Session panel is displayed again:

```

IDCSSP          TPNS IDC:  Start Session with Host Application

Type information, then press Enter.

Session Data
Host application name . . . . . TSO
Logon mode name . . . . . LSX32702 (Optional)
Logon user data . . . . . _____ (Optional)

IDC log data set name . . . . . userid.TTMUSER.IDCLOG(DEMO)
If data set already exists, specify R      (R=Replace or A=Append)

Start capturing data immediately? . . Y      (Y=Yes or N=No)

IDC Escape key . . . . . PA1      (PAn, PFnn, CLEAR, or ATTN)

ITP1508I SESSION ENDED WITH APPLICATION TS0001
F1=Help F3=Exit F5=Refresh F11=Save F12=Cancel

```

8. To exit from IDC, press **PF3**. The milestones panel is displayed:

```

                                Process Testcases
Command==----- "Milestones" -----
Enter a l
Line comm | These are the steps to create a testcase using IDC. | to end.
Name      | Step 1 - ITPIDC - Invoke IDC. |
*****   | Step 2 - ITPLSGEN - Create STL program from the IDC Log. |
          | Step 3 - ITMDCAS - Add TPNS/TM upgrades to STL program. |
          | Step 4 - ITPSTL - Translate STL program into a MSGTXT. |
          |-----|

F1=Help   F2=Split   F3=End     F4=Return  F5=Add     F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

Step 2 is now highlighted, followed by steps 3 and 4. After the TPNS Test Manager has completed these four steps, the Milestones panel is replaced by a display of the list of testcases:

```

                                Process Testcases                                Row 1 of 1
Command==>
Enter a line command or add to create a new Testcase. Press PF3 to end.
Line commands: D Delete, N Notes, S STL, T Translate, U UTBLs, V View.

Name      Type UTBLs Notes Description                                Added
_ DEMO    V          Create using IDC
***** Bottom of data *****

F1=Help   F2=Split   F3=End     F4=Return  F5=Add     F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

The **Added** message to the right of the testcase description indicates that the new testcase has been added to TTM. The **V** under the header "Type" indicates that this is a VTAMAPPL type of testcase (the simulated resources will be defined to VTAM as VTAM applications).

9. Press **PF3** to return to the TPNS Test Manager main menu.

Using the Log Display Monitor to Edit Testcases

1. From the TPNS Test Manager main menu, select option **1** or enter the command **CASE**. The testcase list is displayed.
2. From the testcase list, enter the line command **V** to view the testcase.

Note: The **View** option can be selected only if the IDC or TPNS log still exists and it is a 3270 log.

```

                                Process Testcases                                Row 1 of 1
Command==>
Enter a line command or add to create a new Testcase. Press PF3 to end.
Line commands: D Delete, N Notes, S STL, T Translate, U UTBLs, V View.

  Name      Type UTBLs Notes Description
V DEMO     V          Create using IDC
***** Bottom of data *****

F1=Help    F2=Split    F3=End      F4=Return   F5=Add      F6=
F7=Up      F8=Down     F9=Swap     F10=Left   F11=Right   F12=Retrieve

```

The index of screen images is now built by the TPNS Test Manager:

```

                                Process Testcases                                Row 1 of 1
Command==>
Enter a lin |-----|
Line comman | Building index of screen images. |
  Name      |-----|
V DEMO     V          Create using IDC
***** Bottom of data *****

F1=Help    F2=Split    F3=End      F4=Return   F5=Add      F6=
F7=Up      F8=Down     F9=Swap     F10=Left   F11=Right   F12=Retrieve

```

After the index is built, a panel similar to the following is displayed:

```

                                Process Testcases                               Row 1 of 1
----- Panel Display Options -----
Press ENTER to continue or PF3 to cancel.

Index or View (I/V): V

For View only:
  Logged or Fixed Delay (L/F): F
  Fixed Delay Value in Seconds: 1
  Display Panels      :    1 to 6

F1=Help   F2=Split   F3=End     F4=Return   F5=
F6=       F7=Up      F8=Down    F9=Swap     F10=Left

F1=Help   F2=Split   F3=End     F4=Return   F5=       F6=
F7=Up     F8=Down    F9=Swap    F10=Left    F11=Right  F12=Retrieve

```

The screen images can be shown in Index or View mode.

- To view the screen images, type the letter **V** in the **Index or View** field and press **ENTER**. The screen images that were recorded by IDC are displayed in sequence.
- When the playback is complete, the pop-up panel is displayed again. Type the letter **I** in the **Index or View** field and press **ENTER**. The screen index is now displayed:

```

                                Resource Display Index                               Row 1 to 6 of 6
Command==>
Line commands: V to view panel, S to edit STL, D to delete.  Press PF3 to end.

Timestamp AID   Testcase Panel
- 09044251      DEMO      IKJ56700A ENTER USERID -
- 09044251 ENTER DEMO      IKJ56700A ENTER USERID -
- 09044833      DEMO      ----- TSO/E LO
- 09044833 ENTER DEMO      ----- TSO/E LO
- 09050396      DEMO      ICH70001 userid   LAST ACCESS AT 14:30:
- 09050396 ENTER DEMO      ICH70001 userid   LAST ACCESS AT 14:30:
***** Bottom of data *****

F1=Help   F2=Split   F3=End     F4=Return   F5=       F6=
F7=Up     F8=Down    F9=Swap    F10=Left    F11=Right  F12=Retrieve

```

- To view the screen image for each line in the index, type **V** in the first line and press **ENTER**. The first screen from the IDC recording is displayed.
- Press **PF8** to view the next screen image. Press **PF7** to view the previous screen image.

- Find the screen image where the user enters the user ID, then press **PF12**. This PF key invokes the ISPF editor, placing the cursor near the correct part of the STL script for this screen image.

The script may be similar to the following:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT userid.TTM.DEMO.STL(DEMO) - 01.01 Columns 00001 00072
Command ==> Scroll ==> HALF
000049 cursor(2,1)
000050 charset 'field'
000051 type 'myuserid'
000052 transmit using enter
000053
000054 /*----- 09044833 00002 */
000055 TTM_panel_ID = 'PNL00002'
000056 log 'TTM_panel_ID' TTM_panel_ID
000057 screen_data = substr(screen,rowcol(1,1),8)
000058 expected_data = '28|x||'-----'
000059 if screen_data~=expected_data then @gen;" BRANCH LABEL=TTMEXIT";@endgen
000060 /*----- 09044833 00003 */
000061 cursor(8,20)
000062 ereof
000063 charset 'field'
000064 type 'mypass'
000065 transmit using enter
000066
F1=Help      F2=Split    F3=Exit     F5=Rfind    F6=Rchange  F7=Up
F8=Down      F9=Swap     F10=Left    F11=Right   F12=Cancel

```

In this recording, the user ID is **myuserid** and the password is **mypass**.

To replace these hardcoded values with a user table (UTBL), you can use the TPNS Test Manager **UTBL** command.

- Move the cursor to the command field. Type the command **UTBL** and move the cursor to the line where the user table is to be made (in the example shown above, on the line with the text **myuserid**). Press **ENTER**. If this is not the first user table, a selection pop-up panel will be displayed. For this example, this will be considered the first user table and the following pop-up panel is displayed:

```

File Edit Confirm Menu Utilities Compilers Test Help
----- Create TPNS User Table (UTBL) -----
E
C   Type the values for the following fields.  Then press Enter.
0
0   User Table Name      : _____
0   Table Description    : _____
0
0   Field Name          : _____
0   Field Description    : _____
0   Field Delimiter     : ¢
0
0   Access Type (1,2 or 3) : 2  1. Random
0                               2. Single Sequential
0                               3. Single Sequential (repeated)
0
0   F1=Help   F2=Split  F3=End   F4=Return  F5=      F6=
0   F7=Up     F8=Down   F9=Swap  F10=Left  F11=Right
0
-----
000050  charset 'field'
000051  type 'mypass'
F1=Help   F2=Split  F3=Exit   F5=Rfind  F6=Rchange  F7=Up
F8=Down   F9=Swap    F10=Left  F11=Right F12=Cancel

```

- In the **User Table Name** field, enter a short name for this UTBL (for example, **UIDPWD**). In the optional **Table Description** field, enter a description (for example, **Userid and password table**).

These first two fields describe the UTBL as a whole. The next two fields describe the field to be created in the UTBL. In this example, this new field is **USERID**.

- In the **Field Name** field enter a short name (for example, **USERID**). In the optional **Field Description** field, enter a description (for example, **TSO Userid**).
- In the **Access Type** field, select option **2** (single sequential). See “Creating User Data Tables (UTBLs)” on page 77 for a description of the various Table Access options.

A number of messages will be shown, indicating the work done by the TPNS Test Manager. The hardcoded value in the testcase is commented out and the original entry copied and formatted in the new UTBL. The user table member is then translated into a TPNS MSGTXT.

Note: Do not change the comments created by TTM. Modifying the comments will corrupt the translation process.

The updated STL will look similar to the following:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT   userid.TTM.DEMO.STL(DEMO) - 01.01          Columns 00001 00072
Command ==>                                     Scroll ==> HALF
000049 cursor(2,1)
000050 charset 'field'
000051 /* TTM has replaced the following line with a user table: */
000052 /* type 'userid' */
000053 call UIDPWDXX /* Access UIDPWD usertable */ /* TTM */
000054 type UIDPWD_USERID /* TTM */
000055 transmit using enter
000056
000057 /*----- 09044833 00002 */
000058 TTM_panel_ID = 'PNL00002'
000059 log 'TTM_panel_ID' TTM_panel_ID
000060 screen_data = substr(screen,rowcol(1,1),8)
000061 expected_data = '28'x||'-----'
000062 if screen_data=expected_data then @gen;" BRANCH LABEL=TTMEXIT";@endgen
000063 /*----- 09044833 00003 */
000064 cursor(8,20)
000065 ereof
000066 charset 'field'
F1=Help   F2=Split   F3=Exit   F5=Rfind   F6=Rchange F7=Up
F8=Down   F9=Swap    F10=Left  F11=Right  F12=Cancel

```

- To add a new field to the UTBL just created, move the cursor to the command field at the top of the screen. Type the command **UTBL** and move the cursor to the line with the text **mypass**. Press **ENTER**.

The following pop-up panel is displayed:

```

File Edit Confirm Menu Utilities Compilers Test Help
----- Create TPNS User Table (UTBL) -----
-----
Select an option. Then press Enter.
-----
_  1. Create a new UTBL.
   2. Create a new field in an existing UTBL.
   3. Use an existing field or UTBL.
-----
F1=Help   F2=Split   F3=End    F4=Return  F5=       F6=
F7=Up     F8=Down    F9=Swap   F10=Left  F11=Right
-----
000066 charset 'field'
000067 type 'mypass'
000068 transmit using enter
000069
000070 /*----- 09050396 00004 */
000071 TTM_panel_ID = 'PNL00003'
000072 log 'TTM_panel_ID' TTM_panel_ID
000073 screen_data = substr(screen,rowcol(1,1),8)
000074 expected_data = '08'x||'ICH7000'
F1=Help   F2=Split   F3=Exit   F5=Rfind   F6=Rchange F7=Up
F8=Down   F9=Swap    F10=Left  F11=right  F12=Cancel

```

- Select option **2** to add a field to an existing UTBL.

A list of already-existing UTBLs is displayed:


```

----- Choose a UTBL -----
User Table List                               Row 1 of 1

Enter an S to select a UTBL. Then press Enter.

Name      Table Description
_UIDPWD   Userid and password table
***** Bottom of data *****

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right

```

14. Select the UIDPWD table and press **ENTER**. The following pop-up panel is displayed:

```

----- Create TPNS User Table (UTBL) -----
E |                                     |00072
C | Type the values for the following fields. Then press Enter. |
0 | User Table Name      : UIDPWD          | > CSR
0 |
0 | Field Name           : _____
0 | Field Description    : _____
0 | Field Delimiter      : ¢
0 |
0 | F1=Help   F2=Split   F3=Exit   F4=Return   F5=        F6=
0 | F7=Up     F8=Down    F9=Swap   F10=Left    F11=Right
0 |-----|
000065 ereof
000066 charset 'field'
000067 type 'mypass'
000068 transmit using enter
000069
000070 /*----- 09050396 00004 */
000071 TTM_panel_ID = 'PNL00003'
000072 log 'TTM_panel_ID' TTM_panel_ID
F1=Help   F2=Split   F3=Exit   F5=Rfind   F6=Rchange  F7=Up
F8=down   F9=Swap     F10=Left  F11=Right  F12=Cancel

```

15. In the **Field Name** field enter **PWORD**. In the optional **Field Description** field, enter a description (for example, **Password**). Press **ENTER**.

As before, some messages will appear as the TPNS Test Manager comments out the hardcoded password in the STL script and updates the UIDPWD user table. The user table member is then translated into a TPNS MSGTXT.

Note: Do not change the comments created by TTM. An example of the updated STL script is displayed:

The updated STL will look similar to the following:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT userid.TTM.DEMO.STL(DEMO) - 01.01 Columns 00001 00072
Command ==> Scroll ==> HALF
000064 cursor(8,20)
000065 ereof
000066 charset 'field'
000067 /* TTM has replaced the following line with a user table: */
000068 /* type 'mypass' */
000069 type UIDPWD_PWORD /* TTM */
000070 transmit using enter
000071
000072 /*----- 09050396 00004 */
000073 TTM_panel_ID = 'PNL00003'
000074 log 'TTM_panel_ID' TTM_panel_ID
000075 screen_data = substr(screen,rowcol(1,1),8)
000076 expected_data = '08'x||'ICH7000'
000077 if screen_data=expected_data then @gen;" BRANCH LABEL=TTMEXIT";@endgen
000078 /*----- 09050396 00005 */
000079 cursor(4,9)
000080 ereof
000081 cursor(5,1)
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel

```

16. Press **PF3** to exit the testcase. The testcase will be translated. Press **PF3** repeatedly until you return to the list of testcases:

```

Process Testcases Row 1 of 1
Command==>
Enter a line command or add to create a new Testcase. Press PF3 to end.
Line commands: D Delete, N Notes, S STL, T Translate, U UTBLs, V View.

Name Type UTBLs Notes Description Viewed
_ DEMO V 1 Create using IDC Viewed
***** Bottom of data *****

F1=Help F2=Split F3=End F4=Return F5=Add F6=
F7=Up F8=Down F9=Swap F10=Left F11=Right F12=Retrieve

```

The UTBL column now shows that there is one UTBL for this testcase.

17. To look at this UTBL, select the **U** line command and press **ENTER**. The list of UTBLs for this testcase is displayed:

```

User Table List
Row 1 of 1
Command==>
Enter a line command or all.
Line commands: S STL, M MSGTXT, D Delete.
Press PF3 to end.

Name      Table Description
_UIDPWD   Userid and password table
***** Bottom of data *****

F1=Help   F2=Split  F3=End    F4=Return  F5=All     F6=
F7=Up     F8=Down   F9=Swap   F10=Left   F11=Right  F12=Retrieve

```

18. Enter the **S** line command to edit the STL for this UTBL:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT userid.TTM.DEMO.STL(UIDPWD) - 01.01          Columns 00001 00072
Command ==>                                       Scroll ==> CSR
***** ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG>      your edit profile using the command RECOVERY ON.
000001 /* This user table was created by TPNS/TM to be accessed */
000002 /* by the Single Sequential method. */
000003 /* Table Description: Userid and password table */
000004 /* TTM_FIELD: USERID ¢ TSO userid */
000005 /* TTM_FIELD: PWORD ¢ Password */
000006 UIDPWD: msgutbl
000007 'myuserid¢mypass¢'
000008 endutbl
***** Bottom of Data *****

F1=Help   F2=Split  F3=Exit   F5=Rfind   F6=Rchange  F7=Up
F8=Down   F9=Swap   F10=Left  F11=Right  F12=Cancel

```

This table can now be updated with as many user IDs and passwords as required. If this table is updated, the TPNS Test Manager automatically translates it into a MSGTXT.

19. Press **PF3** repeatedly until the TPNS Test Manager main menu is displayed:

```

TPNS Test Manager V3R5

Select one of the following. Then press Enter.

      Command  Action
-  1. CASE    Create and Process Testcases
   2. GROUP   Create and Process Testgroups
   3. CYCLE   Create and Process Testcycles
   4. RUN     Create TPNS networks and Schedule TPNS Simulation Runs
   D. DOC     Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   T. TII    Invoke TPNS/ISPF Interface
   U. UTIL    Run TPNS Test Manager Utilities

Project: DEMO                               Alternate HLI:

Command ==> _____

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right F12=Retrieve

```

Setting up Schedules

There is now a new testcase called DEMO that contains a user script and a user table (UTBL) containing user IDs and passwords.

This section describes how to set up a schedule to run this testcase. Start from the TPNS Test Manager main menu:

```

TPNS Test Manager V3R5

Select one of the following. Then press Enter.

      Command  Action
-  1. CASE    Create and Process Testcases
   2. GROUP   Create and Process Testgroups
   3. CYCLE   Create and Process Testcycles
   4. RUN     Create TPNS networks and Schedule TPNS Simulation Runs
   D. DOC     Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   T. TII    Invoke TPNS/ISPF Interface
   U. UTIL    Run TPNS Test Manager Utilities

Project: DEMO                               Alternate HLI:

Command ==> _____

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right F12=Retrieve

```

1. Select option **4** or enter the command **RUN**. A list of schedules is displayed:

```

                                Process TPNS Schedules
Command==>
Enter a line command or add to create a new Schedule.          Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
                S Testcases, T TPNS, U UTBLs, W NTRWK.

Name      Type Notes Description          UTBLs   Last Run
***** Bottom of data *****

F1=Help   F2=Split  F3=End   F4=Return  F5=Add   F6=
F7=Up     F8=Down   F9=Swap  F10=Left  F11=Right F12=Retrieve

```

As with the testcases, there are no schedules defined for the new project.

- To add a new schedule, enter the command **ADD** or press **PF5**. A pop-up panel is displayed asking for a schedule name, an optional description and the type of schedule. Enter the name **DEMONET**, type a short description (if desired) and specify **V** (VTAMAPPL) for the schedule type.

A milestones panel is now briefly displayed:

```

                                Process TPNS Schedules
Command== ----- "Milestones" -----
Enter a l |                                     | PF3 to end.
Line comm | These are the steps to create a new TPNS Schedule. |
Name      | Step 1 - Define the simulated resources and scripts. |
*****   | Step 2 - Generate a TPNS network (NTRWK).           | *****
          | Step 3 - Define completion report thresholds.       |
          |-----|
F1=Help   F2=Split  F3=End   F4=Return  F5=Add   F6=
F7=Up     F8=Down   F9=Swap  F10=Left  F11=Right F12=Retrieve

```

In Step 1, the simulated resources need to be defined and scripts selected. If no resource is selected, a TPNS network will not be created. The following panel is displayed:

```

                                Resource List for Schedule DEMONET                                Row 1 of 1
Command==>
Enter command sort to sort by VTAMname.                                Press PF3 to end.
Line commands: S Select, I Insert, R Repeat, D Delete.

  VTAMname TPNSname Test... Name      Description
_ VAPPL00  TPNSLU00
***** Bottom of data *****

F1=Help   F2=Split   F3=End     F4=Return  F5=Sort    F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

3. This schedule has one simulated resource defined, although it does not reference any scripts. To define the scripts to run, enter the line command **S** before the VAPPL00 line. A pop-up panel is displayed listing all of the VTAMAPPL test items (cases, MSGTXTs, groups, and cycles) available in this project. In this instance, there is only one test item available: the DEMO testcase, which was created earlier.

```

----- Specify Order for Resource TPNSLU00 under VAPPL00 -----
                                Row 1 of 1
Enter order or summary.                                Press PF3 to end.

Order          Name  Test..  Type   Description
              DEMO  Case    V      Create using IDC
***** Bottom of data *****

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=Summary
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right

```

4. Move the cursor to the DEMO line and select this item by placing the order number **1** in the order field. The order field accepts numeric values only. The ordering function enables the user to specify the order of test item execution. It is useful when multiple test items are to be associated with one resource.

```

----- Specify Order for Resource TPNSLU00 under VAPPL00 -----
                                     Row 1 of 1
Enter order or summary.           Press PF3 to end.

Order          Name    Test..  Type   Description
 1             DEMO    Case   V      Create using IDC
***** Bottom of data *****

F1=Help      F2=Split   F3=End    F4=Return  F5=
F7=Up        F8=Down    F9=Swap   F10=Left   F11=Right  F6=Summary

```

5. Press **PF3** to return to the resource list:

```

                                Resource List for Schedule DEMONET
                                                                Row 1 of 1
Command==>
Enter command sort to sort by VTAMname.                               Press PF3 to end.
Line commands: S Select, I Insert, R Repeat, D Delete.

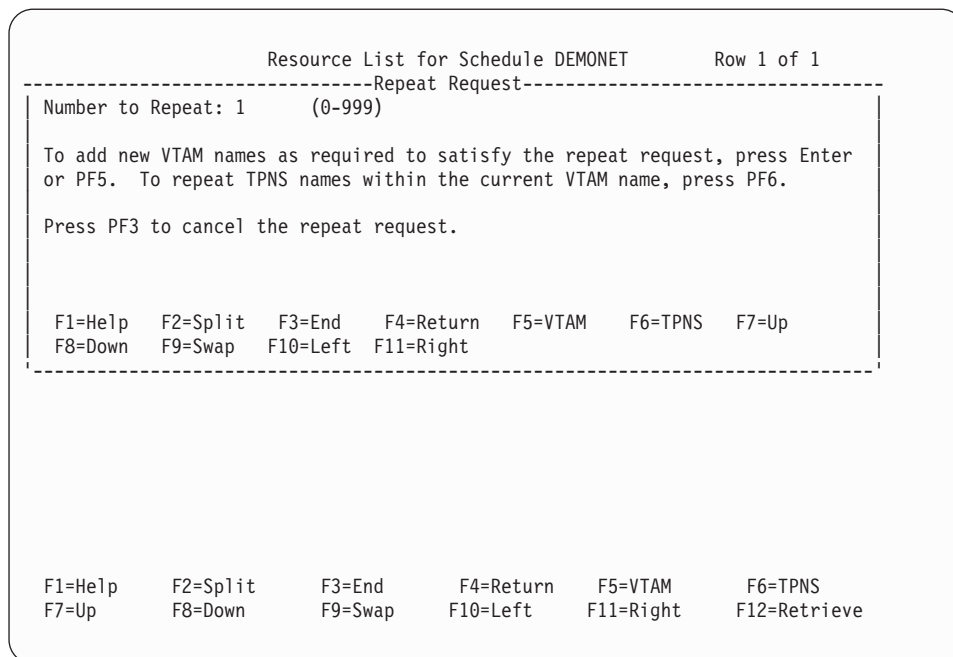
VTAMname TPNSname Test... Name      Description
_ VAPPL00 TPNSLU00 Case   DEMO    Create using IDC
***** Bottom of data *****

F1=Help      F2=Split   F3=End    F4=Return  F5=Sort      F6=
F7=Up        F8=Down    F9=Swap   F10=Left   F11=Right    F12=Retrieve

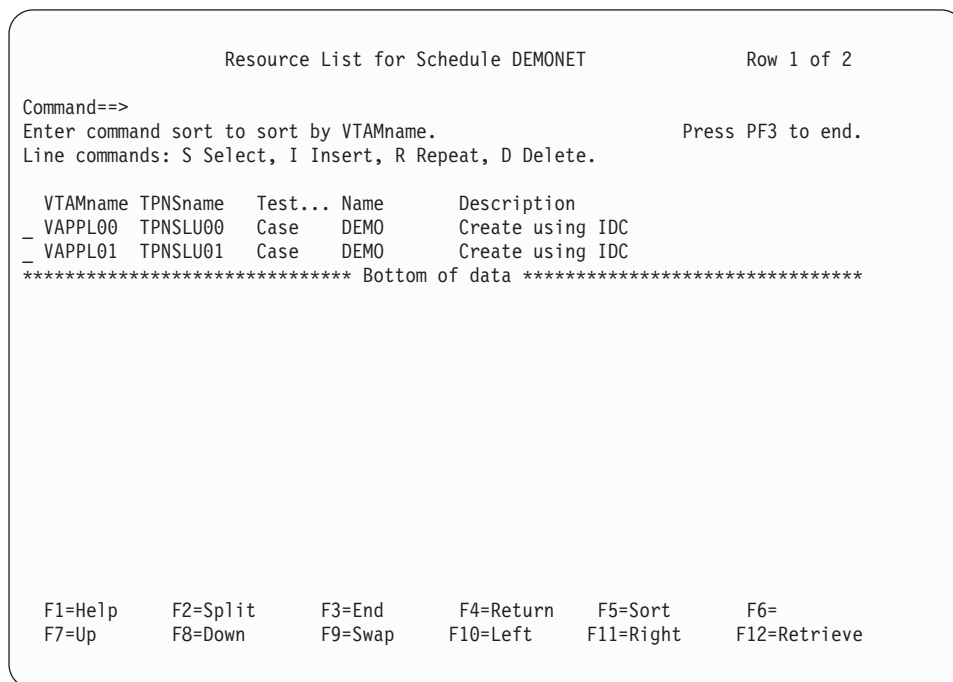
```

6. The VAPPL00 resource now references the DEMO testcase. To add more simulated resources to the network, enter the line command **R** before the VAPPL00 line.

A pop-up panel is now displayed asking how many times this resource is to be repeated:



7. The default number to repeat is 1. Press **PF5** or **ENTER** to add a new VTAM name.



8. The VTAMname and the TPNSname have been automatically updated. The resource list is now complete. Press **PF3**.
The milestones pop-up panel is displayed as the TPNS Test Manager builds a TPNS network.
After the network is built, the following panel is displayed:


```

                                Completion Report Response Time Thresholds
Command==>
Update this panel then press Enter.      Press PF3 to end.

Response Time:                          Percentiles:
  Mean < _____ seconds              95 % < _____ seconds
  Median < _____ "                  90 % < _____ "
  Mode < _____ "                   80 % < _____ "
  High < _____ "                   70 % < _____ "

F1=Help  F2=Split  F3=End   F4=Return  F5=      F6=
F7=Up    F8=Down   F9=Swap F10=Left  F11=Right F12=Retrieve

```

- Response time thresholds can be defined on this panel. For example, in the **Mean** field, enter **2**. This specifies that if the mean response time is greater than or equal to two seconds, this run will fail to meet the completion criteria. In the **95%** field, enter **3**. This specifies that if 95% of the responses are not less than or equal to 3 seconds, this run will fail to meet the completion criteria. Press **ENTER** to save the values and press **PF3** to return to the schedule list.

```

                                Process TPNS Schedules                Row 1 to 1 of 1
Command==>
Enter a line command or add to create a new Schedule.      Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
                S Testcases, T TPNS, U UTBLs, W NTWRK.

  Name      Type Notes Description          UTBLs  Last Run
_ DEMONET   V      Demo schedule          1      Added
***** Bottom of data *****

F1=Help  F2=Split  F3=End   F4=Return  F5=Add    F6=
F7=Up    F8=Down   F9=Swap  F10=Left  F11=Right F12=Retrieve

```

The schedule is now complete and ready to run.

Running TPNS Simulations

- From the TPNS Test Manager main menu, select option **4** or enter the command **RUN**. The list of schedules is displayed:

```

                                Process TPNS Schedules                Row 1 to 1 of 1
Command==>
Enter a line command or add to create a new Schedule.                Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
                S Testcases, T TPNS, U UTBLs, W NTWRK.

  Name      Type Notes Description                UTBLs  Last Run
_ DEMONET   V      Demo schedule                1      Added
***** Bottom of data *****

F1=Help    F2=Split    F3=End      F4=Return    F5=Add      F6=
F7=Up      F8=Down     F9=Swap     F10=Left     F11=Right   F12=Retrieve

```

- To start a TPNS simulation run, enter the line command **T** before schedule DEMONET. A pop-up panel is displayed asking for the TPNS log names. The TPNS Test Manager will provide default names. Changes can be made to the names if required. If the TPNS log does not exist, the TPNS Test Manager creates it.

```

                                Process TPNS Schedules                Row 1 to 1 of 1
----- Specify TPNS Log Names -----
Change the lognames and press Enter to continue or PF3 to end.

ITPENTER: 'userid.TTM.DEMO.MLOG.DEMONET'                Mandatory
Baseline: _____                Optional

Completion Report (Y/N): N

F1=Help    F2=Split    F3=End      F4=Return    F5=      F6=      F7=Up
F8=Down    F9=Swap     F10=Left    F11=Right

-----

F1=Help    F2=Split    F3=End      F4=Return    F5=Add      F6=
F7=Up      F8=Down     F9=Swap     F10=Left     F11=Right   F12=Retrieve

```

- Press **ENTER**. The TPNS simulation program ITPENTER runs and the screen becomes the TPNS console. The TPNS console will issue messages similar to the following:

```

ITP016I TPNS VERSION 3, RELEASE 5.0, SERVICE LEVEL 9711, NOVEMBER 7, 1997, 12:26

ITP003I TPNS INITIALIZATION COMPLETE
ITP200I DISPLAY MONITOR FACILITY ACTIVE USING APPL TPNSDM01
ITP029I INITIALIZATION COMPLETE FOR NETWORK DEMONET
ITP006I NETWORK DEMONET STARTED
ITP137I DEMONET TPNSLU01-00001 - TPNSLU01 DEMO PANEL VERIFICATION ERROR
ITP137I DEMONET TPNSLU01-00001 - TTM: DEMO Finished
ITP137I DEMONET TPNSLU01-00001 - TTMEND: 1 out of 2 finished.
ITP137I DEMONET TPNSLU00-00001 - TTM: DEMO Finished
ITP137I DEMONET TPNSLU00-00001 - TTMEND: 2 out of 2 finished.
ITP137I DEMONET TPNSLU00-00001 - TTMEND: All scripts run. Issuing ZEND.
ITP002I DEMONET TPNSLU00-00001 - ZEND
ITP201I DISPLAY MONITOR FACILITY IS CLOSED DOWN
ITP079I TPNS IS CLOSED DOWN

***

```

- Note the message TPNSLU01 DEMO PANEL VERIFICATION ERROR. This shows that the script running on TPNSLU01 failed a panel verification. Press **ENTER** to return to the schedule list:

```

                                Process TPNS Schedules                                Row 1 to 1 of 1
Command==>
Enter a line command or add to create a new Schedule.                                Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
                S Testcases, T TPNS, U UTBLs, W NTWRK.

Name  Type  Notes  Description                UTBLs  Last Run
_ DEMONET  V      Demo schedule                1      06/02/98 15:15 TPNS
***** Bottom of data *****

F1=Help  F2=Split  F3=End    F4=Return  F5=Add    F6=
F7=Up    F8=Down   F9=Swap   F10=Left   F11=Right F12=Retrieve

```

- The last run date and time is posted and the **TPNS** message is displayed on the right indicating that a TPNS simulation run was the last command for this entry. To investigate the panel verification problem, look at the output reports. Enter the line command **O** for schedule DEMONET.

The following reports menu is displayed:

```

                                Reports for schedule DEMONET

Select one of the following. Then press Enter.

      Command  Action                                                    More: +
--- 1. TLOG    View loglist report from latest the TPNS run
    2. TRESP   View response time report from the latest TPNS run
    3. TDM     Log display monitor for the latest TPNS run
    4. TSP     View SYSPRINT from the latest TPNS run

    5. MLOG    View baseline loglist report
    6. MRESP   View baseline response time report
    7. MDM     Log display monitor for the baseline log

    8. COMP    View screen compare report
    9. CDM     Log display comparator
   10. RTCOMP  Edit response time compare report

   11. COMPREP Edit completion report

Command===>
F1=Help   F2=Split   F3=End     F4=Return  F5=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

6. Select options 1, 2, 3, and 4 in turn.
7. Press **PF3** to return to the list of schedules. Select option **T** again to rerun the test. When the run is completed, select the reports again. Look at the reports for options 5 through 10, as well as options 1 through 4.

Depending on the type of report selected, TTM provides the user with a printout of captured screen images, or completion reports based on threshold criteria. For example, options 1 through 4 provide the user with a log of the latest simulation run. Options 8 through 10, on the other hand, provide an analysis of the activity documented in the log.

8. Press **PF3** repeatedly to return to the TPNS Test Manager main menu.

Tutorial II—CPI-C Script Generation

Specifying VARS Panel Values

For CPI-C testcase creation, the VARS panel values set in Tutorial I are generally adequate. However, if you plan to expand the schedules to include resources other than those that are automatically generated, pay special attention to the VTAM and TPNS Name Model fields.

1. From the TPNS Test Manager main menu, select option **U** or enter the command **UTIL**. The following panel is displayed:

```

                                Access Utilities

Select one of the following. Then press Enter.

      Command  Action
---  1. VARS    Specify TPNS Test Manager Variables and Options
      2. PUTBL  Process User Tables
      3. SPACE   Specify data set attributes

      4. SKELS   Edit TPNS Test Manager skeletons
      5. MSGTXT  Edit MSGTXTs data set
      6. NTRK    Edit NTRK data set
      7. TTMVARS Edit TPNS Test Manager variable @INCLUDE member

      8. TRANSLATE Translate all STL programs
      9. REFRESH Refresh all TTM Tables

Command ==>>> _____
F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

2. On this panel, select option **1** or enter the command **VARS** to get the VARS panel:

```

                                Specify TPNS Test Manager Variables and Options

Update the fields, then press Enter to save the values. Press PF3 to end.

TPNS/ISPF Interface Access: HIDE          (hide, display or interact)
Panel Message Delay : 2 seconds          (1-10)
Log Display Monitor Chars: {}`           Automatic REFRESH? : N (Y/N)
Display Panel ID?   : N (Y/N)            Display Function Keys : Y (Y/N)

TPNS Load Library   : TPNS.LOAD
IDC VTAM APPL name  : ITPIDC             Display Monitor VTAM APPL name: TPNSDM01
Fully Validate TPNS Data Set Names? : Y (Y/N)

Work data sets HLI  : userid
Low Level names:    STL: STL              MSGTXTs: MSGTXTS      NTRKs: NTRKs

VTAM Name Model     : VAPPL##
TPNS Name Model     : TPNSLU##
Numeric substitution start value: 0

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

When generating CPI-C testcases, TTM automatically creates a model network based on the resources selected for processing. The VTAM name and TPNS name for each resource will be the same and will be the name of the resource in the trace file. In the VTAM and TPNS Name Model fields, you may choose to enter a pattern that is consistent with the resource names that will be selected. Name models must end with 1-7 # characters, which are place holders for numeric value substitution. For instance, if resources SYC0D61 and SYC0D62 will be selected for script generation, you may choose to specify the VTAM name model as SYC0D##, the TPNS name model as TP##, and the numeric substitution start value as 63. With these name models, the repeat and insert

functions on the resource list panel can be used to create additional VTAM resources from SYC0D63 to SYC0D99 and additional TPNS resources from TP63 to TP99.

3. For purposes of this tutorial, set the VTAM Name Model to APPL# and the TPNS Name Model to TP#. Review the other VARS values and make any desired changes. Press **ENTER** to save the values, then press **PF3** twice to return to the TTM main menu.

Creating Testcases

A CPI-C testcase consists of TPNS scripts for traced resources that are selected for script generation. Each testcase will be represented by multiple scripts.

Start from the TPNS Test Manager main menu:

```

                                TPNS Test Manager V3R5
Select one of the following.  Then press Enter.

      Command  Action
_  1. CASE     Create and Process Testcases
   2. GROUP   Create and Process Testgroups
   3. CYCLE   Create and Process Testcycles
   4. RUN     Create TPNS networks and Schedule TPNS Simulation Runs
   D. DOC    Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   T. TII    Invoke TPNS/ISPF Interface
   U. UTIL   Run TPNS Test Manager Utilities

Project: DEMO                      Alternate HLI:

Command ==> _____

F1=Help   F2=Split   F3=End     F4=Return  F5=       F6=
F7=Up     F8=Down    F9=Swap   F10=Left  F11=Right F12=Retrieve
```

1. Select option **1** or enter the command **CASE**. A list of all the testcases in this project is displayed. This tutorial assumes that Tutorial I has been completed, so the DEMO testcase is displayed:

```

                                Process Testcases                                Row 1 of 1
Command==> _
Enter a line command or add to create a new Testcase.                          Press PF3 to end.
Line commands: D Delete, N Notes, S STL, T Translate, U UTBLs, V View.

  Name   Type UTBLs Notes Description
_ DEMO   V     1     Create using IDC
***** Bottom of data *****

F1=Help   F2=Split   F3=End     F4=Return   F5=Add     F6=
F7=Up     F8=Down    F9=Swap    F10=Left    F11=Right  F12=Retrieve

```

- To add a new testcase, enter the command **ADD** on the command line or press **PF5**. The following pop-up panel is displayed:

```

                                Process Testcases
----- Add New Testcase -----
Type Testcase Name, Description, and Source. Then press Enter.

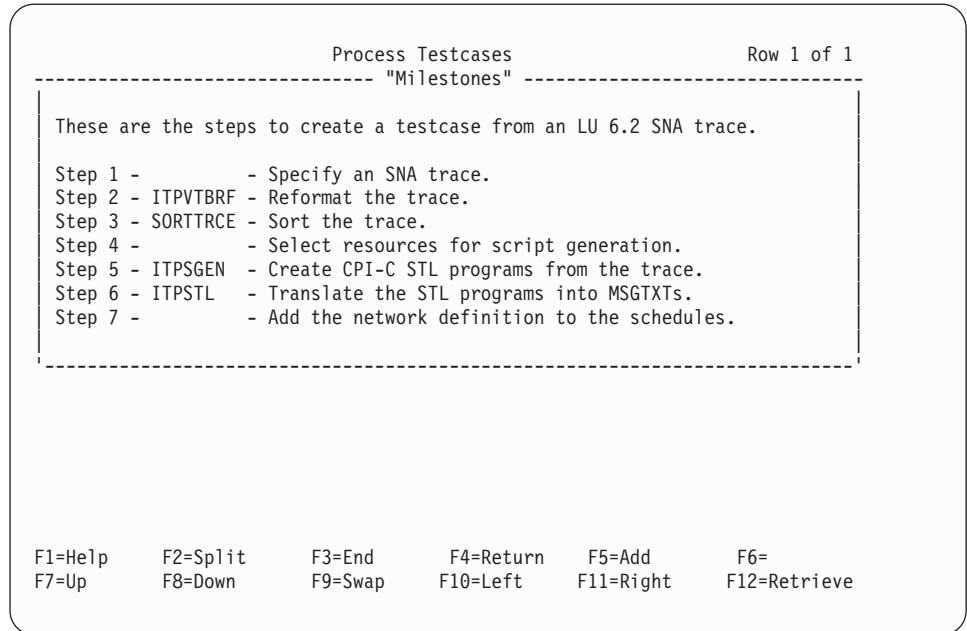
Testcase Name: _____
Description  : _____
Source      : 1. Add a 3270 testcase using IDC
              2. Add a 3270 testcase using an SNA trace
              3. Add a 3270 testcase using a TPNS or IDC log
              4. Add a testcase using the TPNS STL models
              5. Add a testcase using an STL skeleton
              6. Add a CPI-C testcase using an LU 6.2 SNA trace

F1=Help   F2=Split   F3=End     F4=Return   F5=      F6=      F7=Up
F8=Down   F9=Swap    F10=Left   F11=Right

F1=Help   F2=Split   F3=End     F4=Return   F5=      F6=
F7=Up     F8=Down    F9=Swap    F10=Left    F11=Right F12=Retrieve

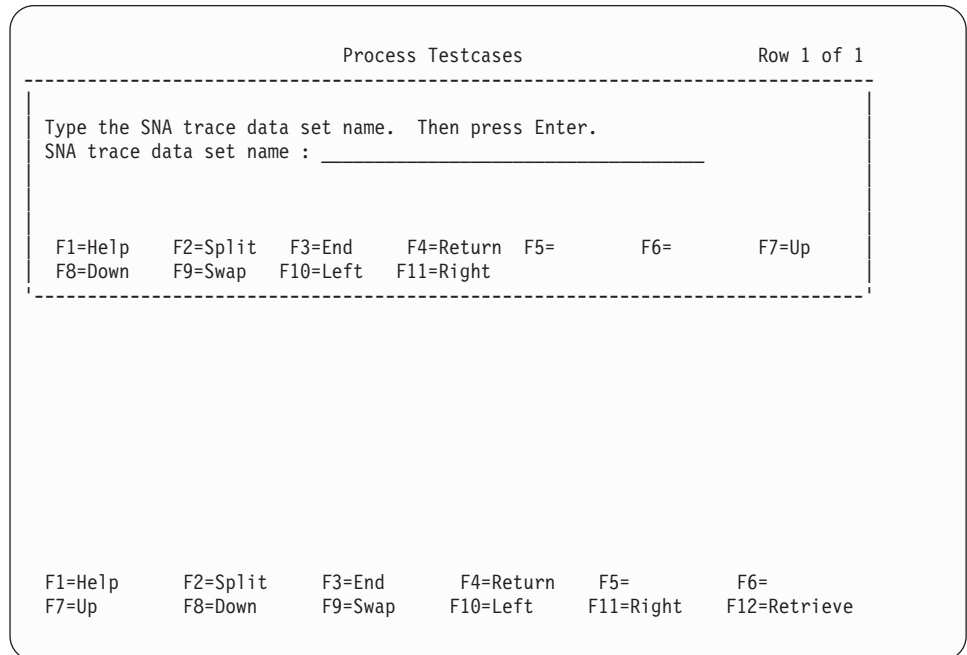
```

- In the **Testcase Name** field, type **CDEMO**. In the **Description** field, type an optional, free-form description for this testcase (for this example, specify "CPI-C script gen demo" as the description).
- Specify option **6** (Add a CPI-C testcase using an LU 6.2 SNA trace) in the **Source** field and press **ENTER**. The following pop-up panel is displayed:



This is a "Milestones" panel. This panel shows the steps needed to add a CPI-C testcase using an LU 6.2 SNA trace. Step 1 is highlighted, which shows that the TPNS Test Manager is performing Step 1.

After the panel message delay has expired, this panel will be replaced with the following pop-up panel:



5. Enter the name of the SNA trace data set. This data set must contain LU 6.2 trace data captured using the VTAM buffer trace facility. If a fully qualified name is entered, surround it by quotes. If no quotes are specified, the user ID is added as the first qualifier of the name.

Step 2 is now highlighted, followed by steps 3 and 4. After the TPNS Test Manager has completed these four steps, a resource selection panel similar to the following is displayed:


```

                                Select Resources for Script Generation      Row 1 to 3 of 3
Command==>
Enter an S to select and unselect, then press ENTER.  Press PF3 to continue.

Resource   Records
_ TOCDRM1   18
_ TTMAPC4   16
_ TTMAPC5   20
***** Bottom of data *****

F1=Help    F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

The actual resource list displayed will depend on the contents of your trace file. Typically at least one of the resources is a system control session and can be ignored for purposes of script generation. You will need to have some knowledge of the resources that were traced in order to know which ones to select for script generation.

- 6. Enter **S** before each resource that you want to simulate, then press **ENTER**. The **Selected** message is displayed beside each of the resources you selected. If the selected list is correct, press **PF3** to continue; otherwise, you can make changes to the selected list.

Note: To unselect a resource, enter an S before the selected resource.

Steps 5, 6, and 7 will now each be highlighted in turn as the CPI-C scripts are generated and translated, and the schedule is added. While the scripts are being translated, the following pop-up panel is displayed.

```

TPNS: Generate Message Decks from Sorted Trace Data
-----
Translating CDEMO.
-----
File number . . . . . (0-9999)
Label type . . . . . (NL or SL)
Model script . . . . . 'userid.TTM.DEMO.MODELS(SGENINPT)'
Control commands . . . . 'userid.TTMUSER.SKELS(ITMSCSG)'

Output Data Sets
Generated message decks 'userid.TTM.DEMO.MSGTXTS'
Generated STL programs 'userid.TTM.DEMO.STL'
Updated networks . . . . 'userid.TTM.DEMO.NTWKRS'
Sequential output . . . . 'userid.TTM.DEMO.SGENSTL(CDEMO)'
Printer output . . . . . 'userid.TTM.SYSPRINT'

Command ==>
F1=Help      F2=Split    F3=End      F4=Return   F5=         F6=
F7=Up        F8=Down     F9=Swap     F10=Left    F11=Right   F12=Retrieve

```

For CPI-C testcases, the schedule is added automatically as part of the testcase creation process. TTM creates a script generation model network based on the selected resources. The TPNS script generation process then uses this model network to create a network for the generated scripts. This network is added to the schedules as the last step of the testcase creation process. The name and description of the schedule is the same as the testcase name and description unless the testcase name is already in use by another schedule. If there is a name conflict, the following pop-up panel is displayed:

```

TPNS: Process Networks and STL Programs
-----
Name CDEMO is already in use. Please choose another.
Press ENTER to continue.
-----
Includes . . . . . 'userid.TTM.DEMO.STL'

Output Data Sets
Networks . . . . . 'userid.TTM.DEMO.NTWKRS'
Message decks . . . . . 'userid.TTM.DEMO.MSGTXTS'
Sequential output . . . .
Printer output . . . . . 'userid.TTM.SYSPRINT'

Control Options
Run mode . . . . . I (I=Interactive, B=Batch, N=Batch-no panel)
Add members . . . . . Y (Y=Yes or N=No)
Include STL statements Y (Y=Yes or N=No)

Command ==>
F1=Help      F2=Split    F3=End      F4=Return   F5=         F6=
F7=Up        F8=Down     F9=Swap     F10=Left    F11=Right   F12=Retrieve

```

7. Press **ENTER**; the following pop-up panel is displayed:

```

TPNS: Process Networks and STL Programs
----- Add New Test Schedule -----
Schedule name: CDEMO
Description : CPI-C script gen demo

Change the name and optionally the description.
Press Enter to continue or PF3 to cancel the schedule add process.

F1=Help   F2=Split  F3=End    F4=Return  F5=        F6=        F7=Up
F8=Down   F9=Swap   F10=Left  F11=Right

Message decks . . . . . 'userid.TTM.DEMO.MSGTXTS'
Sequential output . . . .
Printer output . . . . . 'userid.TTMWORK.TTM.SYSPRINT'

Control Options
Run mode . . . . . I (I=Interactive, B=Batch, N=Batch-no panel)
Add members . . . . . Y (Y=Yes or N=No)
Include STL statements Y (Y=Yes or N=No)

Command ==>
F1=Help   F2=Split  F3=End    F4=Return  F5=        F6=
F7=Up     F8=Down   F9=Swap   F10=Left   F11=Right  F12=Retrieve

```

8. Change the schedule name to a name that is unique in the schedule list. You may also optionally change the schedule description. Press **ENTER** and the schedule add process will continue.

In this example there is no name conflict, so the schedule will be added without displaying either of the previous two panels.

After the schedule has been added, the Milestones panel is removed and the list of testcases is displayed:

```

Process Testcases
Row 1 of 2
Command==>
Enter a line command or add to create a new Testcase.          Press PF3 to end.
Line commands: D Delete, N Notes, S STL, T Translate, U UTBLs, V View.

Name   Type UTBLs Notes Description
_ CDEMO C          CPI-C script gen demo      Added
_ DEMO  V          Create using IDC
***** Bottom of data *****

F1=Help   F2=Split  F3=End    F4=Return  F5=Add    F6=
F7=Up     F8=Down   F9=Swap   F10=Left   F11=Right F12=Retrieve

```

The **Added** message to the right of the testcase description indicates that the new testcase has been added to TTM. The **C** under the “Type” header indicates that this is a CPI-C testcase (the simulated resources are defined to VTAM using the APPC=YES operand).

9. Press **PF3** to return to the TPNS Test Manager main menu.

Working with Schedules

There is now a new testcase called CDEMO that contains TPNS scripts that represent some traced resources and there is a schedule that defines the TPNS network required to simulate these resources. This section describes how to run this schedule.

Start from the TPNS Test Manager main menu:

```

TPNS Test Manager V3R5

Select one of the following. Then press Enter.

  Command  Action
-  1. CASE  Create and Process Testcases
   2. GROUP Create and Process Testgroups
   3. CYCLE Create and Process Testcycles
   4. RUN    Create TPNS networks and Schedule TPNS Simulation Runs
   D. DOC   Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   T. TII   Invoke TPNS/ISPF Interface
   U. UTIL  Run TPNS Test Manager Utilities

Project: DEMO                               Alternate HLI:

Command ==> _____

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

1. Select option **4** or enter the command **RUN**. A list of schedules is displayed:

```

Process TPNS Schedules                               Row 1 to 2 of 2

Command==>
Enter a line command or add to create a new Schedule.      Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
                S Testcases, T TPNS, U UTBLs, W NTRK.

  Name   Type  Notes Description           UTBLs  Last Run
-  CDEMO   C           CPI-C script gen demo          1  06/02/98 15:15
-  DEMONET V           Demo schedule
***** Bottom of data *****

F1=Help   F2=Split   F3=End     F4=Return  F5=Add     F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

The list shows the VTAMAPPL schedule added in the first tutorial, as well as the new CPI-C schedule. The CPI-C schedule is ready to run. However, you can also update the resources, the test item references, or both prior to running the schedule.

- To update the schedule, enter the **R** line command beside the CDEMO line. A resource list for the schedule is displayed:

```

                                Resource List for Schedule CDEMO                                Row 1 to 2 of 2
Command==>
Enter command sort to sort by VTAMname.                                Press PF3 to end.
Line commands: S Select, I Insert, R Repeat, D Delete.

  VTAMname TPNSname Test... Name      Description
-  TTMAPC4  TTMAPC4  MSGTXT  TTMAPC4
-  TTMAPC5  TTMAPC5  MSGTXT  TTMAPC5
***** Bottom of data *****

F1=Help    F2=Split   F3=End     F4=Return  F5=Sort    F6=
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

- This schedule has two simulated resources defined, although the number defined depends on the number of resources selected when the CDEMO testcase was created. To select a resource, enter the **S** line command in front of the resource. Enter an **S** in front of the TTMAPC4 resource. A pop-up panel is displayed listing all of the CPI-C test items (cases, MSGTXTs, groups and cycles) available in this project:

```

----- Specify Order for Resource TTMAPC4 under TTMAPC4 -----
                                Row 1 of 3
Command==>
Enter order or summary.                                Press PF3 to end.

Order          Name      Test... Type Description
1              CDEMO    Case   C   CPI-C script gen demo
              TTMAPC4  Msgtxt C
              TTMAPC5  Msgtxt C

F1=Help    F2=Split   F3=End     F4=Return  F5=        F6=Summary
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right

```

In this example there is only one testcase available—CDEMO. This testcase contains two MSGTXTs (scripts) and the TTMAPC4 resource currently references the TTMAPC4 MSGTXT. At this point, you can change the references for the TTMAPC4 resource. For purposes of illustration assume you have another CPI-C testcase defined. Assume your order specification panel looks like the following:

```

----- Specify Order for Resource TTMAPC4 under TTMAPC4 -----
Row 1 of 7
Command==>
Enter order or summary.          Press PF3 to end.

Order          Name      Test...  Type  Description
1              CDEMO    Case    C     CPI-C script gen demo
              TTMAPC4   Msgtxt  C
              TTMAPC5   Msgtxt  C
              CPICCASE  Case    C     cpi-c case
              MTXT1    Msgtxt  C
              MTXT2    Msgtxt  C
              MTXT3    Msgtxt  C

F1=Help   F2=Split  F3=End   F4=Return  F5=      F6=Summary
F7=Up     F8=Down   F9=Swap  F10=Left  F11=Right

```

This panel shows two CPI-C test cases available: CDEMO, which contains two MSGTXTs (TTMAPC4 and TTMAPC5), and CPICCASE, which contains three MSGTXTs (MTXT1, MTXT2, and MTXT3).

- If you want the TTMAPC4 resource to reference the MTXT3 message text first and then the TTMAPC4 message text, specify the reference order as follows:

```

----- Specify Order for Resource TTMAPC4 under TTMAPC4 -----
Row 1 of 7
Command==>
Enter order or summary.          Press PF3 to end.

Order          Name      Test...  Type  Description
2              CDEMO    Case    C     CPI-C script gen demo
              TTMAPC4   Msgtxt  C
              TTMAPC5   Msgtxt  C
              CPICCASE  Case    C     cpi-c case
              MTXT1    Msgtxt  C
              MTXT2    Msgtxt  C
1              MTXT3    Msgtxt  C

F1=Help   F2=Split  F3=End   F4=Return  F5=      F6=Summary
F7=Up     F8=Down   F9=Swap  F10=Left  F11=Right

```

For this tutorial, leave the reference order for your resources as it was defined when the script was generated.

- Press **PF3** to return to the resource list panel:

```

                                Resource List for Schedule CDEMO                Row 1 to 2 of 2
Command==>
Enter command sort to sort by VTAMname.                                Press PF3 to end.
Line commands: S Select, I Insert, R Repeat, D Delete.

    VTAMname TPNSname Test... Name      Description
_  TTMAPC4  TTMAPC4  MSGTXT  TTMAPC4
_  TTMAPC5  TTMAPC5  MSGTXT  TTMAPC5
***** Bottom of data *****

F1=Help    F2=Split   F3=End     F4=Return  F5=Sort    F6=
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

- Assume you want to add two more resources to the network that each reference the TTMAPC5 MSGTXT. Enter the line command **R** before the TTMAPC5 line.

A pop-up panel is now displayed asking how many times this resource is to be repeated:

```

                                Resource List for Schedule CDEMO                Row 1 of 1
-----Repeat Request-----
Number to Repeat: 1      (0-999)

To add new VTAM names as required to satisfy the repeat request, press Enter
or PF5. To repeat TPNS names within the current VTAM name, press PF6.

Press PF3 to cancel the repeat request.

F1=Help    F2=Split   F3=End     F4=Return  F5=VTAM    F6=TPNS    F7=Up
F8=Down    F9=Swap    F10=Left   F11=Right

F1=Help    F2=Split   F3=End     F4=Return  F5=VTAM    F6=TPNS
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

- Change the Number to Repeat field to **2**. Press **ENTER** or **PF5** to add new VTAM names.

The resource list panel is redisplayed:

```

                                Resource List for Schedule CDEMO                Row 1 to 4 of 4
Command==>
Enter command sort to sort by VTAMname.                Press PF3 to end.
Line commands: S Select, I Insert, R Repeat, D Delete.

VTAMname TPNSname Test... Name      Description
_ APPL0   TP0     MSGTXT  TTMAPC5
_ APPL1   TP1     MSGTXT  TTMAPC5
_ TTMAPC4 TTMAPC4  MSGTXT  TTMAPC4
_ TTMAPC5 TTMAPC5  MSGTXT  TTMAPC5
***** Bottom of data *****

F1=Help      F2=Split    F3=End      F4=Return   F5=Sort     F6=
F7=Up        F8=Down     F9=Swap     F10=Left    F11=Right   F12=Retrieve

```

Two new resources have been added and each references the same MSGTXT as the TTMAPC5 resource that was repeated. The VTAMname and TPNSname were automatically updated using the name models that were specified on the VARS panel.

8. Now assume you want to add a new resource that references a different CPI-C test item than any currently referenced by this schedule. You want this resource to follow the APPL1 resource in the list. Enter an **I** before the APPL1 line. For purposes of illustration, assume you have the same two CPI-C testcases defined as in the previous order specification example. The following order specification panel is displayed:


```

----- Specify Order for Resource TTMAPC4 under TTMAPC4 -----
Row 1 of 7
Command==>
Enter order or summary.          Press PF3 to end.

Order          Name      Test...  Type  Description
CDEMO         Case     C       CPI-C script gen demo
TTMAPC4       Msgtxt   C
TTMAPC5       Msgtxt   C
CPICCASE      Case     C       cpi-c case
MTXT1         Msgtxt   C
MTXT2         Msgtxt   C
MTXT3         Msgtxt   C

F1=Help      F2=Split   F3=End     F4=Return   F5=         F6=Summary
F7=Up        F8=Down    F9=Swap    F10=Left    F11=Right

```

- If you want this new resource to reference the CPICCASE testcase, specify the reference order as follows:

```

----- Specify Order for Resource TTMAPC4 under TTMAPC4 -----
Row 1 of 7
Command==>
Enter order or summary.          Press PF3 to end.

Order          Name      Test...  Type  Description
CDEMO         Case     C       CPI-C script gen demo
TTMAPC4       Msgtxt   C
TTMAPC5       Msgtxt   C
1             CPICCASE Case     C       cpi-c case
MTXT1         Msgtxt   C
MTXT2         Msgtxt   C
MTXT3         Msgtxt   C

F1=Help      F2=Split   F3=End     F4=Return   F5=         F6=Summary
F7=Up        F8=Down    F9=Swap    F10=Left    F11=Right

```

- Press **PF3** to return to the resource list panel:

```

                                Resource List for Schedule CDEMO                Row 1 to 5 of 5
Command==>
Enter command sort to sort by VTAMname.                                Press PF3 to end.
Line commands: S Select, I Insert, R Repeat, D Delete.

VTAMname TPNSname Test... Name      Description
- APPL0   TP0      MSGTXT  TTMAPC5
- APPL1   TP1      MSGTXT  TTMAPC5
- APPL2   TP2      CASE    CPICCASE
- TTMAPC4 TTMAPC4  MSGTXT  TTMAPC4
- TTMAPC5 TTMAPC5  MSGTXT  TTMAPC5
***** Bottom of data *****

F1=Help    F2=Split  F3=End    F4=Return  F5=Sort    F6=
F7=Up      F8=Down   F9=Swap   F10=Left   F11=Right  F12=Retrieve

```

The new resource has been added and it references the CPICCASE testcase. The VTAMname and TPNSname were automatically updated using the name models that were specified on the VARS panel. Because this resource references a testcase instead of a MSGTXT, it will reference each MSGTXT in the testcase in turn (MTXT1, followed by MTXT2, followed by MTXT3).

11. Press **PF3**; the following pop-up panel is displayed:

```

-----
About to recreate TPNS network CDEMO

Recreation of a TPNS network involves the following:

1. Restoring the original NTWRK statement definitions.

2. Saving other statements except the UTBL, PATH and resource statements.
   Each saved statement will become a comment in the recreated TPNS
   network. Comments in the original TPNS network are not saved.

3. Current UTBL and PATH statements will be replaced with values based on
   the reference order selected for all the resources in the TPNS network.
   The referenced user tables are reflected in the UTBL statements.

4. Updating the resource definitions to reflect changes made to the
   TPNS and VTAM names. Current path definitions will be replaced with
   path definitions that reflect the reference order that has been
   specified for each resource. In addition, if a path operand exists
   on the NTWRK statement, it will be removed.

Press Enter to continue or PF3 to cancel.
-----

```

12. Press enter to recreate the network. This process adds the new resource definitions to your network. The following pop-up panel is displayed:

```

Resource List for Schedule CDEMO Row 1 to 5 of 5
-----
Creating NTWRK.
-----
- APPL1 TP1 MSGTXT TTMPC5
- APPL2 TP2 CASE CPICCASE
- TTMPC4 TTMPC4 MSGTXT TTMPC4
- TTMPC5 TTMPC5 MSGTXT TTMPC5
***** Bottom of data *****

F1=Help F2=Split F3=End F4=Return F5=Sort F6=
F7=Up F8=Down F9=Swap F10=Left F11=Right F12=Retrieve

```

When the recreate completes, the schedule list is redisplayed:

```

Process TPNS Schedules Row 1 to 2 of 2
Command==>
Enter a line command or add to create a new Schedule. Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
S Testcases, T TPNS, U UTBLs, W NTWRK.

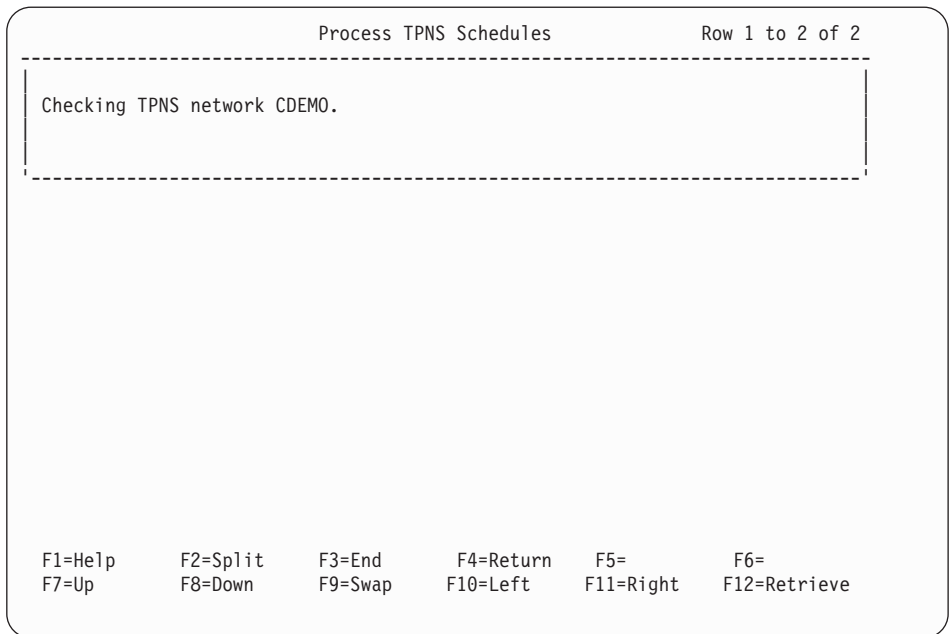
Name Type Notes Description UTBLs Last Run Resources
- CDEMO C CPI-C script gen demo
- DEMONET V Demo schedule 1 06/02/98 15:15
***** Bottom of data *****

F1=Help F2=Split F3=End F4=Return F5=Add F6=
F7=Up F8=Down F9=Swap F10=Left F11=Right F12=Retrieve

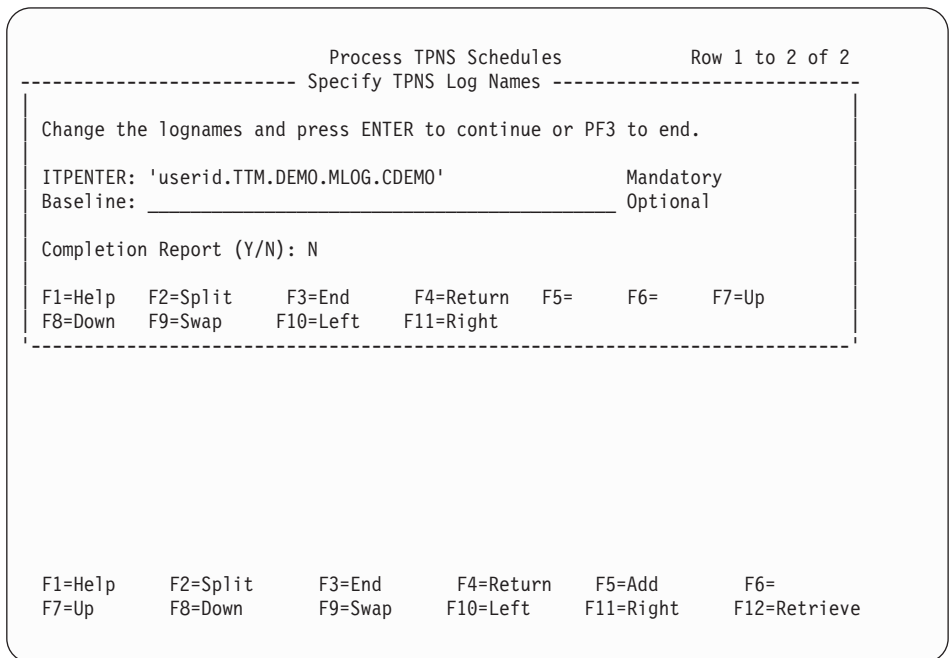
```

The **Resources** message to the right of the schedule entry indicates that **R** was the last line command specified for this entry.

- To run the updated schedule, enter the line command **T** before the CDEMO line. The following pop-up panel is displayed while TTM checks the network:



When the network checking is complete, the following pop-up panel is displayed:



The TPNS Test Manager displays default log names. If required, you can update these names. If the log file does not already exist, TTM creates it.

14. Enter **N** in the **Completion Report** field and press **ENTER**. The TPNS simulation program ITPENTER runs and the screen becomes the TPNS console. Messages similar to the following will be displayed:

```

ITP016I TPNS VERSION 3, RELEASE 5.0, SERVICE LEVEL 9711, NOVEMBER 7, 1997, 12:26
ITP003I TPNS INITIALIZATION COMPLETE
ITP200I DISPLAY MONITOR FACILITY ACTIVE USING APPL TPNSDM01
ITP029I INITIALIZATION COMPLETE FOR NETWORK CDEMO
ITP006I NETWORK CDEMO STARTED

```

- Now you can enter any valid TPNS commands to query or monitor the CDEMO network. Enter the **ZEND** command to complete the simulation and return to the TTM schedules panel.

```

                                Process TPNS Schedules                                Row 1 to 2 of 2
Command==>
Enter a line command or add to create a new Schedule.                                Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
                S Testcases, T TPNS, U UTBLs, W NTRK.

```

Name	Type	Notes	Description	UTBLs	Last Run
_ CDEMO	C		CPI-C script gen demo		06/02/98 16:47 TPNS
_ DEMONET	V		Demo schedule	1	06/02/98 15:15

```

F1=Help      F2=Split    F3=End      F4=Return   F5=Add      F6=
F7=Up        F8=Down     F9=Swap     F10=Left    F11=Right   F12=Retrieve

```

The last run date and time is posted and the **TPNS** message is displayed on the right of the CDEMO entry indicating that a TPNS simulation run was the last command for this entry.

- View output reports from this simulation run by entering the line command **O** beside the CDEMO entry.

The following reports menu is displayed:

```

                                Reports for schedule CDEMO

Select one of the following.  Then press Enter.

      Command  Action                                          More: +
---  1. TLOG   View loglist report from latest the TPNS run
      2. TRESP View response time report from the latest TPNS run
      3. TDM   Log display monitor for the latest TPNS run
      4. TSP   View SYSPRINT from the latest TPNS run

      5. MLOG   View baseline loglist report
      6. MRESP  View baseline response time report
      7. MDM   Log display monitor for the baseline log

      8. COMP   View screen compare report
      9. CDM   Log display comparator
     10. RTCOMP Edit response time compare report

     11. COMPREP Edit completion report

Command==>
F1=Help   F2=Split   F3=End     F4=Return  F5=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

- For this particular simulation, the loglist report is the only report of any interest. To view it, select option 1. Press **PF3** repeatedly to return to the TPNS Test Manager main menu.

Tutorial III—TCP/IP Using a Model Script

Specifying VARS Panel Values

For testcases generated from TPNS model networks, the VARS panel values set in Tutorials I and II are generally adequate. However, if you plan to expand the schedules to include resources other than those that are automatically generated, pay special attention to the VTAM and TPNS Name Model fields.

- From the TPNS Test Manager main menu, select option **U** or enter the command **UTIL**. The following panel is displayed:

```

                                Access Utilities

Select one of the following. Then press Enter.

      Command  Action
--- 1. VARS    Specify TPNS Test Manager Variables and Options
    2. PUTBL   Process User Tables
    3. SPACE   Specify data set attributes

    4. SKELS   Edit TPNS Test Manager skeletons
    5. MSGTXT  Edit MSGTXTs data set
    6. NTRK    Edit NTRK data set
    7. TTMVARS Edit TPNS Test Manager variable @INCLUDE member

    8. TRANSLATE Translate all STL programs
    9. REFRESH Refresh all TTM Tables

Command ==>>> _____
F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

2. On this panel, select option **1** or enter the command **VARS** to get the VARS panel:

```

                                Specify TPNS Test Manager Variables and Options

Update the fields, then press Enter to save the values. Press PF3 to end.

TPNS/ISPF Interface Access: HIDE      (hide, display or interact)
Panel Message Delay : 2 seconds      (1-10)
Log Display Monitor Chars: {}`       Automatic REFRESH? : N (Y/N)
Display Panel ID?   : N (Y/N)        Display Function Keys : Y (Y/N)

TPNS Load Library   : TPNS.LOAD
IDC VTAM APPL name  : ITPIDC         Display Monitor VTAM APPL name: TPNSDM01
Fully Validate TPNS Data Set Names? : Y (Y/N)

Work data sets HLI  : userid
Low Level names:   STL: STL           MSGTXTs: MSGTXTS      NTRKs: NTRKs

VTAM Name Model     : VAPPL##
TPNS Name Model     : TPNSLU##
Numeric substitution start value: 0

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

When generating testcases from TPNS model networks, TTM uses the names specified in the model network for the VTAM and TPNS resource names. In the VTAM and TPNS Name Model fields, you can choose to enter a pattern that is consistent with the resource names in the model network. Name models must end with 1-7 # characters which are place holders for numeric value substitution. The resource names in the TN3270 model network are of the form HOST*n* for VTAM names and DEV*nn* for TPNS names (where *n* represents numeric values). When generating testcases using this model network, you can choose to specify the VTAM name model as HOST## and the TPNS name model as DEV##. The VTAM name model must have two # characters because the TPNS names end with two numerics and TTM requires both name models to have the same number of numeric placeholder characters. Set the numeric

substitution start value to 25 to avoid any conflict with current resource names used in the model network (the largest resource name in the TN3270 model network is DEV24). With these name models, the repeat and insert functions on the resource list panel can be used to create additional VTAM resources from HOST25 to HOST99 and additional TPNS resources from DEV25 to DEV99.

3. Review the other VARS values and make any changes. Press **ENTER** to save the values, then press **PF3** twice to return to the TTM main menu.

Creating Testcases

A testcase created from a TPNS model network consists of TPNS scripts that are defined by the model network. Each testcase may be represented by multiple scripts.

Start from the TPNS Test Manager main menu:

```
TPNS Test Manager V3R5

Select one of the following. Then press Enter.

  Command  Action
_  1. CASE  Create and Process Testcases
   2. GROUP Create and Process Testgroups
   3. CYCLE Create and Process Testcycles
   4. RUN   Create TPNS networks and Schedule TPNS Simulation Runs
   D. DOC  Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   T. TII   Invoke TPNS/ISPF Interface
   U. UTIL  Run TPNS Test Manager Utilities

Project: DEMO                               Alternate HLI:

Command ==> _____

F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve
```

1. Select option **1** or enter the command **CASE**. A list of all the testcases in this project is displayed. This tutorial assumes that Tutorials I and II have been completed, so the DEMO and CDEMO testcases are shown:


```

                                Process Testcases                                Row 1 of 2
Command==>
Enter a line command or add to create a new Testcase.          Press PF3 to end.
Line commands: D Delete, N Notes, S STL, T Translate, U UTBLs, V View.

  Name      Type UTBLs Notes Description
_ CDEMO     C          CPI-C script gen demo
_ DEMO      V          Create using IDC
***** Bottom of data *****

F1=Help    F2=Split  F3=End    F4=Return  F5=Add    F6=
F7=Up      F8=Down   F9=Swap   F10=Left   F11=Right F12=Retrieve

```

- To add a new testcase, enter the command **ADD** on the command line or press **PF5**. The following pop-up panel is displayed:

```

                                Process Testcases
----- Add New Testcase -----
Type Testcase Name, Description, and Source. Then press Enter.

Testcase Name: _____
Description   : _____
Source       : ___ 1. Add a 3270 testcase using IDC
                2. Add a 3270 testcase using an SNA trace
                3. Add a 3270 testcase using a TPNS or IDC log
                4. Add a testcase using the TPNS STL models
                5. Add a testcase using an STL skeleton
                6. Add a CPI-C testcase using an LU 6.2 SNA trace

F1=Help    F2=Split  F3=End    F4=Return  F5=      F6=      F7=Up
F8=Down    F9=Swap   F10=Left  F11=Right

F1=Help    F2=Split  F3=End    F4=Return  F5=      F6=
F7=Up      F8=Down   F9=Swap   F10=Left   F11=Right F12=Retrieve

```

- In the **Testcase Name** field, type **MDEMO**. In the **Description** field, type an optional, free-form description for this testcase (for this example, specify "TCP/IP model demo" as the description).
- Specify option **4** (Add a testcase using the TPNS STL models) in the **Source** field and press **ENTER**. The following pop-up panel is displayed:

```

                                Process Testcases                                Row 1 of 2
----- "Milestones" -----
Comman
Enter
Line c   These are the steps to create a testcase from STL models:
Name     Step 1 -           - Choose STL Model.
_ CDEM   Step 2 - ITPSTL  - Translate STL program into a MSGTXT.
_ DEMO   Step 3 -           - Add the network definition to the schedules

F1=Help   F2=Split   F3=End     F4=Return  F5=Add     F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

This is a "Milestones" panel. This panel shows the steps needed to add a testcase using the TPNS STL models. Step 1 is now highlighted, which shows that the TPNS Test Manager is performing Step 1.

After the panel message delay has expired, the Milestones panel is replaced by the following TPNS/ISPF Interface panel:

```

                                TPNS: Choose a Model
Select a model by typing '/' or 'S'. Then press Enter.
More:

Model   Description
. CPIC   CPI-C Transaction Program simulation
. DIRATTH Direct-attached cross-domain simulation
. ETHERNET Ethernet simulation
. FRMRELAY Frame Relay simulation
. FTP    File Transfer Protocol
. LINKATTH Link-attached cross-domain simulation
. PU21   Type 2.1 node simulation
. RHO    Real host ownership of a simulated NCP subarea
. SAMEDOMN Full duplex and half duplex devices in the same domain
. STCP   Simple TCP and UDP client simulation
. TN3270 Telnet 3270 and 3270E simulation
. TOKENRNG IBM Token Ring simulation
. VTAMAPPL VTAM application simulation
. X25    X.25 packet switched network simulation
.
.
5688-121 (C) Copyright IBM Corporation 1976, 1997. All rights reserved.
F1=Help F2=Split F6=Browse model F7=Bkwd F8=Fwd F9=Swap F12=Cancel

```

5. Select the TN3270 model by entering a / or an S before the TN3270 line. You are placed into an edit session on the TPNS TN3270 model network:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      userid.TTM.DEMO.STL(MDEMO) - 01.00          Columns 00001 00072
Command ==>                               Scroll ==> HALF
***** ***** Top of Data *****
000001 /* Telnet 3270 and 3270E simulation *
000002 @NET
000003 *****
000004 * Network Configuration: Telnet 3270 and 3270E simulation
000005 *
000006 * Description: This TPNS script will simulate four 3270 devices
000007 *                connecting to an application logon screen and logging
000008 *                back off. The SERVADDR operand specifies the IP dotted
000009 *                address of the host to which the devices will connect.
000010 *
000011 *                This TPNS script will also simulate two 3270E terminals
000012 *                connecting to an application logon screen and logging
000013 *                back off. This script also simulates two 3270E
000014 *                printers receiving data. The SERVADDR operand
000015 *                specifies the IP dotted address of the host to which
000016 *                the terminals and printers will connect.
000017 *
F1=Help   F2=Split   F3=Exit   F5=Rfind   F6=Rchange F7=Up
F8=Down   F9=Swap    F10=Left F11=Right F12=Cancel

```

6. Make any changes to the network or script definitions. For a Telnet model network TN3270, from TPNS Version 3 Release 5 Service Level 9711, change **HEAD='Telnet 3270 and 3270E Model Network'** to **HEAD='Telnet 3270 Network'**. Press **PF3** to end the edit session and return to the Milestones panel. Step 2 is now highlighted and the scripts are translated to STL. During the translation process, the following pop-up panel is displayed:

```

TPNS: Choose a Model
-----
Translating MDEMO.
-----
. ETHERNET Ethernet simulation
. FRMRELAY Frame Relay simulation
. FTP File Transfer Protocol
. LINKATTH Link-attached cross-domain simulation
. PU21 Type 2.1 node simulation
. RHO Real host ownership of a simulated NCP subarea
. SAMEDOMN Full duplex and half duplex devices in the same domain
. STCP Simple TCP and UDP client simulation
S TN3270 Telnet 3270 and 3270E simulation
. TOKENRNG IBM Token Ring simulation
. VTAMAPPL VTAM application simulation
. X25 X.25 packet switched network simulation
.
.
F1=Help   F2=Split   F3=End   F4=Return   F5=   F6=
F7=Up     F8=Down    F9=Swap  F10=Left   F11=Right F12=Retrieve

```

Step 3 is now highlighted while the schedule is added. For testcases created from TPNS model networks, the schedule is added automatically as part of the testcase creation process. The name and description of the schedule is the same as the testcase name and description.

After the schedule has been added, the Milestones panel is replaced by the list of testcases:

```

                                Process Testcases                                Row 1 of 3
Command==>
Enter a line command or add to create a new Testcase.          Press PF3 to end.
Line commands: D Delete, N Notes, S STL, T Translate, U UTBLs, V View.

  Name   Type UTBLs Notes Description
- MDEMO  T      TCP/IP model demo          Added
- CDEMO  C      CPI-C script gen demo
- DEMO   V      Create using IDC
***** Bottom of data *****

F1=Help   F2=Split   F3=End     F4=Return   F5=Add     F6=
F7=Up     F8=Down    F9=Swap    F10=Left    F11=Right  F12=Retrieve

```

The **Added** message to the right of the testcase description indicates the new testcase has been added to TTM. The **T** under the “Type” header indicates that this is a TCP/IP testcase.

7. Press **PF3** to return to the TPNS Test Manager main menu.

Working with Schedules

There is now a new testcase called MDEMO that contains TPNS scripts that represent the TN3270 model and there is a schedule that defines the TPNS network required to simulate these resources. This section describes how to run this schedule. Start from the TPNS Test Manager main menu:

```

                                TPNS Test Manager V3R5
Select one of the following. Then press Enter.

  Command  Action
- 1. CASE   Create and Process Testcases
  2. GROUP  Create and Process Testgroups
  3. CYCLE  Create and Process Testcycles
  4. RUN    Create TPNS networks and Schedule TPNS Simulation Runs
  D. DOC    Create Test Documentation
  P. PROJECT Add/Change Project or Alternate HLI
  T. TII    Invoke TPNS/ISPF Interface
  U. UTIL   Run TPNS Test Manager Utilities

Project: DEMO                                Alternate HLI:

Command ==> _____

F1=Help   F2=Split   F3=End     F4=Return   F5=         F6=
F7=Up     F8=Down    F9=Swap    F10=Left    F11=Right  F12=Retrieve

```

1. Select option **4** or enter the command **RUN**. A list of schedules is displayed:

```

                                Process TPNS Schedules                                Row 1 to 3 of 3
Command==>
Enter a line command or add to create a new Schedule.                                Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
                S Testcases, T TPNS, U UTBLs, W NTWRK.

  Name   Type  Notes Description                UTBLs   Last Run
_ CDEMO   C      CPI-C script gen demo          06/02/98 16:47
_ DEMONET V      Demo schedule                  1 06/02/98 15:15
_ MDEMO   T      TCP/IP model demo
***** Bottom of data *****

F1=Help   F2=Split  F3=End   F4=Return  F5=Add   F6=
F7=Up     F8=Down   F9=Swap  F10=Left   F11=Right F12=Retrieve

```

The list shows the VTAMAPPL schedule added in Tutorial I, the CPI-C schedule added in Tutorial II, as well as the new TCP/IP schedule. The TCP/IP schedule is ready to run. However, you can also update the resources, test item references, or both in the schedule prior to running it. If you want to update the schedule, see “Tutorial II—CPI-C Script Generation” on page 38.

For this tutorial, leave the reference order for your resources as it was defined when the script was generated.

2. To run the MDEMO schedule, enter the line command **T** before the MDEMO line. The following pop-up panel is displayed while TTM checks the network:


```

ITP016I TPNS VERSION 3, RELEASE 5.0, SERVICE LEVEL 9711, NOVEMBER 7, 1997, 12:26
ITP003I TPNS INITIALIZATION COMPLETE
ITP200I DISPLAY MONITOR FACILITY ACTIVE USING APPL TPNSDM01
ITP029I INITIALIZATION COMPLETE FOR NETWORK MDEMO
ITP006I NETWORK MDEMO STARTED

```

- Now you can enter any valid TPNS commands to query or monitor the MDEMO network. Enter the **ZEND** command to complete the simulation and return to the TTM schedules panel.

```

                                Process TPNS Schedules                                Row 1 to 3 of 3
Command==>
Enter a line command or add to create a new Schedule.          Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
                S Testcases, T TPNS, U UTBLs, W NTWRK.

Name      Type Notes Description          UTBLs   Last Run
- CDEMO    C      CPI-C script gen demo          06/02/98 16:47
- DEMONET  V      Demo schedule                    1 06/02/98 15:15
- MDEMO    T      TCP/IP model demo                 06/02/98 17:02 TPNS

F1=Help    F2=Split  F3=End    F4=Return  F5=Add     F6=
F7=Up      F8=Down   F9=Swap   F10=Left   F11=Right  F12=Retrieve

```

The last run date and time is posted and the **TPNS** message is displayed on the right of the MDEMO entry indicating that a TPNS simulation run was the last command for this entry.

- View reports from this simulation run by entering the line command **O** beside the MDEMO entry.

The following reports menu is displayed:

```

                                Reports for schedule MDEMO

Select one of the following. Then press Enter.

      Command  Action
--- 1. TLOG    View loglist report from latest the TPNS run
    2. TRESP   View response time report from the latest TPNS run
    3. TDM     Log display monitor for the latest TPNS run
    4. TSP     View SYSPRINT from the latest TPNS run

    5. MLOG    View baseline loglist report
    6. MRESP   View baseline response time report
    7. MDM     Log display monitor for the baseline log

    8. COMP    View screen compare report
    9. CDM     Log display comparator
   10. RTCOMP  Edit response time compare report

   11. COMPREP Edit completion report

Command==>
F1=Help   F2=Split  F3=End    F4=Return  F5=       F6=
F7=Up     F8=Down   F9=Swap   F10=Left   F11=Right F12=Retrieve

```

- For this particular simulation, the loglist report is the only report of any interest. To view this report, select option 1. Press **PF3** repeatedly to return to the TPNS Test Manager main menu.

Resetting the Demonstration

The DEMO project should be deleted before the next demonstration of the project.

- From the TPNS Test Manager main menu, select option **P** or enter command **Project**. The following panel is displayed:

```

                                Process Projects

Command==>                                Press PF3 to end.

Change the primary and alternate high level index fields as required
(for a list of projects, enter ? in the Project field).

To create a new project, enter the command add
To delete an entire project, enter the command delete

Project      : DEMO      Demo project

Alternate HLI: _____
Alternate HLI Userid: _____

F1=Help   F2=Split  F3=End    F4=Return  F5=Add    F6=
F7=Up     F8=Down   F9=Swap   F10=Left   F11=Right F12=Retrieve

```

- Ensure the Project is set to DEMO, and enter the command **DELETE**. A pop-up panel is displayed to confirm the project delete.

When the data sets have been deleted, a list of current projects is displayed. If other projects exist, you can choose another project. If there are no other projects, you can add a new project.

3. Exit TTM by pressing **PF3** repeatedly until the ISPF primary menu is displayed.

Chapter 3. TPNS Test Manager Reference

Reference Overview

The TPNS Test Manager optimizes the use of TPNS functions in an SNA environment by providing:

- Testcase management
- Automatic invocation and execution of TPNS utilities
- Automatic documentation of the test results

This book does not describe TPNS functions. For more information about specific TPNS utilities that TTM invokes or about TPNS itself, see “Where to Find More Information” on page x for a list of TPNS publications.

This chapter covers the following topics:

- “Operating Modes” describes the Hide, Display and Interact operating modes.
- “Testcases” on page 70 describes how to define testcases, including User Data Tables (UTBLs).
- “Testgroups” on page 79 describes how to define testgroups.
- “Testcycles” on page 82 describes how to define testcycles.
- “Schedules” on page 85 describes how to set up schedules, start TPNS simulations, and generate reports.
- “Test Documentation” on page 92 describes how to create test plan and procedure documentation for all users of a project.
- “Projects and Alternate High Level Indexes” on page 94 describes projects and how to use alternate high level indexes.
- “Utilities” on page 96 describes the TPNS Test Manager utilities.

Operating Modes

The TPNS Test Manager has three modes of operation: **HIDE**, **DISPLAY**, and **INTERACT**:

- In **HIDE** mode, the TPNS Test Manager shields the user from the various TPNS processes. When the TPNS/ISPF Interface is invoked, the user is not aware of it, as none of the screen images are displayed.

Hide mode is the default mode for using the TPNS Test Manager.

- In **DISPLAY** mode, the user is shown all the TPNS Test Manager processes, but has no direct control over them. For example, when the TPNS/ISPF Interface is invoked the user can see all of the TPNS screens, but cannot use the **ENTER** or PF keys.

Display mode is recommended for new users who are not familiar with all the TPNS functions.

- In **INTERACT** mode, the user has control over the TPNS Test Manager processes. This means, for example, that when the TPNS/ISPF Interface is invoked, the user must press **ENTER** to start the TPNS utilities, and press **PF3** to exit from the TPNS/ISPF Interface.

Note: When operating in **INTERACT** mode, it is recommended that data set names not be changed or removed from the fields in the TPNS/ISPF Interface. Changing or removing data set names may adversely affect the TPNS Test Manager processing. Use caution when changing or removing data set names or other fields.

To set the operating mode, use the VARS option from the TPNS/TM Utilities panel, or enter one of the three modes on the command line of any TTM panel. A message is issued indicating that the new mode is set. To use the VARS option, see “VARS—Specify TPNS Test Manager Variables” on page 96.

Testcases

Testcases are STL programs with supporting documentation and User Data Tables (UTBLs).

Select option **1** or enter the command **CASE** to see the list of testcases, from the TPNS Test Manager main menu.

A list of testcases is displayed. This list is built from the testcase table for the current project. If an Alternate High Level Index has been specified (as described in “Projects and Alternate High Level Indexes” on page 94) then the alternate testcase table is included in this testcase list as well.

```

                                Process Testcases                                Row 1 to 8
Command==>
Enter a line command or add to create a new Testcase.          Press PF3 to end.
Line commands: D Delete, N Notes, S STL, T Translate, U UTBLs, V View.

  Name  Type UTBLs Notes Description
- CRICT  C          CPI-C test
- LOGOFF V          Logoff from TSO
- LOGON  V          2      Logon to TSO
- SIMPLE -          STL skeleton
- STRACE V          SNA trace
- TCPMOD T          *      TPNS TCP/IP model
- TPNSLOG V          *      TPNS log
- TSOWORK V          Do some work on TSO
***** Bottom of data *****

F1=Help   F2=Split   F3=End    F4=Return  F5=Add     F6=
F7=Up     F8=Down    F9=Swap   F10=Left  F11=Right  F12=Retrieve

```

This list of testcases consists of the following columns:

- A one-character command field that precedes the testcase name. The valid values are: D, N, S, T, U, and V.

- **Name**—The name of the testcase. This is also the member name of the STL program in the STL source data set.
- **Type**—The type of testcase. This field is automatically filled in by the TPNS Test Manager and contains one of the following values:
 - V** VTAMAPPL
 - C** CPI-C
 - T** TCP/IP
 - D** Direct Attached
 - L** Link Attached
 - Undefined, either an STL skeleton member or a member in the STL data set created outside of TTM
- **UTBLs**—The number of TPNS user data tables for this testcase.
- **Notes**—An asterisk in this column indicates there are notes for this testcase. Any testcase with **ALT** in this column originates from the alternate high level index data set. See “Projects and Alternate High Level Indexes” on page 94 for more information.
- **Description**—A free-form description of this testcase. This is an optional field.

Using Line Commands

For each testcase the following commands can be entered in the command field:

- D** **Delete**—Delete this testcase and the associated members in the TPNS Test Manager libraries. This command is not valid for ALT testcases.
- N** **Notes**—Edit the notes data set associated with this testcase. The notes data set for ALT testcases is available in browse mode only.
- S** **STL**—Edit the STL source for the testcase. The STL source for ALT testcases is available in browse mode only.

The TPNS Test Manager will automatically translate the changed STL program into an executable TPNS message generation deck (MSGTXT). Adding a UTBL to the STL source code also invokes this automatic translation process.

- T** **Translate**—Translate the STL source code into an executable TPNS message generation deck (MSGTXT). Regardless of what was or was not changed in the STL code, specifying this command invokes the translation process.
- U** **UTBLs**—Displays a list of all the TPNS user data tables for this testcase. Use this option to edit (or browse for ALT testcases) the STL source for user data tables (UTBLs).

From the list, the STL source for the table can be edited (or browsed if ALT) by selecting option **S**. If this text is changed, the TPNS Test Manager optionally translates this STL program into a TPNS message generation deck (MSGTXT).

When the User Table List panel is displayed, enter the command **ALL** or press **PF5** to see all of the UTBLs in the project. Then enter the command **SUMMARY** or press **PF6** to return to the original list. See “Creating User Data Tables (UTBLs)” on page 77 for more information about user data tables.

- V **View**—If the original TPNS or IDC log has not been overwritten, this option enables viewing of some or all of the screen images for this testcase, as described in “Log Display Monitor” on page 74.

Adding a New Testcase

To create a new testcase, enter the command **ADD** on the command line at the top of the panel or press **PF5**. Enter a name and optionally a description. The name must be a unique testcase name.

Note: If you press **PF3** in Interact mode to cancel processing during any of the intermediate steps, or if an error occurs in any of the three modes, the testcase is not created.

There are six ways in which the TPNS Test Manager can create a new testcase:

- **Add a 3270 testcase using IDC**

1. The TPNS Test Manager invokes IDC on the TPNS/ISPF Interface. After you are logged on to IDC, select option 1 to start the recording. When the recording is finished, press **PF3** to exit out of IDC.
2. The TPNS Test Manager sets up the control cards and invokes the TPNS script generating utility, ITPLSGEN, on the TPNS/ISPF Interface. ITPLSGEN generates an STL program from the IDC log.
3. The TPNS Test Manager runs edit macro ITMDCAS to add STL statements to the generated STL program.
4. The TPNS Test Manager invokes the TPNS utility, ITPSTL, on the TPNS/ISPF Interface to translate the STL program into a MSGTXT.

- **Add a 3270 testcase using an SNA trace**

This option creates a single STL program from an SNA trace.

1. The TPNS Test Manager asks for the SNA trace name and the TPNS log name (to hold the reformatted SNA trace). The SNA trace must already exist. However, the TPNS log is automatically created by the TPNS Test Manager if it does not already exist.
2. The TPNS Test Manager invokes the TPNS utility, ITPLU2RF, on the TPNS/ISPF Interface to reformat the SNA log into a TPNS log.
3. If the TPNS log has more than one resource, the TPNS Test Manager displays a list of resources. Select the resource for which you want to generate a script. If multiple sessions exist for a resource, the first session is used.
4. The TPNS Test Manager sets up the control cards and invokes ITPLSGEN on the TPNS/ISPF Interface. ITPLSGEN generates an STL program from the reformatted SNA trace.
5. The TPNS Test Manager runs edit macro ITMDCAS to add STL statements to the generated STL program.
6. The TPNS Test Manager invokes ITPSTL on the TPNS/ISPF Interface to translate the STL program into a MSGTXT.

- **Add a 3270 testcase using a TPNS or IDC log**

1. The TPNS Test Manager asks for the TPNS or IDC log name. This data set must already exist.

2. If the TPNS or IDC log has more than one resource, the TPNS Test Manager displays a list of resources. Select the resource for which you want to generate a script. If multiple sessions exist for a resource, the first session is used.
3. The TPNS Test Manager sets up the control cards and invokes ITPLSGEN on the TPNS/ISPF Interface. ITPLSGEN generates an STL program from the TPNS or IDC log.
4. The TPNS Test Manager runs edit macro ITMDCAS to add STL statements to the generated STL program.
5. The TPNS Test Manager invokes ITPSTL on the TPNS/ISPF Interface to translate the STL program into a MSGTXT.

- **Add a testcase using the TPNS STL models**

1. The TPNS Test Manager invokes the TPNS/ISPF Interface to display the STL models available on the TPNS/ISPF Interface. Select a model and you will be placed into an edit session. Make updates as required, and when complete, exit the edit session.
2. The TPNS Test Manager automatically invokes ITPSTL on the TPNS/ISPF Interface to translate the STL program into one or more MSGTXTs.

Note: Even if running in Interact mode, the TPNS Test Manager automatically invokes ITPSTL.

3. The TPNS Test Manager automatically creates a schedule with the same name as the testcase name and adds the network definition statements to the schedule.

Note: If running in Interact mode, you must press **PF4** on the TPNS Process Networks and STL Programs panel to see the model options. For the Hide and Display modes, the TPNS Choose a Model panel is invoked automatically. The following models are available:

CPIC	CPI-C Transaction program simulation
DIRATTH	Direct attached cross domain simulation
ETHERNET	Ethernet simulation
FRMRELAY	Frame Relay simulation
FTP	File Transfer Protocol simulation
LINKATTH	Link attached cross-domain simulation
PU21	Type 2.1 node simulation
RHO	Real host ownership of a simulated NCP subarea simulation
SAMEDOMN	Full duplex and half duplex devices in the same domain simulation
STCP	Simple TCP and UDP client simulation
TN3270	Telnet 3270 and 3270E simulation
TOKENRNG	IBM Token Ring simulation
VTAMAPPL	VTAM application simulation
X25	X.25 packet switched network simulation

If the TPNS Version 3 Release 5 Service Level 9711 CPIC or TN3270 models are used, you must make the following changes to the model definitions after they are selected:

CPIC

- Change the line after '@PROGRAM=CPIC' that starts with '*----' to '/*---'.
- Change the end of the fifth line after the @PROGRAM line from '----*' to '---*/'.

TN3270

Change 'HEAD=Telnet 3270 and 3270E Model Network' to 'HEAD=Telnet 3270 Network'.

• **Add a testcase using an STL skeleton**

1. The TPNS Test Manager STL skeleton is copied into the STL data set. You will be placed in an edit session on the new STL member. Make updates as required, and when complete, exit the edit session.
2. The TPNS Test Manager invokes ITPSTL on the TPNS/ISPF Interface to translate the STL program into a MSGTXT.

• **Add a CPI-C testcase using an SNA trace**

1. The TPNS Test Manager asks for the SNA trace name. This data set must already exist.
2. The TPNS Test Manager invokes the TPNS utility ITPVTRF on the TPNS/ISPF Interface to reformat the trace.
3. The TPNS Test Manager invokes the TPNS/ISPF Interface to sort the trace using the DFSORT utility.
4. The TPNS Test Manager presents a resource selection panel asking the user to select the resources for which scripts should be generated.
5. The TPNS Test Manager invokes ITPSGEN on the TPNS/ISPF Interface to create CPI-C STL programs from the trace.
6. The TPNS Test Manager invokes ITPSTL on the TPNS/ISPF Interface to translate the STL program into MSGTXTs.
7. The TPNS Test Manager automatically generates a schedule with the same name as the testcase name and adds the network definition statements to the schedule.

Notes:

1. If you receive an ITPSGEN failure when creating an STL program from the IDC log, TPNS creates a SYSPRINT data set and documents the failing step in the data set. The failure may be indicated by one or more ITP16xxI messages in the SYSPRINT data set. Refer to *TPNS Messages and Codes* for the message descriptions.
2. If you want to specify a fully qualified name for an SNA trace, specify the name in quotes. This applies to all instances of creating a testcase for which you must specify an SNA trace. If the name is not surrounded by quotes, the system will add the TSO user ID as the first qualifier.

Log Display Monitor

The Log Display Monitor shows an index of screen images or the screen images themselves from an IDC or TPNS log.

Note: Only logs that contain log display records can be used by the Log Display Monitor.

If screens greater than 24 by 80 were captured but the monitor that is being used to display these panels is 24 by 80, TTM issues an error message stating that only 24 lines can be displayed. To view larger screen displays in their entirety, you must use loglist.

When the Log Display Monitor is invoked, the following pop-up panel is displayed:

```

                                     Process Testcases                               Row 1 of 1
----- Panel Display Options -----
Press ENTER to continue or PF3 to cancel.
Index or View (I/V): V
For View only:
  Logged or Fixed Delay (L/F): F
  Fixed Delay Value in Seconds: 1
  Display Panels      : 1 to 6

F1=Help   F2=Split   F3=End     F4=Return  F5=
F6=       F7=Up      F8=Down   F9=Swap   F10=Left

F1=Help   F2=Split   F3=End     F4=Return  F5=
F7=Up     F8=Down   F9=Swap   F10=Left  F11=Right  F12=Retrieve
```

The way the screens are displayed depends on whether you select **View** or **Index**:

- If you select **View** (V), the screen images are displayed automatically. The speed at which the screen images are shown depends on whether you choose the **Logged delay** (L) or **Fixed delay** (F) option:
 - **Logged delay** displays the screen images with the same delays as originally recorded.
 - **Fixed delay** displays the screen images with a fixed delay as shown in the **Fixed Delay Value in Seconds** field. Valid values for this field are numbers in the range of 1–99.

Note: You receive a warning message if you enter a number greater than 10 seconds. A large fixed delay value causes slow response and gives the appearance of a session hang.

A range of panels within the original recording can be viewed by entering new values in the **Display Panels** field. This is particularly useful when viewing a large TPNS log.

- If you select **Index**, the index of screen images is displayed:

```

Resource Display Index                               Row 1 to 6 of 6
Command==>
Line commands: V to view panel, S to edit STL, D to delete.  Press PF3 to end.

Timestamp AID   Testcase Panel
_ 09044251      DEMO      IKJ56700A ENTER USERID -
_ 09044251 ENTER DEMO      IKJ56700A ENTER USERID -
_ 09044833      DEMO      ----- TSO/E LO
_ 09044833 ENTER DEMO      ----- TSO/E LO
_ 09050396      DEMO      ICH70001 userid   LAST ACCESS AT 14:30:
_ 09050396 ENTER DEMO      ICH70001 userid   LAST ACCESS AT 14:30:
***** Bottom of data *****

F1=Help      F2=Split     F3=End       F4=Return    F5=          F6=
F7=Up        F8=Down     F9=Swap     F10=Left    F11=Right   F12=Retrieve

```

This index of screen images has the following columns:

- A one-character line command field that precedes the timestamp. The valid values are: V, S, and D.
- **Timestamp**—The timestamp derived from the IDC or TPNS log.
- **AID**—The Attention Identifier (for example, the ENTER or PF keys) pressed by the user at this point in the session.
- **Testcase**—The name of the testcase that generated this screen image. This column shows the testcase running at this point in time.
- **Panel**—A panel verification line for each panel.

For each row in the index there are three line commands, **V**, **S**, and **D**:

V View—Displays the screen image for this part of the session. When viewing the screen image, you can press the following PF keys:

- PF3** Return to the index.
- PF4** Delete the STL for this screen image (not valid for ALT).
- PF7** Display the previous screen in the index.
- PF8** Display the next screen in the index.
- PF12** Edit (or browse for ALT) the STL source for this screen in the index.

S STL—Edits (or browses for ALT) the STL source for this screen in the index.

D Delete—Deletes this block of STL source code (not valid for ALT).

Note: Only one delete line command can be issued at a time.

Creating User Data Tables (UTBLs)

A User Data Table (UTBL) is defined in TPNS as a list of string constants (for example, a list of account numbers or user IDs and passwords). The TPNS Test Manager organizes each UTBL into fields, so that each line in a UTBL has one or more fields (for example, a user ID and a password).

TPNS Test Manager can automatically generate TPNS user data tables and the STL source code to use them. This function can be invoked by editing the STL source in the TPNS Test Manager. To edit the STL source, type the command **UTBL**, place the cursor on the line containing the string to be replaced and press **ENTER**.

Notes:

1. The first single or double quote (' or ") encountered on the line where the cursor is placed will be considered the starting position of the string to be replaced.
2. There is a possibility of a line overflow if the string to be replaced is on a line that contains a large amount of text.

When the TPNS user table function is invoked, a pop-up panel is displayed:

```
File Edit Confirm Menu Utilities Compilers Test Help
----- Create TPNS User Table (UTBL) -----
Select an option. Then press Enter.
- 1. Create a new UTBL.
- 2. Create a new field in an existing UTBL.
- 3. Use an existing field or UTBL.

F1=Help    F2=Split    F3=End      F4=Return   F5=         F6=
F7=Up      F8=Down     F9=Swap     F10=Left    F11=Right

-----
000066 charset 'field'
000067 type 'mypass'
000068 transmit using enter
000069
000070 /*----- 09050396 00004 */
000071 TTM_panel_ID = 'PNL00003'
000072 log 'TTM_panel_ID' TTM_panel_ID
000073 screen_data = substr(screen,rowcol(1,1),8)
000074 expected_data = '08'x||'ICH7000'
F1=Help    F2=Split    F3=Exit     F5=Rfind    F6=Rchange  F7=Up
F8=Down    F9=Swap     F10=Left    F11=right   F12=Cancel
```

In this pop-up panel, choose one of the following:

- If a field already exists, choose option 3. No new UTBL is created.
- If the UTBL exists, but a new field is to be added, choose option 2.
- If a completely new UTBL is required, choose option 1 and the following panel is displayed:

```

File Edit Confirm Menu Utilities Compilers Test Help
----- Create TPNS User Table (UTBL) -----
E
C Type the values for the following fields. Then press Enter. 0072
0
0 User Table Name      : _____ HALF
0 Table Description    : _____
0
0 Field Name          : _____
0 Field Description    : _____
0 Field Delimiter      : ¢ 2 */
0
0 Access Type (1,2 or 3) : 2 1. Random
0                          2. Single Sequential
0                          3. Single Sequential (repeated) ndgen
0
0 F1=Help   F2=Split F3=End   F4=Return F5=   F6=
0 F7=Up     F8=Down  F9=Swap F10=Left F11=Right 3 */
0
-----
000050 charset 'field'
000051 type 'mypass'
F1=Help   F2=Split   F3=Exit   F5=Rfind   F6=Rchange F7=Up
F8=Down   F9=Swap    F10=Left F11=Right F12=Cancel

```

A user table name and field name must be entered. The table and field descriptions are optional.

There are three access types:

1. **Random** sets up STL code to randomly access the UTBL. This is useful for using a random spread of the whole UTBL.
2. **Single Sequential** sets up STL code to access the UTBL in strict sequential order. When the end of the UTBL has been reached, no further accesses are allowed. This is useful for user IDs and passwords, where there is a limited number of entries in the UTBL.
3. **Single Sequential Repeated** sets up STL code to access the UTBL in sequential order and resets the UTBL pointer to the top of the UTBL when the bottom of the UTBL is reached. This is useful when accessing a limited number of UTBL rows but reusing the UTBL is desired.

Understanding the UTBL Creation Process

The TPNS Test Manager does the following when creating a new UTBL:

1. The line where the UTBL is to be placed is commented out in the original testcase.
2. The text from this line is used to create a new UTBL STL member. The member name of this STL member is the UTBL name entered on the **Create TPNS User Table (UTBL)** panel. Following is an example of a UTBL created by the TPNS Test Manager:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT  userid.TTM.DEMO.STL(UIDPWD) - 01.01          Columns 00001 00072
Command ==>                                       Scroll ==> CSR
***** ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG>         your edit profile using the command RECOVERY ON.
000001 /* This user table was created by TPNS/TM to be accessed */
000002 /* by the Single Sequential method. */
000003 /* Table Description: Userid and password table */
000004 /* TTM_FIELD: USERID c TSO userid */
000005 /* TTM_FIELD: PWORD c Password */
000006 UIDPWD: msgutbl
000007 'myuseridcmypassc'
000008 endutbl
***** ***** Bottom of Data *****

F1=Help   F2=Split   F3=Exit   F5=Rfind   F6=Rchange   F7=Up
F8=Down   F9=Swap    F10=Left  F11=Right  F12=Cancel

```

3. The new STL member is translated.
4. The common STL variable declaration member TTMVARS is updated with two new variable names:
 - An integer for the offset into the new UTBL. This has the name `SHARED_utblname_COUNT`.
 - A string for the new field. The name of this variable is the UTBL name followed by the field name. For example: `UIDPWD_PWORD`.
5. Another new STL member is created for the UTBL access. The name of this member is the UTBL member name with appended **X** characters. In our example, this STL member is `UIDPWDXX`.
 The purpose of this member is to access the UTBL and to save a value in the string defined in TTMVARS. Do not update this member. This STL member is translated.
6. The original testcase is edited and a call to the UTBL access is added, together with the new variable created in TTMVARS.

Note: Do not change the comments created by TTM. Modifying the comments will corrupt the translation process.
7. Because the original testcase has been changed, the TPNS Test Manager automatically translates the STL member.

Testgroups

A testgroup is an ordered list of test items (cases and MSGTXTs). Testgroups encourage modular testcases—for example, a complicated logon testcase can be developed and included in other testgroups. As a result, if the logon process changes, only the logon testcase needs to be changed, even if it is used in a number of different testgroups.

From the TPNS Test Manager main menu select option **2** or enter the command **GROUP**. This displays a list of the current testgroups:

```

                                Process Testgroups                                Row 1 to 3 of 3
Command==>
Enter a line command or add to create a new Testgroup.                                Press PF3 to end.
Line commands: D Delete, N Notes, S Select.

  Name      Type Notes Description
_ CPICGRP   C      CPI-C client
_ TCP/IPGRP T      Logon to server
_ TSOGRP    V      Logon, TSOWORK and Logoff from TSO
***** Bottom of data *****

F1=Help    F2=Split   F3=End     F4=Return  F5=Add     F6=
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

The list of testgroups consists of the following columns:

- A one-character command field that precedes the testgroup name. The valid values are: D, N, and S.
- **Name**—The name of the testgroup.
- **Type**—The type of testgroup. You must specify whether this is a VTAMAPPL, TCP/IP, or CPI-C testgroup. The only valid values for the type field are:
 - V** VTAMAPPL
 - T** TCP/IP
 - C** CPI-C
- **Notes**—An asterisk in this column indicates there are notes associated with this testgroup.
- **Description**—A free-form description of this testgroup. This is an optional field.

Using Line Commands

For each testgroup, the following commands can be entered in the command field:

- D** **Delete**—Delete this testgroup and the associated members in the TPNS Test Manager libraries.
- N** **Notes**—Edit the notes data set for this testgroup.
- S** **Select**—Select this testgroup for processing.

Adding a Testgroup

To create a new testgroup, enter the command **ADD** in the command line at the top of the Process Testgroups panel, or press **PF5**.

The following pop-up panel is displayed:

```

                                Process Testgroups                Row 1 to 3 of 3
----- Add New Testgroup-----
Type the Testgroup Name, Description and Testgroup Type.  Then press Enter.
Testgroup Name: _____
Description   : _____
Testgroup Type: _ (V=VTAMAPPL, T=TCP/IP, C=CPI-C)

F1=Help  F2=Split  F3=End  F4=Return  F5=      F6=      F7=
F8=Down  F9=Swap   F10=Left F11=Right

F1=Help  F2=Split  F3=End  F4=Return  F5=      F6=
F7=Up    F8=Down   F9=Swap F10=Left  F11=Right F12=Retrieve

```

Specify a testgroup name, an optional description, and the type of testgroup (V for VTAMAPPL, T for TCP/IP or C for CPI-C). Select the test items to be referenced by the testgroup.

Selecting Test Items for the Testgroup

A selection list is displayed containing all possible test items that can be referenced by this type of testgroup. A panel similar to the following is displayed:

```

----- Specify Order for Testgroup NEWGRP -----
                                Row 1 of 6
Enter test item order or summary.  Press PF3 to end.

Order      Name      Test...  Type  Test Item Description
LOGOFF     Case      V      Logoff from TSO
LOGON      Case      V      Logon to TSO
SIMPLE     Case      -      STL skeleton
STRACE     Case      V      SNA trace
TPNSLOG    Case      V      TPNS log
TSOWORK    Case      V      Do some work on TSO
***** Bottom of data *****

F1=Help  F2=Split  F3=End  F4=Return  F5=      F6=Summary
F7=Up    F8=Down   F9=Swap F10=Left  F11=Right

```

The test items are sorted in alphabetical order. Select the test items by specifying the reference order. Press **PF3** to return to the Process Testgroups panel.

Selecting a Testgroup

After you have defined some testgroups, you can enter the line command **S** to select a testgroup. A pop-up panel entitled Test Item List for Testgroup **testgroup_name** is displayed with a list of testcases and MSGTXTs in the order in which they are referenced within the testgroup.

```
----- Test Item List for Testgroup TSOGRP -----
Command ==>                                     Row 1 of 3
Enter test item order or all.                   Press PF3 to end.

Order      Name      Test...  Type   Test Item Description
1          LOGON    Case     V      Logon to TSO
2          TSOWORK  Case     V      Do some work on TSO
3          LOGOFF   Case     V      Logoff from TSO
***** Bottom of data *****

F1=Help    F2=Split   F3=End     F4=Return  F5=A11     F6=
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right
```

Enter the command **ALL** in the command field at the top of the panel, or press **PF5** to display a list of all the possible test items that can be selected for this testgroup. New test items can be selected and the test item orders can be changed.

Enter the command **SUMMARY** in the command field at the top of the panel, or press **PF6** to display a list of only those test items defined for this testgroup.

Press **PF3** to return to the Process Testgroups panel.

Testcycles

A testcycle is an ordered list of test items (cases, MSGTXTs, and groups). A testcycle is another level of organization for test items. A testcycle can result in a very complex set of test items, and is a simple and powerful way of handling large numbers of modular scripts.

From the TPNS Test Manager main menu select option **3** or enter the command **CYCLE**. This displays a list of the current testcycles:


```

                                Process Testcycles                Row 1 to 3 of 3
Command==>
Enter a line command or add to create a new Testcycle.          Press PF3 to end.
Line commands: D Delete, N Notes, S Select.

  Name      Type  Notes Description
_ CPICCYC   C          CPI-C testcycle
_ TCIPCY    T          TCP/IP testcycle
_ TSOCYC    V          TSO testcycle
***** Bottom of data *****

F1=Help    F2=Split   F3=End     F4=Return  F5=Add     F6=
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

The list of testcycles consists of the following columns:

- A one character command field that precedes the testcycle name. The valid values are: D, N, and S.
- **Name**—The name of the testcycle.
- **Type**—The type of testcycle. You must specify whether this is a VTAMAPPL, TCP/IP, or CPI-C testcycle. The only valid values for the type field are:
 - V** VTAMAPPL
 - T** TCP/IP
 - C** CPI-C
- **Notes**—An asterisk in this column indicates there are notes associated with this testcycle.
- **Description**—A free-form description of this testcycle. This is an optional field.

Using Line Commands

For each testcycle, the following commands can be entered in the command field:

- D** **Delete**—Delete this testcycle and the associated members in the TPNS Test Manager libraries.
- N** **Notes**—Edit the notes data set for this testcycle.
- S** **Select**—Select this testcycle for processing.

Adding a Testcycle

To create a new testcycle, enter the command **ADD** in the command line at the top of the Process Testcycles panel or press **PF5**.

The following panel is displayed:

```

----- Add New Testcycle -----
Type Testcycle Name, Description and Testcycle Type. Then press Enter.
Testcycle Name: _____
Description   : _____
Testcycle Type: _ (V=VTAMAPPL, T=TCP/IP, C=CPI-C)

F1=Help  F2=Split  F3=End  F4=Return  F5=      F6=      F7=Up
F8=Down  F9=Swap   F10=Left F11=Right

F1=Help  F2=Split  F3=End  F4=Return  F5=      F6=
F7=Up    F8=Down   F9=Swap F10=Left  F11=Right F12=Retrieve

```

Specify a testcycle name, an optional description, and the type of testcycle (V for VTAMAPPL, T for TCP/IP or C for CPI-C). Select the test items (cases, MSGTXTs, and groups) to be referenced by the testcycle.

Selecting Test Items for the Testcycle

A selection list is displayed containing all possible test items that can be referenced by this type of testcycle. A panel similar to the following is displayed:

```

----- Specify Order for Testcycle NEWCYCLE -----
Enter test item order or summary.                               Row 1 of 8
                                                                Press PF3 to end.
Order      Name      Test...  Type  Test Item Description
LOGOFF     Case      V      Logoff from TSO
LOGON      Case      V      Logon to TSO
SIMPLE     Case      -      STL skeleton
STRACE     Case      V      SNA trace
TPNSLOG    Case      V      TPNS log
TSOWORK    Case      V      Do some work on TSO
NEWGRP     Group     V      Logon and Logoff from TSO
TSOGRP     Group     V      Logon, TSOWORK and Logoff from TSO
***** Bottom of data *****

F1=Help  F2=Split  F3=End  F4=Return  F5=      F6=Summary
F7=Up    F8=Down   F9=Swap F10=Left  F11=Right

```

The test items are sorted in alphabetical order based on test item type. Select the test items by specifying the reference order. Press **PF3** to return to the Process Testcycles panel.

Selecting a Testcycle

After you have defined some testcycles, you can enter the line command **S** to select a testcycle. A pop-up panel entitled Test Item List for Testcycle **Testcycle_name** appears with a list of cases, MSGTXTs, and groups in the order in which they are referenced within the testcycle.

```
----- Test Item List for Testcycle TSOCYC -----
                                                    Row 1 of 3
Enter test item order or all.                Press PF3 to end.

Order      Name      Test...  Type  Test Item Description
1          SIMPLE   Case    -    STL skeleton
2          STRACE   Case    V    SNA trace
3          NEWGRP   Group   V    Logon and Logoff from TSO
***** Bottom of data *****

F1=Help    F2=Split   F3=End     F4=Return  F5=A11     F6=
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right
```

Enter the command **ALL** in the command field at the top of the panel, or press **PF5** to display a list of all the possible test items that can be selected for this testcycle. New test items can be selected and the test item orders can be changed.

Enter the command **SUMMARY** in the command field at the top of the panel, or press **PF6** to display a list of only those test items defined for this testcycle.

Press **PF3** to return to the Process Testcycles panel.

Schedules

A schedule is a TPNS network definition with supporting documentation and reporting facilities.

To see a list of schedules, select option **4** or enter the command **RUN** from the TPNS Test Manager main menu. A list of the schedules is displayed:

```

                                Process TPNS Schedules                                Row 1 to 1 of 1
Command==>
Enter a line command or add to create a new Schedule.                                Press PF3 to end.
Line commands: D Delete, N Notes, O Output, P Preprocess, R Resources,
                S Testcases, T TPNS, U UTBLs, W NTRK.

  Name   Type  Notes  Description                UTBLs  Last Run
_ DEMONET V      Demo schedule                1      06/02/98 15:15 TPNS
***** Bottom of data *****

```

F1=Help F2=Split F3=End F4=Return F5=Add F6=
 F7=Up F8=Down F9=Swap F10=Left F11=Right F12=Retrieve

This list of schedules consists of the following columns:

- A one-character line command field that precedes the schedule name. The valid values are: D, N, O, P, R, S, T, U, and W.
- **Name**—The name of this schedule. This is also the member name in the NTRKs source data set.
- **Type**—The type of schedule. This field will contain one of the following values:
 - V** VTAMAPPL
 - C** CPI-C
 - T** TCP/IP
 - D** Direct Attached
 - L** Link Attached
 - Undefined, a member in the NTRKs data set created outside of TTM
- **Notes**—An asterisk in this column indicates there are notes associated with this schedule.
 - ALT** in this column indicates the schedule originated from the alternate high level index data set. See “Projects and Alternate High Level Indexes” on page 94 for more information.
- **Description**—A free-form description of this schedule. This is an optional field.
- **UTBLs**—The number of TPNS user data tables defined for this schedule.
- **Last Run**—The time of the last TPNS run for this schedule. This value consists of the date and time (in the 24 hour clock format).

Using Line Commands

The following line commands can be invoked for each schedule:

- D** Delete—Delete this schedule and all the TPNS Test Manager data sets specifically set up for this schedule. This command is not valid for ALT schedules.

- N** Notes—Edit the notes member data set associated with this schedule. You can only browse the ALT schedule notes data set.
- O** Output—Display the reports menu for this schedule. See “Output Reports” on page 89 for details.
- P** Preprocess—Invoke the TPNS Preprocessor for this schedule.
- R** Resources—Displays a list of the TPNS-simulated resources defined for this schedule. See “Resource List” for details. Use this option to update the resources referenced by the schedule and automatically recreate the TPNS network. This option is valid only for schedule types of V (VTAMAPPL), C (CPI-C), or T (TCP/IP). This command is not valid for ALT schedules.
- S** Testcases—List and optionally edit the testcases referenced by this schedule. You can only browse the ALT testcases. This option is valid only for schedule types of V (VTAMAPPL), C (CPI-C), or T (TCP/IP).
- T** TPNS—Start a TPNS simulation run (invoke ITPENTER under TSO) for this schedule. See “TPNS Simulation Runs” on page 88 for details.
- U** UTBLs—Displays a list of TPNS user data tables defined for this schedule. See “Creating User Data Tables (UTBLs)” on page 77 for details.
- W** NTWRK—Edit the TPNS network definition associated with this schedule. You can only browse the ALT schedules.

Adding a New Schedule

To create a new schedule, do the following:

1. Enter the **ADD** command in the command field at the top of the panel, or press **PF5**.
2. A pop-up panel entitled Add New Test Schedule is displayed. Enter a new schedule name, an optional description, and the type of schedule. You must specify whether this is a VTAMAPPL, TCP/IP, or CPI-C schedule. The only valid values for the type field are:

- V** VTAMAPPL
- T** TCP/IP
- C** CPI-C

A resource list for this schedule is now displayed. Update this resource list (as described in the next section).

If the resource list is not updated (no test items are selected), a TPNS network will not be created.

Resource List

The schedule resource list defines the number of TPNS-simulated resources in this schedule, and the test items each resource will reference.

```

Resource List for Schedule DEMONET                               Row 1 of 1
Command==>
Enter command sort to sort by VTAMname.                         Press PF3 to end.
Line commands: S Select, I Insert, R Repeat, D Delete.

  VTAMname TPNSname Test... Name      Description
_ VAPPL00  TPNSLU00
***** Bottom of data *****

F1=Help   F2=Split  F3=End    F4=Return  F5=Sort    F6=
F7=Up     F8=Down   F9=Swap   F10=Left   F11=Right  F12=Retrieve

```

- To select the resource, use the **S** (Select) line command. This displays a pop-up panel entitled Specify Order for Resource **TPNSname** under **VTAMname**. This panel shows a list of all the test items available for this resource. Enter the number **1** to select a test item for this resource. To select multiple test items for this resource, specify a numerical reference order for each. Those resources that are not associated with a test item will not be referenced by this schedule. When orders specification is complete, press **PF3** to return to the resource list.
- To repeat a particular resource, enter the **R** (Repeat) command. A pop-up panel appears. Specify how many additional resources are to be created. To add new VTAM names, press **PF5** or **ENTER**. To repeat TPNS names within the current VTAM name, press **PF6**.
- The **I** (Insert) command functions in a manner similar to the repeat command, except that a new test item must be selected for the inserted resource.

After completing the resource list, press **PF3** and the schedule (TPNS network) will be created.

TPNS Simulation Runs

When you select option **T** from the schedule list, a pop-up panel entitled Specify TPNS Log Names appears:

```

                                Process TPNS Schedules                Row 1 to 1 of 1
----- Specify TPNS Log Names -----
Change the lognames and press ENTER to continue or PF3 to end.

ITPENTER: 'userid.TTM.DEMO.MLOG.DEMONET'                Mandatory
Baseline: _____                Optional

Completion Report (Y/N): N

F1=Help  F2=Split  F3=End    F4=Return  F5=    F6=    F7=Up
F8=Down  F9=Swap   F10=Left F11=Right

-----

F1=Help  F2=Split  F3=End    F4=Return  F5=    F6=
F7=Up    F8=Down   F9=Swap   F10=Left  F11=Right  F12=Retrieve

```

Specify the names of the TPNS log for the simulation run about to be initialized (ITPENTER) and the name of the baseline log (if doing regression testing). If the TPNS log specified does not exist, the TPNS Test Manager creates it. If a completion report is required, set the **Completion Report** field to **Y**. Press **ENTER** to run the schedule (TPNS network).

Output Reports

Select option **O** from the schedule list to process output reports. The following report selection panel is displayed:

```

                                Reports for schedule DEMONET

Select one of the following. Then press Enter.

  Command  Action
-----
  1. TLOG   View loglist report from latest the TPNS run
  2. TRESP  View response time report from the latest TPNS run
  3. TDM    Log display monitor for the latest TPNS run
  4. TSP    View SYSPRINT from the latest TPNS run

  5. MLOG   View baseline loglist report
  6. MRESP  View baseline response time report
  7. MDM    Log display monitor for the baseline log

  8. COMP   View screen compare report
  9. CDM    Log display comparator
 10. RTCOMP Edit response time compare report

 11. COMPREP Edit completion report

Command====>
F1=Help  F2=Split  F3=End    F4=Return  F5=    F6=
F7=Up    F8=Down   F9=Swap   F10=Left  F11=Right  F12=Retrieve

```

TLOG

View loglist report from the latest TPNS run. The TPNS Test Manager invokes ITPLL on the TPNS/ISPF Interface for the TPNS log from the latest simulation run. The loglist report is browsed. If the baseline log exists, this log will be known as the test TPNS log.

TRESP	View response time report from the latest TPNS run. The TPNS Test Manager invokes ITPRESP on the TPNS/ISPF Interface for the TPNS log from the latest simulation run. The response time report is browsed.
TDM	Log display monitor for the latest TPNS run. The screen images for the TPNS log from the latest simulation run are displayed.
TSP	View SYSPRINT from the latest TPNS run. The SYSPRINT file from the latest simulation run is browsed.
MLOG	View baseline loglist report. The TPNS Test Manager invokes ITPLL on the TPNS/ISPF Interface for the master TPNS log. The loglist report is browsed.
MRESP	View baseline response time report. The TPNS Test Manager invokes ITPRESP on the TPNS/ISPF Interface for the master TPNS log. The response time report is browsed.
MDM	Log display monitor for the baseline log. The screen images for the master TPNS log are displayed.
COMP	View screen compare report. If both the master and test TPNS logs exist, the TPNS Test Manager invokes ITPCOMP on the TPNS/ISPF Interface. The output from ITPCOMP is browsed.
CDM	Log display comparator. If both the master and test TPNS logs exist, the TPNS Test Manager invokes the Log Display Monitor to compare screen images. Note: This feature is especially useful in finding differences between runs.
RTCOMP	Edit response time compare report. If both the master and test TPNS logs exist, the TPNS Test Manager creates a report that compares the response times on both the logs. The user is placed in an edit session on this report.
COMPREP	Edit completion report. This displays a list of the completion reports that can be selected for edit.

This panel has a second part (indicated by the **More** field). Press **PF8** to scroll down to the second panel:

Reports for schedule DEMONET

Select one of the following. Then press Enter.

Command	Action	More: -
12. LOGLIST	Edit Loglist report control cards	
13. RESPONSE	Edit Response report control cards	
14. COMPARE	Edit Compare report control cards	
15. NTWRK	Edit TPNS network	
16. VTAMLST	Edit Application Major Node	
17. LLMASK	Edit completion report Loglist message masks	
18. THRESH	Set completion report response time thresholds	

Command===>

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=	F9=Swap	F10=Left	F11=Right	F12=Retrieve

- LOGLIST** Edit Loglist report control cards. Edit the control cards that are used when the TPNS loglist utility, ITPLL, is run.
- RESPONSE** Edit Response report control cards. Edit the control cards that are used when the TPNS response time utility, ITPRESP, is run.
- COMPARE** Edit Compare report control cards. Edit the control cards that are used when the TPNS screen compare utility, ITPCOMP, is run.
- NTWRK** Edit TPNS network. Edit the TPNS network definition associated with this schedule.
- VTAMLST** Edit Application Major Node. Edit the sample VTAM application major node generated by the TPNS Test Manager for this schedule.
- LLMASK** Edit completion report Loglist message masks. When the completion report is created, certain messages are not shown on the report panel and some messages are not written to the completion report itself. These masks can be edited using this option. For example:

```

EDIT ---- userid.TTMUSER.SKELS(ITMSFLM) - 01.00 ----- COLUMN001 072
COMMAND ==> SCROLL ==> CSR
***** ***** Top of data *****
000001 * These are the messages to be filtered out before being placed on the
000002 * completion reports.
000003 * Entries marked with a C in column one will be filtered from the
000004 * "completion report" screen, but will still appear in the
000005 * completion report itself.
000006 *
000007 ITP002I Operator commands
000008 ITP006I Network Started
000009 ITP029I Initialization Complete
000010 ITP033I Alter complete
000011 C ITP077I Messages received and sent
000012 ITP140I Query command
000013 ITP141I Query command
000014 ITP142I Query command
000015 ITP143I Query command
000016 ITP200I Display monitor active
000017 ITP201I Display monitor closed down
000018 ITP207I Display monitor session started/ended
000019 ITP503I Invalid command entered
***** ***** Bottom of data *****

F1=Help   F2=Split  F3=Exit   F5=Rfind  F6=Rchange F7=Up
F8=Down   F9=Swap   F10=Left F11=Right F12=Cancel

```

When the completion report is created, this mask is used to hide unwanted messages from the completion report. The masks are all on MSGID, with the exception of ITP137I. With ITP137I messages, the actual text to be masked out is also specified. Therefore, some ITP137I messages can be written to the completion report while others can be masked out.

THRESH Set completion report response time thresholds. Use this option to change the response time thresholds. The response time thresholds are useful in determining the rate of traffic—what messages were sent and received within a specified criteria.

The percentile values are extracted from the response time skeleton. The top four values (out of 10 maximum values) of the PERCENT command are used for the percentiles.

Test Documentation

The TPNS Test Manager provides help in documenting test plans and procedures.

From the TPNS Test Manager main menu select option **D** or enter the command **DOC**. The following menu is displayed:

Create Documentation

Select one of the following. Then press Enter.

Command	Action
1. SPECIFY	Specify test items and test environment
2. PLAN	Plan test and completion criteria
3. PREPARE	Prepare test environment
4. DELIVER	Run test
5. ANALYZE	Analyze test run
6. INTERVENE	Intervention and correction
7. ITERATE	Iterate or exit
8. EXIT	Test completed
9. TTMDOC	Edit TPNS/TM document
10. MAKEDOC	Create TPNS/TM document
C. COMPREP	List Run Schedule Completion Report
N. NOTES	Edit Notes data set

Command ==>

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

The documentation panel provides a document structure showing the Test Management phases:

SPECIFY	Specify test items and test environment. Document what is needed for testing; for example, applications, test data, host environments, personnel, and so on.
PLAN	Plan test and completion criteria. Document a test plan schedule, and also the completion criteria for the test (this may be, for example, a Service Level Agreement showing minimum response times).
PREPARE	Prepare test environment. Document what needs to be done to set up the test environment; for example, test data extracts.
DELIVER	Run the test. Document the schedule's run.
ANALYZE	Analyze the results of the run. Did the run meet the completion criteria? Check for unexpected results.
INTERVENE	Intervention and correction. Document what actions were taken to correct the errors or unexpected results.
ITERATE	Iterate or exit. What part of the test was rerun? Document when the test was considered finished.
EXIT	Test completed. Document when the test was completed.

TTMDOC	Edit TPNS/TM document. This is the skeleton document that includes the eight members previously described.
MAKEDOC	Create TPNS/TM document. Takes the skeleton document and imbeds the eight members to create a sequential data set. This data set can then be scripted (perhaps using BookMaster) or sent to another system for printing.
COMPREP	List Run Schedule Completion Report. Lists the Completion Reports for this project.
NOTES	Edit Notes data set. Edits the Notes data set for this project. There must be at least one testcase, testgroup, testcycle, or schedule that has notes associated with it before this option can be invoked.

Projects and Alternate High Level Indexes

The TPNS Test Manager organizes testing into projects. Each project is a set of libraries containing everything required for TPNS testing. This enables testing to be separated into specific projects, each project with its own data sets.

Alternate High Level Indexes enable other projects to be included with the current project.

From the TPNS Test Manager main menu select option **P** or enter the command **PROJECT**. The following panel is displayed:

```

                                Process Projects
Command==>                                Press PF3 to end.

Change the primary and alternate high level index fields as required
(for a list of projects, enter ? in the Project field).

To create a new project, enter the command add
To delete an entire project, enter the command delete

Project      : DEMO      Demo project

Alternate HLI: _____
Alternate HLI Userid: _____

F1=Help      F2=Split      F3=End      F4=Return      F5=Add      F6=
F7=Up        F8=Down        F9=Swap      F10=Left      F11=Right      F12=Retrieve

```

This panel has three fields:

Project

This is the project name. The project name can be 1–10 characters long. This field is followed by an optional free-form description which is specified when the project is first added.

Alternate HLI

Use this field to specify the high level index of another TPNS Test Manager project. This enables Testcases and Schedules from other projects to be included in the current project.

Alternate HLI Userid

Enter the owning user ID of the alternate high level index in this field. The value in the **Alternate HLI Userid** field is used to find the low level names for the alternate HLI project.

See “Alternate HLI Fields” on page 16 for more information on the **Alternate HLI** and the **Alternate HLI Userid** fields.

Any testcases or schedules flagged with ALT cannot be modified. The ALT data sets are available in browse mode only.

To add a new project, do the following:

1. Type over the **Project** name field with a new project name.
2. Enter the **ADD** command in the command field and press **ENTER** or **PF5**.
3. Enter an optional description for the new project and a data set high level index (this is normally your user ID followed by another qualifier—the name of the new project may be suitable for this qualifier).

The TPNS Test Manager creates a number of data sets for the new project, each with the high level index specified.

The partitioned data sets are:

- control
- crep
- doc
- models
- msgtxts
- notes
- ntwrks
- script
- sgenstl
- stl
- vtamlst

The sequential data sets are:

- ttmtab.case
- ttmtab.crep
- ttmtab.cycle
- ttmtab.group
- ttmtab.sched
- ttmtab.utbl

Note: If the data set name matches an existing data set, a warning is issued. If the conflict is not resolved, the existing data set is used by TTM, and it is deleted when the project using this data set is deleted. To avoid this type of conflict, verify that the high level index chosen will result in unique data set names. If an existing data set is used, make sure the data set organization matches the data set organization required by TTM.

To select an existing project, type over the first character of the Project name with a question mark and press **Enter**. A list of existing projects is displayed. Select the project required.

When you exit the projects panel, the TTM/ISPF tables will be refreshed from the control tables for this project. A pop-up panel is displayed to determine the type of refresh.

- Select a normal refresh if no changes have been made to the STL data set outside the control of TTM.
- Select an extended refresh if new STL members have been added, or existing STL members have been changed by processes outside the control of TTM. An extended refresh will synchronize the TTM testcase table with the STL data set. This type of refresh may take some time and is necessary only if you believe the STL data set has been updated by processes outside the control of TTM.

Utilities

The TPNS Test Manager has a number of utilities that provide support for accessing and updating control information, skeletons, and data set attributes. In addition, STL translate and table refresh functions are provided.

From the TPNS Test Manager main menu select option **U** or enter the command **UTILS**. The TPNS Test Manager Utilities menu is displayed:

```

                                Access Utilities

Select one of the following. Then press Enter.

   Command  Action
  ___ 1. VARS   Specify TPNS Test Manager Variables and Options
     2. PUTBL  Process User Tables
     3. SPACE   Specify data set attributes

     4. SKELS  Edit TPNS Test Manager skeletons
     5. MSGTXT Edit MSGTXTs data set
     6. NTRK   Edit NTRK data set
     7. TTMVARS Edit TPNS Test Manager variable @INCLUDE member

     8. TRANSLATE Translate all STL programs
     9. REFRESH Refresh all TTM Tables

Command ==>
F1=Help   F2=Split  F3=End    F4=Return  F5=       F6=
F7=Up     F8=Down   F9=Swap   F10=Left   F11=Right F12=Retrieve

```

VARS—Specify TPNS Test Manager Variables

Start from the TPNS Test Manager Utilities menu:

Access Utilities

Select one of the following. Then press Enter.

Command	Action
1. VARS	Specify TPNS Test Manager Variables and Options
2. PUTBL	Process User Tables
3. SPACE	Specify data set attributes
4. SKELS	Edit TPNS Test Manager skeletons
5. MSGTXT	Edit MSGTXTs data set
6. NTRK	Edit NTRK data set
7. TTMVARS	Edit TPNS Test Manager variable @INCLUDE member
8. TRANSLATE	Translate all STL programs
9. REFRESH	Refresh all TTM Tables

Command ==>

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

Select option 1 or enter the command **VARS**. The following panel is displayed:

Specify TPNS Test Manager Variables and Options

Update the fields, then press Enter to save the values. Press PF3 to end.

TPNS/ISPF Interface Access: HIDE (hide, display or interact)
Panel Message Delay : 2 seconds (1-10)
Log Display Monitor Chars: {} Automatic REFRESH? : N (Y/N)
Display Panel ID? : N (Y/N) Display Function Keys : Y (Y/N)

TPNS Load Library : TPNS.LOAD
IDC VTAM APPL name : ITPIDC Display Monitor VTAM APPL name: _____
Fully Validate TPNS Data Set Names? : Y (Y/N)

Work data sets HLI : userid
Low Level names: STL: STL MSGTXTs: MSGTXTS NTRKs: NTRKs

VTAM Name Model : _____
TPNS Name Model : _____
Numeric substitution start value: 0

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

This panel has the following fields:

TPNS/ISPF Interface Access

Specifies the mode you want to use. See “Operating Modes” on page 69 for more information.

Panel Message Delay

Specifies the minimum time in seconds a panel message will appear. Use this option to keep messages from clearing too quickly. The only valid values for this field are integers in the range 1–10. If you enter a value that is greater than 5 seconds, you will receive a warning message. A large value in this field will result in slow response and gives the appearance of a session hang. The default value is 2 seconds.

Log Display Monitor Chars

These are three unique characters reserved for use by the Log Display Monitor. These must be characters that do not appear on any screen images that are to be viewed.

Automatic REFRESH?

If set to **Y**, the **Refresh** command is enabled to run every time the user logs on. This helps ensure any shared projects are kept up-to-date.

Display Panel ID?

If set to **Y**, the panel name is displayed in the top, left-hand corner of the panel in TTM and in the TPNS/ISPF Interface.

Display Functions Keys?

If set to **Y**, the PF keys are displayed at the bottom of the panels in TTM and in the TPNS/ISPF Interface.

TPNS Load Library

The fully qualified data set name of the TPNS load library (specify the name without quotes).

IDC VTAM APPL name

The name on the VTAM APPL statement, in the VTAM Application Major Node, for the TPNS Interactive Data Capture facility.

Display Monitor VTAM APPL name

The name on the VTAM APPL statement, in the VTAM Application Major Node, for the TPNS Display Monitor facility.

Fully Validate TPNS Data Set Names?

If set to **Y**, ISPF fully validates each data set name prior to invoking TPNS. An **N** setting for this option will improve execution time. However, if you have any reason to believe one or more data set names may not be valid, you should specify **Y**.

Work data sets HLI

The high level index TTM uses to create work data sets. This is normally the user ID.

Low Level names

These are the lowest level qualifiers for the STL, MSGTXTs, and NTRKs data set names. You must specify a different name for each of the three low level qualifiers.

VTAM Name Model

The name model for VTAM applications that are used by TPNS. Enter 1–7 # characters on the end of the name for numeric placeholders.

TPNS Name Model

The name model for resources that are simulated by TPNS. Enter 1–7 # characters on the end of the name for numeric placeholders.

Numeric substitution start value

Start value for replacement of placeholders (# characters) in VTAM and TPNS names.

In the VTAM name model field, enter a model of the VTAM Application names set up in your VTAM Application Major Node. End the model with # characters. TTM uses the # characters as placeholders for numeric substitution to generate unique names as needed.

Likewise, in the TPNS name model field, enter a model of the names that are to be used by TTM for simulated resources. This name must end with the same number of # characters as the VTAM name model does.

The number of # characters specified will depend on the number of resources you want to represent with this name pattern. If a TPNS name model of TPNSLU# is specified, this allows for 10 unique resource names (TPNSLU0 through TPNSLU9). However, if a TPNS name model of TPNSLU## is specified, this allows for 100 unique names (TPNSLU00 through TPNSLU99).

For example, assume you have defined application IDs (applids) VAPPL00 through VAPPL99 in your VTAM Application Major Node. In order to allow TTM to make use of the full range of VTAM names defined, you would specify the VTAM name model as VAPPL##. The TPNS name model could then be specified as TPNSLU## and the numeric substitution start value as 00. With this specification, TTM will use VTAM names VAPPL00 through VAPPL99 and TPNS names TPNSLU00 through TPNSLU99 when resource names are required.

PUTBL—Process User Tables

Start from the TPNS Test Manager Utilities menu:

```
Access Utilities
Select one of the following. Then press Enter.

  Command  Action
  --- 1. VARS  Specify TPNS Test Manager Variables and Options
      2. PUTBL  Process User Tables
      3. SPACE  Specify data set attributes

      4. SKELS  Edit TPNS Test Manager skeletons
      5. MSGTXT  Edit MSGTXTs data set
      6. NTRK   Edit NTRK data set
      7. TTMVARS Edit TPNS Test Manager variable @INCLUDE member

      8. TRANSLATE Translate all STL programs
      9. REFRESH  Refresh all TTM Tables

Command ==> _____
F1=Help      F2=Split    F3=End      F4=Return   F5=         F6=
F7=Up       F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve
```

Select option 2 or enter the command **PUTBL**. A list of all the UTBLs for this project is displayed. The STL and MSGTXT code can be edited or browsed. The user data tables can also be deleted.

SPACE—Specify Data Set Attributes

The TPNS Test Manager creates a number of data sets. The placement and size of these data sets can be controlled by the **SPACE** utility. Make any required updates to the data set attributes using the space utility prior to creating projects.

Start from the TPNS Test Manager Utilities menu:

Access Utilities

Select one of the following. Then press Enter.

- | Command | Action |
|--------------|---|
| 1. VARS | Specify TPNS Test Manager Variables and Options |
| 2. PUTBL | Process User Tables |
| 3. SPACE | Specify data set attributes |
| 4. SKELS | Edit TPNS Test Manager skeletons |
| 5. MSGTXT | Edit MSGTXTs data set |
| 6. NTRK | Edit NTRK data set |
| 7. TTMVARS | Edit TPNS Test Manager variable @INCLUDE member |
| 8. TRANSLATE | Translate all STL programs |
| 9. REFRESH | Refresh all TTM Tables |

Command ==>

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

Select option **3** or enter the command **SPACE**. The following panel is displayed:

Specify Data Set Attributes

Row 1 to 16 of 19

Command==>

Update the data set attributes listed below.

Press PF3 to end.

Line Commands: i Data set Information.

Description	Pri	Sec	Dir	Type	Unit/Volume (" for ditto)
- TPNS Run SYSRINT	1	2		CYL	UNIT(SYSDA)
- Compare Report SYSRINTs	1	3		TRK	UNIT(SYSDA)
- Display Monitor panels	5	5	60	TRK	UNIT(SYSDA)
- Display Monitor SYSRINT	5	5		TRK	UNIT(SYSDA)
- Display Monitor SYSIN	1	1		TRK	UNIT(SYSDA)
- Project CONTROL data set	1	1	40	CYL	UNIT(SYSDA)
- Project DOC data set	5	5		TRK	UNIT(SYSDA)
- Project MSGTXTS data set	10	5	40	CYL	UNIT(SYSDA)
- Project NTRKS data set	5	5	40	CYL	UNIT(SYSDA)
- Project NOTES data set	10	20	30	TRK	UNIT(SYSDA)
- Project CREP data set	30	30	50	TRK	UNIT(SYSDA)
- Project SCRIPT data set	1	1	40	CYL	UNIT(SYSDA)
- Project STL data set	10	5	40	CYL	UNIT(SYSDA)
- Project CPI-C SGEN STL	5	5	30	CYL	UNIT(SYSDA)
- Project MODELS data set	5	5	10	TRK	UNIT(SYSDA)
- Project TPNS logs	10	20		CYL	UNIT(SYSDA)

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

Press **PF8** or enter the command **DOWN** to display the remaining data sets in the set of 19:

```

                                Specify Data Set Attributes          Row 17 to 19 of 19
Command==>
Update the data set attributes listed below.          Press PF3 to end.
Line Commands: i Data set Information.

  Description                Pri Sec Dir  Type Unit/Volume (" for ditto)
_ Project TTMTAB data sets   5   5     TRK  UNIT(SYSDA)
_ Project TTM.SYSPRINT       1   2     CYL  UNIT(SYSDA)
_ Project VTAMLST data set   1   1  40  CYL  UNIT(SYSDA)
***** Bottom of data *****

F1=Help    F2=Split    F3=End     F4=Return   F5=         F6=
F7=Up      F8=Down     F9=Swap    F10=Left    F11=Right  F12=Retrieve

```

Typically, **UNIT(SYSDA)** may not be suitable for permanent TPNS Test Manager data sets, and you may want to place them on a specific volume. For example:
 UNIT(3390) VOLUME(USER01)

This can be accomplished by specifying the **UNIT/VOLUME** for particular data sets on the data set attributes panel.

The line command **i** can also be issued against individual data sets to view the current data set information.

If multiple TPNS Test Manager data sets are to be placed on the same volume, indicate ditto by placing a double quote (") in the **UNIT/VOLUME** field. For example:

```

                                Specify Data Set Attributes          Row 1 to 16 of 19
Command==>
Update the data set attributes listed below.          Press PF3 to end.
Line Commands: i Data set Information.

  Description                Pri Sec Dir  Type Unit/Volume (" for ditto)
- TPNS Run SYSPRINT          1  2    CYL UNIT(SYSDA)
- Compare Report SYSPRINTs  1  3    TRK  "
- Display Monitor panels     5  5  60  TRK UNIT(3390) VOLUME(USER01)
- Display Monitor SYSPRINT   5  5    TRK  "
- Display Monitor SYSIN      1  1    TRK  "
- Project CONTROL data set   1  1  40  CYL  "
- Project DOC data set       5  5    TRK  "
- Project MSGTXTS data set   1  1  40  CYL  "
- Project NWRKS data set     5  5  40  CYL  "
- Project NOTES data set    10 20  30  TRK  "
- Project CREP data set      30 30  50  TRK  "
- Project SCRIPT data set    1  1  40  CYL  "
- Project STL data set       1  1  40  CYL  "
- Project CPI-C SGEN STL     5  5  30  CYL  "
- Project MODELS data set    5  5  10  TRK  "
- Project TPNS logs         10 20    CYL  "
F1=Help      F2=Split  F3=End      F4=Return  F5=      F6=
F7=Up        F8=Down   F9=Swap    F10=Left  F11=Right F12=Retrieve

```

Press **ENTER** to save these new values and press **PF3** to return to the Utilities menu.

These values will be used the next time a project is created.

To return to the default (**UNIT(SYSDA)**) for all data sets, simply enter a double quote in the **UNIT/VOLUME** field of the first row.

SKELS—Edit TPNS Test Manager Skeletons

The TPNS Test Manager uses ISPF skeletons when generating new items, for example, new TPNS network definitions.

Start from the TPNS Test Manager Utilities menu:

```

                                Access Utilities

Select one of the following. Then press Enter.

      Command  Action
___ 1. VARS     Specify TPNS Test Manager Variables and Options
   2. PUTBL    Process User Tables
   3. SPACE     Specify data set attributes

   4. SKELS     Edit TPNS Test Manager skeletons
   5. MSGTXT    Edit MSGTXTs data set
   6. NTRK      Edit NTRK data set
   7. TTMVARS   Edit TPNS Test Manager variable @INCLUDE member

   8. TRANSLATE Translate all STL programs
   9. REFRESH   Refresh all TTM Tables

Command ==> _____
F1=Help   F2=Split   F3=End     F4=Return   F5=         F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

Select option **4** or enter the command **SKELS**. The following panel is displayed:

```

                                Process Skeletons

Select one of the following. Then press Enter.

      Command  Action
___ 1. DOCSKELS Edit documentation skeletons

   2. CCSKELS  Edit control card skeletons

   3. NETSKELS Edit TPNS network definition skeletons

   4. STLSKEL  Edit new STL skeleton

   5. LLMASK   Edit completion report Loglist message masks

Command ==> _____
F1=Help   F2=Split   F3=End     F4=Return   F5=         F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

This panel contains the following actions:

DOCSKELS Edit documentation skeletons

Use this option to alter the base skeletons for the various documentation chapters, as described in “Test Documentation” on page 92. Changes to these skeletons will take effect with the next new project that is created.

CCSKELS Edit control card skeletons

Use this option to alter the TPNS control card skeletons, as displayed in the following panel:

Edit Control Card Skeletons

Select one of the following. Then press Enter.

Command	Action
1. LSGEN	Edit ITPLSGEN control card skeleton
2. LL	Edit ITPLL control card skeleton
3. COMP	Edit ITPCOMP control card skeleton
4. RESP	Edit ITPRESP control card skeleton
5. SGEN	Edit ITPSGEN control card skeleton

Command ==>

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

LSGEN

Edit ITPLSGEN control card skeleton

Use this option to edit the control cards for the TPNS ITPLSGEN function (Log Script Generator). This option could be used, for example, to change the panel verification coordinates.

LL

Edit ITPLL control card skeleton

Use this option to edit the control cards for the TPNS ITPLL function (Loglist). This option also appears in the second panel of the schedule reports, as described in "Output Reports" on page 89.

COMP

Edit ITPCOMP control card skeleton

Use this option to edit the control cards for the TPNS ITPCOMP function (Log Screen Compare). This option also appears in the second panel of the schedule reports, as described in "Output Reports" on page 89.

RESP

Edit ITPRESP control card skeleton

Use this option to edit the control cards for the TPNS ITPRESP function (Response Time report). This option also appears in the second panel of the schedule reports, as described in "Output Reports" on page 89.

SGEN

Edit ITPSGEN control card skeleton

Use this option to edit the control cards for the TPNS ITPSGEN function.

NETSKELS

Edit TPNS network definition skeletons

Use this option to edit the skeletons used for the NTRWK definition statement when schedules are created by TTM, as displayed in the following panel:

```

                                Edit Network Definition Skeletons

Select one of the following. Then press Enter.

  Command  Action
  ---
  1. VNETSHEL  Edit TPNS VTAMAPPL network definition skeleton
  2. CNETSHEL  Edit TPNS CPI-C network definition skeleton
  3. SGENSKEL  Edit TPNS CPI-C script gen network definition skeleton
  4. TNETSHEL  Edit TPNS TCP/IP network definition skeleton

Command ==>
F1=Help      F2=Split    F3=End      F4=Return   F5=         F6=
F7=Up        F8=Down    F9=Swap     F10=Left    F11=Right   F12=Retrieve

```

VNETSKEL Edit TPNS VTAMAPPL network definition skeleton

Use this option to edit the skeleton used for the NTRWK statement when new VTAMAPPL schedules are created by TTM.

CNETSKEL Edit TPNS CPI-C network definition skeleton

Use this option to edit the skeleton used for the NTRWK statement when new CPI-C schedules are created by TTM.

SGENSKEL Edit TPNS CPI-C script gen network definition skeleton

Use this option to edit the skeleton used for the NTRWK statement and the default path when new schedules are created by TTM using the CPI-C script generation process.

TNETSKEL Edit TPNS TCP/IP network definition skeleton

Use this option to edit the skeleton used for the NTRWK statement when new TCP/IP schedules are created by TTM. The "SERVADDR=" operand value will need to be changed to the host address that you want to connect to in the simulation.

STLSKEL Edit new STL skeleton

Use this option to edit the STL skeleton used when creating a new testcase.

LLMASK Edit completion report Loglist message masks

See "Output Reports" on page 89, option number 17, for details.

MSGTXT—Edit MSGTXTs Data Set

When any STL program is translated, MSGTXTs are generated. These MSGTXTs control TPNS execution during the simulation run.

Start from the TPNS Test Manager Utilities menu:

```
Access Utilities

Select one of the following. Then press Enter.

  Command  Action
  --- 1. VARS   Specify TPNS Test Manager Variables and Options
      2. PUTBL  Process User Tables
      3. SPACE   Specify data set attributes

      4. SKELS   Edit TPNS Test Manager skeletons
      5. MSGTXT  Edit MSGTXTs data set
      6. NTRWK   Edit NTRWK data set
      7. TTMVARS Edit TPNS Test Manager variable @INCLUDE member

      8. TRANSLATE Translate all STL programs
      9. REFRESH Refresh all TTM Tables

Command ==> _____
F1=Help    F2=Split    F3=End      F4=Return   F5=         F6=
F7=Up      F8=Down     F9=Swap     F10=Left    F11=Right  F12=Retrieve
```

Select option **5** or enter the command **MSGTXT**. The list of MSGTXTs for this project is displayed.

NTRWK—Edit NTRWK Data Set

This option displays the list of TPNS networks.

Start from the TPNS Test Manager Utilities menu:


```

                                Access Utilities
Select one of the following. Then press Enter.

      Command  Action
— 1. VARS     Specify TPNS Test Manager Variables and Options
  2. PUTBL    Process User Tables
  3. SPACE    Specify data set attributes

  4. SKELS    Edit TPNS Test Manager skeletons
  5. MSGTXT   Edit MSGTXTs data set
  6. NTRK     Edit NTRK data set
  7. TTMVARS  Edit TPNS Test Manager variable @INCLUDE member

  8. TRANSLATE Translate all STL programs
  9. REFRESH  Refresh all TTM Tables

Command ==> _____
F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

Select option **6** or enter the command **NTRK**. The list of networks for this project is displayed.

TTMVARS—Edit TPNS Test Manager Variable @INCLUDE Member

TTMVARS is a common variable declaration member that is included in all testcases. Every time a testcase is created, TTM adds an STL **@INCLUDE ttmvars** statement at the beginning of the testcase.

Start from the TPNS Test Manager Utilities menu:

```

                                Access Utilities
Select one of the following. Then press Enter.

      Command  Action
— 1. VARS     Specify TPNS Test Manager Variables and Options
  2. PUTBL    Process User Tables
  3. SPACE    Specify data set attributes

  4. SKELS    Edit TPNS Test Manager skeletons
  5. MSGTXT   Edit MSGTXTs data set
  6. NTRK     Edit NTRK data set
  7. TTMVARS  Edit TPNS Test Manager variable @INCLUDE member

  8. TRANSLATE Translate all STL programs
  9. REFRESH  Refresh all TTM Tables

Command ==> _____
F1=Help   F2=Split   F3=End     F4=Return  F5=        F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

Select option **7** or enter the command **TTMVARS** to edit this STL member. If you change this member, you will need to retranslate any STL members you want to

access the updated TTMVARS. If you want all STL members to access the updated TTMVARS, use the TRANSLATE option described in the following section.

TRANSLATE—Translate All STL Programs

When this option is selected, all testcases are translated. This can be useful if the TTMVARS member has been changed and all testcases need to be retranslated to use the new TTMVARS.

Start from the TPNS Test Manager Utilities menu:

```
Access Utilities

Select one of the following. Then press Enter.

  Command  Action
— 1. VARS  Specify TPNS Test Manager Variables and Options
  2. PUTBL Process User Tables
  3. SPACE  Specify data set attributes

  4. SKELS  Edit TPNS Test Manager skeletons
  5. MSGTXT Edit MSGTXTs data set
  6. NTRK   Edit NTRK data set
  7. TTMVARS Edit TPNS Test Manager variable @INCLUDE member

  8. TRANSLATE Translate all STL programs
  9. REFRESH  Refresh all TTM Tables

Command ==>
F1=Help    F2=Split  F3=End    F4=Return  F5=
F7=Up      F8=Down   F9=Swap   F10=Left   F11=Right  F12=Retrieve
```

Select option **8** or enter the command **TRANSLATE** to translate all testcases in this project.

Notes:

1. If the number of testcases is large, this process may take some time to complete.
2. Sequence numbers placed in the data set by some editors will cause translation errors if they are not removed.

REFRESH—Refresh All TTM Tables

When this option is selected, all the TTM ISPF tables are refreshed from the control tables for this project.

Start from the TPNS Test Manager Utilities menu:

Access Utilities

Select one of the following. Then press Enter.

Command	Action
1. VARS	Specify TPNS Test Manager Variables and Options
2. PUTBL	Process User Tables
3. SPACE	Specify data set attributes
4. SKELS	Edit TPNS Test Manager skeletons
5. MSGTXT	Edit MSGTXTs data set
6. NTRK	Edit NTRK data set
7. TTMVARS	Edit TPNS Test Manager variable @INCLUDE member
8. TRANSLATE	Translate all STL programs
9. REFRESH	Refresh all TTM Tables

Command ==>

F1=Help	F2=Split	F3=End	F4=Return	F5=	F6=
F7=Up	F8=Down	F9=Swap	F10=Left	F11=Right	F12=Retrieve

Select option **9** or enter the command **REFRESH** to refresh all the tables in this project. A pop-up panel will be displayed to determine the type of refresh.

- Select a normal refresh if no changes have been made to the STL data set outside the control of TTM.
- Select an extended refresh if new STL members have been added, or existing STL members have been changed by processes outside the control of TTM. An extended refresh will synchronize the TTM testcase table with the STL data set. This type of refresh may take some time and is necessary only if you believe the STL data set has been updated by processes outside the control of TTM.

Note: The **REFRESH** command causes all alternate high level, last run schedule information, and completion report associations to be lost.

Appendix A. TPNS Test Manager Debugging Hints

This appendix provides a list of some of the errors most likely to be encountered while developing and testing scripts under the TPNS Test Manager. For problems which are not described here, refer to *TPNS Messages and Codes* or other TPNS documentation.

ERROR Encountered during STL Translation

STL translation is usually done immediately after capturing a TTM testcase or changing STL msgutbl source files relating to a testcase. If the STL translation encounters an error, do the following:

1. Browse the print output of the STL translate step.
2. Type "F '*** ERROR'" on the command line and then press **ENTER**. Take note of the places in the STL or UTBL where translation failed along with the reasons for the failure. The message will help you find the reason for the error.
3. Search for the next error by pressing **PF5**, and note all subsequent errors. Continue pressing **PF5** until no more "*** ERROR" lines are found.
4. Edit the STL or UTBL source where errors were encountered and make the appropriate corrections. If you don't understand a given error, consult *TPNS Using STL and the STL Translator*. For a more detailed explanation of the error message, refer to *TPNS Messages and Codes*.

Note: If you are running TTM in Interact mode, you can end the Browse session and press **PF4** to make STL changes.

ERROR Encountered during Network Initialization

The first step in running a TPNS network is network initialization. During initialization, the NTRWK control cards defined after the resources have been set up are merged together with the TPNS MSGTXT files (STL translate output of STL programs and user tables) in preparation for execution. If you encounter a network initialization error during the run, do the following:

1. Enter "ZEND" on your TPNS operator console (TSO session) to end the run if it does not end itself.
2. Back out to the Process TTM Schedules panel and enter the line command **P** for preprocess next to the network in question. This command executes network initialization only and saves the output for viewing.
3. Browse the print output of the TPNS preprocess step.
4. Type "F 'ITP'" and then press **ENTER**. Take note of the places in the NTRWK where network initialization failed.
5. Search for the next error by pressing **PF5**, and note all the subsequent errors. Continue pressing **PF5** until no more initialization error lines are found.
6. Sometimes there are conflicts between individual STL programs even though each of them translated separately without errors. If so, resolve the conflicts and try the preprocess step again.
7. There may be errors in the NTRWK control cards, particularly if you had a reason to edit the NTRWK directly. If this is the case, consult *TPNS Language Reference* to understand the proper syntax for the TPNS network statements, or consult *TPNS Messages and Codes* for more explanation of the error message.

Note: If you are running TTM in Interact mode, you can end the Browse session and press **PF4** to make network changes.

ERROR Encountered during Network Simulation

After you have started the network simulation, your TSO session begins to display TPNS “write-to-operator” messages, which appear in the STL programs as SAY statements. Each STL program with 3270 resources that run to completion issues a message to the console similar to the following:

```
ITP137I <network> <terminal>-00001 - <program> Finished
```

After the message is issued, that terminal shuts down automatically. If problems occur, a number of strategies are available for debugging your TPNS testcases, depending on what you find to be most suitable:

- Problems after the TPNS simulation:
 - Run TLOG (select **0** from the schedules list, then select **1**) specifying the resources (LU names) that had problems. The loglist can provide you detailed information about which STL statement was being processed at a given time during the execution, what data and display screens were exchanged, and so on.
 - Run TDM (select **0** from the schedules list, then select **3**) to replay the display screen sequence encountered during your simulation.
- Problems during the TPNS simulation:
 - Place additional SAY statements in your testcase so that you can see immediately how far your testcase has progressed.
 - For 3270 resources, use the Display Monitor Facility from another TSO session to watch the screens for one simulated TPNS terminal while the test is going on.

As a general rule, it is wise to get a testcase or testgroup working with a single terminal before attempting a simulation with multiple terminals. It is also good to review a single terminal run using the Display Monitor Facility against the TPNS log (using TDM) even if the TPNS run appears to be successful. The Finished message is not a guarantee that the script worked as you intended.

Problems during a TPNS/TM simulation run usually fall into one of the following categories:

- Panel verification error
- TPNS simulation stalls

These problems are described in the following sections.

Panel Verification Error

IDC generates STL code that checks a fixed portion of the 3270 screen buffer (by default, the first eight bytes in the upper left-hand corner) to verify that it has reached the correct screen. If a screen response is received that was not expected, a panel verification error results and that script is ended. If there is more than one testcase in a path (as would be the case if a testgroup was used), the next testcase may also report a panel verification error, although this is likely to be just a side effect of the first error.

If you encounter such an error, do the following:

1. Make a note of the panel name reported (ex. "PNL00002") in the first error message.
2. Enter "ZEND" to end the simulation run if the simulation does not end automatically.
3. Locate the panel name in your STL program and see if you can determine what the problem is. If you cannot determine the problem, use the TPNS loglist (TLOG) to determine where the problem occurred, and make the appropriate changes in the STL program before trying again. If your testcase is looking in the wrong part of the screen or if it is expecting the wrong thing, change the *screen_data* assignment statement, the *expected_data* assignment statement, or both.
4. If you decide that you need to be able to handle multiple outcomes without erroring out the testcase, use some of the STL structured coding constructs (iterative DO-END, IF-THEN-ELSE, SELECT_WHEN-OTHERWISE-END) to make your testcase logic more robust.

TPNS Simulation Stalls

If the TPNS simulation appears to stall, the system under test may be stalled or your testcase may be stalled. If a screen response is received that was not expected, a panel verification error results and that script is ended. If you suspect a stall, check the following:

- If the run has not yet ended, enter "G INACT" to see if any terminals have timed out for being inactive. Usually several minutes have to pass before TPNS will deactivate a terminal that has been inactive. Refer to the SCAN parameter on the TPNS NTRWK statement in *TPNS Language Reference*.
- Manually logon to the system under test and try doing the same thing that the simulation was trying to do when it stalled. If your manual session also encounters the problem, this indicates an APPLICATION problem rather than a TTM testcase problem.
- If manual testing does not experience the same stall, enter "ZEND" to end the simulation run and do a LOGLIST (TLOG) or a log display monitor run against the terminal or terminals experiencing the stall.
- Review your STL source for out-of-sequence data entry or panel verification statements (CHARSET, CURSOR, TYPE, TRANSMIT, IF-THEN).
- Review your STL source for statements that may delay or halt TPNS simulation (WAIT UNTIL, QUIESCE, SUSPEND, DELAY, iterative DO-END without proper loop termination condition, and so on).

Miscellaneous Problems

Other errors that might occur using TTM:

- Unexpected IDC (capture) error
Verify that the TTM data sets ending with IDCLOG and the low level name qualifiers for STL, MSGTXTS, and NTRWKS have adequate space. Compress them if they require compression (using ISPF 3.1).
- TLOG or TDM failure
Loglist or log display monitor log operations may fail if the SYSPRINT data sets associated with them do not have adequate space. If this is the case, delete and reallocate the data sets with more space (using ISPF 3.2).

Note: Similar errors may happen while translating STL and UTBL files if the associated SYSPRINT file is running out of space or requires compression, although this is more likely for log-related data sets.

Appendix B. TPNS Test Manager User Precautions

- Do not use any of the STL reserved words for testcase, UTBL, or schedule names. Refer to *Using the TPNS Structured Translator Language (STL) and the STL Translator* for a list of reserved words.
- Do not use any of the TPNS statements found in *TPNS Language Reference* for testcase, UTBL, or schedule names.
- When an extended refresh is executed, any STL data set members that end with an X character in the eighth position are not listed in the testcase list.

Cautions:

- Do not edit or browse TTM tables.
- Do not change data set names in the TPNS/ISPF Interface panels.
- Do not change UTBL comments.
- Do not change PATH statements.
- Do not change any TTM-generated comments.

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Version 3 Release 5

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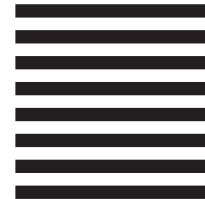
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