

WSim Test Manager



User's Guide and Reference

Version 1 Release 1

WSim Test Manager



User's Guide and Reference

Version 1 Release 1

Note

Before using this document, read the general information under "Notices" on page 119.

Second Edition (October 2015)

This document applies to the WSim Test Manager, is part of WSim Version 1 Release 1 (program number 5655-I39), 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

Publications are not stocked at the address given below. If you want more IBM publications, ask your IBM representative or write to the IBM branch serving your locality.

© Copyright IBM Corporation 1989, 2015.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Figures	v	Operating modes	73
About this book	vii	Testcases	74
Who should read this book	vii	Using line commands	75
WSim Test Manager overview	vii	Adding a new testcase.	75
Testcase management.	viii	Log Display Monitor	78
Script generation.	ix	Creating User Data Tables (UTBLs)	80
Execution automation	ix	Testgroups.	83
Documentation and report generation.	ix	Using line commands	84
Modes of operation	ix	Adding a testgroup.	84
Utilities	ix	Selecting test items for the testgroup	85
Where to find more information	x	Selecting a testgroup	86
Chapter 1. Installing the WSim Test Manager	1	Testcycles	86
Understanding the WSim Test Manager prerequisites	1	Using line commands	87
Setting up the WSim Test Manager environment	2	Adding a testcycle	87
Creating a VTAM Application Major Node	2	Selecting test items for the testcycle	88
Accessing the WSim Test Manager	3	Selecting a testcycle.	89
Setting up a new user	4	Schedules	89
Setting up a new WSim Test Manager (WTM) user	4	Using line commands	90
Chapter 2. WSim Test Manager tutorials	9	Test documentation.	95
Overview of the tutorials	9	Projects and alternate high level indexes.	97
Tutorial I—Interactive Data Capture (IDC)	10	Utilities.	99
Specifying VARS panel values	10	VARS—Specify WSim Test Manager variables	100
Adding and selecting projects	12	PUTBL—Process user tables	102
Creating testcases	14	SPACE—Specify data set attributes	102
Using the Log Display Monitor to edit testcases	19	SKELS—Edit WSim Test Manager skeletons	105
Setting up schedules	27	MSGTXT—Edit MSGTXTs data set	108
Running WSim simulations	32	NTWRK—Edit NTWRK data set	108
Tutorial II—CPI-C script generation	35	WTMVARs—Edit WSim Test Manager variable	
Specifying VARS panel values	35	@INCLUDE member	109
Creating testcases	37	TRANSLATE—Translate all STL programs.	110
Working with schedules	42	REFRESH—Refresh all WTM tables	110
Tutorial III—TCP/IP using a model script	52	Appendix A. WSim Test Manager debugging hints	113
Specifying VARS panel values	52	ERROR encountered during STL translation	113
Creating testcases	53	ERROR encountered during network initialization	113
Working with schedules	57	ERROR encountered during network simulation	114
11I Tutorial IV—Generating a TCP/IP trace and creating		Panel verification error	114
11Ia TCP/IP testcase from the trace	61	WSim simulation stalls	115
11I Specifying VARS panel values	61	Miscellaneous problems	115
11I Creating testcases	61	Appendix B. WSim Test Manager user precautions	117
11I Setting up and running schedules	65	Notices	119
11I Resetting the demonstration.	71	Trademarks and service marks	120
Chapter 3. WSim Test Manager reference.	73	Index	121
Reference overview.	73		

Figures

1. WSim Test Manager testing structure	viii	3. Example of an updated ISPF/PDF primary option menu definition	4
2. Sample VTAM Application Major Node	2		

About this book

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

- Chapter 1, "Installing the WSim Test Manager," on page 1 describes tasks involved and things to consider when planning the installation of the WSim Test Manager.
- Chapter 2, "WSim Test Manager tutorials," on page 9 contains "paper" demonstrations of the WSim Test Manager and shows by example how to use some of the functions and facilities of the WSim Test Manager.
- Chapter 3, "WSim Test Manager reference," on page 73 is a reference guide for all of the various functions and facilities of the WSim Test Manager.
- Appendix A, "WSim Test Manager debugging hints," on page 113 describes errors that might occur while developing and testing WSim scripts using the WSim Test Manager and how to correct them.
- Appendix B, "WSim Test Manager user precautions," on page 117 describes precautions that the user should take when using the WSim Test Manager.

Who should read this book

- Systems Programmers or other personnel that are involved with installing WSim Test Manager should read Chapter 1, "Installing the WSim Test Manager," on page 1.
- New users of WSim Test Manager should read Chapter 2, "WSim Test Manager tutorials," on page 9.
- More experienced users requiring information about specific WSim Test Manager functions should review Chapter 3, "WSim Test Manager reference," on page 73.

WSim Test Manager overview

The IBM® Workload Simulator (WSim) Test Manager (WTM) is a usability enhancement that guides the user through the test process. Improved productivity is achieved through a logical flow that streamlines WSim for anyone testing 3270 applications or LU 6.2 (APPC or CPI-C) transaction programs. WTM can also be used for other protocol tests when the WSim model networks are used as a test base. Potential WSim Test Manager customers are current and new WSim users in both large and intermediate MVS™ accounts with installed or planned interactive applications or systems. This product complements WSim, 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 WSim scripts and networks. For the purpose of operational flexibility and accommodation of various skill levels, the WSim Test Manager offers selectable modes of operation, test management services that support testcase organization, automatic script generation, and task automation. More benefits from the WSim Test Manager stem from its ability to control the use of resources during WSim 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 WSim Test Manager provides a number of management services to assist the WSim 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 WSim Test Manager. The primary layer of this structure is the project. Each project is a set of libraries that contains everything required for WSim 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.

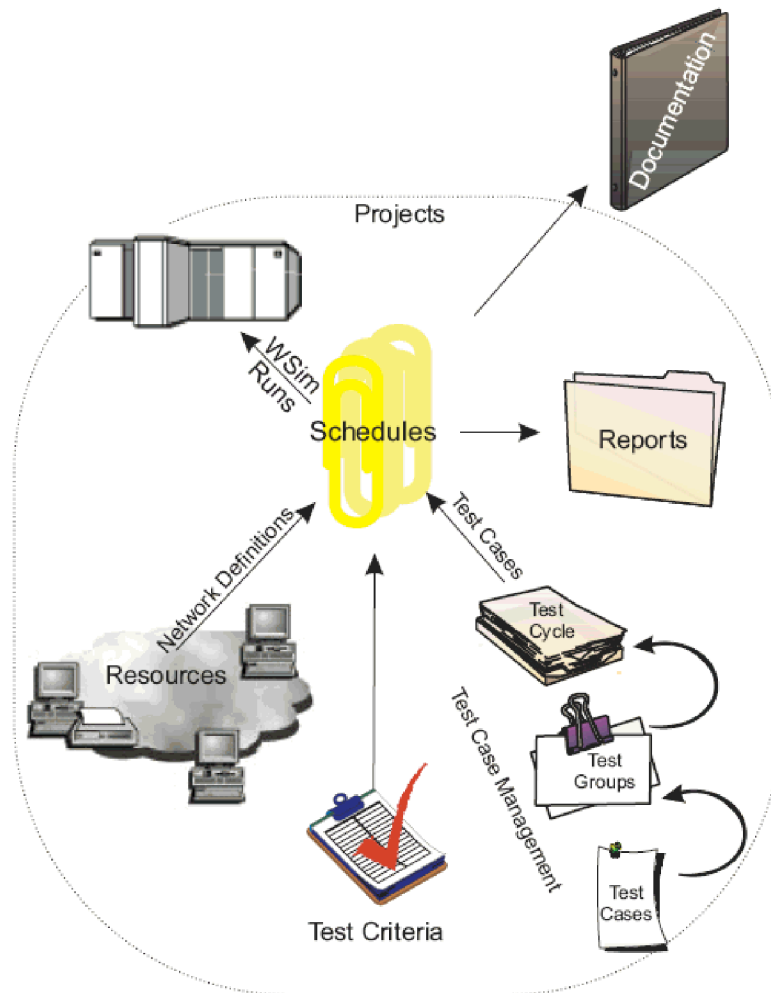


Figure 1. WSim Test Manager testing structure

Within a project are schedules and test scenarios. Schedules define all that is necessary to execute a WSim simulation run. A WSim Test Manager schedule is a WSim 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, you can create, edit, delete, and manipulate testcases by using the WSim Test Manager, 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 WSim Test Manager offers various ways to automate the development of testcases. A testcase is the sequence of the work steps that the simulated resources perform. Testcases are WSim scripts that are written in WSim Structured Translator Language (STL). For 3270 test environments, the WSim Test Manager can automate the WSim script generation process from 3270 screen/keyboard capture (Interactive Data Capture or IDC), SNA traces, WSim or IDC logs, or from an STL model or skeleton. Automated CPI-C testcase generation comes through using an SNA trace. You can create WSim User Data Tables (also referred to as User Tables or UTBLs) containing modifiable string data by using facilities of the WSim Test Manager. In addition, the STL source is automatically translated into WSim MSGTXTs.

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

Execution automation

The WSim Test Manager optimizes the use of WSim functions by automating test runs and results analysis. A number of areas are supported through these automation services, including invocation and execution of WSim 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 can be enhanced with WSim 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 help generating reports, scripting facilities, project reporting, and editing capabilities.

Modes of operation

For ease of use, the WSim Test Manager offers three modes of operation that control the amount of interaction the user can observe with WSim. The three modes are Hide, Display, and Interactive. The default mode of operation is Hide, which hides various WSim and Test Manager interactions. In the Display mode, the user is shown the entire WSim 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 WSim and Test Manager interactions; it requires the pressing of the enter key to start and execute the various WSim utilities.

Utilities

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

You can automatically build a testcase using IDC, a 3270 SNA trace, or using a WSim/IDC log or a WSim STL model or skeleton. You can build a CPI-C testcase using a SNA trace. The WSim Test Manager also automatically translates the STL source into an 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 WSim library.

Creating Workload Simulator Scripts, SC31-8945-00

Workload Simulator Script Guide and Reference, SC31-8946-00

Workload Simulator Utilities Guide, SC31-8947-00

Workload Simulator User's Guide, SC31-8948-00

WSim Test Manager User's Guide and Reference, SC31-8949-00

Workload Simulator User Exits, SC31-8950-00

Workload Simulator Messages and Codes, SC31-8951-00

Chapter 1. Installing the WSim Test Manager

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

The WSim Test Manager library contains the following data sets:

WSIM.SITPPNL

Contains all the panels that are used by WTM.

WSIM.SITPMMSG

Contains all the panel error messages that are issued by WTM.

WSIM.SITPEXEC

Contains all the REXX EXECs used by WTM.

WSIM.SITPSKEL

Contains skeleton files that are used by WTM for building VTAM[®] definitions and WSim model networks and scripts. It also contains control cards referenced when running WSim utilities. Each user has a set of skeleton files in the userid.WTMUSER.SKELS data set.

WSIM.SITPTBL

Contains all the ISPF tables that are used by WTM.

WSIM.SITPSAMP

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

Before running WTM, review the following sections:

- “Understanding the WSim Test Manager prerequisites”
- “Setting up the WSim Test Manager environment” on page 2
- “Setting up a new user” on page 4

After you complete the described tasks and installed WTM, proceed to Chapter 2, “WSim Test Manager tutorials,” on page 9 to verify the installation.

Understanding the WSim Test Manager prerequisites

The following are prerequisites for the WSim Test Manager:

- 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 WSim Test Manager data sets (for example, a tape drive capable of reading a 3480 cartridge).
- DASD (in 3390 tracks):
 - 204 tracks for the WSim Test Manager libraries

- 110 tracks minimum per WSim 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 WSim Test Manager environment

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

- Create a VTAM Application Major Node.
- Provide access to the WSim 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.

```

**
* VTAM APPLICATION MAJOR NODE
**
APPLWSIM VBUILD TYPE=APPL
**
* WSIM DISPLAY MONITOR
WSIMDM01 APPL EAS=1,PARSESS=YES
WSIMDM02 APPL EAS=1,PARSESS=YES
WSIMDM03 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
**
* WSIM APPLICATIONS for LU SESSION SIMULATION
**
VAPPL00 APPL EAS=1
VAPPL01 APPL EAS=1
VAPPL02 APPL EAS=1
**
* WSIM 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 can help you with this task.

Note: Each user must reference a unique name from the list of APPL statements for the Display Monitor and Interactive Data Capture (WSIMDM0x and ITPIDCx).

Accessing the WSim Test Manager

After the WSim 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 WTM can invoke it.

For both situations, make a copy of the WTM exec, **WSIMTM**, in the **WSIM.SITPEXEC** data set. For global access, make a copy of the **WSIMTM** 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 **WSIMTM** exec into a CLIST (sequential data set) using your own high level qualifier (for example, **userid.WSIMTM.CLIST**). Then modify the copy of the **WSIMTM** exec or CLIST by adding the WSim Version 1 Release 1.0.0 data set names in the “update data set names” section. Because WTM invokes the WSim utilities, WTM does not work if the WSim data set names are missing or incorrect.

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

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

WSIM.SITPPNL

Data set concatenated to the **ISPPLIB DD** statement

WSIM.SITPMMSG

Data set concatenated to the **ISPMLIB DD** statement

WSIM.SITPEXEC

Data set concatenated to the **SYSEXEC DD** statement

WSIM.SITPTBL

Data set concatenated to the **ISPTLIB** statement

userid.WTMUSER.SKELS

Data set concatenated to the **ISPSLIB DD** statement (the prefix **userid** does not need to be specified in the **WSIMTM** exec for **WTMUSER.SKELS**)

Note: When using the WSim 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 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 WSim Test Manager ends normally.

The **WSIMTM** exec or CLIST cannot be executed until the new user is set up (as described in “Setting up a new user” on page 4).

Global access to WTM

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

To invoke the WSim Test Manager, your ISPF menu must be updated and a new entry point added. In the **PROC** part of the ISPF panel, which is shown in Figure 3 on page 4, add an entry similar to the following entry:

```
W, 'CMD(%WSIMTM)' /* Entry point for the WSim Test Manager */
```

An example of an updated ISPF/PDF primary option menu definition for WTM is shown in Figure 3.

```

%-----ISPF/PDF PRIMARY OPTION MENU-----
%OPTION  ==>_ZCMD                                     +
%
%                                     +USERID- &ZUSER
%                                     +TIME - &ZTIME
% 0 +ISPF PARMS - 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
% W +WTM       - Invoke WSim 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'
                W,'CMD(%WSIMTM)' /*Entry point for the WSim Test Manager*/
                ','
                X,'EXIT'
                *,'?')
  &ZTRAIL; = .TRAIL
)END

```

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

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

Individual access to WTM

Use the modified **WSIMTM** exec as a CLIST to invoke the WSim Test Manager.

Setting up a new user

Some setup activity is required for each new user. After you complete all the tasks that are described in “Setting up a new WSim Test Manager (WTM) user,” installation and setup of WTM is complete.

Setting up a new WSim Test Manager (WTM) user

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

1. Copy the ITMNUSE member from the WSIM.SITPSAMP data set to your own data set. Modify your copy of ITMNUSE 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 WTM data sets

This job creates the following data sets:

userid.WTMUSER.IDCDFLTS

The WSim IDC (Interactive Data Capture) defaults file.

userid.WTMUSER.IDCLOG

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

userid.WTMUSER.SKELS

A copy of the WTM SKELS data set.

userid.WTMUSER.TABLES

A data set that contains all the tables that are used or created by WTM.

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 WSim Test Manager" on page 3 for the description of this task.
4. Log on to the user ID being set up and select the WTM entry point or execute the user CLIST to invoke the WSim Test Manager. The following panel is displayed:

WSim Test Manager

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 WSim Networks and Schedule WSim Simulation Runs
D. DOC	Create Test Documentation
P. PROJECT	Add/Change Project or Alternate HLI
U. UTIL	Run WSim Test Manager Utilities
W. WII	Invoke WSim/ISPF Interface

Project: _____ Alternate HLI: _____

Licensed Materials - Property of IBM.
5655-I39 (C) Copyright IBM Corporation 1993, 2002. All rights reserved.
US Government Users Restricted Rights - Use, duplication or disclosure
restricted by GSA ADP Schedule Contract with IBM Corporation.

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 **VARs**. The following panel is displayed:

```

Specify WSim Test Manager Variables and Options

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

WSim/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)

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

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

VTAM Name Model : _____
WSim 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 **WSIMTM** CLIST or exec. Complete any missing fields. For a description of all the fields, see “VARS—Specify WSim Test Manager variables” on page 100.

After you verify the information and updated any blank fields on the **VARS** panel, press **ENTER** to save the values. Press **PF3** to return to the WSim 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)
_ WSim 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 NTRWKS 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 WSim 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 might want to update data set size or unit/volume specifications before creating a project. For more information about the data set attributes, see "SPACE—Specify data set attributes" on page 102.

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

```

                                     Process Projects
==>                                     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 97 for an example of setting up a project.

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

WSim Test Manager

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 WSim Networks and Schedule WSim Simulation Runs
D. DOC	Create Test Documentation
P. PROJECT	Add/Change Project or Alternate HLI
U. UTIL	Run WSim Test Manager Utilities
W. WII	Invoke WSim/ISPF Interface

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. WSim Test Manager tutorials

Overview of the tutorials

These tutorials are “paper demonstrations” of the WSim Test Manager. The aim of the tutorials is to familiarize the reader with some of the functions of the WSim Test Manager. For more information about all WSim Test Manager functions, see Chapter 3, “WSim Test Manager reference,” on page 73. Each of the following tutorials must be run in Hide mode. Hide mode 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 WSim.

Complete the tutorial in the following order:

- a. “Specifying VARS panel values” on page 10 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 12 describes how to specify a new project and select a project from the project list.
- c. “Creating testcases” on page 14 describes how to create a new testcase using IDC.
- d. “Using the Log Display Monitor to edit testcases” on page 19 describes how to use the WSim Log Display Monitor to find certain panels and to replace hardcoded values with User Data Tables (UTBLs).
- e. “Setting up schedules” on page 27 describes how to set up a test schedule.
- f. “Running WSim simulations” on page 32 describes how to start the WSim 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 WSim script generation utility.

- a. “Specifying VARS panel values” on page 35 describes the values on the VARS panel that require special attention for CPI-C tests.
- b. “Creating testcases” on page 37 describes how to create a new testcase and schedule using CPI-C script generation.
- c. “Working with schedules” on page 42 describes how to modify the CPI-C schedule to simulate additional resources and how to start the WSim 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 WSim.

- a. “Specifying VARS panel values” on page 52 describes the values on the VARS panel that require special attention for test cases generated from WSim model networks.

- b. "Creating testcases" on page 53 describes how to create a new testcase and schedule using a TCP/IP model script.
 - c. "Working with schedules" on page 57 describes how to start the WSim schedules and look at the various reports.
- 111 4. Tutorial IV - Generating a TCP/IP trace and creating a TCP/IP testcase from
111 the trace
- 111 This tutorial describes creating a TCP/IP data trace and using the trace to
111 generate a TCP/IP test that is added to the project created in Tutorial I.
- a. "Specifying VARS panel values" on page 61 describes the values on the
111 VARS panel that require special attention for test cases generated from
111 TCP/IP traces.
 - b. "Creating testcases" on page 61 describes how to create a TCP/IP data trace
111 and generate a TCP/IP testcase from the trace.
 - c. "Setting up and running schedules" on page 65 describes how to set up a
111 and run a test schedule for the TCP/IP testcase.
- 111 5. "Resetting the demonstration" on page 71 describes how to reset the
111 demonstration once you have completed the tutorials.

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

```

                                WSim Test Manager

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 WSim Networks and Schedule WSim Simulation Runs
   D. DOC     Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   U. UTIL    Run WSim Test Manager Utilities
   W. WII     Invoke WSim/ISPF Interface

Project:                               Alternate HLI:

Licensed Materials - Property of IBM.
5655-I39 (C) Copyright IBM Corporation 1993, 2002. All rights reserved.
US Government Users Restricted Rights - Use, duplication or disclosure
restricted by GSA ADP Schedule Contract with IBM Corporation.
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 WTM during script generation and session start. Therefore, you must verify that the specified values match the VTAM definition statements for WSim, and that your simulated resource and low level names are correct.

If the values are incorrect, you receive VTAM errors and the Interactive Data Capture and Display Monitor WSim facilities do not run, or the generated scripts are built incorrectly and the simulation run fails.

From the WSim 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 WSim Test Manager Variables and Options
      2. PUTBL Process User Tables
      3. SPACE  Specify data set attributes

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

      8. TRANSLATE Translate all STL programs
      9. REFRESH Refresh all WTM 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 **VAR** to get the VARS panel:

```

                                Specify WSim Test Manager Variables and Options

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

WSim/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)

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

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

VTAM Name Model : _____
WSim 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 completed automatically for you with system default values or with information detected in the **WSIMTM** 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
- WSim Name Model for WSim simulated resources

You can simulate multiple resources automatically without predefining the resources by using one of the WSim Test Manager features. The VTAM and WSim Name Model fields provide a pattern to be used by WTM when generating

resource names in the WSim network. The # character in the VTAM and WSim Name Model fields is a placeholder. For instance, if you specify VAPPL# for the VTAM Name Model and WSIMLU# for the WSim Name Model, WTM will substitute a numeric value in place of the # characters when multiple resources are used in a test scenario. You can specify 1&#8211;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 WSim Test Manager organizes testing into projects. Each project is a set of libraries that contains all the data sets required for WSim testing.

1. From the WSim 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 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.WTM.DEMO** (where userid is your TSO user ID) in the **High Level Index** field. The WSim Test Manager uses this high level index to create a number of data sets. Make sure that there are no existing data sets that have userid.WTM.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 WTM without first creating a project.

See “Projects and alternate high level indexes” on page 97 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 upper 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 ?EMO). A list of all the projects is displayed. To select a project, enter **S** before the project line. Select the DEMO project that is just created and press **ENTER**. Press **PF3** to return to the WSim Test Manager main menu. The ISPF tables are 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

You can use test items (testcases, MSGTXTs, and schedules) created under another high level index by using the alternate HLI (high level index) fields. 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 need to know the HLI used by Roger for the project you are interested in, and Roger's user ID. Assuming the high level index for the alternate project is ROGER.WTM and the user ID is ROGER, specify **ROGER.WTM** 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.WTMUSER.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 WSim simulation time.

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

Start from the WSim Test Manager main menu:

```

                                WSim Test Manager

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 WSim Networks and Schedule WSim Simulation Runs
   D. DOC     Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   U. UTIL    Run WSim Test Manager Utilities
   W. WII     Invoke WSim/ISPF Interface

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, O Open, 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

```

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


```

                                WSim 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

WSim Version 1 Release 1.0.0  Program Number 5655-I39

Licensed Materials - Property of IBM
5655-I39 (C) Copyright IBM Corporation 1976, 2002. All Rights Reserved.
US Government Users Restricted Rights - Use, duplication or disclosure
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          WSim 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.WTMUSER.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          WSim 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.WTMUSER.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 |                                     | to end.
Line comm | These are the steps to create a testcase using IDC. |
Name      | Step 1 - ITPIDC - Invoke IDC.                          |
*****   | Step 2 - ITPLSGEN - Create STL program from the IDC Log. |
          | Step 3 - ITMDCAS - Add WSim/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 WSim Test Manager completes 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, O Open, T Translate, U UTBLs, V View.

  Name      Type UTBLs Notes Description
_ DEMO      V              Create using IDC              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 **Added** message to the right of the testcase description indicates that the new testcase was added to WTM. 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 WSim Test Manager main menu.

Using the Log Display Monitor to edit testcases

1. From the WSim 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 WSim 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, O Open, T Translate, U UTBLs, V View.

  Name      Type UTBLs Notes Description
V DEMO      V              Create using IDC              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 index of screen images is now built by the WSim 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 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= F6=
 F7=Up F8=Down F9=Swap F10=Left F11=Right F12=Retrieve

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

3. 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.
4. 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    ----- TS0/E LO
_ 09044833 ENTER DEMO    ----- TS0/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

```

5. 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.
6. Press **PF8** to view the next screen image. Press **PF7** to view the previous screen image.
7. 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 might be similar to the following script:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT userid.WTM.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 WTM_panel_ID = 'PNL00002'
000056 log 'WTM_panel_ID' WTM_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=WTMEXIT";@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 WSim Test Manager **UTBL** command.

8. 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 that is shown previously, on the line with the text myuserid). Press **ENTER**.

If this is not the first user table, a selection pop-up panel is displayed. For this example, this is considered the first user table and the following pop-up panel is displayed:

```

File Edit Confirm Menu Utilities Compilers Test Help
----- Create WSim 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

```

9. 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**.
10. 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**).
11. In the **Access Type** field, select option **2** (single sequential). See “Creating User Data Tables (UTBLs)” on page 80 for a description of the various Table Access options.

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

Note: Do not change the comments that are created by WTM. Modifying the comments corrupts the translation process.

The updated STL looks similar to the following STL:

```

File Edit Confirm Menu Utilities Compilers Test Help
EDIT userid.WTM.DEMO.STL(DEMO) - 01.01 Columns 00001 00072
Command ==> Scroll ==> HALF
000049 cursor(2,1)
000050 charset 'field'
000051 /* WTM has replaced the following line with a user table: */
000052 /* type 'userid' */
000053 call UIDPWDXX /* Access UIDPWD usertable */ /* WTM */
000054 type UIDPWD_USERID /* WTM */
000055 transmit using enter
000056
000057 /*----- 09044833 00002 */
000058 WTM_panel_ID = 'PNL00002'
000059 log 'WTM_panel_ID' WTM_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=WTMEXIT";@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

```

12. To add a 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 WSim 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 WTM_panel_ID = 'PNL00003'
000072 log 'WTM_panel_ID' WTM_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

```

13. Select option 2 to add a field to an existing UTBL.

A list of already-existing UTBLs is displayed:

```

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

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 WSim User Table (UTBL) -----
E |                                     |00072
C | Type the values for the following fields. Then press Enter.
0 |
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  WTM_panel_ID = 'PNL00003'
000072  log 'WTM_panel_ID' WTM_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 appear as the WSim 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 WSim MSGTXT.

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

The updated STL looks similar to the following STL:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT  userid.WTM.DEMO.STL(DEMO) - 01.01                Columns 00001 00072
Command ==>                                           Scroll ==> HALF
000064 cursor(8,20)
000065 ereof
000066 charset 'field'
000067 /* WTM has replaced the following line with a user table: */
000068 /* type 'mypass' */
000069 type UIDPWD_PASSWORD                               /* WTM */
000070 transmit using enter
000071
000072 /*----- 09050396 00004 */
000073 WTM_panel_ID = 'PNL00003'
000074 log 'WTM_panel_ID' WTM_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=WTMEXIT";@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, O Open, T Translate, U UTBLs, V View.

Name      Type UTBLs Notes Description                                Viewed
_ 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

```

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.                                Press PF3 to end.
Line commands: S STL, M MSGTXT, D Delete.

  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.WTM.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 WSim/TM to be accessed */
000002 /* by the Single Sequential method. */
000003 /* Table Description: Userid and password table */
000004 /* WTM_FIELD: USERID  ¢ TSO userid */
000005 /* WTM_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 WSim Test Manager automatically translates it into an MSGTXT.

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

```

WSim Test Manager

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 WSim Networks and Schedule WSim Simulation Runs
  D. DOC Create Test Documentation
  P. PROJECT Add/Change Project or Alternate HLI
  U. UTIL Run WSim Test Manager Utilities
  W. WII Invoke WSim/ISPF Interface

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 WSim Test Manager main menu:

```

WSim Test Manager

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 WSim Networks and Schedule WSim Simulation Runs
  D. DOC Create Test Documentation
  P. PROJECT Add/Change Project or Alternate HLI
  U. UTIL Run WSim Test Manager Utilities
  W. WII Invoke WSim/ISPF Interface

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 WSim 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 Testcase, U UTBLs, W NTWRK, X Execute.

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 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 WSim Schedules
Command== ----- "Milestones" ----- PF3 to end.
Enter a l | These are the steps to create a new WSim Schedule.
Line comm |
Name      | Step 1 - Define the simulated resources and scripts.
*****   | Step 2 - Generate a WSim network (NTWRK).
          | 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 WSim network is not 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  WSIMname  Test...  Name      Description
_ VAPPL00   WSIMLU00
***** 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 WSIMLU00 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 WSIMLU00 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=       F6=Summary
F7=Up      F8=Down    F9=Swap   F10=Left   F11=Right

```

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  WSIMname  Test...  Name      Description
_ VAPPL00  WSIMLU00  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:

```

                                Resource List for Schedule DEMONET                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 WSIM 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=WSIM  F7=Up
F8=Down  F9=Swap   F10=Left F11=Right

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

```

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

```

                                Resource List for Schedule DEMONET                Row 1 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  WSIMname  Test... Name      Description
_ VAPPL00  WSIMLU00  Case  DEMO        Create using IDC
_ VAPPL01  WSIMLU01  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

```

8. The VTAMname and the WSIMname is automatically updated. The resource list is now complete. Press **PF3**.
The milestones pop-up panel is displayed as the WSim Test Manager builds a WSim 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 2 seconds, this run fails 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 fails to meet the completion criteria. Press **ENTER** to save the values and press **PF3** to return to the schedule list.

```

                                Process WSim 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, U UTBLs, W NTWRK, X Execute

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 WSim simulations

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

```

                                Process WSim 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, U UTBLs, W NTWRK, X Execute

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

```

                                Process WSim Schedules                Row 1 to 1 of 1
----- Specify WSim Log Names -----
Change the lognames and press Enter to continue or PF3 to end.
ITPENTER: 'userid.WTM.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 WSim simulation program ITPENTER runs and the screen becomes the WSim console. The WSim console issues messages similar to the following message:

```

ITP016I Workload Simulator (WSim) Version 1, Release 1.0

ITP003I WSim INITIALIZATION COMPLETE
ITP200I DISPLAY MONITOR FACILITY ACTIVE USING APPL WSIMDM01
ITP029I INITIALIZATION COMPLETE FOR NETWORK DEMONET
ITP006I NETWORK DEMONET STARTED
ITP137I DEMONET WSIMLU01-00001 - WTM: DEMO Finished
ITP137I DEMONET WSIMLU01-00001 - WTMEND: 1 out of 2 finished.
ITP137I DEMONET WSIMLU00-00001 - WTM: DEMO Finished
ITP137I DEMONET WSIMLU00-00001 - WTMEND: 2 out of 2 finished.
ITP137I DEMONET WSIMLU00-00001 - WTMEND: All scripts run. Issuing ZEND.
ITP002I DEMONET WSIMLU00-00001 - ZEND
ITP201I DISPLAY MONITOR FACILITY IS CLOSED DOWN
ITP079I WSim IS CLOSED DOWN
***

```

- Note the message WSIMLU01 DEMO PANEL VERIFICATION ERROR. This shows that the script running on WSIMLU01 failed a panel verification. Press **ENTER** to return to the schedule list:

```

                                Process WSim 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, U UTBLs, W NTWRK, X Execute.

Name  Type  Notes  Description          UTBLs  Last Run
-----
DEMONET  V      Demo schedule          1 06/02/02 15:15 Execute
***** 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 **Execute** message is displayed on the right indicating that a WSim simulation run was the last command for this entry. To investigate the panel verification problem, look at the output reports. Enter the line command **0** 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 WSim run
 2. TRESP     View response time report from the latest WSim run
 3. TDM       Log display monitor for the latest WSim run
 4. TSP       View SYSPRINT from the latest WSim 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

```

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

Depending on the type of report selected, WTM 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 provide an analysis of the activity that is documented in the log.

8. Press **PF3** repeatedly to return to the WSim 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 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 WSim Name Model fields.

1. From the WSim 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 WSim Test Manager Variables and Options
    2. PUTBL   Process User Tables
    3. SPACE   Specify data set attributes

    4. SKELS   Edit WSim Test Manager skeletons
    5. MSGTXT  Edit MSGTXTs data set
    6. NTRWK   Edit NTRWK data set
    7. WTMVARS Edit WSim Test Manager variable @INCLUDE member

    8. TRANSLATE Translate all STL programs
    9. REFRESH Refresh all WTM 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 WSim Test Manager Variables and Options

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

WSim/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)

WSim Load Library   : WSIM.SITPLOAD
IDC VTAM APPL name  : ITPIDC          Display Monitor VTAM APPL name: WSIMDM01
Fully Validate WSim Data Set Names? : Y (Y/N)

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

VTAM Name Model    : VAPPL##
WSim Name Model    : WSIMLU##
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, WTM automatically creates a model network based on the resources selected for processing. The VTAM name and WSim name for each resource is the same and is the name of the resource in the trace file. In the VTAM and WSim Name Model fields, you can choose to enter a pattern that is consistent with the resource names that are selected. Name models must end with 1&#8211;7 # characters, which are place holders for numeric value substitution. For instance, if resources SYC0D61 and SYC0D62 is selected for script generation, you can choose to specify the VTAM name model as SYC0D##, the WSim 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 more VTAM resources from SYC0D63 to SYC0D99 and more WSim resources from TP63 to TP99.

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

Creating testcases

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

Start from the WSim Test Manager main menu:

```

                                WSim Test Manager

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 WSim Networks and Schedule WSim Simulation Runs
   D. DOC     Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   U. UTIL    Run WSim Test Manager Utilities
   W. WII     Invoke WSim/ISPF Interface

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

```

- 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:

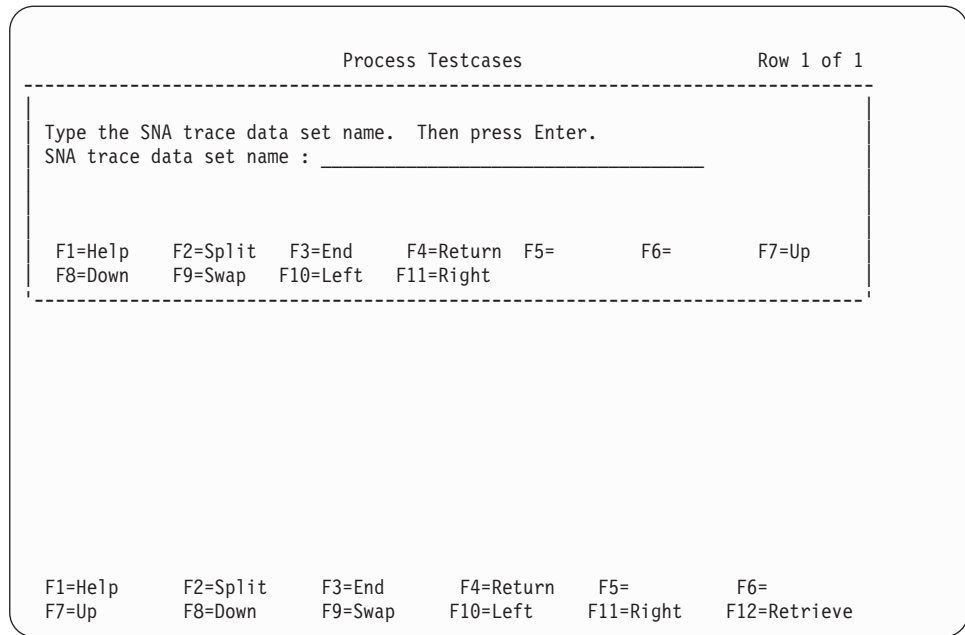
```

                                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, O Open, T Translate, U UTBLs, V View.

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

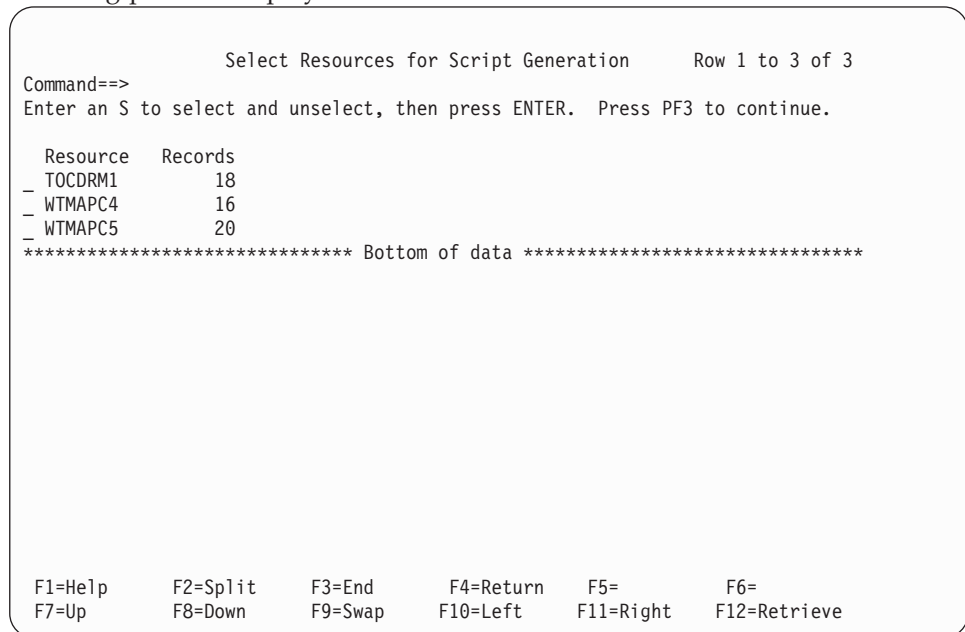
F1=Help   F2=Split   F3=End     F4=Return  F5=Add     F6=
F7=Up     F8=Down    F9=Swap    F10=Left   F11=Right  F12=Retrieve

```

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 quotation marks. If no quotation marks 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 WSim Test Manager completes these four steps, a resource selection panel similar to the following panel is displayed:



The actual resource list displayed depends 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 need to know the resources that were traced to know which ones to select for script generation.

- 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 change the selected list.

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

Steps 5, 6, and 7 will 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.

```

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

Output Data Sets
Generated message decks 'userid.WTM.DEMO.MSGTXTS'
Generated STL programs 'userid.WTM.DEMO.STL'
Updated networks . . . . 'userid.WTM.DEMO.NTWRKS'
Sequential output . . . . 'userid.WTM.DEMO.SGENSTL(CDEMO)'
Printer output . . . . . 'userid.WTM.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. WTM creates a script generation model network based on the selected resources. The WSim 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:

```

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

Output Data Sets
Networks . . . . . 'userid.WTM.DEMO.NTWRKS'
Message decks . . . . . 'userid.WTM.DEMO.MSGTXTS'
Sequential output . . . .
Printer output . . . . . 'userid.WTM.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:

```

WSim: 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.WTM.DEMO.MSGTXTS'
Sequential output . . . .
Printer output . . . . . 'userid.WTMWORK.WTM.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 can also optionally change the schedule description. Press **ENTER** and the schedule add process continues.

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

After the schedule is 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, O Open, T Translate, U UTBLs, V View.

  Name   Type UTBLs Notes Description                                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 that the new testcase is added to WTM. 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 WSim Test Manager main menu.

Working with schedules

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

Start from the WSim Test Manager main menu:

```

                                WSim Test Manager
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 WSim Networks and Schedule WSim Simulation Runs
  D. DOC    Create Test Documentation
  P. PROJECT Add/Change Project or Alternate HLI
  U. UTIL   Run WSim Test Manager Utilities
  W. WII    Invoke WSim/ISPF Interface

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 WSim 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, U UTBLs, W NTWRK, X Execute.

  Name   Type  Notes Description                UTBLs   Last Run
  _ CDEMO   C      CPI-C script gen demo
  _ DEMONET V      Demo schedule                1 06/02/02 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 list shows the VTAMAPPL schedule added in the first tutorial, and 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 before running the schedule.

2. 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  WSimname  Test...  Name      Description
  _ WTMAPC4   WTMAPC4   MSGTXT   WTMAPC4
  _ WTMAPC5   WTMAPC5   MSGTXT   WTMAPC5
***** 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 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 WTMAPC4 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 WTMAPC4 under WTMAPC4 -----
                                                                    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
              WTMAPC4  Msgtxt   C
              WTMAPC5  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 WTMAPC4 resource currently references the WTMAPC4 MSGTXT. You can change the references for the WTMAPC4 resource now. For purposes of illustration, assume you have another CPI-C testcase defined. Assume that your order specification panel looks like the following panel:

```

----- Specify Order for Resource WTMAPC4 under WTMAPC4 -----
                                                                    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
              WTMAPC4  Msgtxt   C
              WTMAPC5  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 (WTMAPC4 and WTMAPC5), and CPICCASE, which contains three MSGTXTs (MTXT1, MTXT2, and MTXT3).

4. If you want the WTMAPC4 resource to reference the MTXT3 message text first and then the WTMAPC4 message text, specify the reference order as follows:


```

----- Specify Order for Resource WTMAPC4 under WTMAPC4 -----
                                                    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
             WTMAPC4  Msgtxt   C
             WTMAPC5  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.

5. 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  WSIMname  Test...  Name      Description
_ WTMAPC4  WTMAPC4  MSGTXT   WTMAPC4
_ WTMAPC5  WTMAPC5  MSGTXT   WTMAPC5
***** 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. Assume you want to add two more resources to the network that each reference the WTMAPC5 MSGTXT. Enter the line command **R** before the WTMAPC5 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 WSim 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=WSIM  F7=Up
F8=Down  F9=Swap   F10=Left F11=Right

F1=Help  F2=Split  F3=End   F4=Return  F5=VTAM  F6=WSIM
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  WSimname  Test...  Name      Description
- APPL0    TP0        MSGTXT   WTMAPC5
- APPL1    TP1        MSGTXT   WTMAPC5
- WTMAPC4  WTMAPC4    MSGTXT   WTMAPC4
- WTMAPC5  WTMAPC5    MSGTXT   WTMAPC5
***** 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 are added and each references the same MSGTXT as the WTMAPC5 resource that was repeated. The VTAMname and WSimname were automatically updated using the name models that were specified on the VARS panel.

- Now assume you want to add a 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 that 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 WTMAPC4 under WTMAPC4 -----
                                                                    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
              WTMAPC4  Msgtxt   C
              WTMAPC5  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

```

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

```

----- Specify Order for Resource WTMAPC4 under WTMAPC4 -----
                                                                    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
              WTMAPC4  Msgtxt   C
              WTMAPC5  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

```

10. 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  WSIMname  Test...  Name      Description
_ APPL0     TP0        MSGTXT   WTMAPC5
_ APPL1     TP1        MSGTXT   WTMAPC5
_ APPL2     TP2        CASE     CPICCASE
_ WTMAPC4   WTMAPC4    MSGTXT   WTMAPC4
_ WTMAPC5   WTMAPC5    MSGTXT   WTMAPC5
***** 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 WSIMname 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 WSim network CDEMO

Recreation of a WSim network involves the following:

1. Restoring the original NTRK statement definitions.

2. Saving other statements except the UTBL, PATH and resource statements.
   Each saved statement will become a comment in the recreated WSim
   network. Comments in the original WSim 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 WSim network.
   The referenced user tables are reflected in the UTBL statements.

4. Updating the resource definitions to reflect changes made to the
   WSim 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 NTRK statement, it will be removed.

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

```

12. Press enter to re-create 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 NTRK.
-----
- APPL1  TP1      MSGTXT  WTMAPC5
- APPL2  TP2      CASE    CPICCASE
- WTMAPC4 WTMAPC4  MSGTXT  WTMAPC4
- WTMAPC5 WTMAPC5  MSGTXT  WTMAPC5
***** 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 recreation completes, the schedule list is redisplayed:

```

Process WSim 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, U UTBLs, W NTRK, X Execute.

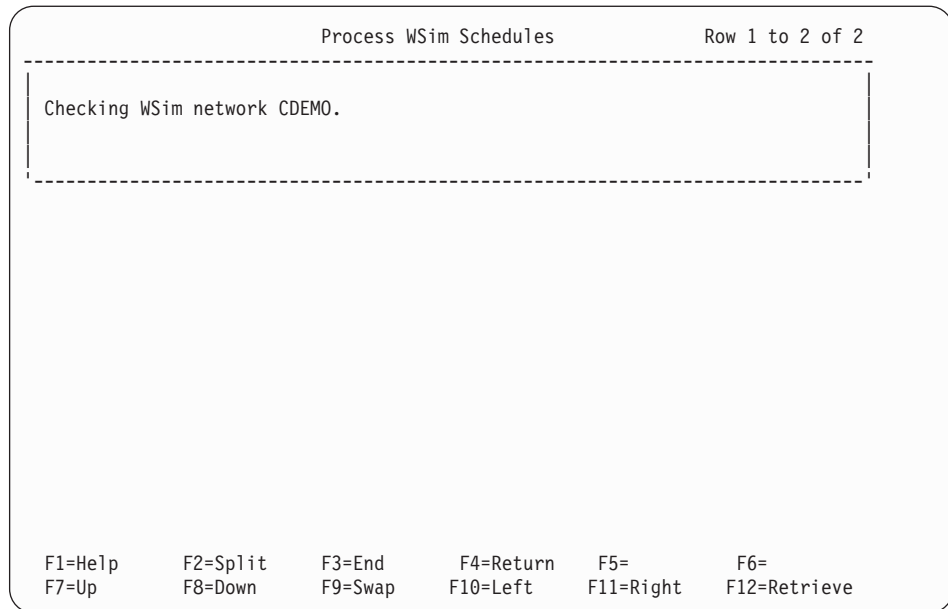
Name   Type  Notes Description          UTBLs  Last Run
- CDEMO  C      CPI-C script gen demo
- DEMONET V      Demo schedule          1 06/02/02 15:15
***** Bottom of data *****

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

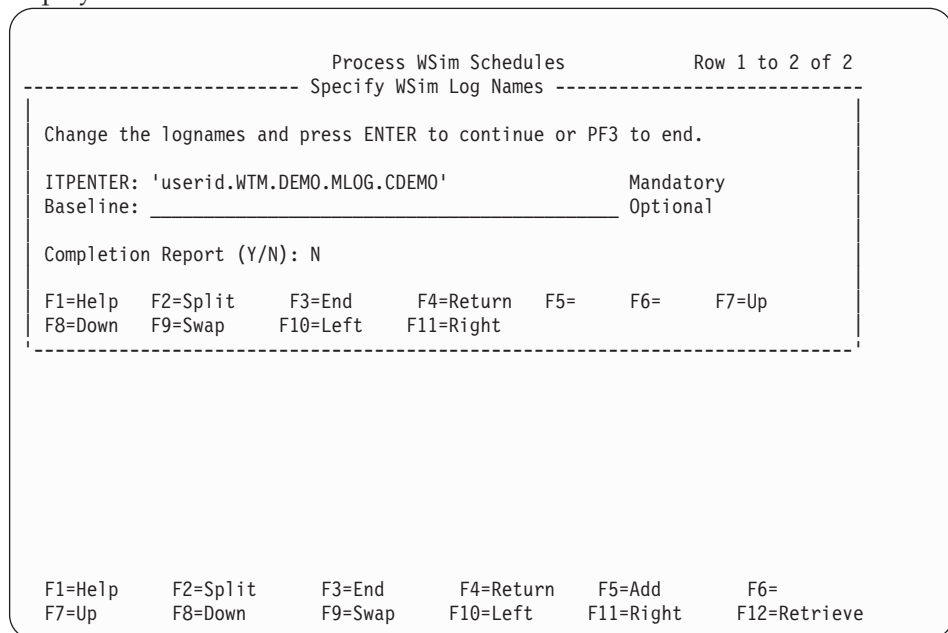
```

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 **X** before the CDEMO line. The following pop-up panel is displayed while WTM checks the network:



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



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

- Enter N in the **Completion Report** field and press **ENTER**. The WSim simulation program ITPENTER runs and the screen becomes the WSim console. Messages similar to the following messages are displayed:

```

ITP016I Workload Simulator (WSim) VERSION 1, RELEASE 1.0
ITP003I WSim INITIALIZATION COMPLETE
ITP200I DISPLAY MONITOR FACILITY ACTIVE USING APPL WSIMDM01
ITP029I INITIALIZATION COMPLETE FOR NETWORK CDEMO
ITP006I NETWORK CDEMO STARTED

```

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

```

                                Process WSim 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, U UTBLs, W NTWRK, X Execute.

  Name      Type Notes Description                UTBLs  Last Run
_ CDEMO     C      CPI-C script gen demo                06/02/02 16:47 Execute
_ DEMONET  V      Demo schedule                            1 06/02/02 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 **Execute** message is displayed on the right of the CDEMO entry indicating that a WSim 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
  — 1. TLOG    View loglist report from latest the WSim run
     2. TRESP  View response time report from the latest WSim run
     3. TDM     Log display monitor for the latest WSim run
     4. TSP     View SYSPRINT from the latest WSim 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 it, select option 1. Press **PF3** repeatedly to return to the WSim Test Manager main menu.

Tutorial III—TCP/IP using a model script

Specifying VARS panel values

For testcases generated from WSim 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 WSim Name Model fields.

- From the WSim 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 WSim Test Manager Variables and Options
     2. PUTBL  Process User Tables
     3. SPACE   Specify data set attributes

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

     8. TRANSLATE Translate all STL programs
     9. REFRESH Refresh all WTM 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 WSim Test Manager Variables and Options

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

WSim/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)

WSim Load Library : WSIM.SITPLOAD
IDC VTAM APPL name : ITPIDC          Display Monitor VTAM APPL name: WSIMDM01
Fully Validate WSim Data Set Names? : Y (Y/N)

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

VTAM Name Model : VAPPL##
WSim Name Model : WSIMLU##
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 WSim model networks, WTM uses the names specified in the model network for the VTAM and WSim resource names. In the VTAM and WSim 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 1-9 # 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 mn for WSim 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 WSim name model as DEV##. The VTAM name model must have two # characters because the WSim names end with two numerics and WTM 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 WSim resources from DEV25 to DEV99.

- Review the other VARs values and make any changes. Press **ENTER** to save the values, then press **PF3** twice to return to the WTM main menu.

Creating testcases

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

Start from the WSim Test Manager main menu:

```

                                WSim Test Manager

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 WSim Networks and Schedule WSim Simulation Runs
   D. DOC     Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   U. UTIL    Run WSim Test Manager Utilities
   W. WII     Invoke WSim/ISPF Interface

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, O Open, 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

```

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


```

                                WSim: Choose a Model

Select a model by typing '/' or 'S'. Then press Enter.

Model      Description
. CPIC     CPI-C Transaction Program simulation
. FTP      File Transfer Protocol
. STCP     Simple TCP and UDP client simulation
. TN3270   Telnet 3270 and 3270E simulation
. VTAMAPPL VTAM application simulation
.
.
5655-I39 (C) Copyright IBM Corporation 1976, 2002. All rights reserved.
F1=Help F2=Split F6=Browse model F7=Bkwd F8=Fwd F9=Swap F12=Cancel
More:

```

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

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT      userid.WTM.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 WSim 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 WSim 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. Change the network or script definitions. 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:

```

                                WSim: Choose a Model

-----
Translating MDEMO.
-----
. FTP      File Transfer Protocol
. STCP     Simple TCP and UDP client simulation
S TN3270   Telnet 3270 and 3270E simulation
. VTAMAPPL VTAM application 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 WSim 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 is 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, O Open, 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 that the new testcase has been added to WTM. The **T** under the “Type” header indicates that this is a TCP/IP testcase.

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

Working with schedules

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

```

                                WSim Test Manager

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 WSim Networks and Schedule WSim Simulation Runs
   D. DOC    Create Test Documentation
   P. PROJECT Add/Change Project or Alternate HLI
   U. UTIL   Run WSim Test Manager Utilities
   W. WII    Invoke WSim/ISPF Interface

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 WSim 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, U UTBLs, W NTWRK, X Execute.

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

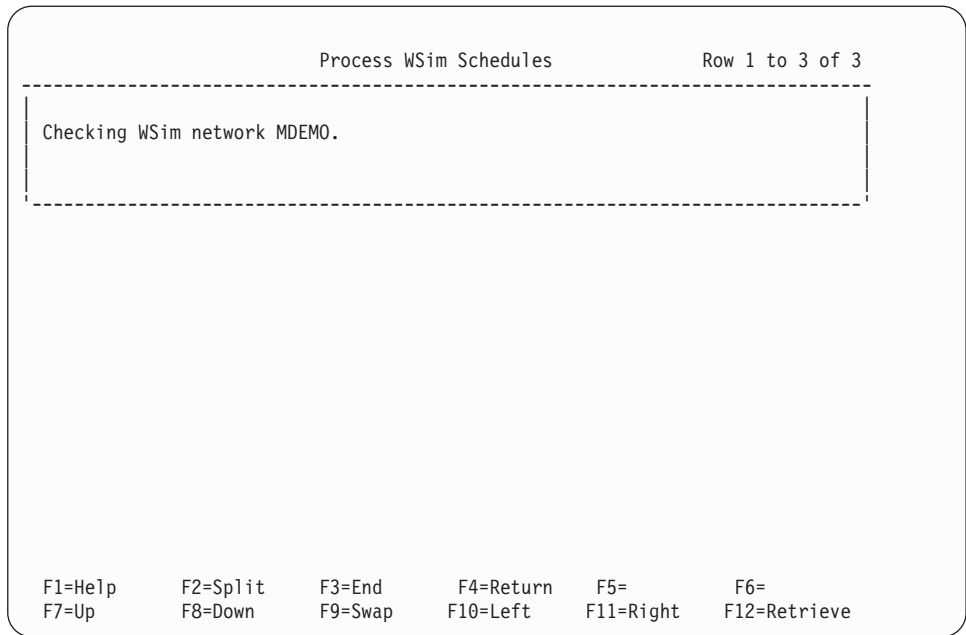
F1=Help  F2=Split  F3=End    F4=Return  F5=Add    F6=
F7=Up    F8=Down   F9=Swap   F10=Left  F11=Right F12=Retrieve

```

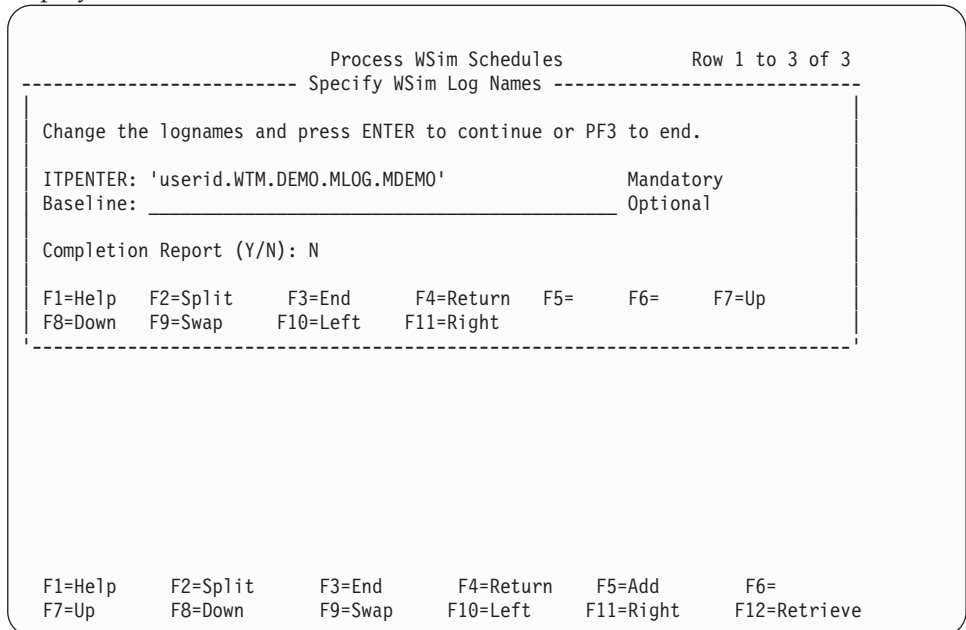
The list shows the VTAMAPPL schedule added in Tutorial I, the CPI-C schedule added in Tutorial II, and the new TCP/IP schedule. The TCP/IP schedule is ready to run. However, you can also update the resources, test item references, or both in the schedule before running it. If you want to update the schedule, see “Tutorial II—CPI-C script generation” on page 35.

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 **X** before the MDEMO line. The following pop-up panel is displayed while WTM checks the network:



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



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

3. Enter N in the **Completion Report** field and press **ENTER**. The WSim simulation program ITPENTER runs and the screen becomes the WSim console. Messages similar to the following messages are displayed:

```

ITP016I Workload Simulator (WSim) VERSION 1, RELEASE 1.0.0
ITP003I WSim INITIALIZATION COMPLETE
ITP200I DISPLAY MONITOR FACILITY ACTIVE USING APPL WSIMDM01
ITP029I INITIALIZATION COMPLETE FOR NETWORK MDEMO
ITP006I NETWORK MDEMO STARTED

```

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

```

                                Process WSim 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, U UTBLs, W NTWRK, X Execute.

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

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 **Execute** message is displayed on the right of the MDEMO entry indicating that a WSim simulation run was the last command for this entry.

- View reports from this simulation run by entering the line command **0** beside the MDEMO entry.

The following reports menu is displayed:


```

                                Reports for schedule MDEMO

Select one of the following.  Then press Enter.

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

```

6. 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 WSim Test Manager main menu.

111 Tutorial IV—Generating a TCP/IP trace and creating a TCP/IP testcase 111 from the trace

111 Specifying VARS panel values

111 For testcases generated from TCP/IP traces, the VARS panel values set in Tutorials
111 I, II and III are generally adequate.

111 Creating testcases

111 WSim provides support for generating a TCP/IP data trace that captures the
111 messages exchanged between a client and a server running on the z/OS system.
111 From the trace, a WSim user can create an STL program that mimics the client by
222 sending HTTP messages to the server and waiting to receive replies. The STL
333 program can include logic to verify that the status line in the HTTP message
111 received back from the server matches the related server message obtained from
111 the trace.

111 When you add a new testcase, the WSim Test Manager provides an option which
111 steps the user through the process of generating a TCP/IP trace, then creating an
111 STL program and network definition from the trace data. The following screen
111 provides an example of using that option.

111 Start from the WSim Test Manager main menu:

Chapter 3. WSim Test Manager reference

Reference overview

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

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

This book does not describe WSim functions. For more information about specific WSim utilities that WTM invokes or about WSim itself, see “Where to find more information” on page x for a list of WSim publications.

This chapter covers the following topics:

- “Operating modes” describes the Hide, Display and Interact operating modes.
- “Testcases” on page 74 describes how to define testcases, including User Data Tables (UTBLs).
- “Testgroups” on page 83 describes how to define testgroups.
- “Testcycles” on page 86 describes how to define testcycles.
- “Schedules” on page 89 describes how to set up schedules, start WSim simulations, and generate reports.
- “Test documentation” on page 95 describes how to create test plan and procedure documentation for all users of a project.
- “Projects and alternate high level indexes” on page 97 describes projects and how to use alternate high level indexes.
- “Utilities” on page 99 describes the WSim Test Manager utilities.

Operating modes

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

- In **HIDE** mode, the WSim Test Manager shields the user from the various WSim processes. When the WSim/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 WSim Test Manager.

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

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

- In **INTERACT** mode, the user has control over the WSim Test Manager processes. This means, for example, that when the WSim/ISPF Interface is invoked, the user must press **ENTER** to start the WSim utilities, and press **PF3** to exit from the WSim/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 WSim/ISPF Interface. Changing or removing data set names may adversely affect the WSim Test Manager processing. Use caution when changing or removing data set names or other fields.

To set the operating mode, use the **VAR**S option from the WSim/TM Utilities panel, or enter one of the three modes on the command line of any WTM panel. A message is issued indicating that the new mode is set. To use the **VAR**S option, see “**VAR**S—Specify WSim Test Manager variables” on page 100.

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 WSim 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 is specified (as described in “Projects and alternate high level indexes” on page 97), 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, O Open, T Translate, U UTBLs, V View.

  Name  Type UTBLs Notes Description
- CPICT  C           CPI-C test
- LOGOFF V           Logoff from TSO
- LOGON  V           2    Logon to TSO
- SIMPLE -           STL skeleton
- STRACE V           SNA trace
- TCPMOD T           *    WSim TCP/IP model
- TSOWOR V           Do some work on TSO
- WSIMLOG V          *    WSim log
***** 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, O, 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 completed by the WSim Test Manager and contains one of the following values:

```

V      VTAMAPPL
C      CPI-C

```

- T TCP/IP
- Undefined, either an STL skeleton member or a member in the STL data set created outside of WTM
- **UTBLs**—The number of WSim 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 97 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 WSim 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.
- O Open**—Edit the STL source for the testcase. The STL source for ALT testcases is available in browse mode only.

The WSim Test Manager automatically translates the changed STL program into an executable WSim 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 WSim 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 WSim 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 WSim Test Manager optionally translates this STL program into a WSim 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. For more information about user data tables, see “Creating User Data Tables (UTBLs)” on page 80.

- V View**—If the original WSim or IDC log is not overwritten, this option enables viewing of some or all of the screen images for this testcase, as described in “Log Display Monitor” on page 78.

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.

111

There are seven ways in which the WSim Test Manager can create a new testcase:

- **Add a 3270 testcase using IDC**

1. The WSim Test Manager invokes IDC on the WSim/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 WSim Test Manager sets up the control cards and invokes the WSim script generating utility, ITPLSGEN, on the WSim/ISPF Interface. ITPLSGEN generates an STL program from the IDC log.
3. The WSim Test Manager runs edit macro ITMDCAS to add STL statements to the generated STL program.
4. The WSim Test Manager invokes the WSim utility, ITPSTL, on the WSim/ISPF Interface to translate the STL program into an MSGTXT.

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

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

1. The WSim Test Manager asks for the SNA trace name and the WSim log name (to hold the reformatted SNA trace). The SNA trace must exist. However, the WSim log is automatically created by the WSim Test Manager if it does not exist.
2. The WSim Test Manager invokes the WSim utility, ITPLU2RF, on the WSim/ISPF Interface to reformat the SNA log into a WSim log.
3. If the WSim log has more than one resource, the WSim 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 WSim Test Manager sets up the control cards and invokes ITPLSGEN on the WSim/ISPF Interface. ITPLSGEN generates an STL program from the reformatted SNA trace.
5. The WSim Test Manager runs edit macro ITMDCAS to add STL statements to the generated STL program.
6. The WSim Test Manager invokes ITPSTL on the WSim/ISPF Interface to translate the STL program into an MSGTXT.

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

1. The WSim Test Manager asks for the WSim or IDC log name. This data set must exist.
2. If the WSim or IDC log has more than one resource, the WSim 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 WSim Test Manager sets up the control cards and invokes ITPLSGEN on the WSim/ISPF Interface. ITPLSGEN generates an STL program from the WSim or IDC log.
4. The WSim Test Manager runs edit macro ITMDCAS to add STL statements to the generated STL program.
5. The WSim Test Manager invokes ITPSTL on the WSim/ISPF Interface to translate the STL program into an MSGTXT.

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

1. The WSim Test Manager invokes the WSim/ISPF Interface to display the STL models available on the WSim/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 WSim Test Manager automatically invokes ITPSTL on the WSim/ISPF Interface to translate the STL program into one or more MSGTXTs.

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

3. The WSim 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 WSim Process Networks and STL Programs panel to see the model options. For the Hide and Display modes, the WSim Choose a Model panel is invoked automatically. The following models are available:

CPIC	CPI-C Transaction program simulation
FTP	File Transfer Protocol simulation
STCP	Simple TCP and UDP client simulation
TN3270	Telnet 3270 and 3270E simulation
VTAMAPPL	VTAM application simulation

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

1. The WSim 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 WSim Test Manager invokes ITPSTL on the WSim/ISPF Interface to translate the STL program into an MSGTXT.

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

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

- **Add a TCP/IP testcase using a TCP/IP trace**

This option creates a single STL program from a TCP/IP trace.

111

111

- 111
111
111
111
111
111
111
111
111
111
1. The WSim Test Manager provides an option to create a TCP/IP data trace containing records for the communication between a client and a server running on the z/OS system. When the trace ends, WSim saves the trace records to a data set.
 2. The trace data set is then processed by WSim to generate an STL program that replicates the communication between the client and the server. Another WSim Test Manager option bypasses the process of generating the TCP/IP trace and creates the STL program from an existing TCP/IP trace data set specified by the user.
 3. The WSim Test Manager invokes ITPSTL on the WSim/ISPF Interface to translate the STL program into a MSGTXT.

Notes:

- If you receive an ITPLSGEN failure when creating an STL program from the IDC log, WSim creates a SYSPRINT data set and documents the failing step in the data set. The failure can be indicated by one or more ITP16xxI messages in the SYSPRINT data set. Refer to *WSim Messages and Codes* for the message descriptions.
- If you want to specify a fully qualified name for an SNA trace, specify the name in quotation marks. This applies to all instances of creating a testcase for which you must specify an SNA trace. If the name is not surrounded by quotation marks, the system adds 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 WSim 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, WTM 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=       F6=
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&#8211;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 useful when viewing a large WSim 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    ----- TS0/E LO
_ 09044833 ENTER DEMO    ----- TS0/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 WSim log.
- **AID**—The Attention Identifier (for example, the ENTER or PF keys) pressed by the user in the session.
- **Testcase**—The name of the testcase that generated this screen image. This column shows the testcase running now.
- **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 WSim as a list of string constants (for example, a list of account numbers or user IDs and passwords). The WSim 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).

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

Notes:

- The first single or double quotation marks (' or ") encountered on the line where the cursor is placed will be considered the starting position of the string to be replaced.
- 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 WSim user table function is invoked, a pop-up panel is displayed:

```

File Edit Confirm Menu Utilities Compilers Test Help
----- Create WSim 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 WTM_panel_ID = 'PNL00003'
000072 log 'WTM_panel_ID' WTM_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 options:

- If a field 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 new UTBL is required, choose option 1 and the following panel is displayed:

```

File Edit Confirm Menu Utilities Compilers Test Help
----- Create WSim 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

```

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 is 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 wanted.

Understanding the UTBL creation process

The WSim Test Manager does the following actions 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 WSim User Table (UTBL)** panel. Following is an example of a UTBL created by the WSim Test Manager:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT  userid.WTM.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 WSim/TM to be accessed */
000002 /* by the Single Sequential method. */
000003 /* Table Description: Userid and password table */
000004 /* WTM_FIELD: USERID ¢ TSO userid */
000005 /* WTM_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

```

3. The new STL member is translated.
4. The common STL variable declaration member WTMVARS 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 the 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 WTMVARS. 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 WTMVARS.

Note: Do not change the comments that are created by WTM. Modifying the comments corrupts the translation process.
7. Because the original testcase is changed, the WSim 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 WSim 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
_ TCPIPGRP  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 that 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 WSim 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 panel 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
WSIMLOG Case      V    WSim 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 define 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 complex set of test items, and is a simple and powerful way of handling large numbers of modular scripts.

From the WSim 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
_ TCPIPCY   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 that 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 WSim 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 VTAMPPL, 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 panel 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
WSIMLOG Case       V    WSim 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 define 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, MSGXTs, and groups in the order in which they are referenced within the testcycle.

```
----- Test Item List for Testcycle TS0CYC -----
                                     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 TS0
***** Bottom of data *****

F1=Help    F2=Split  F3=End    F4=Return  F5=All    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 WSim network definition with supporting documentation and reporting facilities.

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

```

                                Process WSim 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, U UTBLs, W NTWRK, X Execute.

  Name   Type  Notes  Description          UTBLs  Last Run
_ DEMONET V      Demo schedule          1 06/02/02 15:15 Execute
***** 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, U, W, X.
- **Name**—The name of this schedule. This is also the member name in the NTWRKs source data set.
- **Type**—The type of schedule. This field contains one of the following values:
 - V VTAMAPPL
 - C CPI-C
 - T TCP/IP
 - Undefined, a member in the NTWRKs data set created outside of WTM
- **Notes**—An asterisk in this column indicates that 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 97 for more information.
- **Description**—A free-form description of this schedule. This is an optional field.
- **UTBLs**—The number of WSim user data tables defined for this schedule.
- **Last Run**—The time of the last WSim 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 WSim Test Manager data sets 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 93 for details.

- P** **Preprocess**—Invoke the WSim Preprocessor for this schedule.
- R** **Resources**—Displays a list of the WSim-simulated resources defined for this schedule. See “Resource list” for details. Use this option to update the resources referenced by the schedule and automatically re-create the WSim 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).
- U** **UTBLs**—Displays a list of WSim user data tables defined for this schedule. See “Creating User Data Tables (UTBLs)” on page 80 for details.
- W** **NTWRK**—Edit the WSim network definition associated with this schedule. You can only browse the ALT schedules.
- X** **Execute**—Start a WSim simulation run (invoke ITPENTER under TSO) for this schedule. See “Execute WSim simulation runs” on page 92 for details.

Adding a new schedule

To create a new schedule, do the following actions:

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 WSim network will not be created.

Resource list

The schedule resource list defines the number of WSim-simulated resources in this schedule, and the test items each resource references.

```

                                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  WSIMname  Test...  Name      Description
_ VAPPL00   WSIMLU00
***** 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 **WSIMname** 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 is not 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 WSim 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 (WSim network) will be created.

Execute WSim simulation runs

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


```

                                Process WSim Schedules                Row 1 to 1 of 1
----- Specify WSim Log Names -----
Change the lognames and press ENTER to continue or PF3 to end.
ITPENTER: 'userid.WTM.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 WSim log for the simulation run about to be initialized (ITPENTER) and the name of the baseline log (if doing regression testing). If the WSim log specified does not exist, the WSim Test Manager creates it. If a completion report is required, set the **Completion Report** field to **Y**. Press **ENTER** to run the schedule (WSim 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 WSim run
  2. TRESP View response time report from the latest WSim run
  3. TDM   Log display monitor for the latest WSim run
  4. TSP   View SYSPRINT from the latest WSim 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 WSim run. The WSim Test Manager invokes ITPLL on the WSim/ISPF Interface for the WSim log from the latest simulation run. The loglist report is browsed. If the baseline log exists, this log will be known as the test WSim log.

TRESP	View response time report from the latest WSim run. The WSim Test Manager invokes ITPRESP on the WSim/ISPF Interface for the WSim log from the latest simulation run. The response time report is browsed.
TDM	Log display monitor for the latest WSim run. The screen images for the WSim log from the latest simulation run are displayed.
TSP	View SYSPRINT from the latest WSim run. The SYSPRINT file from the latest simulation run is browsed.
MLOG	View baseline loglist report. The WSim Test Manager invokes ITPLL on the WSim/ISPF Interface for the master WSim log. The loglist report is browsed.
MRESP	View baseline response time report. The WSim Test Manager invokes ITPRESP on the WSim/ISPF Interface for the master WSim log. The response time report is browsed.
MDM	Log display monitor for the baseline log. The screen images for the master WSim log are displayed.
COMP	View screen compare report. If both the master and test WSim logs exist, the WSim Test Manager invokes ITPCOMP on the WSim/ISPF Interface. The output from ITPCOMP is browsed.
CDM	Log display comparator. If both the master and test WSim logs exist, the WSim 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 WSim logs exist, the WSim 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. NTRK    Edit WSim 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 WSim loglist utility, ITPLL, is run.

- RESPONSE** Edit Response report control cards. Edit the control cards that are used when the WSim response time utility, ITPRESP, is run.
- COMPARE** Edit Compare report control cards. Edit the control cards that are used when the WSim screen compare utility, ITPCOMP, is run.
- NTWRK** Edit WSim network. Edit the WSim network definition associated with this schedule.
- VTAMLST** Edit Application Major Node. Edit the sample VTAM application major node generated by the WSim 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.WTMUSER.SKELS(ITMSFLLM) - 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, except for 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 WSim Test Manager provides help in documenting test plans and procedures.

From the WSim 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. WTMDOC  Edit WSim/TM document

 10. MAKEDOC  Create WSim/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.
- PLAN** Plan test and completion criteria.
Document a test plan schedule, and also the completion criteria for the test (this might 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.
WTMDOC	Edit WSim/TM document. This is the skeleton document that includes the 8 members previously described.
MAKEDOC	Create WSim/TM document. Takes the skeleton document and embeds 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 WSim Test Manager organizes testing into projects. Each project is a set of libraries that contains everything required for WSim 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 WSim 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 : 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&#8211;10 characters long. This field is followed by an optional free-form description that is specified when the project is first added.

Alternate HLI

Use this field to specify the high level index of another WSim 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.

For more information about the **Alternate HLI** and the **Alternate HLI Userid** fields, see “Alternate HLI fields” on page 14.

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

To add a project, do the following actions:

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 can be suitable for this qualifier).

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

The partitioned data sets are as follows:

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

The sequential data sets are as follows:

- wtmtab.case
- wtmtab.crep
- wtmtab.cycle
- wtmtab.group
- wtmtab.sched
- wtmtab.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 WTM, 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 results in unique data set names. If an existing data set is used, make sure that the data set organization matches the data set organization that is required by WTM.

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 that is required.

When you exit the projects panel, the WTM/ISPF tables are 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 are made to the STL data set outside the control of WTM.
- Select an extended refresh if new STL members are added, or existing STL members are changed by processes outside the control of WTM. An extended refresh will synchronize the WTM testcase table with the STL data set. This type of refresh might take some time and is necessary only if you believe the STL data set is updated by processes outside the control of WTM.

Utilities

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

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

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

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

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

  8. TRANSLATE Translate all STL programs
  9. REFRESH Refresh all WTM 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 WSim Test Manager variables

Start from the WSim Test Manager Utilities menu:

```
Access Utilities

Select one of the following. Then press Enter.

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

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

   8. TRANSLATE Translate all STL programs
   9. REFRESH Refresh all WTM 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 WSim Test Manager Variables and Options

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

WSim/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)

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

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

VTAM Name Model : _____
WSim 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:

WSim/ISPF Interface Access

Specifies the mode that you want to use. See “Operating modes” on page 73 for more information.

Panel Message Delay

Specifies the minimum time in seconds a panel message appears. 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 receive a warning message. A large

value in this field results 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 that any shared projects are kept up-to-date.

Display Panel ID?

If set to **Y**, the panel name is displayed in the top, left corner of the panel in WTM and in the WSim/ISPF Interface.

Display Functions Keys?

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

WSim Load Library

The fully qualified data set name of the WSim 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 WSim Interactive Data Capture facility.

Display Monitor VTAM APPL name

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

Fully Validate WSim Data Set Names?

If set to **Y**, ISPF fully validates each data set name before invoking WSim. An **N** setting for this option improves execution time. However, if you have any reason to believe one or more data set names might not be valid, specify **Y**.

Work data sets HLI

The high level index WTM 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 NTRKRS 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 WSim. Enter 1&#8211;7 # characters on the end of the name for numeric placeholders.

WSim Name Model

The name model for resources that are simulated by WSim. Enter 1&#8211;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 WSim 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. WTM uses the # characters as placeholders for numeric substitution to generate unique names as needed.

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

The number of # characters specified depends on the number of resources you want to represent with this name pattern. If a WSim name model of TPNSLU# is specified, this allows for 10 unique resource names (WSIMLU0 through WSIMLU9). However, if a WSim name model of WSIMLU## is specified, this allows for 100 unique names (WSIMLU00 through WSIMLU99).

For example, assume you have defined application IDs (applids) VAPPL00 through VAPPL99 in your VTAM Application Major Node. To allow WTM to use the full range of VTAM names defined, you would specify the VTAM name model as VAPPL##. The WSim name model could then be specified as TPNSLU## and the numeric substitution start value as 00. With this specification, WTM will use VTAM names VAPPL00 through VAPPL99 and WSim names WSIMLU00 through WSIMLU99 when resource names are required.

PUTBL—Process user tables

Start from the WSim Test Manager Utilities menu:

```

Access Utilities

Select one of the following. Then press Enter.

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

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

  8. TRANSLATE Translate all STL programs
  9. REFRESH Refresh all WTM 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 WSim 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 before creating projects.

Start from the WSim Test Manager Utilities menu:

```

Access Utilities

Select one of the following. Then press Enter.

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

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

8. TRANSLATE Translate all STL programs
9. REFRESH Refresh all WTM 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)
- WSim 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 WSim 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 WMTAB data sets  5  5    TRK UNIT(SYSDA)
- Project WTM.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)** might not be suitable for permanent WSim Test Manager data sets, and you might 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 WSim Test Manager data sets are to be placed on the same volume, indicate ditto by placing a double quotation mark (") 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)
- WSim 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 NTRKS 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 WSim 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 is used the next time that a project is created.

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

SKELS—Edit WSim Test Manager skeletons

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

Start from the WSim Test Manager Utilities menu:

```
Access Utilities

Select one of the following. Then press Enter.

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

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

  8. TRANSLATE Translate all STL programs
  9. REFRESH Refresh all WTM 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 WSim 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 95. Changes to these skeletons take effect with the next new project that is created.

CCSKELS

Edit control card skeletons

Use this option to alter the WSim 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 IPTSGEN 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 WSim 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 WSim ITPLL function (Loglist). This option also appears in the second panel of the schedule reports, as described in "Output reports" on page 93.

COMP

Edit ITPCOMP control card skeleton

Use this option to edit the control cards for the WSim ITPCOMP function (Log Screen Compare). This option also appears in the second panel of the schedule reports, as described in "Output reports" on page 93.

RESP

Edit ITPRESP control card skeleton

Use this option to edit the control cards for the WSim ITPRESP function (Response Time report). This option also appears in the second panel of the schedule reports, as described in “Output reports” on page 93.

SGEN Edit ITPSGEN control card skeleton

Use this option to edit the control cards for the WSim ITPSGEN function.

NETSKELS

Edit WSim network definition skeletons

Use this option to edit the skeletons used for the NTRWK definition statement when schedules are created by WTM, as displayed in the following panel:

```
                                Edit Network Definition Skeletons

Select one of the following.  Then press Enter.

      Command  Action
—  1. VNESKEL  Edit WSim VTAMAPPL network definition skeleton
   2. CNESKEL  Edit WSim CPI-C network definition skeleton
   3. SGENSKEL Edit WSim CPI-C script gen network definition skeleton
   4. TNESKEL  Edit WSim 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
```

VNESKEL

Edit WSim VTAMAPPL network definition skeleton

Use this option to edit the skeleton used for the NTRWK statement when new VTAMAPPL schedules are created by WTM.

CNESKEL

Edit WSim 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 WTM.

SGENSKEL

Edit WSim 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 WTM using the CPI-C script generation process.

TNESKEL

Edit WSim 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 WTM. 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 93, option number 17, for details.

MSGTXT—Edit MSGTXTs data set

When any STL program is translated, MSGTXTs are generated. These MSGTXTs control WSim execution during the simulation run.

Start from the WSim Test Manager Utilities menu:

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

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

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

  8. TRANSLATE Translate all STL programs
  9. REFRESH Refresh all WTM 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.

NTRK—Edit NTRK data set

This option displays the list of WSim networks.

Start from the WSim Test Manager Utilities menu:


```

                                Access Utilities

Select one of the following. Then press Enter.

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

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

  8. TRANSLATE Translate all STL programs
  9. REFRESH  Refresh all WTM 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.

WTMVARS—Edit WSim Test Manager variable @INCLUDE member

WTMVARS is a common variable declaration member that is included in all testcases. When a testcase is created, WTM adds an STL **@INCLUDE wtmvars** statement at the beginning of the testcase.

Start from the WSim Test Manager Utilities menu:

```

                                Access Utilities

Select one of the following. Then press Enter.

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

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

  8. TRANSLATE Translate all STL programs
  9. REFRESH  Refresh all WTM 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 **WTMVARS** to edit this STL member. If you change this member, you need to retranslate any STL members you want to access

the updated WTMVARS. If you want all STL members to access the updated WTMVARS, 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 WTMVARS member is changed and all testcases need to be retranslated to use the new WTMVARS.

Start from the WSim Test Manager Utilities menu:

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

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

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

  8. TRANSLATE Translate all STL programs
  9. REFRESH Refresh all WTM 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 **8** or enter the command **TRANSLATE** to translate all testcases in this project.

Notes:

- If the number of testcases is large, this process might take some time to complete.
- Sequence numbers placed in the data set by some editors cause translation errors if they are not removed.

REFRESH—Refresh all WTM tables

When this option is selected, all the WTM ISPF tables are refreshed from the control tables for this project.

Start from the WSim Test Manager Utilities menu:

Access Utilities

Select one of the following. Then press Enter.

Command	Action
1. VARS	Specify WSim Test Manager Variables and Options
2. PUTBL	Process User Tables
3. SPACE	Specify data set attributes
4. SKELS	Edit WSim Test Manager skeletons
5. MSGTXT	Edit MSGTXTs data set
6. NTRK	Edit NTRK data set
7. WTMVARS	Edit WSim Test Manager variable @INCLUDE member
8. TRANSLATE	Translate all STL programs
9. REFRESH	Refresh all WTM 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 is displayed to determine the type of refresh.

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

Note: The **REFRESH** command causes all alternate high level, last run schedule information, and completion report associations to be lost.

Appendix A. WSim 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 WSim Test Manager. For problems that are not described here, refer to *WSim Messages and Codes* or other WSim documentation.

ERROR encountered during STL translation

STL translation is done immediately after capturing a WTM testcase or changing STL msgutbl source files relating to a testcase. If the STL translation encounters an error, do the following actions:

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 helps 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 *WSim Script Guide and Reference*. For a more detailed explanation of the error message, refer to *WSim Messages and Codes*.

Note: If you are running WTM 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 WSim network is network initialization. During initialization, the NTRWK control cards defined after the resources were set up are merged together with the WSim 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 actions:

1. Enter "ZEND" on your WSim operator console (TSO session) to end the run if it does not end itself.
2. Back out to the Process WTM 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 WSim 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 might be errors in the NTRWK control cards, particularly if you had a reason to edit the NTRWK directly. If so, consult *WSim Script Guide and Reference* to understand the proper syntax for the WSim network statements, or consult *WSim Messages and Codes* for more explanation of the error message.

Note: If you are running WTM in Interact mode, you can end the Browse session and press **PF4** to make network changes.

ERROR encountered during network simulation

After you start the network simulation, your TSO session begins to display WSim “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 message:

```
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 WSim testcases, depending on what you find to be most suitable:

- Problems after the WSim 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 WSim simulation:
 - Place more SAY statements in your testcase so that you can see immediately how far your testcase progresses.
 - For 3270 resources, use the Display Monitor Facility from another TSO session to watch the screens for one simulated WSim terminal while the test is going on.

Generally, 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 WSim log (using TDM) even if the WSim run appears to be successful. The Finished message is not a guarantee that the script worked as you intended.

Problems during a WSim/TM simulation run usually fall into one of the following categories:

- Panel verification error
- WSim 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 8 bytes in the upper left corner) to verify that it reaches 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 actions:

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 WSim 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.

WSim simulation stalls

If the WSim simulation appears to stall, the system under test might be stalled or your testcase might 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 items:

- 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 WSim will deactivate a terminal that has been inactive. Refer to the SCAN parameter on the WSim NTRWK statement in *WSim Script Guide and 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 WTM 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 WSim 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 WTM:

- Unexpected IDC (capture) error
Verify that the WTM 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 fails if the SYSPRINT data sets associated with them do not have adequate space. If so, delete and reallocate the data sets with more space (using ISPF 3.2).

Note: Similar errors can 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. WSim Test Manager user precautions

- Do not use any of the STL reserved words for testcase, UTBL, or schedule names. Refer to *WSim Script Guide and Reference* for a list of reserved words.
- Do not use any of the WSim statements found in *WSim Script Guide and 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 WTM tables.
- Do not change data set names in the WSim/ISPF Interface panels.
- Do not change UTBL comments.
- Do not change PATH statements.
- Do not change any WTM-generated comments.

Notices

This information was developed for products and services that are offered in the USA.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

*IBM Director of Licensing
IBM Corporation
North Castle Drive, MD-NC119
Armonk, NY 10504-1785
United States of America*

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

*Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan*

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Trademarks and service marks

The following terms are trademarks of the IBM Corporation in the United States or other countries or both:

IBM

MVS (Multiple Virtual Storage)

MVS/ESA (Multiple Virtual Storage/Enterprise Systems Architecture)

MVS/XA (Multiple Virtual Storage/Extended Architecture)

OS/390[®]

RETAIN[®]

SNA (Systems Network Architecture)

VTAM (Virtual Telecommunications Access Method)

Other company, product, and service names, which may be denoted by a double asterisk (**), may be trademarks or service marks of others.

Index

A

alternate high level index (HLI) 14, 97

C

CPI-C script generation

reports 51

schedules 42

testcases 37

tutorial 35

VARS panel values 35

creating a TCP/IP testcase from the trace

schedules 65

tutorial 61

VARS panel values 61

D

Display operating mode 73

E

errors

during network initialization 113

during network simulation 114

during STL translation 113

miscellaneous 115

panel verification 114

simulation stalls 115

G

generating a TCP/IP trace

schedules 65

tutorial 61

VARS panel values 61

H

Hide operating mode 73

I

index of screen images 78

Interact operating mode 73

Interactive Data Capture (IDC)

adding and selecting projects 12

reports 34

schedules 27

testcases 14

tutorial 10

VARS panel values 10

L

line commands

schedules 90

line commands (*continued*)

testcases 75

testcycles 87

testgroups 84

Log Display Monitor 19, 78

M

MSGTXT 108

N

NTWRK 108

O

operating modes 73

P

projects

adding and selecting 12

description 97

PUTBL 102

R

REFRESH 110

reports

overview 93

using CPI-C script generation 51

using IDC 34

using TCP/IP model script 60

resource list 91

S

schedules

adding 91

creating a TCP/IP testcase from the trace 65

generating a TCP/IP trace 65

overview 89

using CPI-C script generation 42

using IDC 27

using line commands 90

using TCP/IP model script 57

simulation stalls 115

SKELS 105

SPACE 102

T

TCP/IP model script

reports 60

schedules 57

testcases 53

tutorial 52

TCP/IP model script (*continued*)

VARS panel values 52

TCP/IP testcase creation from the Trace

testcases 61

TCP/IP trace generation

testcases 61

test documentation 95

testcases

adding 75

creating

TCP/IP testcase creation from the Trace 61

TCP/IP trace generation 61

using CPI-C script generation 37

using IDC 14

using TCP/IP model script 53

editing 19

overview 74

using line commands 75

testcycles

adding 87

overview 86

selecting 89

selecting test items for 88

using line commands 87

testgroups

adding 84

overview 83

selecting 86

selecting test items for 85

using line commands 84

TRANSLATE 110

tutorials

CPI-C script generation 35

creating a TCP/IP testcase from the trace 61

generating a TCP/IP trace 61

Interactive Data Capture (IDC) 10

overview 9

using TCP/IP model script 52

U

User Data Tables (UTBLs) 21, 80, 102

user, setting up new 4

utilities

MSGTXT 108

NTWRK 108

overview 99

PUTBL 102

REFRESH 110

SKELS 105

SPACE 102

TRANSLATE 110

VARS 100

WTMVARs 109

V

VARS 100

- VARs panel values
 - specifying
 - creating a TCP/IP testcase from the trace 61
 - generating a TCP/IP trace 61
 - using CPI-C script generation 35
 - using IDC 10
 - using TCP/IP model script 52
 - view screen images 19, 78
 - VTAM Application Major node 2

W

- WSim simulations 32
 - overview 92
 - using IDC 32
- WSim Test Manager
 - debugging 113
 - installation 1
 - prerequisites 1
 - providing access
 - global 3
 - individual 4
 - overview 3
- WSIM Test Manager
 - data sets 3
- WTMVARs 109



Printed in USA

SC31-8949-01

