WSim Test Manager

User's Guide and Reference

Version 1 Release 1

SC31-8949-00

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Note
Before using this document, read the general information under Appendix C, "Notices" on page 109.

First Edition (August 2002)

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

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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 63 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 103 describes errors that may 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 107 describes precautions that the user should take when using the WSim Test Manager.

Who Should Read this Book

- Systems Programmers or other personnel 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 63.

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 utilized 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. Additional 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 containing 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.

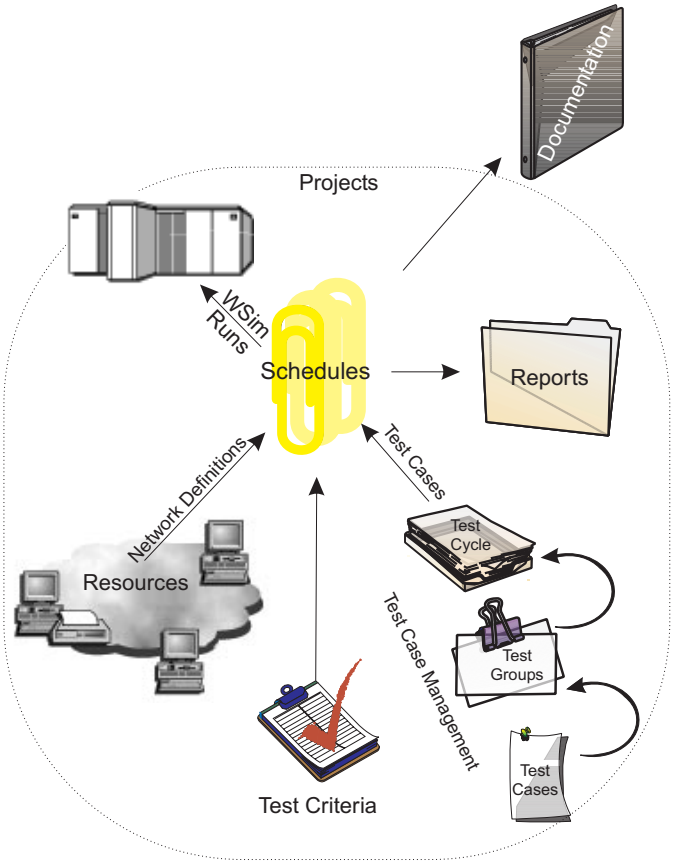

Figure 1. WSim Test Manager Testing Structure

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, the WSim Test Manager enables you to create, edit, delete, and manipulate testcases, which can be organized into test groups as ordered lists of testcases. This encourages the development of modular testcases while reducing development and rewrite cost by facilitating testcase reuse within multiple test groups and localizing changes. At the third level, test cycles, ordered lists of test groups and testcases can be formed.

Script Generation

The 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 will perform. Testcases are WSim scripts 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. The WSim Test Manager also has facilities to allow you to create WSim User Data Tables (also referred to as User Tables or UTBLs) containing modifiable string data. 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 will 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 assist in 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 may 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 a variety of user actions, such as, specifying set up 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 a MSGTXT, adds UTBLs to the STL scripts and allows you to replay these scripts.

Where to Find More Information

The following list shows the books in the 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 used by WTM.

WSIM.SITPMSG
Contains all the panel error messages issued by WTM.

WSIM.SITPEXEC
Contains all the REXX EXECs used by WTM.

WSIM.SITPSKEL
Contains skeleton files 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 will also have a set of skeleton files in the userid.WTMUSER.SKELS data set.

WSIM.SITPTBL
Contains all the ISPF tables used by WTM.

WSIM.SITPSAMP
Contains the file used by WTM for building the ITMNUSER 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 have completed 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 should 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 should 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 will 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 may be different than 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.SITPMSG
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 in order to show MVS messages and terminal message IDs for debugging purposes. The PREFIX, WTPMSG, and MSGID settings are restored to the original values when the WSim Test Manager ends normally.

The **WSIMTM** exec or CLIST cannot be executed until the new user has been 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 should be updated and a new entry point added. In the PROC part of the ISPF panel, shown in Figure 3 on page 4, add an entry similar to the following:

```
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 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:

1. Copy the ITMNUSER member from the WSIM.SITPSAMP data set to your own data set. Modify your copy of ITMNUSER 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:

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 will contain all the tables 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. Logon 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 should be 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:

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Command ===> ____________________________________________________________

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

5. Move the cursor to the command field and enter the command **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      NTWRKS: NTWRKS

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
```

6. The VARS panel has defaults filled in from information that was provided in the **WSIMTM** CLIST or exec. Fill in any missing fields. For a description of all the fields, see "VARS—Specify WSim Test Manager Variables" on page 90.

   After you have verified the information and updated any blank fields on the **VARS** panel, press **ENTER** to save the values. Press **PF3** to return to the WSim Test Manager main menu.

7. 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 NTWRKS 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 may want to update data set size or unit/volume specifications prior to creating a project. See "SPACE—Specify Data Set Attributes" on page 92 for more information on the data set attributes.

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

```
                              Process Projects
Command==>                                                  Press PF3 to end.

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

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


Project      : _________

Alternate HLI: ______________________________
   Alternate HLI Userid: ___________









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

See "Projects and Alternate High Level Indexes" on page 87 for an example of setting up a project.

10. In order to avoid name conflicts with existing data set names, you should 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 fill in 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 a detailed discussion of all WSim Test Manager functions, see Chapter 3, "WSim Test Manager Reference" on page 63. Each of the following tutorials should be run in Hide mode. This is the default mode set in the VARS panel.

1. Tutorial I—Interactive Data Capture (IDC)

   This tutorial describes building a test process using IDC, the Interactive Data Capture facility of 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 43 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 53 describes the values on the VARS panel that require special attention for test cases generated from WSim model networks.

b. "Creating Testcases" on page 54 describes how to create a new testcase and schedule using a TCP/IP model script.
c. "Working with Schedules" on page 58 describes how to start the WSim schedules and look at the various reports.

4. "Resetting the Demonstration" on page 61 describes how to reset the 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:

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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 startup. Consequently, 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 will receive VTAM errors and the Interactive Data Capture and Display Monitor WSim facilities will not run, or the generated scripts will be built incorrectly and the simulation run will fail.

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. NTWRK     Edit NTWRK 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: ________
 Fully Validate WSim Data Set Names? : Y (Y/N)

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

 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 filled in 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

One of the WSim Test Manager features enables you to simulate multiple resources automatically, without predefining the resources. 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 1–7 # 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.

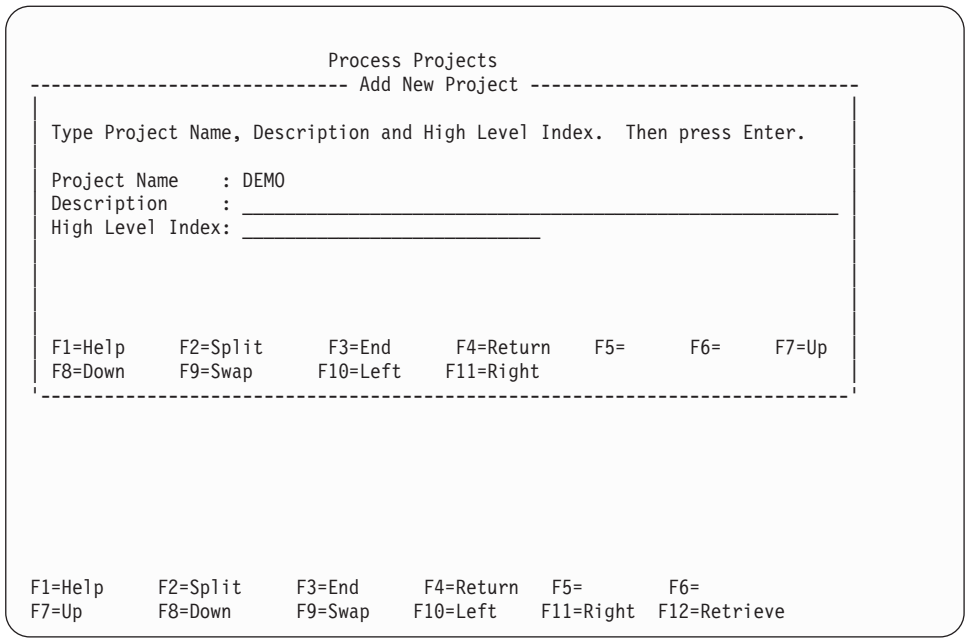
Adding and Selecting Projects

The WSim Test Manager organizes testing into projects. Each project is a set of libraries containing 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
Command==>                                                  Press PF3 to end.

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

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


Project      : __________

Alternate HLI: ________________________________
   Alternate HLI Userid: __________









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

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

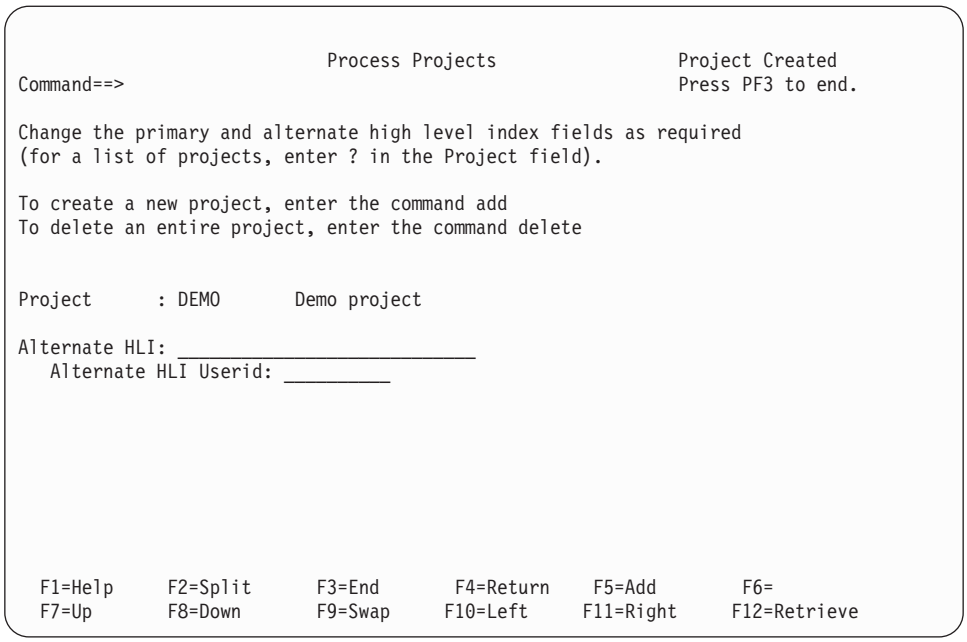


4. Add an optional, free-form description in the **Description** field (for this tutorial, enter "demo project"). Enter **userid.WTM.DEMO** (where userid is your TSO user ID) in the **High Level Index** field. The WSim Test Manager uses this high level index to create a number of data sets. Make sure 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 87 for the list of data sets that is created when a project is added.

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



5. 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 just created and press **ENTER**. Press **PF3** to return to the WSim Test Manager main menu. The ISPF tables will now be refreshed from the Project control files. A pop-up panel is displayed to determine the type of refresh to be done. Press **ENTER** on this panel to select a "normal" refresh.

Alternate HLI Fields

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

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

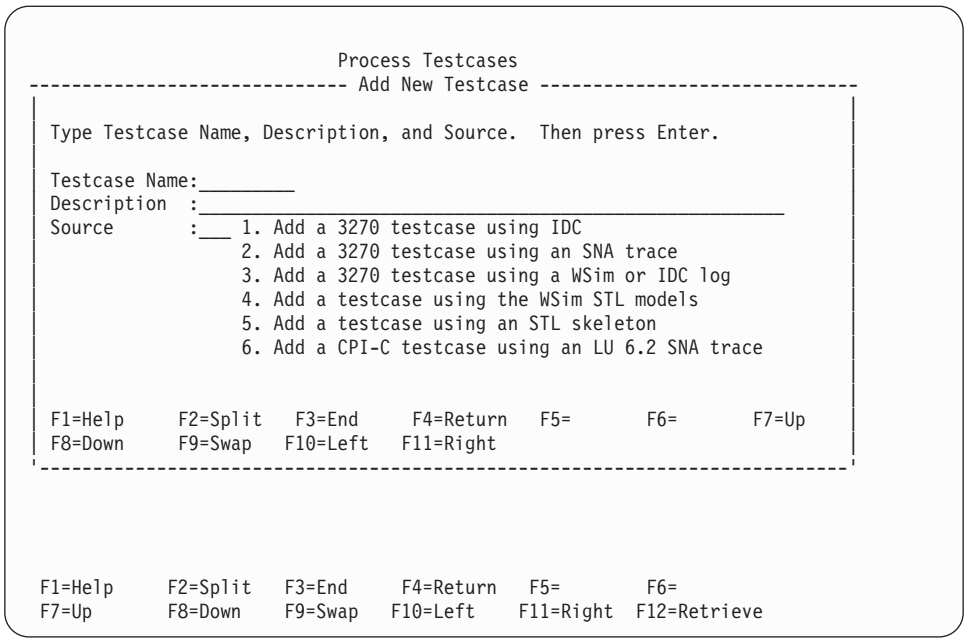
Start from the WSim Test Manager main menu:

```
                          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
```

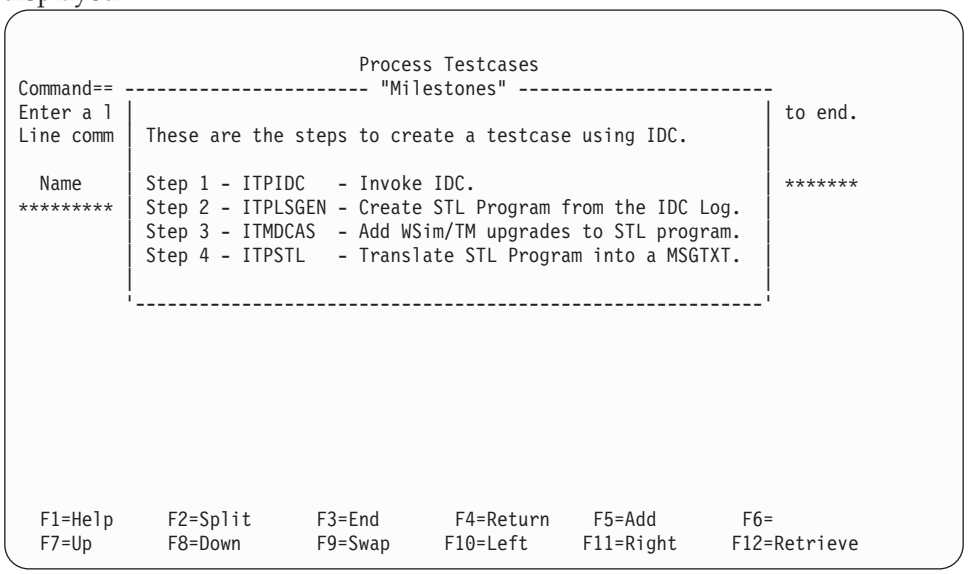
1. Select option **1** or enter the command **CASE**. A list of all the testcases in this project is displayed. Because this is a new project, there are no existing testcases, and the list is empty:

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



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



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

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

```
                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 TSO001
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 has completed these four steps, the Milestones panel is replaced by a display of the list of testcases:

```
                          Process Testcases                Row 1 of 1
Command==>
Enter a line command or add to create a new Testcase.  Press PF3 to end.
Line commands: D Delete, N Notes, 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 has been 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.

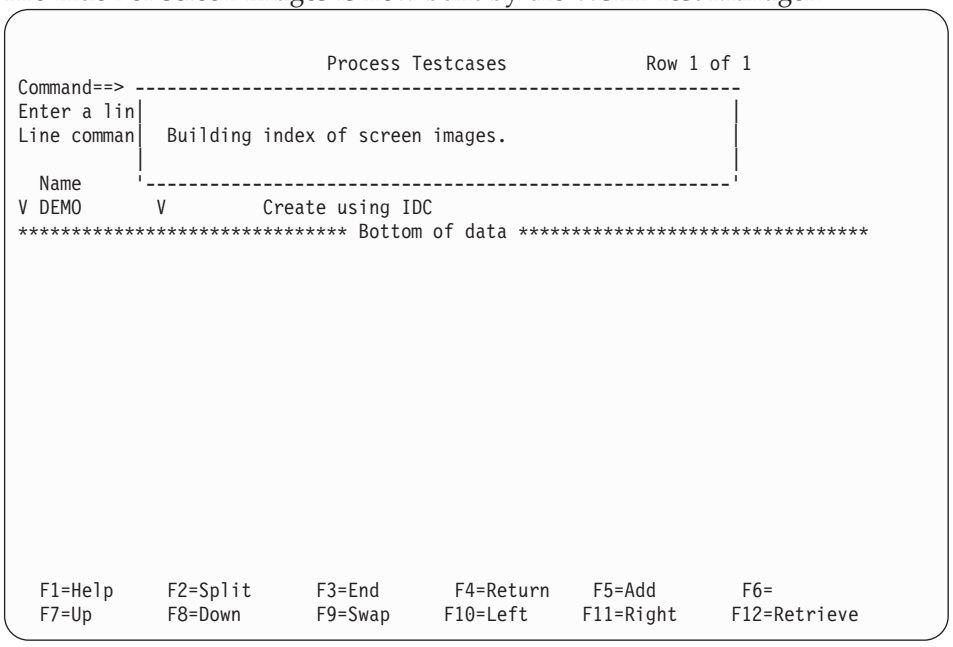
Using the Log Display Monitor to Edit Testcases

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.

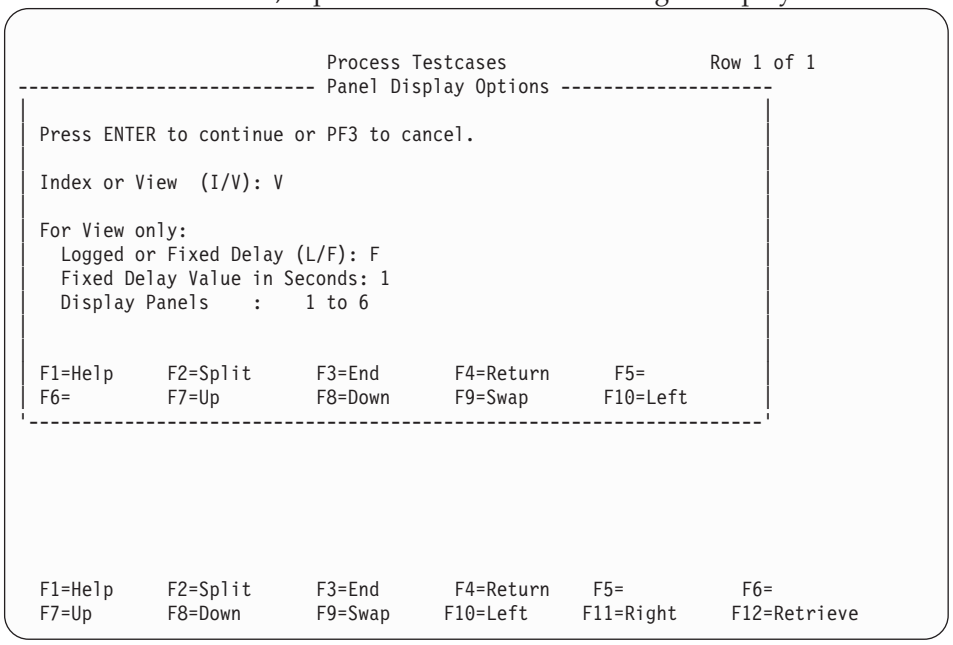
   Note: The **View** option can be selected only if the IDC or WSim log still exists and it is a 3270 log.

```
                          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
****************************** 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:



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



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     ------------------------------- TSO/E LO
_ 09044833  ENTER  DEMO     ------------------------------- TSO/E LO
_ 09050396         DEMO     ICH70001 userid    LAST ACCESS AT 14:30:
_ 09050396  ENTER  DEMO     ICH70001 userid    LAST ACCESS AT 14:30:
****************************** Bottom of data ********************************









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

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 may be similar to the following:

```
   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 shown above, on the line with the text **myuserid**). Press **ENTER**.

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

```
  File  Edit  Confirm  Menu  Utilities  Compilers  Test  Help
- -------------------- Create WSim User Table (UTBL) --------------------
E |                                                                      | 0072
C | Type the values for the following fields.  Then press Enter.        |
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)        |
0 |                                                                      | ndgen
0 | F1=Help     F2=Split     F3=End      F4=Return    F5=      F6=       | 3 */
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
```

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 70 for a description of the various Table Access options.

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

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

    The updated STL will look similar to the following:

```
   File  Edit  Confirm  Menu  Utilities  Compilers  Test  Help
 ______________________________________________________________________________
EDIT   userid.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 'myuserid' */
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 new field to the UTBL just created, move the cursor to the command field at the top of the screen. Type the command **UTBL** and move the cursor to the line with the text **mypass**. Press **ENTER**.

    The following pop-up panel is displayed:

```
   File  Edit  Confirm  Menu  Utilities  Compilers  Test  Help
------------ Create 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 |                                                                      |
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 will 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 created by WTM. An example of the updated STL script is displayed:

    The updated STL will look similar to the following:

```
   File  Edit  Confirm  Menu  Utilities  Compilers  Test  Help
 ______________________________________________________________________________
EDIT   userid.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_PWORD                                        /* 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
_ DEMO      V    1          Create using IDC                     Viewed
****************************** Bottom of data ********************************
```

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

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

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

```
                            User Table List                 Row 1 of 1
Command==>
Enter a line command or all.                                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 a 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.

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

   A milestones panel is now briefly displayed:

```
                          Process WSim Schedules
Command== -------------------- "Milestones" ---------------------
Enter a l |                                                     |  PF3 to end.
Line comm | These are the steps to create a new WSim Schedule.  |
          |                                                     |
  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
```

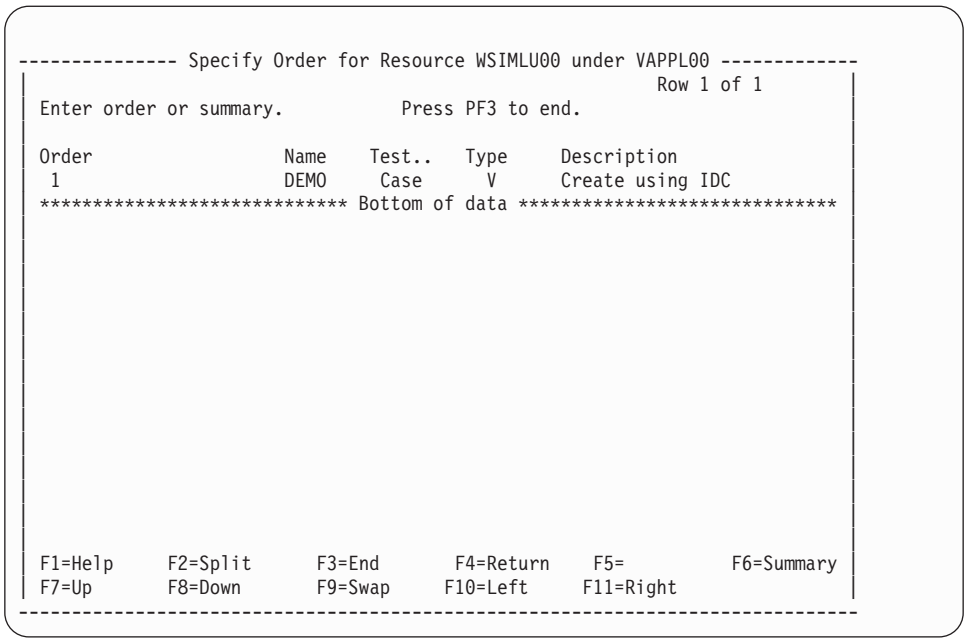
In Step 1, the simulated resources need to be defined and scripts selected. If no resource is selected, a WSim network will not be created. The following panel is displayed:

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

  VTAMname 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
```

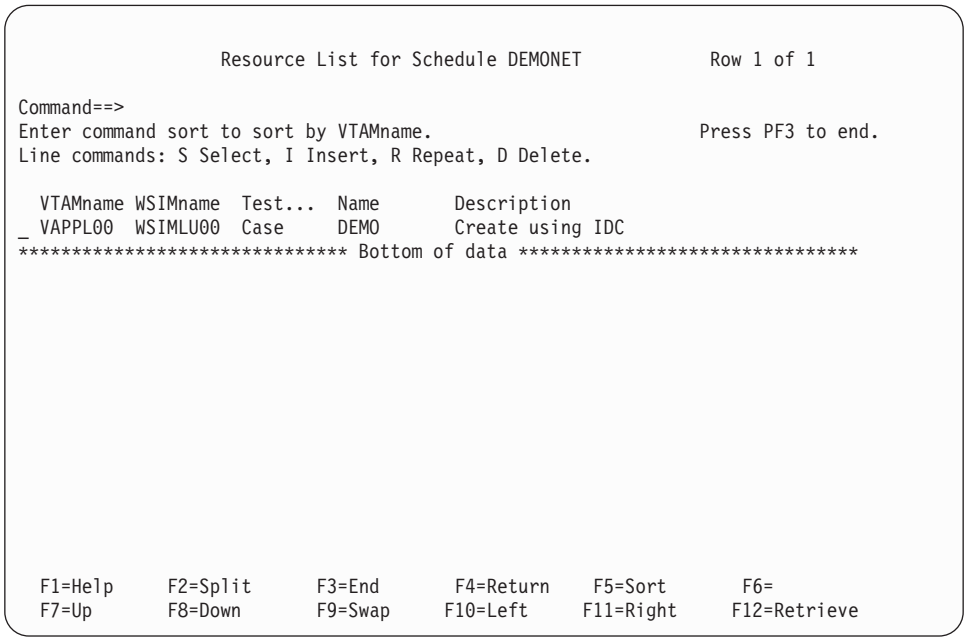
3. This schedule has one simulated resource defined, although it does not reference any scripts. To define the scripts to run, enter the line command **S** before the VAPPL00 line. A pop-up panel is displayed listing all of the VTAMAPPL test items (cases, MSGTXTs, groups, and cycles) available in this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



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



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                                        |
'---------------------------------------------------------------------------------'
```

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 ********************************
```

8. The VTAMname and the WSIMname have been 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
```

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

```
                           Process 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

1. 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
```

2. 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 will provide 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
```

3. Press **ENTER**. The WSim simulation program ITPENTER runs and the screen becomes the WSim console.

   The WSim console will issue messages similar to the following:

```
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
***
```

4. 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
```

5. 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 **O** for schedule DEMONET.

   The following reports menu is displayed:

```
                        Reports for schedule DEMONET

Select one of the following.  Then press Enter.

      Command   Action                                                More:  +
__ 1. TLOG      View loglist report from latest the 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, as well as 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, on the other hand, provide an analysis of the activity 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 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.

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. NTWRK     Edit NTWRK 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      NTWRKS: NTWRKS

 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 will be the same and will be the name of the resource in the trace file. In the VTAM and WSim Name Model fields, you may choose to enter a pattern that is consistent with the resource names that will be selected. Name models must end with 1–7 **#** characters, which are place holders for numeric value substitution. For instance, if resources SYC0D61 and SYC0D62 will be selected for script generation, you may choose to specify the VTAM name model as SYC0D##, the 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 additional VTAM resources from SYC0D63 to SYC0D99 and additional WSim resources from TP63 to TP99.

3. 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 desired 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 will 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
```

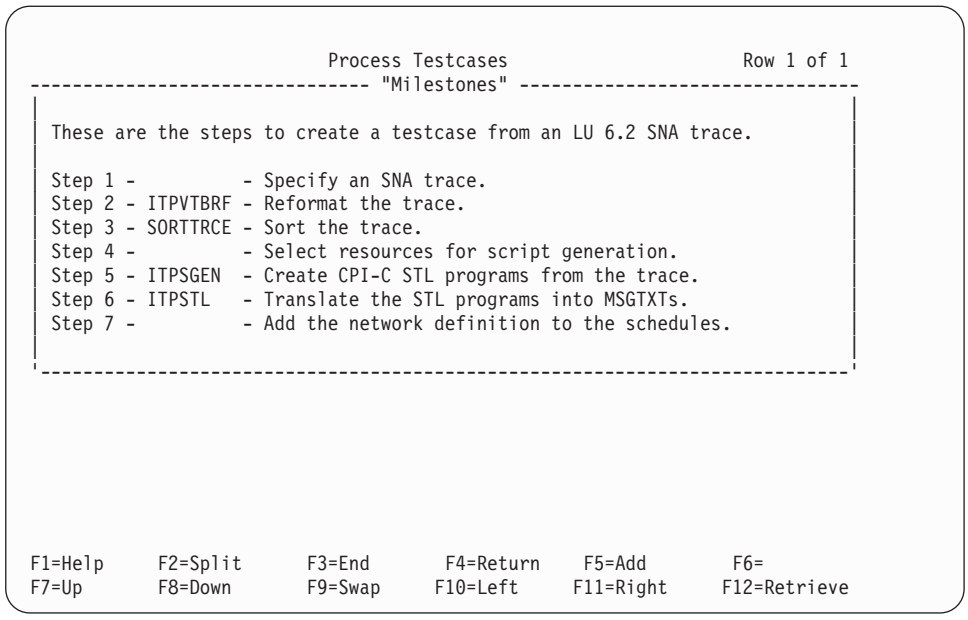
1. Select option **1** or enter the command **CASE**. A list of all the testcases in this project is displayed. This tutorial assumes that Tutorial I has been completed, so the DEMO testcase is displayed:

```
                            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
```

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

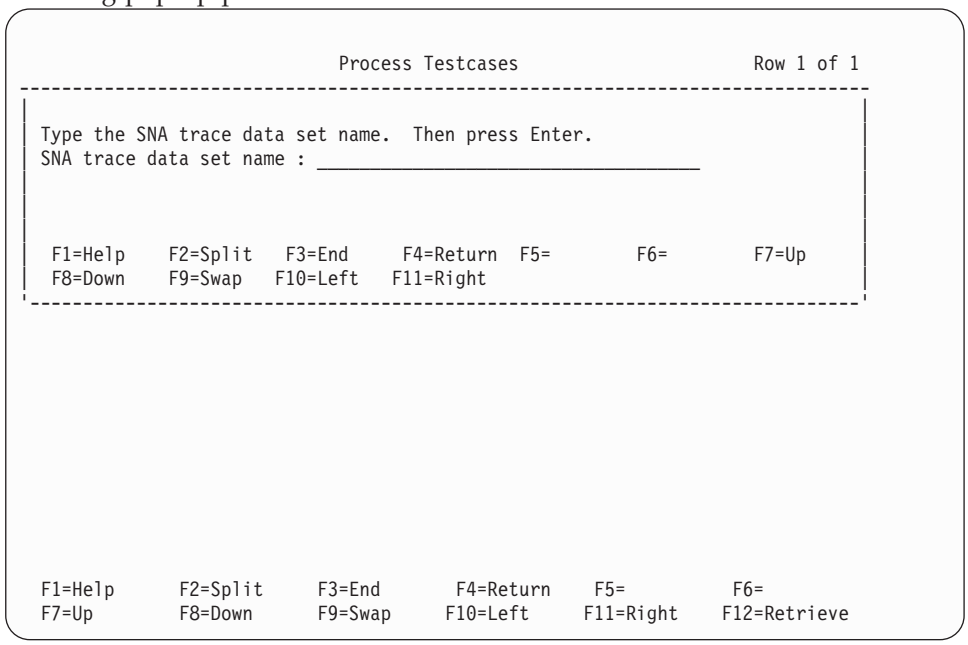
```
                            Process Testcases
 ------------------------------ Add New Testcase ------------------------------
|                                                                              |
| Type Testcase Name, Description, and Source.  Then press Enter.              |
|                                                                              |
| Testcase Name:_________                                                      |
| Description  :_____________________________________________________          |
| Source       :___ 1. Add a 3270 testcase using IDC                           |
|                   2. Add a 3270 testcase using an SNA trace                  |
|                   3. Add a 3270 testcase using a WSim or IDC log             |
|                   4. Add a testcase using the WSim STL models                |
|                   5. Add a testcase using an STL skeleton                    |
|                   6. Add a CPI-C testcase using an LU 6.2 SNA trace          |
|                                                                              |
| F1=Help     F2=Split   F3=End     F4=Return   F5=       F6=       F7=Up    |
| F8=Down     F9=Swap    F10=Left   F11=Right                                  |
 ------------------------------------------------------------------------------



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

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



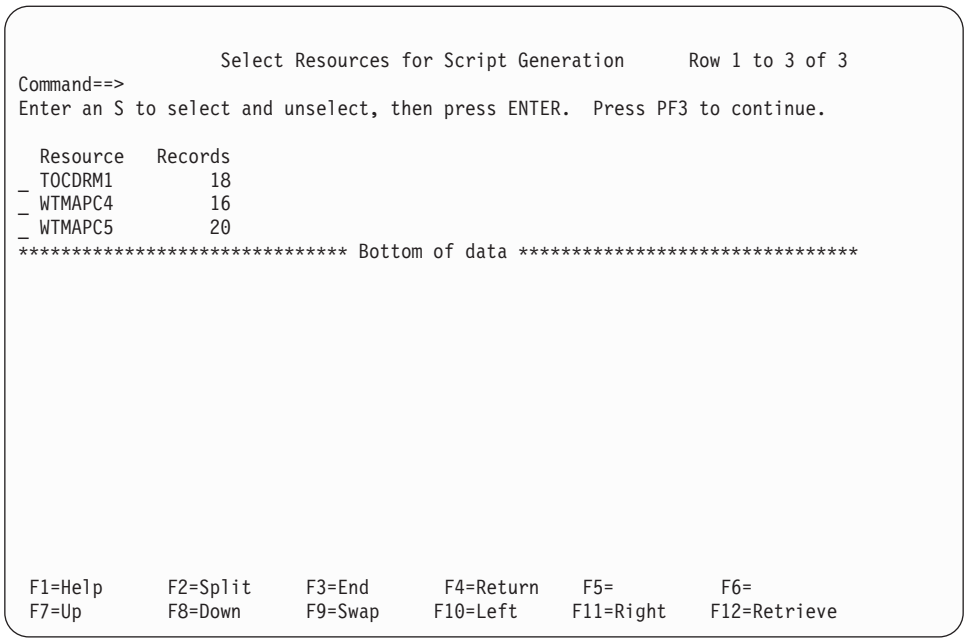
This is a “Milestones” panel. This panel shows the steps needed to add a CPI-C testcase using an LU 6.2 SNA trace. Step 1 is highlighted, which shows that the WSim Test Manager is performing Step 1.

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



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

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



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

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

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

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

```
                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 may also optionally change the schedule description. Press **ENTER** and the schedule add process will continue.

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

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

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

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









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

   The **Added** message to the right of the testcase description indicates that the new testcase has been added to 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, as well as the new CPI-C schedule. The CPI-C schedule is ready to run. However, you can also update the resources, the test item references, or both prior to running the schedule.

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               |
|                        CDEMO      Case       C   CPI-C script gen demo     |
| 1                      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. At this point, you can change the references for the WTMAPC4 resource. For purposes of illustration assume you have another CPI-C testcase defined. Assume your order specification panel looks like the following:

```
-------------- Specify Order for Resource 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          |
| 1                     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                      |
'---------------------------------------------------------------------------------'
```

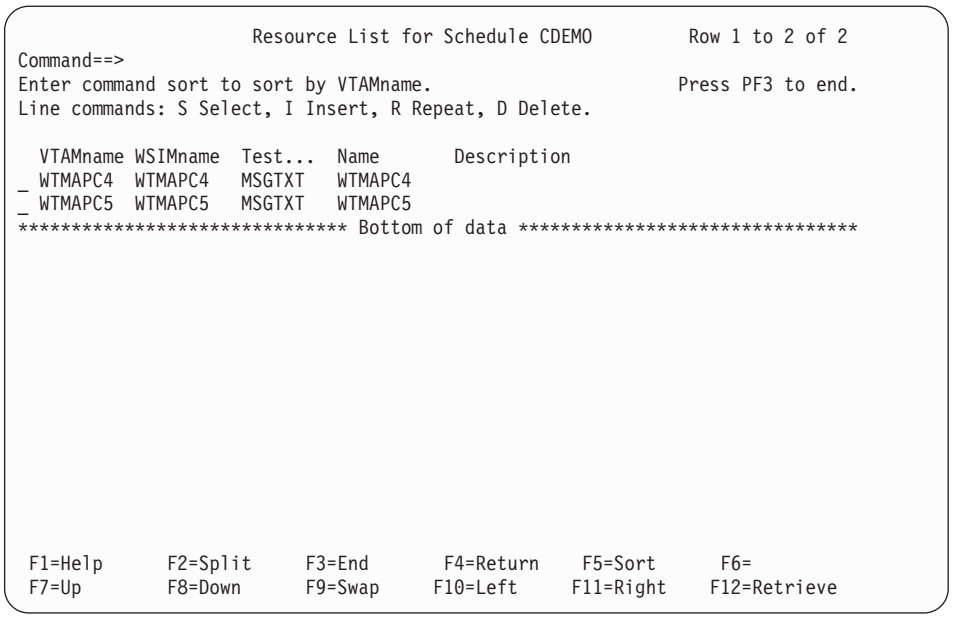
This panel shows two CPI-C test cases available: CDEMO, which contains two MSGTXTs (WTMAPC4 and WTMAPC5), and CPICCASE, which contains three MSGTXTs (MTXT1, MTXT2, and MTXT3).

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                    |
|                       CDEMO       Case       C   CPI-C script gen demo          |
| 2                     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                      |
'---------------------------------------------------------------------------------'
```

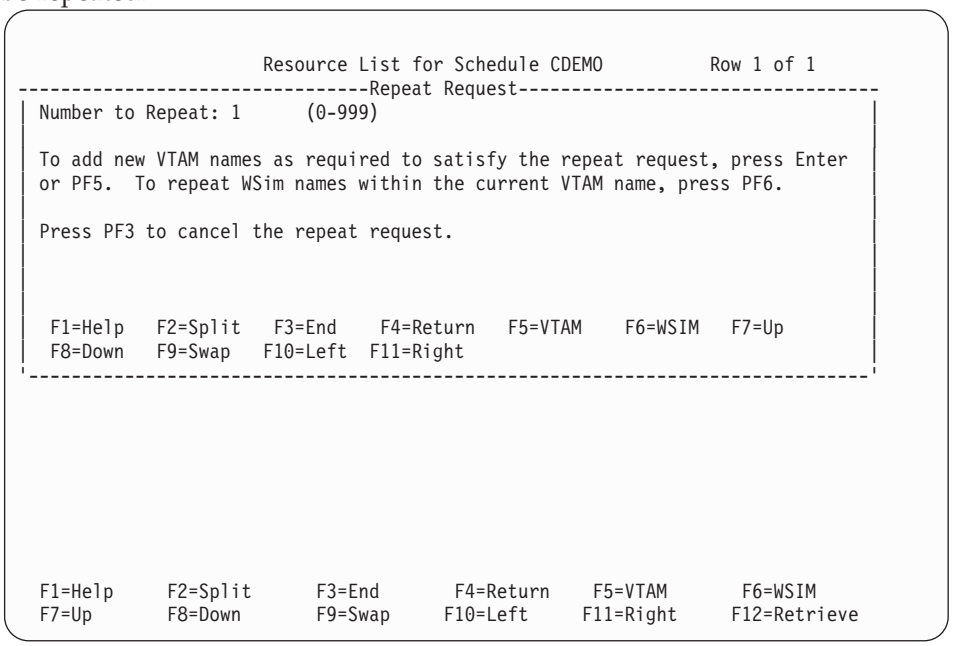
For this tutorial, leave the reference order for your resources as it was defined when the script was generated.

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



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:



7. 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 have been 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.

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

```
-------------- Specify Order for Resource 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 NTWRK 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 NTWRK statement, it will be removed.

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

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

```
                    Resource List for Schedule CDEMO        Row 1 to 5 of 5
Creating NTWRK.

_ APPL1    TP1       MSGTXT   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 recreate 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 NTWRK, X Execute.

  Name    Type  Notes Description              UTBLs   Last Run
_ CDEMO     C         CPI-C script gen demo                          Resources
_ 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.

13. 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:

```
                          Process WSim Schedules              Row 1 to 2 of 2
-------------------------------------------------------------------------------
|                                                                             |
| Checking WSim network CDEMO.                                                |
|                                                                             |
|                                                                             |
'-------------------------------------------------------------------------------'


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

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

```
                            Process WSim Schedules            Row 1 to 2 of 2
-------------------------- Specify WSim Log Names -----------------------------
|                                                                              |
| Change the lognames and press ENTER to continue or PF3 to end.               |
|                                                                              |
| ITPENTER: 'userid.WTM.DEMO.MLOG.CDEMO'                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
```

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

14. 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 will be displayed:

```
ITP016I Workload Simulator (WSim) VERSION 1, RELEASE 1.0
ITP003I WSim INITIALIZATION COMPLETE
ITP2001 DISPLAY MONITOR FACILITY ACTIVE USING APPL WSIMDM01
ITP029I INITIALIZATION COMPLETE FOR NETWORK CDEMO
ITP006I NETWORK CDEMO STARTED
```

15. 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.

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

    The following reports menu is displayed:

```
                        Reports for schedule CDEMO

 Select one of the following.  Then press Enter.

      Command   Action                                              More:  +
__ 1. TLOG      View loglist report from latest the 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
```

17. 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.

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. NTWRK     Edit NTWRK 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      NTWRKS: NTWRKS

 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 1–7 **#** characters which are place holders for numeric value substitution. The resource names in the TN3270 model network are of the form HOST*n* for VTAM names and DEV*nn* for 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.

3. 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 may 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
```

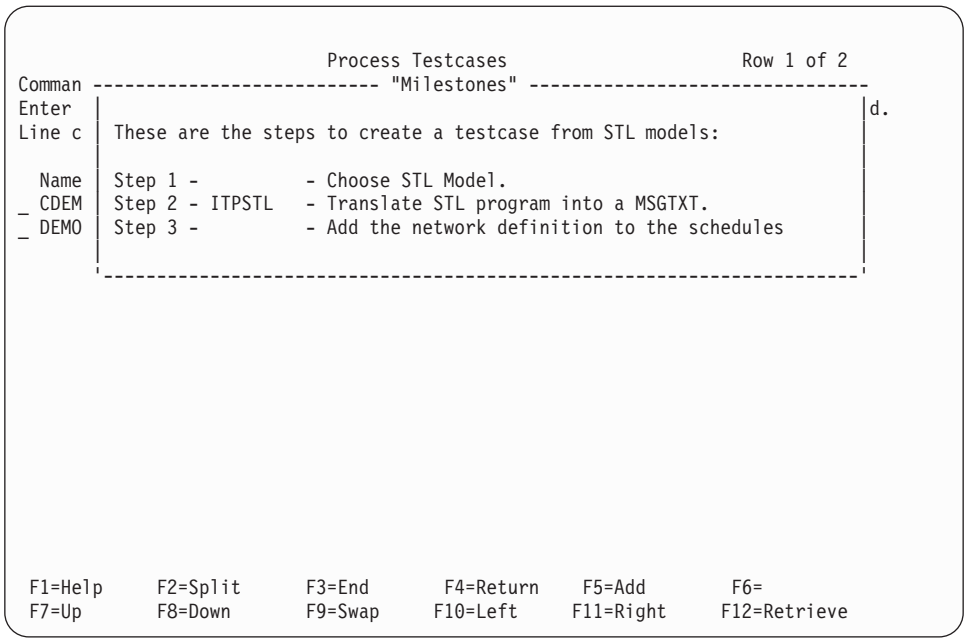
1. Select option **1** or enter the command **CASE**. A list of all the testcases in this project is displayed. This tutorial assumes that Tutorials I and II have been completed, so the DEMO and CDEMO testcases are shown:

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

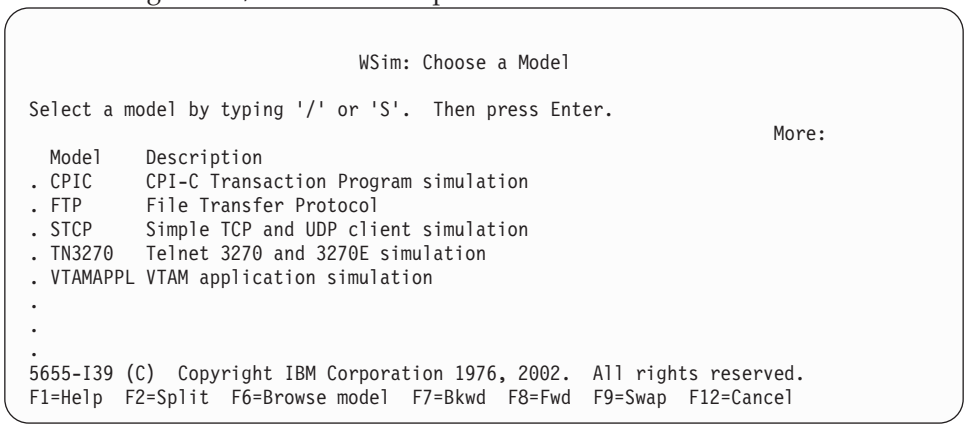
```
                          Process Testcases
------------------------------ Add New Testcase ------------------------------
|                                                                             |
| Type Testcase Name, Description, and Source.  Then press Enter.             |
|                                                                             |
| Testcase Name:_________                                                     |
| Description  :_____________________________________________________         |
| Source       :___ 1. Add a 3270 testcase using IDC                          |
|                   2. Add a 3270 testcase using an SNA trace                 |
|                   3. Add a 3270 testcase using a WSim or IDC log            |
|                   4. Add a testcase using the WSim STL models               |
|                   5. Add a testcase using an STL skeleton                   |
|                   6. Add a CPI-C testcase using an LU 6.2 SNA trace         |
|                                                                             |
|                                                                             |
| F1=Help     F2=Split   F3=End     F4=Return   F5=       F6=       F7=Up     |
| F8=Down     F9=Swap    F10=Left   F11=Right                                 |
'-----------------------------------------------------------------------------'



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

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



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

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



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 specifes 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. Make any changes to 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 has been added, the Milestones panel is replaced by the list of testcases:

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

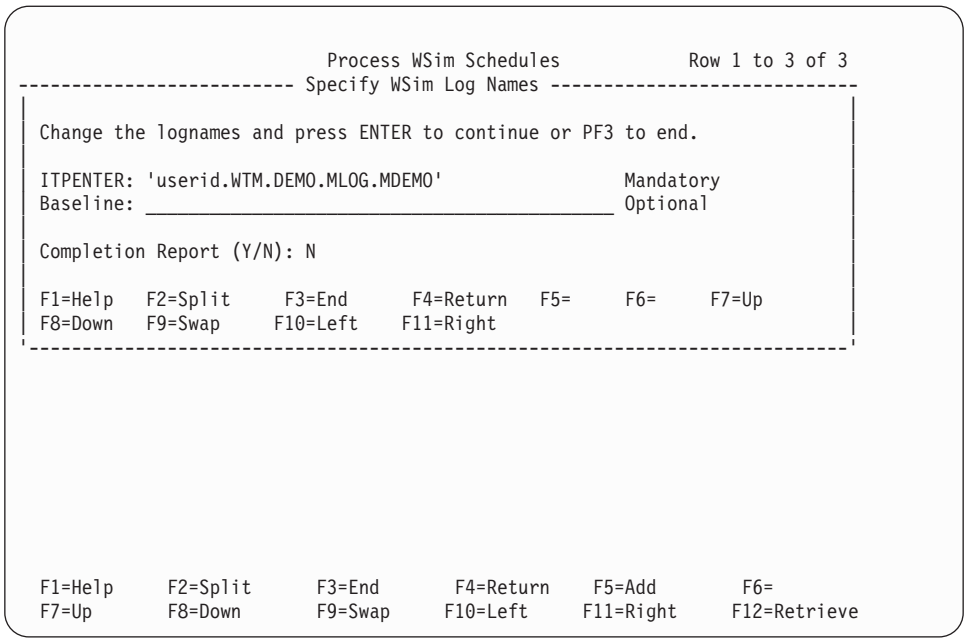
The list shows the VTAMAPPL schedule added in Tutorial I, the CPI-C schedule added in Tutorial II, as well as the new TCP/IP schedule. The TCP/IP schedule is ready to run. However, you can also update the resources, test item references, or both in the schedule prior to running it. If you want to update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

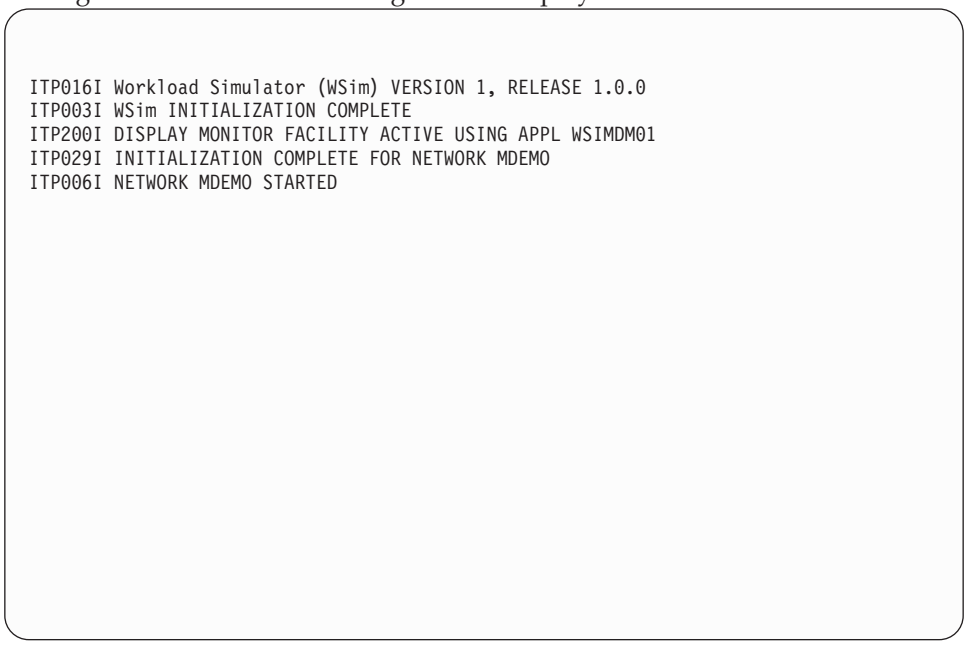
```
                          Process WSim Schedules              Row 1 to 3 of 3
-------------------------------------------------------------------------------
|                                                                             |
| Checking WSim network MDEMO.                                                |
|                                                                             |
|                                                                             |
'-----------------------------------------------------------------------------'


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

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 already 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 will be displayed:



4. 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.

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

   The following reports menu is displayed:

```
                        Reports for schedule MDEMO

 Select one of the following.  Then press Enter.

      Command   Action                                                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.

Resetting the Demonstration

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

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

```
                              Process Projects
Command==>                                                  Press PF3 to end.

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

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


Project      : DEMO       Demo project

Alternate HLI: ________________________________
   Alternate HLI Userid: __________









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

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

   When the data sets have been deleted, a list of current projects is displayed. If other projects exist, you can choose another project. If there are no other projects, you can add a new project.
3. Exit WTM by pressing **PF3** repeatedly until the ISPF primary menu is displayed.

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 64 describes how to define testcases, including User Data Tables (UTBLs).
- "Testgroups" on page 72 describes how to define testgroups.
- "Testcycles" on page 75 describes how to define testcycles.
- "Schedules" on page 78 describes how to set up schedules, start WSim simulations, and generate reports.
- "Test Documentation" on page 85 describes how to create test plan and procedure documentation for all users of a project.
- "Projects and Alternate High Level Indexes" on page 87 describes projects and how to use alternate high level indexes.
- "Utilities" on page 89 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 VARS 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 VARS option, see "VARS—Specify WSim Test Manager Variables" on page 90.

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 has been specified (as described in "Projects and Alternate High Level Indexes" on page 87) then the alternate testcase table is included in this testcase list as well.

```
                          Process Testcases                      Row 1 to 8
Command==>
Enter a line command or add to create a new Testcase.         Press PF3 to end.
Line commands: D Delete, N Notes, 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
_ TSOWORK   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 filled in 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 87 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 will automatically translate 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. See "Creating User Data Tables (UTBLs)" on page 70 for more information about user data tables.

V **View**—If the original WSim or IDC log has not been overwritten, this option enables viewing of some or all of the screen images for this testcase, as described in "Log Display Monitor" on page 68.

Adding a New Testcase

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

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

There are six ways in which the 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 a 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 already exist. However, the WSim log is automatically created by the WSim Test Manager if it does not already 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 a 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 already 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 a 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 a 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 already 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 should 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.

Notes:

1. 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 may be indicated by one or more ITP16xxI messages in the SYSPRINT data set. Refer to *WSim Messages and Codes* for the message descriptions.
2. If you want to specify a fully qualified name for an SNA trace, specify the name in quotes. This applies to all instances of creating a testcase for which

you must specify an SNA trace. If the name is not surrounded by quotes, the system will add the TSO user ID as the first qualifier.

Log Display Monitor

The Log Display Monitor shows an index of screen images or the screen images themselves from an IDC or 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 1–99.

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

A range of panels within the original recording can be viewed by entering new values in the **Display Panels** field. This is particularly useful when viewing a large 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     ------------------------------- TSO/E LO
_ 09044833  ENTER  DEMO     ------------------------------- TSO/E LO
_ 09050396         DEMO     ICH70001 userid    LAST ACCESS AT 14:30:
_ 09050396  ENTER  DEMO     ICH70001 userid    LAST ACCESS AT 14:30:
****************************** Bottom of data ********************************









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

This index of screen images has the following columns:

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

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

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

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

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

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

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

Creating User Data Tables (UTBLs)

A User Data Table (UTBL) is defined in 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 containing the string to be replaced and press **ENTER**.

Notes:

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

When the 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:

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

```
  File  Edit  Confirm  Menu  Utilities  Compilers  Test  Help
- -------------------- Create WSim User Table (UTBL) --------------------
E |                                                                      | 0072
C | Type the values for the following fields.  Then press Enter.         |
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)         |
0 |                                                                      | ndgen
0 | F1=Help     F2=Split     F3=End      F4=Return    F5=      F6=       | 3 */
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 has been reached, no further accesses are allowed. This is useful for user IDs and passwords, where there is a limited number of entries in the UTBL.
3. **Single Sequential Repeated** sets up STL code to access the UTBL in sequential order and resets the UTBL pointer to the top of the UTBL when the bottom of the UTBL is reached. This is useful when accessing a limited number of UTBL rows but reusing the UTBL is desired.

Understanding the UTBL Creation Process

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

1. The line where the UTBL is to be placed is commented out in the original testcase.
2. The text from this line is used to create a new UTBL STL member. The member name of this STL member is the UTBL name entered on the **Create 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 our example, this STL member is UIDPWDXX.

   The purpose of this member is to access the UTBL and to save a value in the string defined in 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 created by WTM. Modifying the comments will corrupt the translation process.
7. Because the original testcase has been 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 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

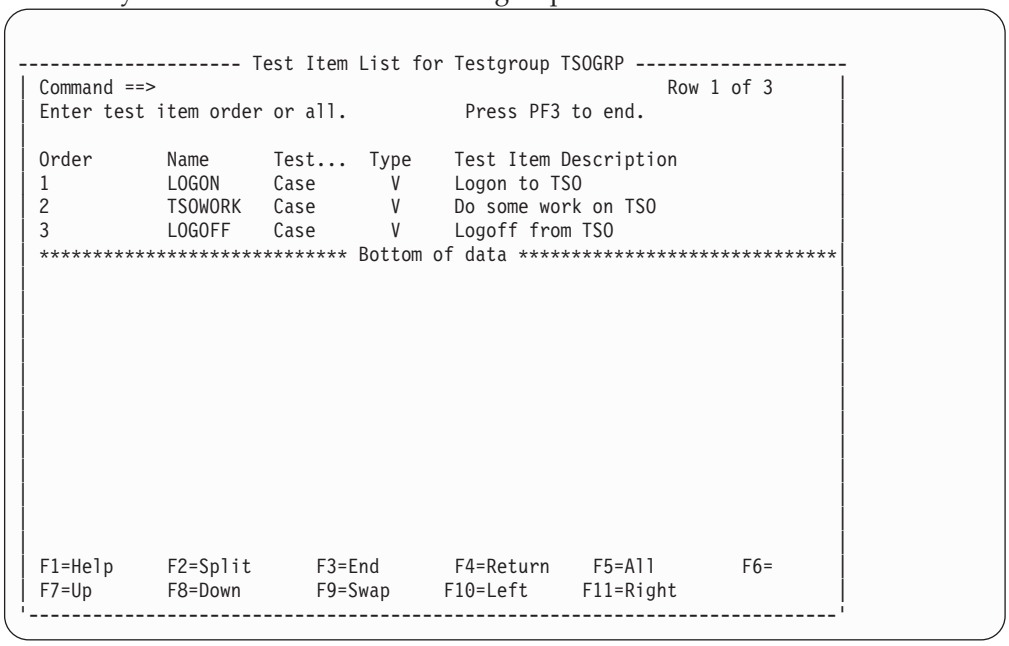
A selection list is displayed containing all possible test items that can be referenced by this type of testgroup. A panel similar to the following is displayed:

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



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

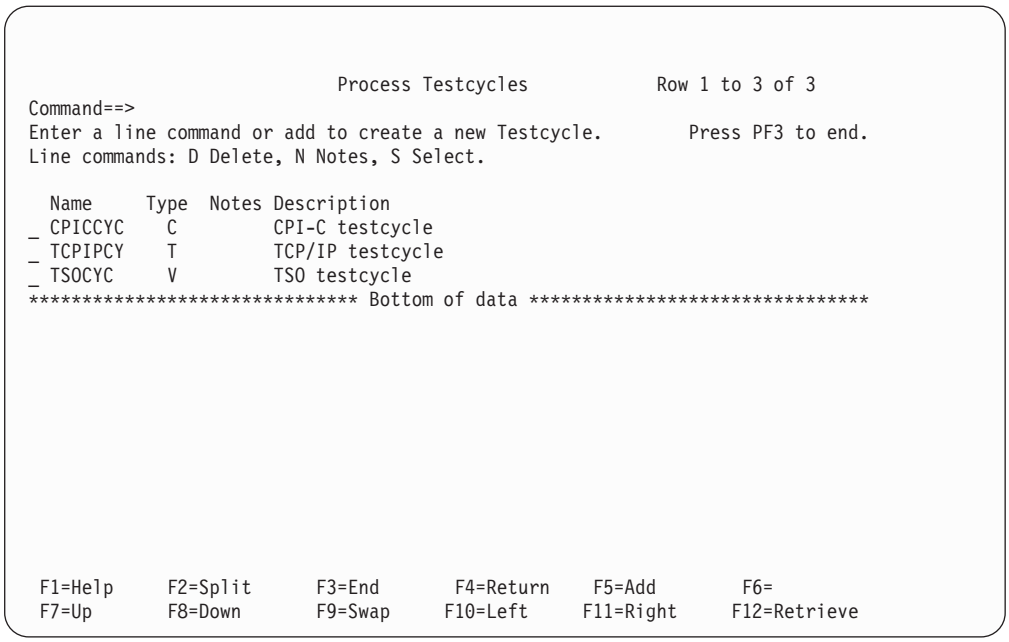
Enter the command **SUMMARY** in the command field at the top of the panel, or press **PF6** to display a list of only those test items defined for this testgroup.

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

Testcycles

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

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



The list of testcycles consists of the following columns:

- A one character command field that precedes the testcycle name. The valid values are: D, N, and S.
- **Name**—The name of the testcycle.
- **Type**—The type of testcycle. You must specify whether this is a VTAMAPPL, TCP/IP, or CPI-C testcycle. The only valid values for the type field are:

  V VTAMAPPL

  T TCP/IP

  C CPI-C
- **Notes**—An asterisk in this column indicates there are notes associated with this testcycle.
- **Description**—A free-form description of this testcycle. This is an optional field.

Using Line Commands

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

D **Delete**—Delete this testcycle and the associated members in the 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

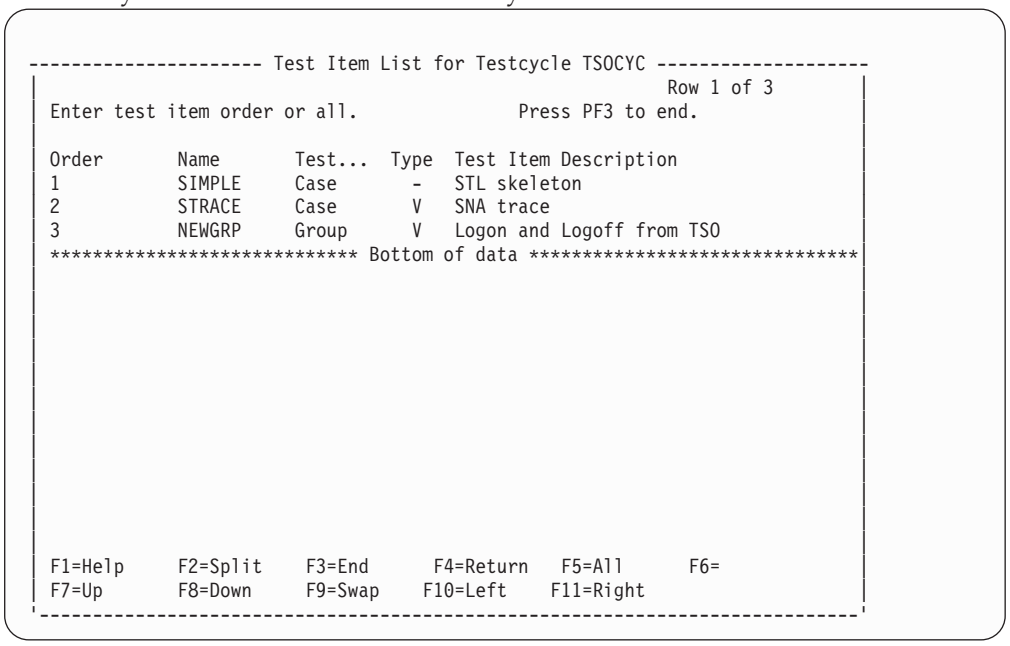
A selection list is displayed containing all possible test items that can be referenced by this type of testcycle. A panel similar to the following is displayed:

```
----------------------- Specify Order for Testcycle NEWCYCLE --------------
|                                                        Row 1 of 8       |
| 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               |
|             NEWGRP     Group      V   Logon and Logoff from TSO         |
|             TSOGRP     Group      V   Logon, TSOWORK and Logoff from TSO|
***************************** Bottom of data ***************************   |
|                                                                         |
|                                                                         |
|                                                                         |
|                                                                         |
|                                                                         |
|                                                                         |
| F1=Help     F2=Split    F3=End      F4=Return   F5=         F6=Summary  |
| F7=Up       F8=Down     F9=Swap    F10=Left    F11=Right                |
'-------------------------------------------------------------------------'
```

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

Selecting a Testcycle

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



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 will contain 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 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 87 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 specifically set up for this schedule. This command is not valid for ALT schedules.

N Notes—Edit the notes member data set associated with this schedule. You can only browse the ALT schedule notes data set.

O Output—Display the reports menu for this schedule. See "Output Reports" on page 82 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 recreate 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 70 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 81 for details.

Adding a New Schedule

To create a new schedule, do the following:

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

   V VTAMAPPL

   T TCP/IP

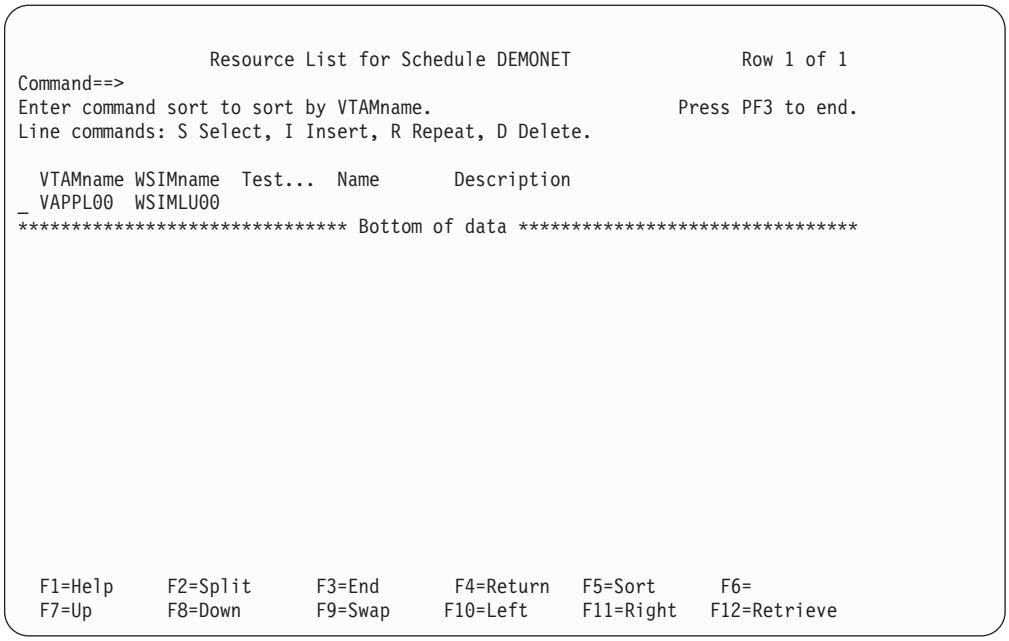
   C CPI-C

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

   If the resource list is not updated (no test items are selected), a 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 will reference.

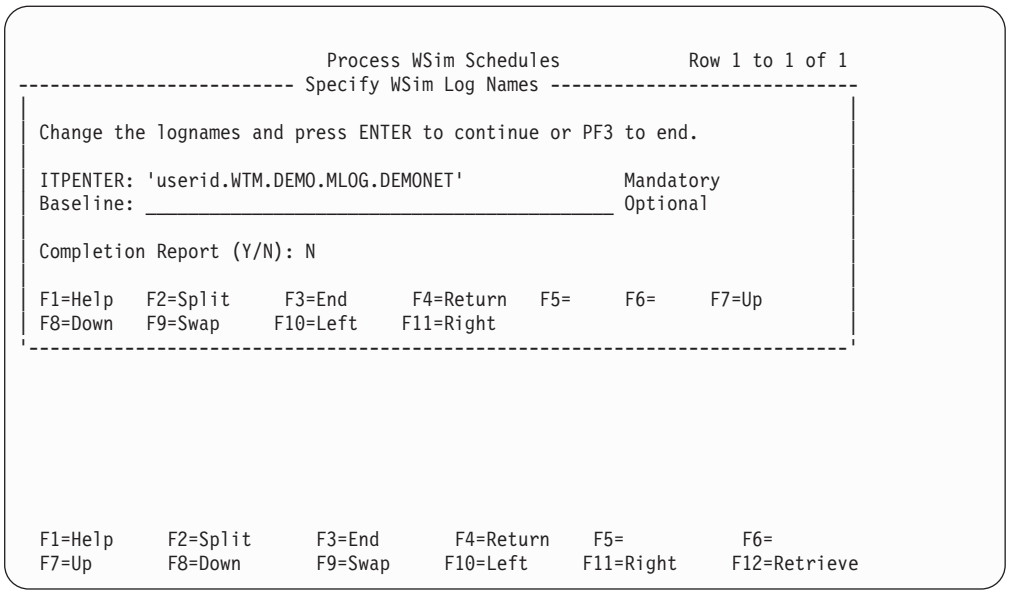


- To select the resource, use the **S** (Select) line command. This displays a pop-up panel entitled Specify Order for Resource **WSIMname** under **VTAMname**. This panel shows a list of all the test items available for this resource. Enter the number **1** to select a test item for this resource. To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

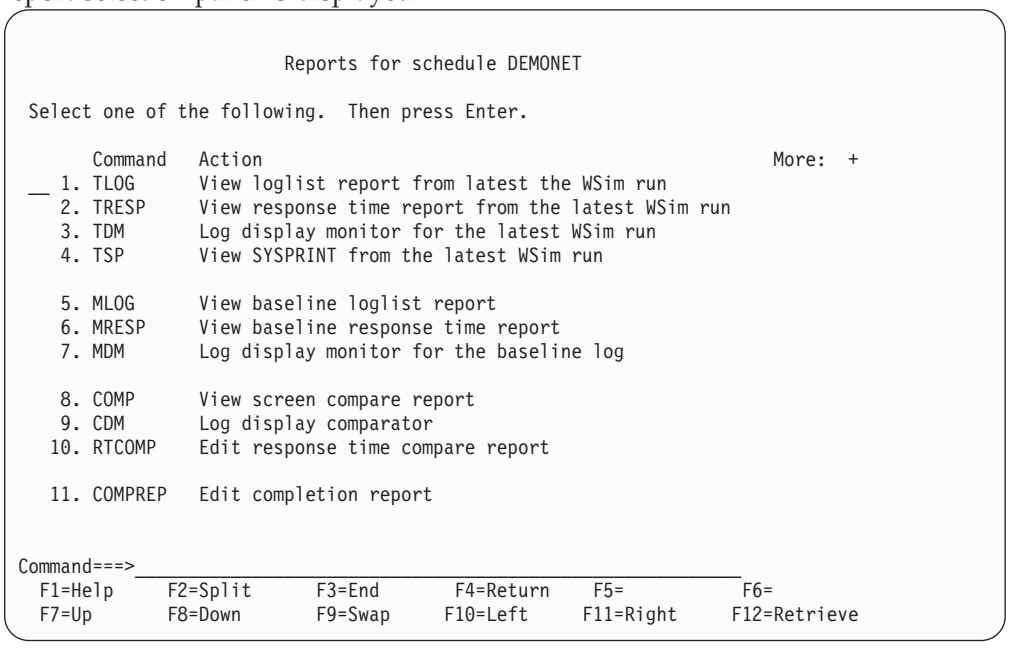
When you select option **X** from the schedule list, a pop-up panel entitled Specify WSim Log Names appears:



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:



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.

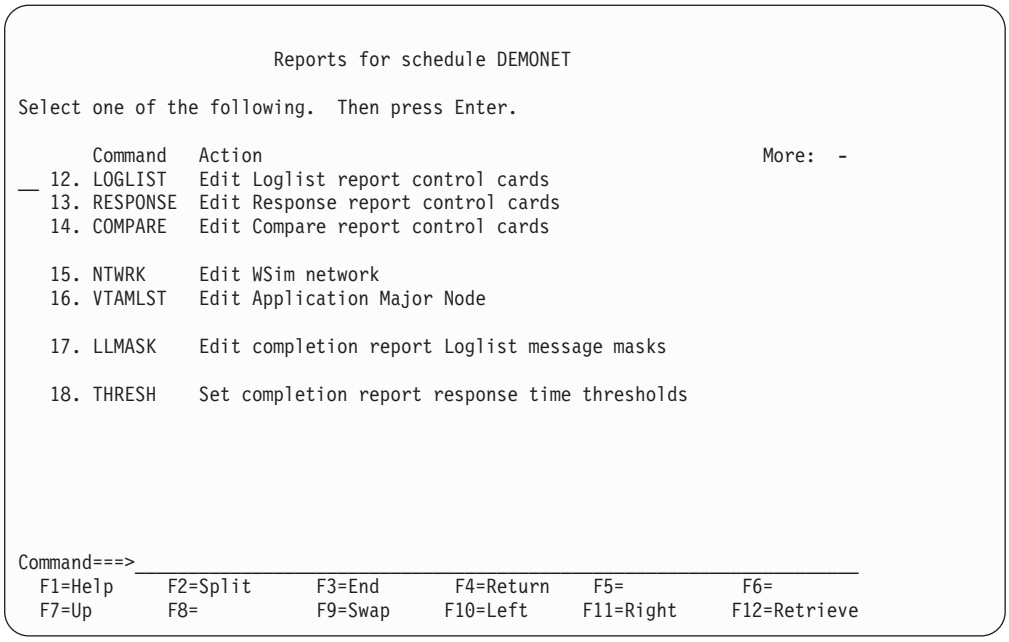
CDM Log display comparator. If both the master and test WSim logs exist, the WSim Test Manager invokes the Log Display Monitor to compare screen images.

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:



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, with the exception of ITP137I. With ITP137I messages, the actual text to be masked out is also specified. Therefore, some ITP137I messages can be written to the completion report while others can be masked out.

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

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

Test Documentation

The 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, and so on.

PLAN Plan test and completion criteria.

Document a test plan schedule, and also the completion criteria for the test (this may be, for example, a Service Level Agreement showing minimum response times).

PREPARE Prepare test environment.

Document what needs to be done to set up the test environment; for example, test data extracts.

DELIVER Run the test.

Document the schedule's run.

ANALYZE Analyze the results of the run.

Did the run meet the completion criteria? Check for unexpected results.

INTERVENE Intervention and correction.

Document what actions were taken to correct the errors or unexpected results.

ITERATE Iterate or exit.

What part of the test was rerun? Document when the test was considered finished.

EXIT Test completed.

Document when the test was completed.

WTMDOC Edit WSim/TM document.

This is the skeleton document that includes the eight members previously described.

MAKEDOC Create WSim/TM document.

Takes the skeleton document and imbeds the eight members to create a sequential data set. This data set can then be scripted (perhaps using BookMaster) or sent to another system for printing.

COMPREP List Run Schedule Completion Report.

Lists the Completion Reports for this project.

NOTES Edit Notes data set.

Edits the Notes data set for this project. There must be at least one testcase, testgroup, testcycle, or schedule that has notes associated with it before this option can be invoked.

Projects and Alternate High Level Indexes

The WSim Test Manager organizes testing into projects. Each project is a set of libraries containing 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
Command==>                                                  Press PF3 to end.

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

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


Project      : DEMO       Demo project

Alternate HLI: ________________________________
   Alternate HLI Userid: _________




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

This panel has three fields:

Project

This is the project name. The project name can be 1–10 characters long.

This field is followed by an optional free-form description which is specified when the project is first added.

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

See "Alternate HLI Fields" on page 14 for more information on the **Alternate HLI** and the **Alternate HLI Userid** fields.

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

To add a new project, do the following:

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

The 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:

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

The sequential data sets are:

- 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 will result in unique data set names. If an existing data set is used, make sure the data set organization matches the data set organization required by 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 required.

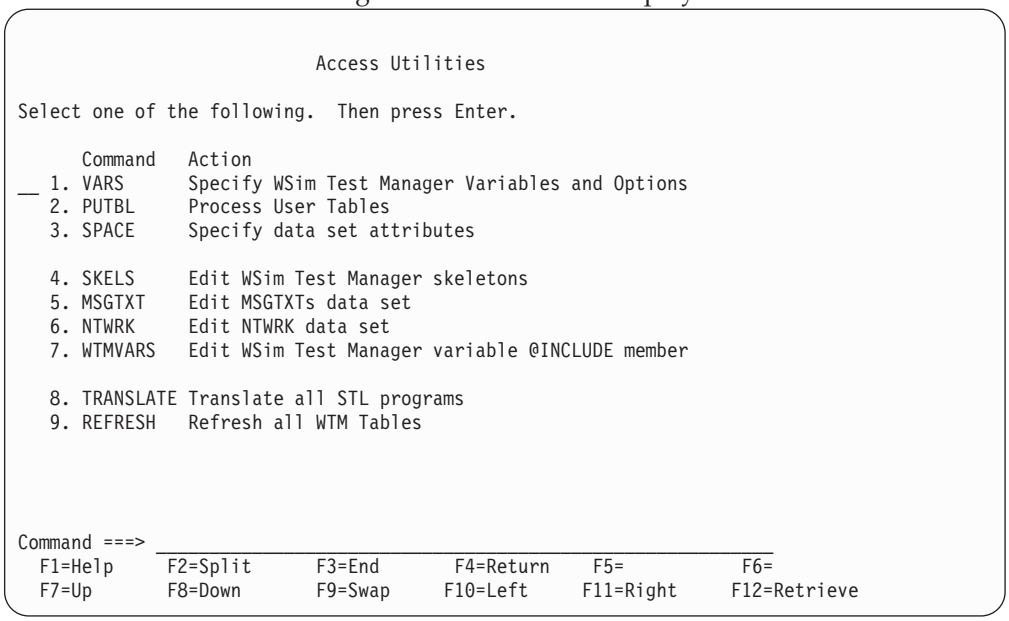
When you exit the projects panel, the WTM/ISPF tables will be refreshed from the control tables for this project. A pop-up panel is displayed to determine the type of refresh.

- Select a normal refresh if no changes have been made to the STL data set outside the control of WTM.
- Select an extended refresh if new STL members have been added, or existing STL members have been 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 may take some time and is necessary only if you believe the STL data set has been updated by processes outside the control of WTM.

Utilities

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

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



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. NTWRK     Edit NTWRK 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      NTWRKS: NTWRKS

 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 you want to use. See "Operating Modes" on page 63 for more information.

Panel Message Delay
Specifies the minimum time in seconds a panel message will appear. Use this option to keep messages from clearing too quickly. The only valid values for this field are integers in the range 1–10. If you enter a value that is greater than 5 seconds, you will receive a warning message. A large

value in this field will result in slow response and gives the appearance of a session hang. The default value is 2 seconds.

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

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

Display Panel ID?
If set to **Y**, the panel name is displayed in the top, left-hand corner of the panel in 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 prior to invoking WSim. An **N** setting for this option will improve execution time. However, if you have any reason to believe one or more data set names may not be valid, you should specify **Y**.

Work data sets HLI
The high level index 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 NTWRKS 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 1–7 **#** characters on the end of the name for numeric placeholders.

WSim Name Model
The name model for resources that are simulated by WSim. Enter 1–7 **#** 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 will depend 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. In order to allow WTM to make use of 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. NTWRK     Edit NTWRK 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 prior to 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. NTWRK     Edit NTWRK 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 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 NTWRKS 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 WTMTAB 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)** may not be suitable for permanent WSim Test Manager data sets, and you may want to place them on a specific volume. For example:

```
UNIT(3390) VOLUME(USER01)
```

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

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

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

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

  Description              Pri Sec Dir  Type Unit/Volume (" for ditto)
_ 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 NTWRKS 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 will be used the next time a project is created.

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

SKELS—Edit 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. NTWRK     Edit NTWRK 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 85. Changes to these skeletons will take effect with the next new project that is created.

CCSKELS Edit control card skeletons

Use this option to alter the 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 ITPSGEN control card skeleton









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

LSGEN Edit ITPLSGEN control card skeleton

Use this option to edit the control cards for the 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 82.

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 82.

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 82.

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 NTWRK 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. VNETSKEL  Edit WSim VTAMAPPL network definition skeleton
   2. CNETSKEL  Edit WSim CPI-C network definition skeleton
   3. SGENSKEL  Edit WSim CPI-C script gen network definition skeleton
   4. TNETSKEL  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
```

VNETSKEL Edit WSim VTAMAPPL network definition skeleton

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

CNETSKEL Edit WSim CPI-C network definition skeleton

Use this option to edit the skeleton used for the NTWRK 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 NTWRK statement and the default path when new schedules are created by WTM using the CPI-C script generation process.

TNETSKEL Edit WSim TCP/IP network definition skeleton

Use this option to edit the skeleton used for the NTWRK 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 82, 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. NTWRK     Edit NTWRK 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.

NTWRK—Edit NTWRK 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. NTWRK     Edit NTWRK 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 **NTWRK**. 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. Every time 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. NTWRK     Edit NTWRK 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 will 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 has been 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. NTWRK     Edit NTWRK 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:

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

REFRESH—Refresh All 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. NTWRK     Edit NTWRK 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 will be displayed to determine the type of refresh.

- Select a normal refresh if no changes have been made to the STL data set outside the control of WTM.
- Select an extended refresh if new STL members have been added, or existing STL members have been 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 may take some time and is necessary only if you believe the STL data set has been 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 which are not described here, refer to *WSim Messages and Codes* or other WSim documentation.

ERROR Encountered during STL Translation

STL translation is usually 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:

1. Browse the print output of the STL translate step.
2. Type "F '*** ERROR'" on the command line and then press **ENTER**. Take note of the places in the STL or UTBL where translation failed along with the reasons for the failure. The message will help you find the reason for the error.
3. Search for the next error by pressing **PF5**, and note all subsequent errors. Continue pressing **PF5** until no more "*** ERROR" lines are found.
4. Edit the STL or UTBL source where errors were encountered and make the appropriate corrections. If you don't understand a given error, consult *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 NTWRK control cards defined after the resources have been 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:

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 NTWRK where network initialization failed.
5. Search for the next error by pressing **PF5**, and note all the subsequent errors. Continue pressing **PF5** until no more initialization error lines are found.
6. Sometimes there are conflicts between individual STL programs even though each of them translated separately without errors. If so, resolve the conflicts and try the preprocess step again.
7. There may be errors in the NTWRK control cards, particularly if you had a reason to edit the NTWRK directly. If this is the case, 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 have started 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:

```
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 additional SAY statements in your testcase so that you can see immediately how far your testcase has progressed.
  - For 3270 resources, use the Display Monitor Facility from another TSO session to watch the screens for one simulated WSim terminal while the test is going on.

As a general rule, it is wise to get a testcase or testgroup working with a single terminal before attempting a simulation with multiple terminals. It is also good to review a single terminal run using the Display Monitor Facility against the 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 eight bytes in the upper left-hand corner) to verify that it has reached the correct screen. If a screen response is received that was not expected, a panel verification error results and that script is ended. If there is more than one

testcase in a path (as would be the case if a testgroup was used), the next testcase may also report a panel verification error, although this is likely to be just a side effect of the first error.

If you encounter such an error, do the following:

1. Make a note of the panel name reported (ex. "PNL00002") in the first error message.
2. Enter "ZEND" to end the simulation run if the simulation does not end automatically.
3. Locate the panel name in your STL program and see if you can determine what the problem is. If you cannot determine the problem, use the 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 may be stalled or your testcase may be stalled. If a screen response is received that was not expected, a panel verification error results and that script is ended. If you suspect a stall, check the following:

- If the run has not yet ended, enter "G INACT" to see if any terminals have timed out for being inactive. Usually several minutes have to pass before WSim will deactivate a terminal that has been inactive. Refer to the SCAN parameter on the WSim NTWRK 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 NTWRKS have adequate space. Compress them if they require compression (using ISPF 3.1).
- TLOG or TDM failure

Loglist or log display monitor log operations may fail if the SYSPRINT data sets associated with them do not have adequate space. If this is the case, delete and reallocate the data sets with more space (using ISPF 3.2).

Note: Similar errors may happen while translating STL and UTBL files if the associated SYSPRINT file is running out of space or requires compression, although this is more likely for log-related data sets.

Appendix B. 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.

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