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Test and Registration User's Guide

Carol A. Edgar

U.S. DEPARTMENT OF COMMERCE
National Institute of Standards
and Technology
Computer Systems Laboratory
Gaithersburg, MD 20899

U.S. DEPARTMENT OF COMMERCE
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1. Introduction

The Test & Registration (T&R) service supports an online database facility belonging to OSINET. It provides an up-to-date reference for announced Open System Interconnection (OSI) products in order to help users select interoperable implementations. Only Senior OSINET members who participate in the T&R project may register test results. Products that have been successfully tested for interoperability using approved OSINET test suites and test procedures are listed. These products are protocol suites headed by layer 7 protocols. Currently, Message Handling Systems (MHS) and File Transfer, Access, and Management (FTAM) protocol suites may be registered.

The T&R User's Guide targets two different groups, the T&R user and the T&R registrant. The T&R user is anyone who wishes to query the T&R database; T&R registrants are Senior OSINET members participating in the OSINET Test and Registration project. The user's guide provides both users and registrants with the information necessary to use the T&R. Details on system access, database interaction, and data entry are provided.

This User's Guide is organized into 4 main sections. Section 1 describes the general operation of the T&R. General instructions are given on how to navigate through the database forms and enter selection criteria or data on a database form. Section 1 also describes the most logical and meaningful Declaration of Interoperation (DI) database queries. Detailed instructions are given in Section 1 on how to log into the database and access the T&R menus.

Section 2 of the the T&R User's Guide provides the T&R user with information on the menu options available to a user. This section also gives a step by step procedure for executing each of the basic DI queries as well as other database queries.

Section 3 of the T&R User's Guide is aimed at the T&R registrant. This section contains information on the menu options available to a registrant. A step by step procedure is given for registering an entry on the system. Registrants who wish to execute queries are urged to review Section 2, since the procedure for queries is the same for registrants and users.

Section 4 of the T&R User's Guide describes the procedures for accessing the T&R via MHS. Details are provided for querying the T&R and registering test results with the T&R using MHS.

Throughout the T&R User's Guide the following convention will be used. All messages from the database appear in **bold** type. The user's response or action appears in *italics*. The user's actions are given by specifying the function of a key rather than giving the exact key sequence. For specific function to keyboard sequence mappings, please see Appendix B.

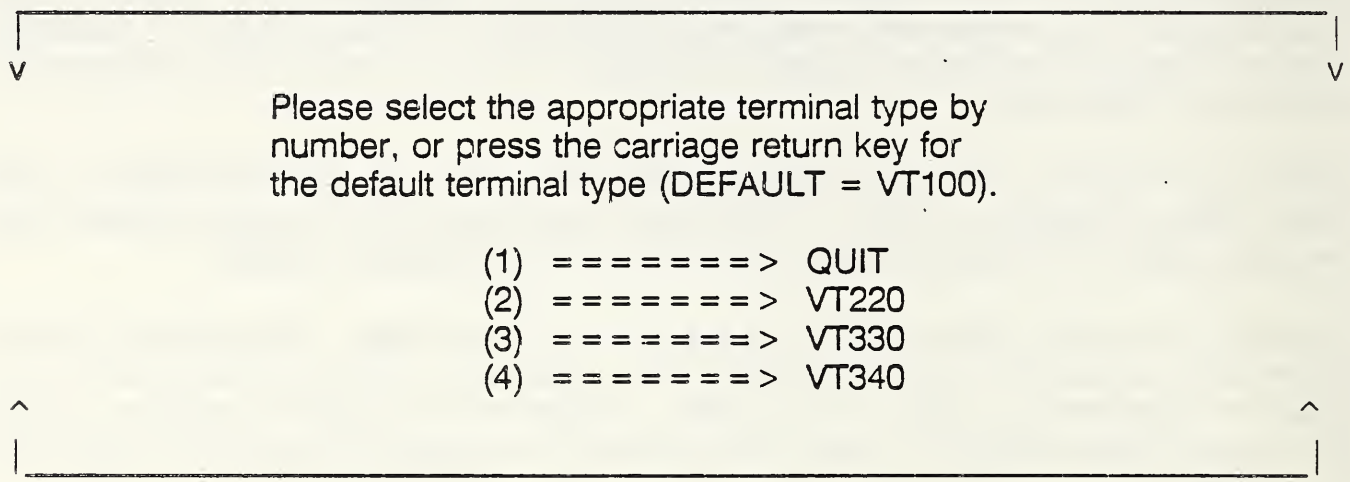
1.1 T&R Terminal Interaction

The T&R currently supports a variety of Digital terminal types. The terminal types supported are VT100, VT220, VT330, VT340 and IBM PCs/compatibles. Terminal support for IBM 3270 terminals will be provided in the future.

1.2 T&R User Interaction

The first step in accessing the T&R is dialing a T&R access number. Currently, a single access number is provided; that number is 301-869-0161. The T&R database is being transferred to the Corporation for Open Systems (COS) in late 1991. Upon completion of the transfer to COS, the T&R access number will be 703-506-8963. After the connection between the user's device and the T&R is set up, the user is presented with the login prompts.

The user is first prompted for the **USERNAME:**. The user responds with *NRS_MODEM*. The user is then presented with the following screen:



Enter Selection Number = = = >

Figure 1. Terminal Selection Screen

If the user enters a number not on the screen, the user is reminded that this is not a valid choice and the above screen is redisplayed.

After selecting a terminal type, the user is presented with a screen which lists the OSINET T&R participating members. T&R participating members are Senior OSINET members who choose to participate in OSINET's testing and registration project. T&R participants conduct interoperability testing and upon completion register the results of that testing in the T&R database.

The user presses the carriage return key to move to the next screen. This screen asks the user to identify himself as either a "user" or a "registrant". A "user" may only query the database, while a "registrant" may query the database or register/update a database entry. This "identifying" screen is shown below:

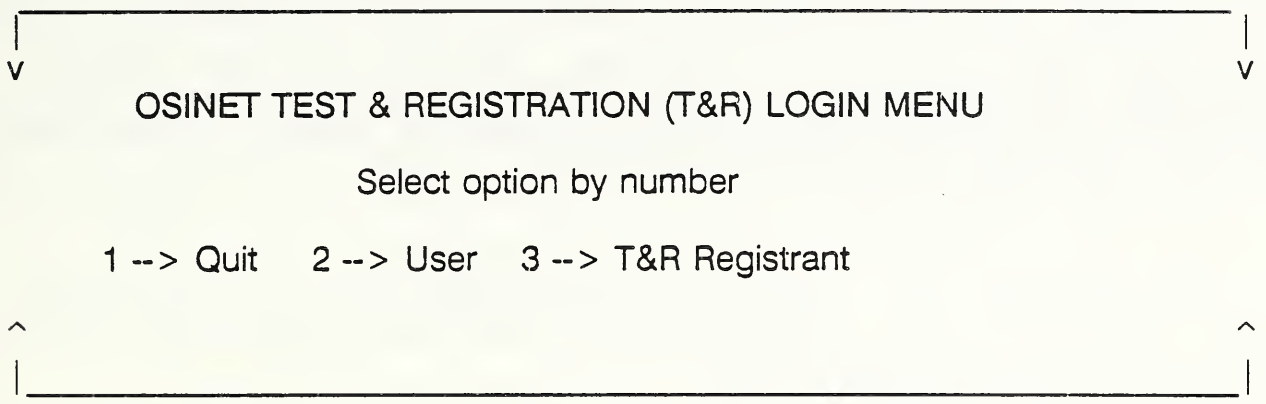


Figure 2. T&R Login Menu

If the user should enter an invalid number or character, the user is reminded that this is an invalid selection and the above screen is redisplayed.

1.3 T&R Query Selection Criteria/Registration Data Entry

The T&R separates users of the system into the above two categories to establish and maintain the proper protection for the database. The operations in many ways will be the same with the exception that a "registrant" may register information into the database. The next few sections of this user's guide will discuss those actions which all users of the T&R must know. The next few sections will look at the different ways in which data may be entered on the database forms.

1.3.1 Character by Character Data Entry

Regardless of whether the user is entering query selection criteria or data for registration of an entry, there are several ways to enter that data. The first and simplest way is to type the information character by character. This method works fine for short bits of information. It also works well when the user has the exact spelling/name/information to be typed. But, if the field to be entered is 50 characters and you make one typing error, in a query, it causes the system to return no records. The user must then check for a mistake.

1.3.2 Character and Wildcard Data Entry

There is a second method which relieves the above problem. This second method of data entry applies only to the entry of query selection criteria. Here the user may enter partial information and a wildcard character. For the T&R the wildcard character is '%'. Consider the example of entering a company name. The field for company name is at least 50 characters. The user is looking for all entries by "Solid OSI Software, Inc". But, the user doesn't know if the name is hyphenated. The user could enter - *Solid*% or *Sol*%*OSI*%*Soft*%. Either specification will return entries which were entered by "Solid OSI Sotware, Inc. If the user could only remember "OSI", the user could also enter %*OSI*% and the T&R will still respond with the correct entries.

So, with this method of data entry the '%' is a very powerful tool. It may be used in any part of a field where the user is unsure of the exact nature of the item being entered. Remember, however that it is a wildcard character, it will match on anything. The user should use the wildcard character carefully.

1.3.3 List of Field Values Data Entry

The final method of data entry is somewhat more complicated, but it removes all the guess-work for the user. This method may be used for any type of data entry, however it is not available for every field on a T&R database form. Appendix A contains a list of fields for which this option may be used.

This method of data entry uses a feature of the database management system, known as "List of Field Values". For a given field, when the user presses the *ESC* key and the *V* key, this action activates the feature. The system then responds with the first of several choices which the user may select. If the user has found the information to be entered in that field, the user presses the *PF4* key. If the user does not wish to select the choice presented, the user presses the *TAB* key to move to the next choice. In this manner, the user is viewing information which currently resides in the database. This information has been previously entered by a responsible party and the spelling etc. is correct. So, the user does not need to guess what to enter in a field, but relies on the database to show the proper choices.

1.4 T&R Record/Form Navigation

A user of the T&R deals with two main types of screens when accessing the database. The user sees either a menu screen or a database form. The database form gives users access to the data in the database. It is important for any user of the T&R to understand how to navigate through the fields of a database form. The next two sections will cover the navigational tools available to the user.

1.4.1 The Arrow Keys

The arrow keys play an important role in form navigation. When a user queries the T&R, the database may find several entries which satisfy the query selection criteria entered. The user is presented with the first entry which satisfied the query. The user must then use the *UP-ARROW* and *DOWN-ARROW* keys to view the other entries which the database selected.

The *RIGHT-ARROW* and *LEFT-ARROW* keys are useful in moving right or left within a given database form field. For example, if the user typed the company name "Charly's Chiips" and then realized that a typing mistake had been made, the user could use the *RIGHT-ARROW* and *LEFT-ARROW* keys to backup within the field and repair the error.

1.4.2 The Functions NEXT FIELD and NEXT BLOCK

Each database form consists of several pages. It is necessary for the user to interact with the database in order to view additional pages in a form. The database management systems provides two functions for form navigation. The *NEXT FIELD* key (on VT100 this is the #7 on the alternate keypad) allows the user to move from one field to another. There is also a *PREVIOUS FIELD* key (#8 key on alternate keypad for VT100). This key allows the user to back up to the previous field.

In addition to the field keys, the database provides block keys to move from block to block in a form. To advance from the current block to the next block the user presses the *NEXT BLOCK* key (the #1 key on the alternate keypad of the VT100). There is also a *PREVIOUS BLOCK* key (#2 on the alternate keypad for VT100) which allows the user to back up to the previous block.

In most cases a block and a page are the same. But, in the DI forms, there are some blocks which span 3 pages. This means that usually to advance from field to field on a page, the user uses the *NEXT FIELD* key. And to advance from page/block to page/block the user presses the *NEXT BLOCK* key. Because of the unique nature of the forms the specific procedure is as follows:

> The user uses the *NEXT FIELD* key to move from field to field and to move from page 2 to page 3 to page 4. In other words, the user must use the *NEXT FIELD/ PREVIOUS FIELD* key to move field by field from page 2 to page 4. Advancing/ retreating field by field is the only way to move between pages 2 through 4.
> The user uses the *NEXT BLOCK* key to move from page 2 to page 5, page 5 to page 6, page 6 to page 7, page 7 back to page 1, or page 1 to page 2. The user may also use the *PREVIOUS BLOCK* key to back up between pages rather than moving forward.

This "navigational" information is presented to give the user some idea of how to generally use the T&R. Specific step by step instructions will be given later in this guide. The step by step procedures will show the user, through the use of examples, how to perform the

basic operations of the T&R.

1.5 T&R Basic DI Queries

There are seven basic queries which users of the T&R may perform. These queries are listed below, with the selection parameter specified in parentheses:

* All entries which pertain to a specific protocol (Identification #)
* All protocol specific (i.e. FTAM, MHS) entries belonging to a single vendor (Identification #, Test Party A)
* All entries representing testing of a specific protocol between two specific vendors (Identification #, Test Party A, Test Party B)
* All entries which indicate interoperability based on a specific profile, i.e. GOSIP MHS, (Profile Referenced)
* A specific product entry (Test Party A, Product Specification)
* All specific protocol entries (i.e. FTAM, MHS) which have a specific status (Identification #, Status)
* All specific protocol entries (i.e. FTAM, MHS) utilizing a particular hardware/operating system environment (Identification #, Hardware Platform, Operating System)

A step by step procedure for each of the above queries is provided in Section 2.2.

2. T&R User's Information

This section of the user's guide focuses on the operations specific to a T&R user. Section 2.1 takes the T&R user through each menu option available. Section 2.2 gives the T&R user the step by step procedure for completing each of the basic T&R queries. Section 2.3 explains how to perform a query on test requirements specification information in a step by step approach. Finally, Section 2.4 takes the T&R user step by step through a query of detailed test results information.

2.1 T&R User's Menu Options

The T&R user selects option *2* --> *User* from the T&R Login Menu (see Figure 2). The user is then presented with the T&R user's MAIN MENU, as shown in Figure 3.

If the user selects option *1*, the T&R terminates this session and the user is logged

completely off the system. If the user selects option 2, the user is presented with a series of **Help** screens. Once in the **Help** presentation, the user may either hit the "previous menu" key (for VT100 this is the '1' on the alternate keypad) to return to the main menu. Or the user may hit any key to continue viewing additional **Help** screens.

THE TEST & REGISTRATION SERVICE (T&R)

========> MAIN MENU <==========

--> 1 QUIT
2 HELP
3 Directory Information
4 Query Test Results
5 EXAMPLE Database

Make your choice: ____

For Quick Help Press ==================> Esc K

Figure 3. T&R User's Main Menu

The user who selects option *3*, directory information, from the main menu receives several screens which list the names of the registrants of the T&R, and the products registered with the T&R. Upon completion, the user is returned to the main menu.

Option *4*, query test results, presents the user with the query test results sub menu, Figure 4.

```
                Query Test Results

          ==========> SUB MENU <==========

     --> 1  QUIT
         2  Return to Previous Menu
         3  Query Declaration of Interoperation
         4  Query Test Requirements Specification
         5  Query Detailed Test Results

                Make your choice: ____

For Quick Help Press ====================> Esc K
```

Figure 4. T&R User's Query Test Results Sub Menu

As on the main menu, selecting option *1* causes the T&R to terminate the session and the user is logged completely off the system. If the user selects option *2*, the user is returned to the main menu. Option *3*, presents the user with page 1 of the Declaration of Interoperation (DI) database form. This form allows the user to enter query selection criteria and then view the appropriate entries selected from the database. The complete user's DI form appears below in figures 5 - 10. Step by step procedures for querying the T&R database using the DI database forms is given in Section 2.2.

```
+-----------------------------------------------------------------------------+
|                                                                             |
|                      DECLARATION OF INTEROPERATION                          |
|                      ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~                         |
|                     Nature of Interoperation Testing                        |
|                                                                             |
|  The purpose of interoperation testing is to increase the probability that  |
|  different implementations can interwork. However, the complexity of OSI    |
|  protocols makes exhaustive testing impractical on both technical and       |
|  economic grounds. Furthermore, there is no guarantee that a system under   |
|  test which has passed all the relevant tests conforms to a specification.  |
|  Neither is there any guarantee that such a system under test will interwork |
|  with other real open systems. Rather, the passing of the tests give confi- |
|  dence that the system under test has the stated capabilities and that its  |
|  behavior conforms consistently in representative instances of communication.|
|                                                                             |
|                          Limits and Reservations                            |
|                                                                             |
|  This OSINET Test & Registration service entry is publicly available.  No   |
|  patent nor copyright licenses, expressed or implied, are granted by this   |
|  submission.                                                                |
+-----------------------------------------------------------------------------+
```

Figure 5. Page 1 of the T&R User's DI

DECLARATION OF INTEROPERATION

The information below details the status of this entry, the date it was entered, the parties involved in the testing, and test party A's product tested. The fields on the remaining pages refer to test party A's product.

Identification # _____

Status _____ Entry Date _____

Test Party A _____
Submitted By _____

Test Party B _____
Submitted By _____

Product Specification _____

Figure 6. Page 2 of the T&R User's DI

PRODUCT INFORMATION

The information below describes the environment in which the testing was conducted, i.e. the hardware platform, operating system and associated OSI profiles used by test party A.

Hardware Platform _____

Operating System _____

Application Profile 1 _____ _____
2 _____ _____
3 _____ _____

Transport Profile _____ _____

Relay Profile _____ _____

Interchange Profile _____ _____

Figure 7. Page 3 of the T&R User's DI

MARKETING CONTACT INFORMATION FOR COMPANY A'S PRODUCT

Name _____

Address Line 1 _____

Address Line 2 _____

City _____ State __ ZIP Code _____

Telephone _____ FAX _____

SUPPORTING DOCUMENTATION ASSOCIATED WITH THE TESTING

PICS # _____ TSES # _____

PITR # _____

Test Suite ID _____

Figure 8. Page 4 of the T&R User's DI

Profiles Referenced

This entry demonstrates interoperation according to the profiles listed below. The tests required to demonstrate interworking may be found in the Test Requirements Specifications corresponding to the profiles listed below.

Profile Referenced:

_____

_____

_____

_____

_____

Figure 9. Page 5 of the T&R User's DI

```
+-----------------------------------------------------------------------------+
|                          DERIVED_SYSTEMS                                    |
|                                                                             |
|     The information listed below describes a product/system which          |
|     company A has identified as a derivative of the testing performed.      |
|                                                                             |
|  Product Specification ____________________________________________________ |
|                                                                             |
|  Hardware Platform ____________________________                             |
|                                                                             |
|  Operating System ____________________________                               |
|                                                                             |
|  Application Profile 1 _______   ____________________________________________|
|                      2 _______   ____________________________________________|
|                      3 _______   ____________________________________________|
|                                                                             |
|  Transport Profile _______   ____________________________________________   |
|                                                                             |
|  Relay Profile ___________   ____________________________________________   |
|                                                                             |
|  Interchange Profile _______   ____________________________________________ |
+-----------------------------------------------------------------------------+
```

Figure 10. Page 6 of the T&R User's DI

Option *4*, of the Query Test Results sub menu presents the user with the "Test Requirements Specification" form. Figure 11 shows the format of this form. The test requirements specification form describes for a given profile (e.g. GOSIP X.400 or UK GOSIP X.400) those tests from the OSINET Interoperability test suite which when conducted, satisfy the interoperability requirements for that profile. A step by step procedure for querying the T&R database using the test requirements specification form is given in Section 2.3.

```
+-----------------------------------------------------------------------------+
|                                                                             |
|                                                                             |
|                      PROFILE TEST REQUIREMENTS                              |
|                                                                             |
|                                                                             |
| PROFILE NAME ____________________________________________________________   |
|                                                                             |
| TEST SUITE ID ____________________________________________________________  |
|                                                                             |
| TEST REFERENCE NUMBERS:                                                     |
|                                                                             |
|              ____________________________________________________________   |
|              ____________________________________________________________   |
|              ____________________________________________________________   |
|              ____________________________________________________________   |
|              ____________________________________________________________   |
|              ____________________________________________________________   |
|              ____________________________________________________________   |
|                                                                             |
|                                                                             |
+-----------------------------------------------------------------------------+
```

Figure 11. Test Requirements Specification Form

Option 5, of the Query Test Results sub menu presents the user with the "Detailed Test Results" form. Figure 12 shows the format of this form. The detailed test results form shows a complete list of all the tests completed successfully for a given DI entry. Section 2.4 gives a step by step procedure for querying detailed test results information.

DECLARATION OF INTEROPERATION

The information below details the status of this entry, the date it was entered, the parties involved in the testing, and test party A's product tested. The fields on the remaining pages refer to test party A's product.

Identification # _____

Status _____ Entry Date _____

Test Party A _____
Submitted By _____

Test Party B _____
Submitted By _____

Product Specification _____

Page 1

DETAILED TEST RESULTS

Listed below are the test reference numbers of every test successfully completed between Company A and B. Test numbers selected for testing include all the mandatory tests and the optional tests selected by Company A and B which demonstrate the features supported by both products.

Page 2

Figure 12. Detailed Test Results Form

From the MAIN MENU, selecting option 5 (EXAMPLE database), provides a sub menu with all the same options as the Query Test Results sub menu. The only difference being that any information presented/ selected from this database is "**example or bogus**" information. It has been provided to allow the user the opportunity to "play" with the T&R before accessing "real" data. Information in the Example database is accessed exactly as information from the real database. This means that the step by step procedures will work for both the Example database and the real database.

Please note however - The information which exists in the Example database is fictional information; it is not based on any testing results, but is instead the result of the imagination of the database designers. Users are cautioned, not to take the Example database information seriously, but in the spirit it was intended.

2.2 Procedures for Executing T&R Basic DI Queries

The next few sections will provide step by step procedures for performing the basic T&R DI queries. Each of the queries mentioned in Section 1.4 will be used as an example to demonstrate querying the database. Each example will start with the assumption that the user selected option *3* from the Query Test Results Sub Menu. This means that at the start of the example the user is looking at page 1 of the T&R user's DI (see Figure 5).

Also, just a reminder, all messages from the database appear in **bold** type. The user's response or action appears in *italics*. The user's actions are given by specifying the function of a key rather than giving the exact key sequence. For specific function to keyboard sequence mappings, please see Appendix B.

2.2.1 An Identification Number Query

There are several reasons why a user may wish to execute a query that uses the identification number as the selection criteria. First, for each instance of testing, two entries are made to the database. Each vendor registers the testing, giving the specifics of the product tested. Both entries have the same identification number. A user may be viewing the entry made by one vendor. In order to look at the matching entry, the user would query based on the identification number. The identification number is the field which also identifies the matching entry.

Second, a user may be interested in all the records which pertain to the testing of a specific protocol, for example FTAM. Because of the construction of the identification number, this information may be found by querying using the identification number. The step by step procedure listed below will explain the steps necessary to perform this example.

Step 1: Press the *NEXT BLOCK* key to move to page 2 of the DI (page 3, for users logging onto the T&R as "T&R registrant").

Step 2: Press the *ENTER QUERY* key (this signals the database that selection criteria will be entered).

Step 3: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Identification #".

Step 4: Press the % key.

Step 5: Enter the characters necessary to specify the protocol. For example, press the keys *FTAM*, to locate all entries which pertain to the FTAM protocol.

Step 6: Press the % key.

Step 7: Press the *EXECUTE QUERY* key. The system then responds by displaying the first of the records it has found, or with the message "**Query caused no records to be selected.**" If the system responds with a record, the user may view this record or other records retrieved by using the navigational keys described in Section 1.3.

Step 8: The user may now enter another query or exit to the menu. To exit to the menu, press the *PF4* key.

To perform the first query given in this section, the user would follow the steps given above, skipping over steps 4 and 6.

2.2.2 A Single Vendor Query

The step by step procedure for selecting all MHS entries by a single vendor is given below. This query utilizes the DI parameter or field called "Test Party A".

Step 1: Press the *NEXT BLOCK* key to move to page 2 of the DI (page 3, for users logging onto the T&R as "T&R registrant").

Step 2: Press the *ENTER QUERY* key (this signals the database that selection criteria will be entered).

Step 3: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Identification #".

Step 4: Press the % key.

Step 5: Enter the characters necessary to specify the protocol. For example, press the keys *MHS*, to locate all entries which pertain to the MHS protocol.

Step 6: Press the % key.

Step 7: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Test Party

A".

Step 8: The user now enters the vendor name using one of the methods specified in Section 1.2 of this document. For purposes of this example, the "List of Field Values" method will be used. The user presses the *ESC* key and then the *V* key. The system will respond by displaying in the field, the first of many valid choices.

Step 9: The user presses the *TAB* key to continue to the next available choice. The user selects a choice and terminates the "List of Field Values" by pressing the *PF4* key.

Step 10: Once the user has entered the vendor name through one of the approved means, the user presses the *EXECUTE QUERY* key. The system then responds by displaying the first of the records it has found, or with the message "**Query caused no records to be selected.**" If the system responds with a record, the user may view this record or other records retrieved by using the navigational keys described in Section 1.3.

Step 11: The user may now enter another query or exit to the menu. To exit to the menu, press the *PF4* key.

2.2.3 A Two Vendor Query

Below is the step by step procedure for selecting the entries which represent FTAM testing completed between two specific vendors.

Step 1: Press the *NEXT BLOCK* key to move to page 2 of the DI (page 3, for users logging onto the T&R as "T&R registrant").

Step 2: Press the *ENTER QUERY* key (this signals the database that selection criteria will be entered).

Step 3: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Identification #".

Step 4: Press the % key.

Step 5: Enter the characters necessary to specify the protocol. For example, press the keys *FTAM*, to locate all entries which pertain to the FTAM protocol.

Step 6: Press the % key.

Step 7: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Test Party A".

Step 8: The user now enters the vendor name using one of the methods specified in Section 1.2 of this document. For purposes of this example, the "List of Field Values" method will be used. The user presses the *ESC* key and then the *V* key. The database

will respond by displaying in the field, the first of many valid choices.

Step 9: The user presses the *TAB* key to continue to the next available choice. The user selects a choice and terminates the "List of Field Values" by pressing the *PF4* key.

Step 10: Once the user has entered a vendor name, into the field "Test Party A", through one of the approved means, the user presses the *NEXT FIELD* key twice. This places the cursor in the field labeled "Test Party B".

Step 11: Repeat steps 4 and 5 to select a vendor name for "Test Party B".

Step 12: Once the user has entered a vendor name in each of the above mentioned fields, the user presses the *EXECUTE QUERY* key. The system then responds by displaying the first of the records it has found, or with the message "**Query caused no records to be selected.**" If the system responds with a record, the user may view this record or other records retrieved by using the navigational keys described in Section 1.3.

Step 13: The user may now enter another query or exit to the menu. To exit to the menu, press the *PF4* key.

2.2.4 A Profile Query

The step by step procedure for selecting all entries which indicate interoperability based on a specific profile (i.e., GOSIP MHS) is given below. This query utilizes the DI parameter or field called "Profile Referenced".

Step 1: Press the *NEXT BLOCK* key to move to page 2 of the DI (page 3, for users logging onto the T&R as "T&R registrant").

Step 2: Press the *ENTER QUERY* key (this signals the database that selection criteria will be entered).

Step 3: Press the *NEXT BLOCK* key until the cursor is sitting in a field on page 5 of the DI (page 6, for users entering the T&R as "registrants").

Step 4: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Profile Referenced".

Step 5: The user now enters the profile name using one of the methods specified in Section 1.2 of this document. For purposes of this example, the "List of Field Values" method will be used. The user presses the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 6: The user presses the *TAB* key to continue to the next available choice. The user selects a choice and terminates the "List of Field Values" by pressing the *PF4* key.

Step 7: Once the user has entered the profile name through one of the approved means, the user presses the *EXECUTE QUERY* key. The database then responds by displaying the first of the records it has found, or with the message "**Query caused no records to be selected.**" If the database responds with a record, the user may view this record or other records retrieved by using the navigational keys described in Section 1.3.

Step 8: The user may now enter another query or exit to the menu. To exit to the menu, press the *PF4* key.

2.2.5 A Product Name Query

In some cases, users may already be interested in a specific product. The user may wish to query the database to discover additional information on this specific product. The step by step procedure for performing a query based on the product name appears below.

Step 1: Press the *NEXT BLOCK* key to move to page 2 of the DI (page 3, for users logging onto the T&R as "T&R registrant").

Step 2: Press the *ENTER QUERY* key (this signals the database that selection criteria will be entered).

Step 3: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Test Party A".

Step 4: The user now enters the vendor name using one of the methods specified in Section 1.2 of this document. For purposes of this example, the "List of Field Values" method will be used. The user presses the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 5: The user presses the *TAB* key to continue to the next available choice. The user selects a choice and terminates the "List of Field Values" by pressing the *PF4* key.

Step 6: Once the user has entered a vendor name, into the field "Test Party A", through one of the approved means, the user presses the *NEXT FIELD* key until the cursor is in the field labeled "Product Specification".

Step 7: The user enters the characters necessary to specify the product name.

Step 8: Press the *EXECUTE QUERY* key. The database then responds by displaying the first of the records it has found, or with the message "**Query caused no records to be selected.**" If the database responds with a record, the user may view this record or other records retrieved by using the navigational keys described in Section 1.3.

Step 9: The user may now enter another query or exit to the menu. To exit to the menu, press the *PF4* key.

2.2.6 An Entry Status Query

It is possible to perform a query which selects records from the database according to their status. Entries in the T&R, available to users, may have a status of "CURRENT", "INVALID", or "OBSOLETE". The step by step procedure for querying based on the entry status is listed below.

Step 1: Press the *NEXT BLOCK* key to move to page 2 of the DI (page 3, for users logging onto the T&R as "T&R registrant").

Step 2: Press the *ENTER QUERY* key (this signals the database that selection criteria will be entered).

Step 3: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Identification #".

Step 4: Press the % key.

Step 5: Enter the characters necessary to specify the protocol. For example, press the keys *FTAM*, to locate all entries which pertain to the FTAM protocol.

Step 6: Press the % key.

Step 7: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Status".

Step 8: The user now enters the status using one of the methods specified in Section 1.2 of this document. For purposes of this example, the "List of Field Values" method will be used. The user presses the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 9: The user presses the *TAB* key to continue to the next available choice. The user selects a choice and terminates the "List of Field Values" by pressing the *PF4* key.

Step 10: Once the user has entered the status through one of the approved means, the user presses the *EXECUTE QUERY* key. The database then responds by displaying the first of the records it has found, or with the message "**Query caused no records to be selected.**" If the database responds with a record, the user may view this record or other records retrieved by using the navigational keys described in Section 1.3.

Step 11: The user may now enter another query or exit to the menu. To exit to the menu, press the *PF4* key.

2.2.7 A System Specific Query

A user may wish to query the database, looking for all products which operate on a given hardward platform, under a specific operating system. The T&R provides the capability

to perform this type of query. The step by step procedure for performing a system specific query appears below.

Step 1: Press the *NEXT BLOCK* key to move to page 2 of the DI (page 3, for users logging onto the T&R as "T&R registrant").

Step 2: Press the *ENTER QUERY* key (this signals the database that selection criteria will be entered).

Step 3: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Identification #".

Step 4: Press the % key.

Step 5: Enter the characters necessary to specify the protocol. For example, press the keys *MHS*, to locate all entries which pertain to the MHS protocol.

Step 6: Press the % key.

Step 7: Press the *NEXT FIELD* key until the cursor is sitting in the field entitled "Hardware Platform" on page 3 of the DI (page 4, for users entering the T&R as "registrants").

Step 8: Press the % key.

Step 9: Enter the characters necessary to specify some portion of the hardware platform. For example, press the keys *VAX*, to locate all entries which may specify some type of VAX machine.

Step 10: Press the % key.

Step 11: Press the *NEXT FIELD* key to place the cursor in the field entitled "Operating System".

Step 12: Press the % key.

Step 13: Enter the characters necessary to specify some portion of the operating system. For example, press the keys *UNIX*, to locate all entries which may specify some type of UNIX operating system.

Step 14: Press the % key.

Step 15: Press the *EXECUTE QUERY* key. The database then responds by displaying the first of the records it has found, or with the message "**Query caused no records to be selected.**" If the database responds with a record, the user may view this record or other records retrieved by using the navigational keys described in Section 1.3.

Step 16: The user may now enter another query or exit to the menu. To exit to the

menu, press the *PF4* key.

If the query caused no records to be selected, the user is encouraged to perform the same query in connection with the derived systems information. The user follows the above procedure with minor changes. Step 3 is replaced with this "Press the *NEXT BLOCK* key until the cursor is sitting in a field on page 6 of the DI (page 7, for users entering the T&R as "registrants"). Steps 4, 5, and 6 are skipped completely, and the user continues with step 7.

2.3 T&R Test Requirements Specification Queries

The T&R tests requirements specification information provides users with lists of test cases. Developers of OSI profiles (e.g. U.S. Government) may specify the set of tests that must be successfully completed to meet their requirements. A registrant that completes those tests may list the profile on the profiles referenced page of the DI.

Users are able to view the profiles referenced page of the DI. This indicates to the user in a broad sense what was tested. The test requirements specification query option is provided for those users who wish to know exactly which tests were required, before the profile could be listed on the DI. The step by step procedure for performing a test requirements specification is listed below.

Step 1: Select option *4*, from the T&R user's main menu.

Step 2: Select option *4*, from the T&R user's query test results sub menu.

Step 3: Press the *ENTER QUERY* key (this signals the database that selection criteria will be entered).

Step 4: The user now enters the profile name using one of the methods specified in Section 1.2 of this document. For purposes of this example, the "List of Field Values" method will be used. The user presses the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 5: The user presses the *TAB* key to continue to the next available choice. The user selects a choice and terminates the "List of Field Values" by pressing the *PF4* key.

Step 6: Once the user has entered the profile name through one of the approved means, the user presses the *EXECUTE QUERY* key. The database then responds by displaying the first of the records it has found, or with the message "**Query caused no records to be selected.**" If the database responds with a record, the user may view this record or other records retrieved by using the navigational keys described in Section 1.3.

Step 7: The user may now enter another query or exit to the menu. To exit to the menu, press the *PF4* key.

2.4 T&R Detailed Test Results Queries

Each registrant, in addition to registering the profiles whose requirements were met, lists the exact tests successfully completed during interoperability testing. Tests for each OSI application are published as NIST Interagency Reports [Ref 1- 2]. The tests which satisfy the requirements of each profile developer are listed in an appendix to the test documents. The T&R refers to the list of test cases completed by a registrant as "Detailed Test Results". A user may view this specific testing information by following the step by step procedure below.

The T&R DI entries and the detailed test results are separate bodies of information. The field "Identification #", which appears on page 2 or the T&R user's DI form (page 3 for users logging onto the system as T&R "T&R registrant"), is one of the fields which tie these two different pieces of information together. Therefore, whenever a user is viewing an DI and is interested in seeing the detailed test results associated with that DI, the user should copy down the identification #. The user will need this number to access the detailed test result information.

Step 1: Select option *4*, from the T&R user's main menu.

Step 2: Select option *5*, from the T&R user's query test results sub menu.

Step 3: Press the *ENTER QUERY* key (this signals the database that selection criteria will be entered).

Step 4: The user enters the characters necessary to specify the identification #.

Step 5: Press the *NEXT FIELD* key until the cursor is in the field entitled "Test Party A".

Step 6: The user now enters the vendor name using one of the methods specified in Section 1.2 of this document. For purposes of this example, the "List of Field Values" method will be used. The user presses the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 7: The user presses the *TAB* key to continue to the next available choice. The user selects a choice and terminates the "List of Field Values" by pressing the *PF4* key.

Step 8: Once the user has entered the testing party name through one of the approved means, the user presses the *EXECUTE QUERY* key. The database then responds by displaying the first of the records it has found, or with the message "**Query caused no records to be selected.**" If the database responds with a record, the user may view this record or other records retrieved by using the navigational keys described in Section 1.3. Use the *NEXT BLOCK* key to move to page 2 to view the list of detailed tests.

Step 9: The user may now enter another query or exit to the menu. To exit to the menu, press the *PF4* key.

3. T&R Registrant's Information

This section of the user's guide focuses on the operations specific to a T&R registrant. Section 3.1 takes the T&R "registrant" through each menu option available. Section 3.2 provides clarifying information concering registration, particularly as it relates to "user registration". Section 3.3 explains the content or formation of an DI identification number. Section 3.4 gives the T&R registrant the step by step procedure for registering an DI. Section 3.5 give the T&R registrant the step by step procedure for changing a login password. Section 3.6 describes the DI fields which a registrant may update for a previously registered entry. All other operations are identical in nature to that of a T&R "user". Therefore, the registrant is referred back to the user's section for general database information and querying details.

3.1 T&R Registrant's Menu Options

The T&R registrant selects option *3 --> T&R Registrant* from the T&R Login Menu (see Figure 2). The user is then presented with the T&R registrant's MAIN MENU, as shown in Figure 13.

If the registrant selects option *1*, the T&R terminates this session and the registrant is logged completely off the system. If the registrant selects option 2, the registrant is presented with a series of **Help** screens. Once in the **Help** presentation, the registrant may either hit the "previous menu" key (for VT100 this is the '1' on the alternate keypad) to return to the main menu or the registrant may hit any other key to continue viewing additional **Help** screens.

The registrant who selects option *3*, directory information, from the main menu receives several screens which list the names of the registrants of the T&R, and the products registered with the T&R. Upon completion, the registrant is returned to the main menu.

```
THE TEST & REGISTRATION SERVICE (T&R)

========> MAIN MENU <==========

--> 1  QUIT
    2  HELP
    3  Directory Information
    4  Query Test Results
    5  Register/Update Test Results
    6  EXAMPLE Database

    Make your choice: ____

For Quick Help Press ==================> Esc K
```

Figure 13. T&R Registrant's Main Menu

Option *4*, query test results, presents the registrant with the query test results sub menu shown below:

```
Query Test Results

=========> SUB MENU <=========

--> 1  QUIT
    2  Return to Previous Menu
    3  Query DI & Detailed Test Results
    4  Query Test Requirements Specification

    Make your choice: ____

For Quick Help Press ==================> Esc K
```

Figure 14. T&R Registrant's Query Test Results Sub Menu

As on the main menu, selecting option *1* causes the T&R to terminate the session and the

registrant is logged completely off the system. If the registrant selects option 2, the registrant is returned to the main menu. Option 3, presents the registrant with page 1 of the Declaration of Interoperation (DI) database form. This form allows the registrant to register testing information or enter query selection criteria and then view the appropriate entries selected from the database. The complete registrant's DI form appears below in Figures 15 - 22.

The most notable differences between the registrant DI and the user DI is the addition of 2 pages. Page 2 of the registrant DI requires the registrant to provide username/password data. This data must be verified before any modification to the database may be made. The second major difference is the addition of page 8, detailed test results information. This page is included in the registrant DI to facilitate the entry of testing information. The registrant lists here every test successfully completed. The test reference numbers which registrants list on this page, are taken directly from the test suite documents. Tests for each OSI application are published as NIST Interagency Reports [REF 1 - 2].

DECLARATION OF INTEROPERATION

Nature of Interoperation Testing

The purpose of interoperation testing is to increase the probability that different implementations can interwork. However, the complexity of OSI protocols makes exhaustive testing impractical on both technical and economic grounds. Furthermore, there is no guarantee that a system under test which has passed all the relevant tests conforms to a specification. Neither is there any guarantee that such a system under test will interwork with other real open systems. Rather, the passing of the tests give confidence that the system under test has the stated capabilities and that its behavior conforms consistently in representative instances of communication.

Limits and Reservations

This OSINET Test & Registration service entry is publicly available. No patent nor copyright licenses, expressed or implied, are granted by this submission.

Figure 15. Page 1 of the T&R Registrant's DI

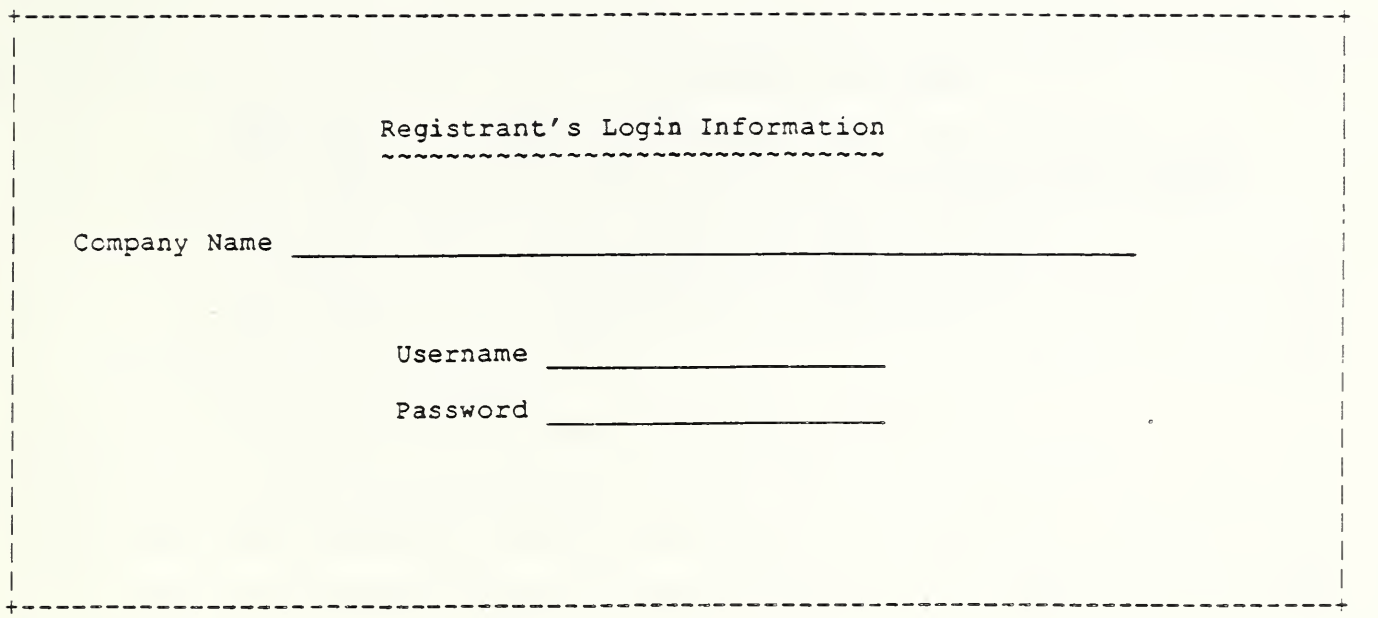


Figure 16. Page 2 of the T&R Registrant's DI

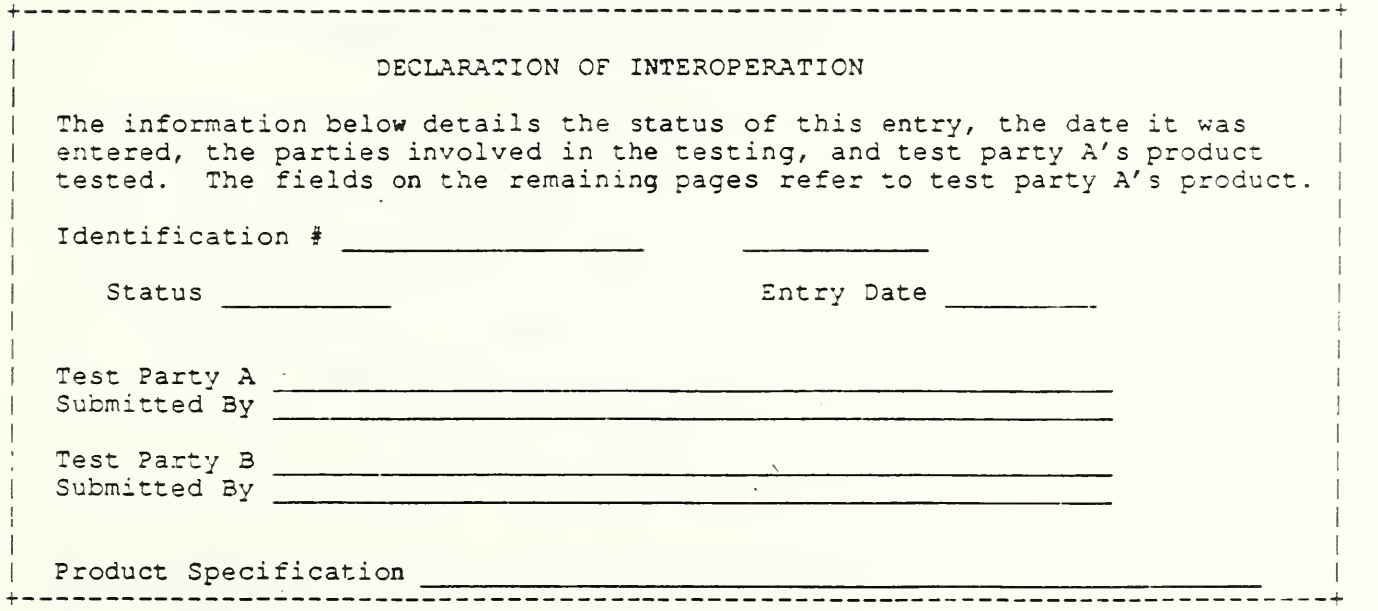


Figure 17. Page 3 of the T&R Registrant's DI

PRODUCT INFORMATION

The information below describes the environment in which the testing was conducted, i.e. the hardware platform, operating system and associated OSI profiles used by test party A.

Hardware Platform _____

Operating System _____

Application Profile 1 _____ _____
2 _____ _____
3 _____ _____

Transport Profile _____ _____

Relay Profile _____ _____

Interchange Profile _____ _____

Figure 18. Page 4 of the T&R Registrant's DI

MARKETING CONTACT INFORMATION FOR COMPANY A'S PRODUCT

Name _____

Address Line 1 _____

Address Line 2 _____

City _____ State __ ZIP Code _____

Telephone _____ FAX _____

SUPPORTING DOCUMENTATION ASSOCIATED WITH THE TESTING

PICS # _____ TSES # _____

PITR # _____

Test Suite ID _____

Figure 19. Page 5 of the T&R Registrant's DI

Profiles Referenced

This entry demonstrates interoperation according to the profiles listed below. The tests required to demonstrate interworking may be found in the Test Requirements Specifications corresponding to the profiles listed below.

Profile Referenced:

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

Figure 20. Page 6 of the T&R Registrant's DI

_____ DERIVED SYSTEMS

The information listed below describes a product/system which company A has identified as a derivative of the testing performed.

Product Specification _____

Hardware Platform _____

Operating System _____

Application Profile 1 _____ _____
2 _____ _____
3 _____ _____

Transport Profile _____ _____

Relay Profile _____ _____

Interchange Profile _____ _____

Figure 21. Page 7 of the T&R Registrant's DI

```
+-----------------------------------------------------------------------------+
|                          DETAILED TEST RESULTS                              |
| ____________                                                                |
| Listed below are the test reference numbers of every test successfully com- |
| pleted between Company A and B.  Test numbers selected for testing include |
| all the mandatory tests and the optional tests selected by Company A and B |
| which demonstrate the features supported by both products.                  |
|                                                                             |
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
| ____________________________________________________________________________|
+-----------------------------------------------------------------------------+
```

Figure 22. Page 8 of the T&R Registrant's DI

Option *4*, of the Query Test Results sub menu presents the registrant with the "Test Requirements Specification" form. Figure 11 shows the format of this form. The test requirements specification form describes for a given profile (e.g. GOSIP FTAM or UK GOSIP X.400) those tests from the OSINET Interoperability test suite which, when conducted, satisfy the interoperability requirements for that profile. A step by step procedure for querying using the test requirements specification form is given in Section 2.3.

From the MAIN MENU, selecting option 5 (Register/Update Test Results), provides the Register/Update Test Results sub menu shown below:

```
Register/Update Test Results

=========> SUB MENU <=========

--> 1  QUIT
    2  Return to Previous Menu
    3  Register/Update "DRAFT" DI & Detailed Test Results
    4  Update "CURRENT" DI
    5  Change Password

    Make your choice: ____

For Quick Help Press ==================> Esc K
```

Figure 23. T&R Registrant's Register/Update Test Results Sub Menu

As on the main menu, selecting option *1* causes the T&R to terminate the session and the registrant is logged completely off the system. If the registrant selects option 2, the registrant is returned to the main menu. Option *3*, presents the registrant with page 1 of the Declaration of Interoperation (DI) database form. This form allows the registrant to enter DRAFT DIs and query selection criteria to either retrieve a DRAFT entry which was previously entered or to view a partner's DRAFT entry.

Option *4*, from the register/update sub menu presents the registrant with page 1 of the DI form. However, here the registrant will be accessing the PERMANENT database, which contains CURRENT entries. Once again the registrant may enter query selection criteria to perform any of the queries listed in Section 2.2, or the registrant may wish to retrieve one of his/her own entries to update selected fields. Please refer to Section 3.6 for a discussion on the DI fields which may be updated by a registrant.

Option *5*, from the register/update sub menu presents the registrant with change password form. This form is shown below in Figure 24. Please refer to section 3.5 for the step by step procedure for changing a registrant password.

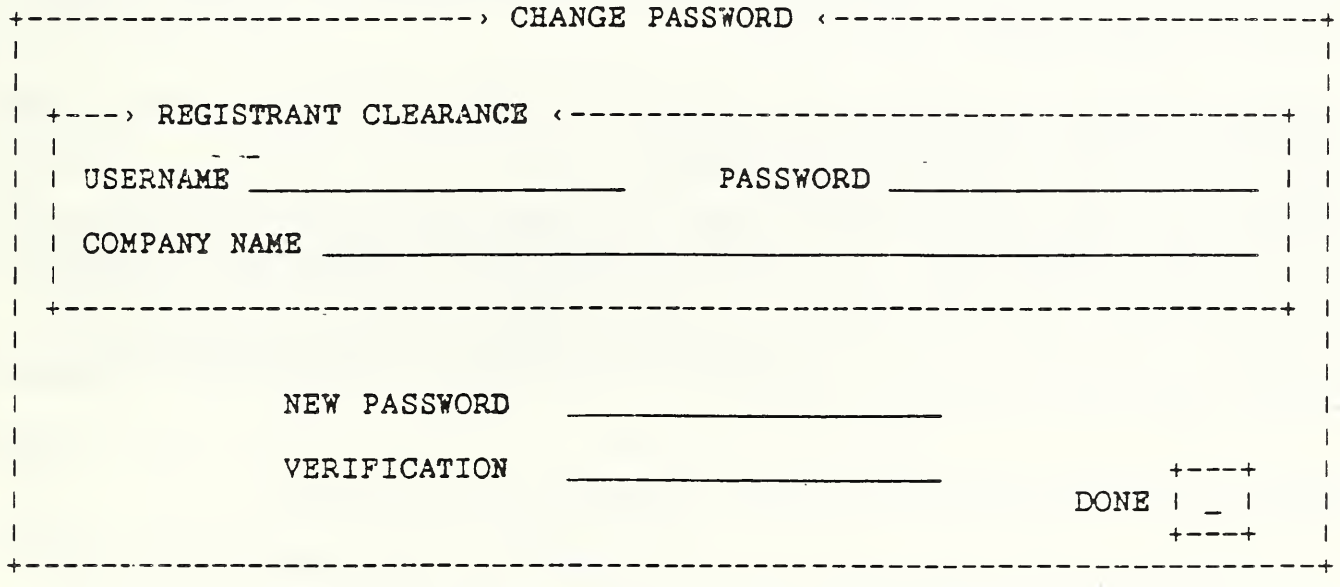


Figure 24. The T&R Registrant's Change Password Form

From the MAIN MENU, selecting option *6* (EXAMPLE database), provides a sub menu with the same options as the Query Test Results sub menu and the Register/Update Test Results sub menu provide. The only difference being that any information presented/selected from this database is "**example or bogus**" information. It has been provided to allow the registrant the opportunity to "play" with the T&R before entering or accessing "real" data. Information in the Example database is accessed exactly as

information from the real database.

This means that the step by step procedures will work for both the Example database and the real database.

Please note - The information which exists in the Example database is fictional information; it is not based on any testing results.

3.2 Registration Details

There are two types of T&R registrants, vendor organizations and third party testing organizations. Both of these groups may register testing results with the T&R, if they are Senior OSINET members. Both groups must also register with the T&R DBA before registering testing results.

The process of registering testing results is the same. Third party testing organizations are treated just as vendor organizations with one exception. When a vendor organization registers test results, the company name of that vendor is placed in the field entitled "Test Party A". The third party testing organization places its company name in the field labeled "Submitted By" and enters the company name for whom the testing was completed in the field labeled "Test Party A".

3.3 Generation of an DI Identification Number

Each DI in the T&R has an identification number. This identification number is unique to a pair of vendors for a given test. This means that test party A and test party B will use the same identification when they register the results of testing their X.400 products. This section specifies the exact format of the identification number. The rules supplied below, now make it possible for the two test parties to generate the identification number themselves, rather than coming to the T&R.

The exact format of the identication number is composed of the following:

1) Organization IDs of test party A and B, placed in order alphabetically according to company name. The length is 4 characters. Example: Xerox - 30, IBM - 01, becomes 0130.

2) Protocol tested, using a length of 4 characters. Example: FTAM, X400.

3) Date of completion of testing, in the form YYYYMMDD, using 8 characters. Example: July 27, 1990 becomes 19900727.

4) Additional number if needed, for those vendors who complete a series of bilateral agreements or phases of testing on the same date. This means each separate testing will be given a number, to be decided upon by the vendors.

This will be 2 characters in length.

Concluding example: Touch Communications (org id = 25) and NCR (org id = 4) complete the testing of 2 FTAM products on Sept. 15, 1990. The identification numbers for this example are as follows:

0425FTAM1990091501 for 1 of the FTAM products and
0425FTAM1990091502 for the 2nd FTAM product

This procedure now makes it possible for the vendors to generate their own identification numbers. The total length will be 18 characters for a fully specified identification number, or a total of 16 characters when only 1 product is tested on a given day by a pair of vendors.

3.4 A T&R DI Registration Procedure

This section describes the procedure a registrant would follow in registering an DI with the T&R. This procedure is presented in a step by step fashion and commences with the preliminary step of registering a username/password with the T&R Database Administrator (DBA).

Step 1: Telephone the DBA at 301-975-3387 to be given access to the registrant portion of the T&R. The DBA will require the registrant's company name, the contact name, address and telephone, and the username/password combination the contact person will use.. A registrant may have more than one person responsible for entering data into the T&R. But, each person who will be making entries, should be pre-registered with the T&R, with their own username/ password.

Step 2: Follow T&R login directions given in Section 1.1.

Step 3: Select option 5, on the T&R Registrant's Main Menu.

Step 4: Select option 3, on the Register/Update Test Results sub menu. The registrant is presented with page 1 of the registrant's DI.

Step 5: Press the *NEXT BLOCK* key to move to page 2 of the DI.

Step 6: The registrant now enters the company name using one of the methods specified in Section 1.2 of this document. For purposes of this example, the "List of Field Values" method will be used. The registrant presses the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 7: The registrant presses the *TAB* key to continue to the next available choice. The registrant selects a choice and terminates the "List of Field Values" by pressing the *PF4* key.

Step 8: Once the registrant has entered the company name the registrant presses the *NEXT FIELD* key to place the cursor in the field labeled "Username".

Step 9: The registrant enters the characters of his/her username.

Step 10: Press the *NEXT FIELD* key to place the cursor in the field labeled "Password".

Step 11: The registrant enters the characters of his/her password.

Step 12: Press the *NEXT BLOCK* key to move to page 3 of the DI. The T&R will place the registrant at page 3 of the DI, only if the company name, username, and password are verified as correct. If this does not happen, either because of a typing error, or because the registrant is not pre-registered with the T&R, the registrant will be denied access to page 3 of the DI. Therefore, if the registrant knows that the company has been pre-registered, the registrant should attempt to re-enter the fields on page 2, or the registrant should contact the T&R DBA at 301-975-3387.

Step 13: Press the *CREATE RECORD* key.

Step 14: Enter the identification number decided upon by you and your testing partner. Please see Section 3.2 for details concerning identification number generation.

Step 15: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Status".

Step 16: Enter the word 'DRAFT'.

Step 17: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Entry Date".

Step 18: Enter the date in the form dd-mon-yy.

Step 19: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Test Party A".

Step 20: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 21: The registrant presses the *TAB* key to continue to the next available choice, if the company name listed is not correct. The registrant selects the correct company name and terminates the "List of Field Values" by pressing the *PF4* key.

Step 22: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Submitted By". If this is a user registration, please continue with step 23, otherwise skip to step 25.

Step 23: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 24: The registrant presses the *TAB* key to continue to the next available choice, if

the company name listed is not the name of the company registering testing results. The registrant selects a company name and terminates the "List of Field Values" by pressing the *PF4* key.

Step 25: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Test Party B".

Step 26: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 27: The registrant presses the *TAB* key to continue to the next available choice, if the company name listed is not correct. The registrant selects the correct company name and terminates the "List of Field Values" by pressing the *PF4* key.

Step 28: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Submitted By". If this is a user registration, please continue with step 29, otherwise skip to step 31.

Step 29: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 30: The registrant presses the *TAB* key to continue to the next available choice, if the company name listed is not that of the company which tested Test Party B's product. The registrant selects the company name of the company which tested Test Party B's product and terminates the "List of Field Values" by pressing the *PF4* key.

Step 31: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Product Specification".

Step 32: Enter the product specification (name, version etc.).

Step 33: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Hardware Platform".

Step 34: Enter the hardware platform.

Step 35: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Operating System".

Step 36: Enter the operating system information.

Step 37: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Application Profile 1".

Step 38: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 39: The registrant presses the *TAB* key to continue to the next available choice, if

the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 40: Press the *NEXT FIELD* key, to place the cursor in the blank field following "Application Profile 1". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 41: Press the *NEXT FIELD* key, to place the cursor in the field labeled "2".

Step 42: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 43: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 44: Press the *NEXT FIELD* key, to place the cursor in the blank field following "2". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 45: Press the *NEXT FIELD* key, to place the cursor in the field labeled "3".

Step 46: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 47: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 48: Press the *NEXT FIELD* key, to place the cursor in the blank field following "3". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 49: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Transport Profile".

Step 50: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 51: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 52: Press the *NEXT FIELD* key, to place the cursor in the blank field following "Transport Profile". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 53: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Relay Profile".

Step 54: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 55: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 56: Press the *NEXT FIELD* key, to place the cursor in the blank field following "Relay Profile". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 57: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Interchange Profile".

Step 58: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 59: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 60: Press the *NEXT FIELD* key, to place the cursor in the blank field following "Interchange Profile". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 61: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Name".

Step 62: Enter the name of the marketing contact for the product tested.

Step 63: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Address Line 1".

Step 64: Enter the first line of the address, of the marketing contact for the product tested.

Step 65: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Address Line 2".

Step 66: Enter the second line of the address, of the marketing contact for the product tested.

Step 67: Press the *NEXT FIELD* key, to place the cursor in the field labeled "City".

Step 68: Enter the city name.

Step 69: Press the *NEXT FIELD* key, to place the cursor in the field labeled "State".

Step 70: Enter the 2 character code for the state name.

Step 71: Press the *NEXT FIELD* key, to place the cursor in the field labeled "ZIP Code".

Step 72: Enter the ZIP code in the format 00000-0000. If only six digits are provided, then enter only six.

Step 73: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Telephone".

Step 74: Enter the telephone number, include country code, area code and/or extension if necessary. No specific format is required.

Step 75: Press the *NEXT FIELD* key, to place the cursor in the field labeled "FAX".

Step 76: Enter the FAX number, include country code and area code. No specific format is required.

Step 77: Press the *NEXT FIELD* key, to place the cursor in the field labeled "PICS #".

Step 78: Enter the PICS # assigned by your company for the PICS associated with the product tested.

Step 79: Press the *NEXT FIELD* key, to place the cursor in the field labeled "TSES #".

Step 80: Enter the TSES # assigned by your company for the TSES associated with the product tested.

Step 81: Press the *NEXT FIELD* key, to place the cursor in the field labeled "PITR #".

Step 82: Enter the PITR # assigned by your company for the PITR associated with the product tested.

Step 83: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Test Suite ID".

Step 84: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 85: The registrant presses the *TAB* key to continue to the next available choice, if the test suite id displayed is not appropriate. The registrant selects the appropriate test suite id and terminates the "List of Field Values" by pressing the *PF4* key.

Step 86: Press the *NEXT BLOCK* key, to place the cursor in the field labeled "Profile Referenced" on page 6 of the DI.

Step 87: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 88: The registrant presses the *TAB* key to continue to the next available choice, if the profile displayed is not appropriate. The registrant selects the appropriate profile and terminates the "List of Field Values" by pressing the *PF4* key.

Step 89: Press the *CREATE RECORD* key and repeat steps 87 and 88 to enter additional profiles or press the *NEXT BLOCK* key, to place the cursor in the field labeled "Product Specification" on page 7 (derived systems) of the DI.

Step 90: Enter the product specification for the derived systems information.

Step 91: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Hardware Platform".

Step 92: Enter the hardware platform of the derived system.

Step 93: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Operating System".

Step 94: Enter the operating system information for the derived system.

Step 95: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Application Profile 1".

Step 96: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 97: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 98: Press the *NEXT FIELD* key, to place the cursor in the blank field following "Application Profile 1". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 99: Press the *NEXT FIELD* key, to place the cursor in the field labeled "2".

Step 100: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 101: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 102: Press the *NEXT FIELD* key, to place the cursor in the blank field following "2". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 103: Press the *NEXT FIELD* key, to place the cursor in the field labeled "3".

Step 104: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 105: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 106: Press the *NEXT FIELD* key, to place the cursor in the blank field following "2". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 107: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Transport Profile".

Step 108 Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 109: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 110: Press the *NEXT FIELD* key, to place the cursor in the blank field following "Transport Profile". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 111: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Relay Profile".

Step 112: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 113: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 114: Press the *NEXT FIELD* key, to place the cursor in the blank field following "Relay Profile". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 115: Press the *NEXT FIELD* key, to place the cursor in the field labeled "Interchange Profile".

Step 116: Press the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 117: The registrant presses the *TAB* key to continue to the next available choice, if the TR 10000 reference displayed is not appropriate. The registrant selects the appropriate TR 10000 reference and terminates the "List of Field Values" by pressing the *PF4* key.

Step 118: Press the *NEXT FIELD* key, to place the cursor in the blank field following "Interchange Profile". This will cause the database to display the user friendly text associated with the selected TR 10000 reference.

Step 119: Press the *CREATE RECORD* key and repeat steps 82 - 102 to enter an additional derived system or press the *NEXT BLOCK* key, to place the cursor in the field labeled "Test Reference Numbers:" on page 8 of the DI.

Step 120: Enter the complete list of test numbers successfully tested. Once a row is full, press the *NEXT FIELD* key to move to the next line.

Step 121: Press the *PF3* or *COMMIT* key. This causes the T&R to "write" the information from the form into the database tables.

Step 122: Press the *PF4* or *EXIT/CANCEL* key to exit the DI form and return to the memu.

3.5 A T&R Registrant Change Password Procedure

A registrant may change his/her login password. This is accomplished by following the step by step procedure listed below.

Step 1: Select option 5, on the T&R Registrant's Main Menu.

Step 2: Select option 5, on the Register/Update Test Results sub menu. The registrant is presented with the change password form. The cursor is in the field labeled

"Username".

Step 3: The registrant enters the characters of his/her username.

Step 4: Press the *NEXT FIELD* key to place the cursor in the field labeled "Password".

Step 5: The registrant enters the characters of his/her current password.

Step 6: Press the *NEXT FIELD* key to place the cursor in the field labeled "Company Name".

Step 7: The registrant now enters the company name using one of the methods specified in Section 1.2 of this document. For purposes of this example, the "List of Field Values" method will be used. The registrant presses the *ESC* key and then the *V* key. The database will respond by displaying in the field, the first of many valid choices.

Step 8: The registrant presses the *TAB* key to continue to the next available choice. The registrant selects a choice and terminates the "List of Field Values" by pressing the *PF4* key.

Step 9: Once the registrant has entered the company name the registrant presses the *NEXT FIELD* key to place the cursor in the field labeled "New Password". If the information entered in the first three fields is correct, the system will move the cursor to the new password field and will present the message "**You have clearence to change registrant password. You may continue!**" If the information entered is not correct, the system will present the error message "**Invalid registrant. You are not permitted to change registrant password.**". If the registrant receives this message, he/she will have to reenter the username, password, and company before continuing further.

Step 10: The registrant enters the characters of his/her new password.

Step 11: Press the *NEXT FIELD* key to place the cursor in the field labeled "Verification".

Step 12: The registrant enters the characters of his/her new password again.

Step 13: Press the *NEXT FIELD* key to complete the change password transaction. The registrant will receive the messages "Transaction completed" and "Press any function key to acknowledge the message". Press any function key. The registrant then receives the message "Password has been changed. Please press the *EXIT/CANCEL* key to exit." The registrant is returned to the register/update test results sub menu.

3.6 T&R Registrant DI Modifiable Fields

Entries contained in the PERMANENT database may be updated by the registrant, however only selected fields are activated for update. The registrant may update the status of an entry. The normal status value is "CURRENT", but this may be changed to

"OBSOLETE" or "INVALID".

The marketing contact information on page 5 of the registrant's DI may be updated. Information on this page should be monitored closely and changed as often as necessary. This is vital, since this is the only vendor contact information provided to the user.

The final type of information which a registrant may change at any time is the derived systems information. The registrant may change a derived systems entry and/or enter additional derived systems whenever necessary.

4. T&R MHS Access

The T&R provides an alternative to asynchronous terminal access. Users with MHS implementations can send messages to the T&R. The T&R supports both query actions and registrations via MHS. The MHS access is based upon an expansion of the Network Information Center (NIC) services.

The MHS access relies upon action requests embedded in the SUBJECT field of a message. Data required for registering test results or specifying a query are contained in the body of the message. Section 4.1 describes the action request and procedure for specifying queries using MHS. Section 4.2 details the procedure for registering test results through MHS messages.

4.1 T&R Query Operations Using MHS

The T&R provides separate query operations for users and registrants. A user may request a query by entering *QERY* in the SUBJECT field of the message. A registrant specifies a query request by entering *RQRY* in the SUBJECT field of the message. In addition, a registrant must supply a company name, username, and password within the body of the query request.

In order to simplify the query process, the T&R maintains a query file for each of the basic T&R queries described in Section 1.5. Again separate files are maintained for registrants to accommodate WORKING database queries. Each of the query files contains the necessary Structured Query Language (SQL) needed to perform the query. The actual data values on which the search will operate are left as "blanks" within the query. These blanks are "filled in" by the user or registrant before the query request is submitted to the database. The following paragraphs describe the procedure for querying the T&R via MHS.

The first step in preparing a query for the T&R requires the user or registrant to "retrieve" the appropriate query file from the T&R. This is done by placing *FREQ filename* in the SUBJECT field of a message. Appendix C contains a list of the query file names and a brief description of each query. The message is then sent to C=US/ADMD= /

PRMD=NCSL/ON=OSIAPP/SN=NRS_X400. Please refer to Appendix D for complete T&R MHS connection information.

Upon receiving the FREQ or file request the T&R places the contents of the file specified in the SUBJECT field within the body of a "reply" message. The user or registrant then provides the selection criteria values by filling in the blanks within the query found in the body of the message. The completed query is then sent back to the T&R for submission to the database with the appropriate action request specified in the SUBJECT field. Database records matching the query selection criteria values are placed within the body of a return message. If no records were found, the querying party is sent a message stating "Query caused no records to be selected".

4.2 T&R Registration and Update Operations Using MHS

A registrant can register testing results using MHS access. Updating selected information in the WORKING database is also possible using the MHS access. The following paragraphs detail the procedures for registering testing results and updating fields in the WORKING database.

The T&R maintains template files which registrants may use to simplify the registration or update operations. The template files can be requested by placing *FREQ filename* in the SUBJECT portion of message addressed to C=US/ADMD= /PRMD=NCSL /ON=OSIAPP/SN=NRS_X400. The filename of the template file for registration operations is *REGISTRATION.DAT*. The filename of the template file for updates to the WORKING database is *UPDATE.DAT*. The T&R then places the requested template file into the body of a message and sends it to the registrant. The registrant "fills in the blanks" and sends a new message to the T&R.

A message requesting a registration must contain *RGTR* in the SUBJECT field and the completed template in the message body. If an update to the WORKING database is to be performed the message must contain *UPTD* in the SUBJECT field and the completed template in the message body. The T&R "reads" the message and inserts the record into the database if it was a registration request. If the request was an update request the T&R retrieves the appropriate WORKING database entry and replaces each field with the newly supplied data.

Upon completion of the requested operation, the T&R retrieves the record from the database, places the data in the body of a new message and sends the message to the registrant. This message serves as confirmation of the registration or update and allows registrant verification of the data inserted into the database.

The update operation is identical to that of registering a new entry with one exception. A registration allows for data to be entered in the fields associated with profiles referenced, derived systems and detailed test results. An update only allows for update of data in the main DI table. Therefore, updates to profiles referenced data, derived systems data and detailed test results data are restricted when updating via MHS. This

is due to the T&R database structure and the objective of providing a simple update procedure. It is likely that this problem will be resolved in the future.

Currently, support for updates to the PERMANENT database are not provided. This is viewed as a possible future enhancement.

4.3 Miscellaneous Services

This section describes two additional services provided by the T&R. The first is special requests. A special request is a request for which no detailed procedure or file template exists. An example of a special request is a query which is outside the scope of the basic DI queries. For example, requesting all T&R entries which contain the value AMH11 in the application profile field. Another example is searching for all entries which list the KIWI 2000 as a derived system. The procedure for specifying special requests is found in Section 4.3.1.

The second service is error processing. MHS error messages are sent when the T&R is unable to decipher a request. Section 4.3.2 discusses T&R error processing.

4.3.1 T&R Special Requests

The T&R accepts special requests via MHS. A user or registrant specifies a special request by placing *SREQ filename* in the SUBJECT field of the message. In the message body the exact request must appear. The filename which the user or registrant supplies in the SUBJECT field is used to store the message when it arrives at the T&R. The T&R DBA and T&R staff periodically review the special request directory and handle any special requests found there.

A user or registrant may receive return mail stating that there will be a cost for completing the special request. The user or registrant must then notify the T&R staff of payment details or cancellation of the special request. Requests for hardcopy usually have a cost associated with them.

4.3.2 T&R Error Processing

Any time that a request cannot be satisfied because of incorrect formatting of the message body or SUBJECT field, the message will be returned. Whenever possible, an error message will accompany the return of the original message. The error messages are meant to aid the user or vendor in correcting the request to the T&R via MHS.

References

[1] NISTIR 4435: *FTAM Interoperability Tests*, August 1990, National Institute of Standards and Technology, Bldg. 225, Room B-217, Gaithersburg, MD 20899.

[2] NISTIR 4452: *Message Handling Systems Interoperability Tests*, October 1990, National Institute of Standards and Technology, Bldg. 225, Room B-217, Gaithersburg, MD 20899.

[3] *The OSINET Test and Registration (T&R) Service Functional Specification*, May 1991, National Institute of Standards and Technology, Bldg. 225, Room B-217, Gaithersburg, MD 20899.

[4] *Government Open Systems Interconnection Profile (GOSIP)*, Version 1, FIPS 146, August 1988, NTIS, Springfield, VA 22161.

[5] *OSINET Corporation General Agreements and Information Document*, January 1991, OSINET Corporation, 1750 Old Meadow Road, McLean, VA 22102.

APPENDIX A: Fields Allowing "List of Field Values"

Below is a list of the fields from the DI for which the function "List of Field Values" is available.

Application Profile

Company Name

interchange Profile

Profile Referenced

Relay Profile

Status

Submitted By

Test Party A

Test Party B

Test Suite ID

Transport Profile

APPENDIX B: Terminal Keyboard/Function Mapping

ORACLE®

Function	Key	Function	Key
Clear Form/Rollback	Esc-C	Next Field	RETURN or TAB
Count Query Hits	Esc-4	Next Primary Key Field	Esc-TAB
Delete Backward	DELETE	Next Set of Records	Esc-S
Delete Record	Esc-D	Previous Field	BACKSPACE
Down	↓	Print	Esc-P
Duplicate Field	Esc-1	Redisplay Page	Esc-R
Duplicate Record	Esc-2	Scroll Left	Esc-←
Exit/Cancel	Control-Z	Scroll Right	Esc-→
List of Field Values	Esc-V	Scroll Up	Esc-↑
Menu	Esc-8	Scroll Down	Esc-↓
Left	←	Show Function Keys	Esc-K
Right	→	Up	↑

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Figure 25. VT100 Keyboard Layout

Operator

SQL*Forms™ Operator's Keyboard Layout
for DEC VT220 Keyboards
VT220n Key Mappings

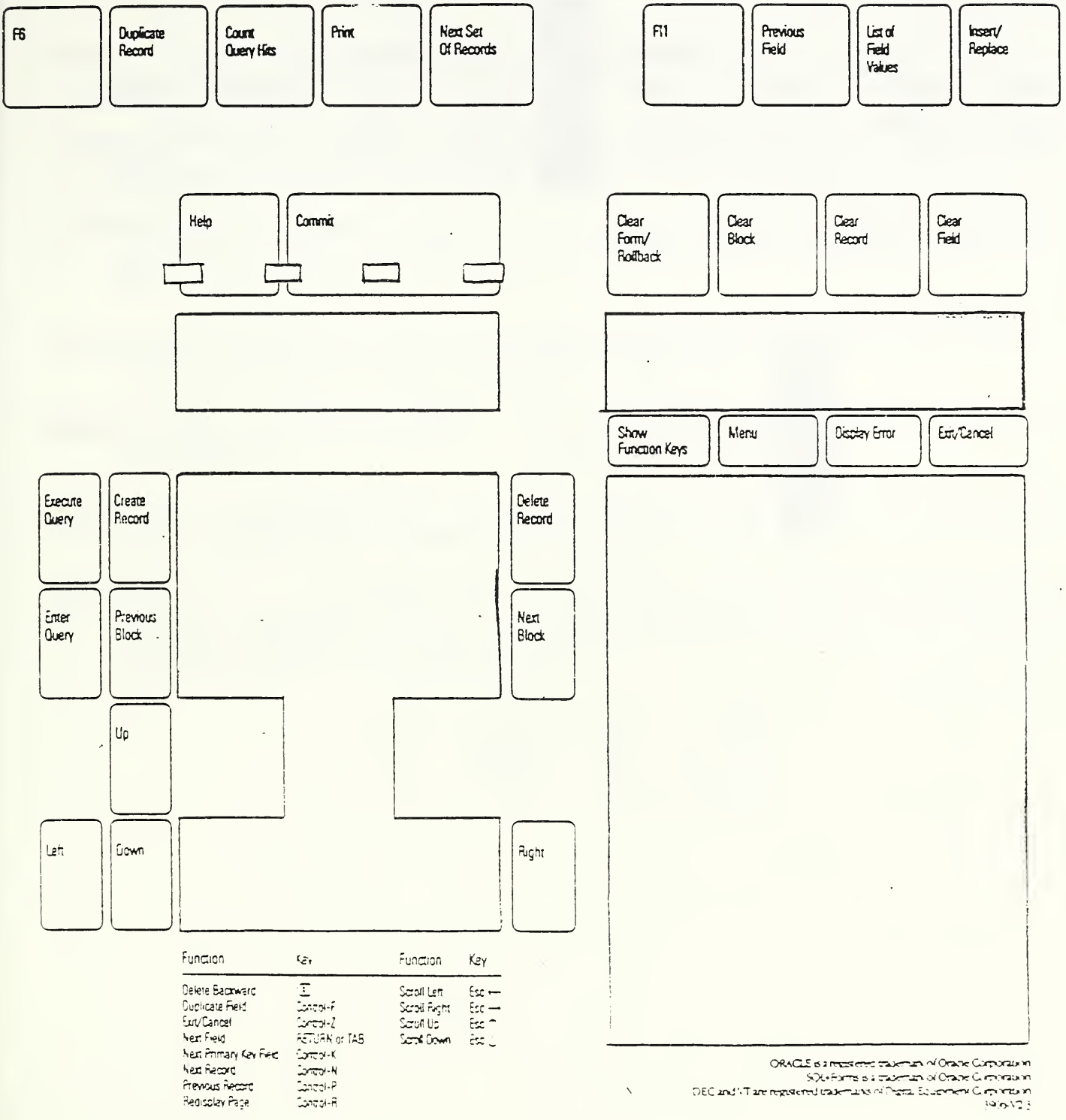

Figure 26. VT220 Keyboard Layout

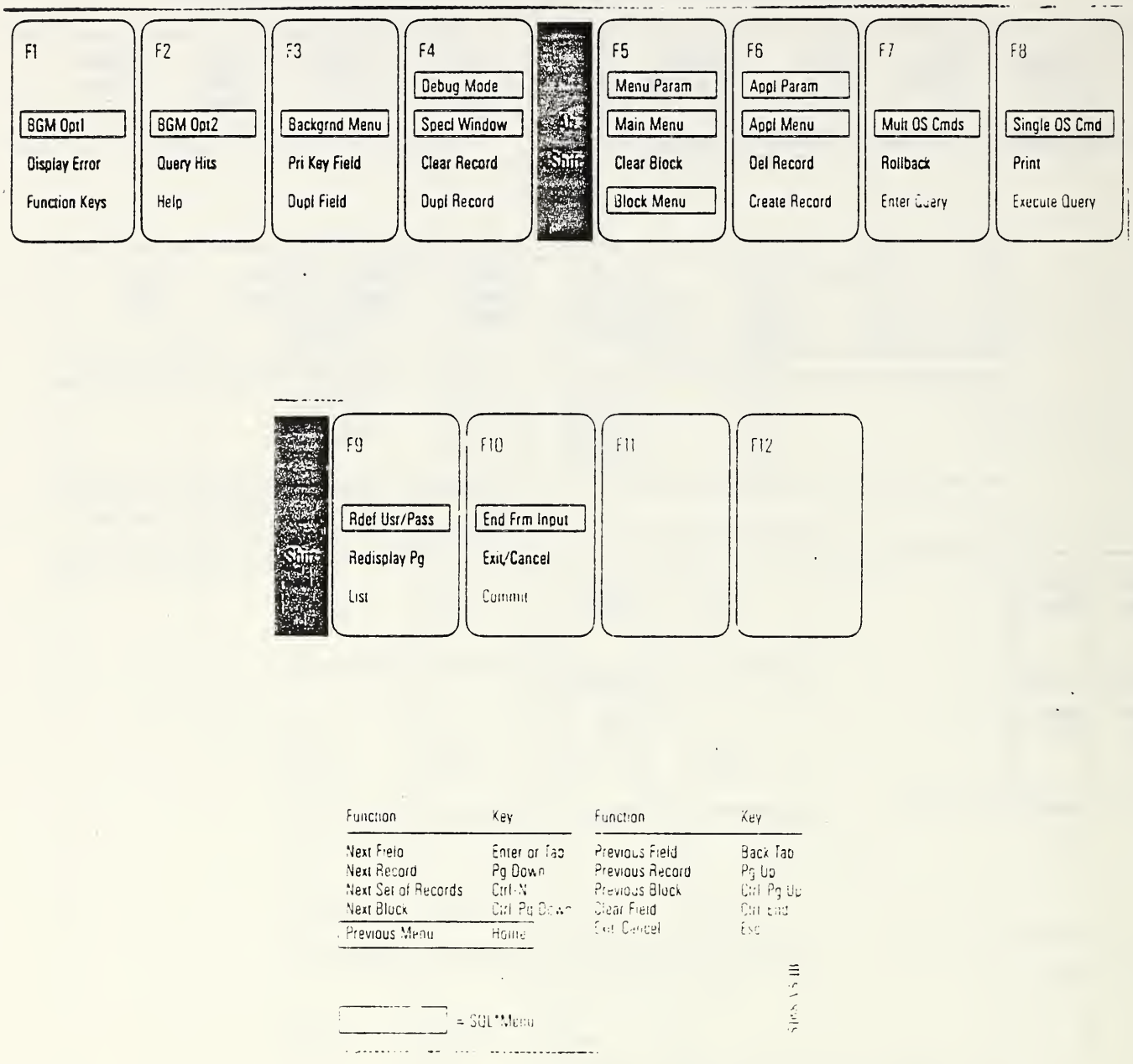

Figure 27. PC/Compatible Keyboard Layout

APPENDIX C: T&R MHS Query Files

PROTOCOL.QRY, **R_PROTOCOL.QRY** - All entries which pertain to a specific protocol (Identification #)

1_VENDOR.QRY, **R_1_VENDOR.QRY** - All protocol specific (i.e. FTAM, MHS) entries belonging to a single vendor (Identification #, Test Party A)

2_VENDOR.QRY, **R_2_VENDOR.QRY** - All entries representing testing of a specific protocol between two specific vendors (Identification #, Test Party A, Test Party B)

PROFILE.QRY, **R_PROFILE.QRY** - All entries which indicate interoperability based on a specific profile, i.e. GOSIP MHS, (Profile Referenced)

PRODUCT.QRY, **R_PRODUCT.QRY** - A specific product entry (Test Party A, Product Specification)

STATUS.QRY, **R_STATUS.QRY** - All specific protocol entries (i.e. FTAM, MHS) which have a specific status (Identification #, Status)

PLATFORM.QRY, **R_PLATFORM.QRY** - All specific protocol entries (i.e. FTAM, MHS) utilizing a particular hardware/operating system environment (Identification #, Hardware Platform, Operating System)

APPENDIX D: T&R MHS Connection Information

MTA Name: OSIAPP
MTA Password:

TSAP: MHS
SSAP:
NSAP: 47 00 04 00 03 00 03 AA 00 04 8A 1C 00
X.121: 3134 202 301 1007

Country: US
ADMD: a single space
PRMD: NCSL
ORG_NAME: OSIAPP
SURNAME: NRS_X400

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This document is a user's guide to the operation of the Test and Registration (T&R) service. The Test and Registration service is an online database facility belonging to OSINET. It provides an up-to-date reference for announced Open System Interconnection (OSI) products in order to help users select interoperable implementations. Only Senior OSINET members who participate in the Test & Registration project may register test results. Products that have been successfully tested for interoperability using approved OSINET test suites and test procedures are listed. These products are protocol suites headed by layer 7 protocols. Currently, Message Handling Systems (MHS) and File Transfer, Access, and Management (FTAM) protocol suites may be registered.

The User's Guide targets two different groups, the T&R user and the T&R registrant. The T&R User's Guide provides both users and registrants with the information necessary to use the T&R. Details on system access, database interaction, and data entry are provided.

This user's guide is organized into four main sections.

12. KEY WORDS (6 TO 12 ENTRIES; ALPHABETICAL ORDER; CAPITALIZE ONLY PROPER NAMES; AND SEPARATE KEY WORDS BY SEMICOLONS)

data base; Declaration of Interoperation (DI); File, Transfer, Access & Management (FTAM); interoperable products; interoperation testing; Message Handling Systems (MHS); networking; Open Systems Interconnection (OSI): OSINET: registration; testing.

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