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Exor Corporation Limited

Exor General System Admin v4.4

The Global Leader in Infrastructure Asset Management

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Quality Assurance Statement

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CHAPTER

1

Introduction

This Guide provides information on the basic metadata set up required for Exor installations, regardless of which products are to be installed and used.

This Guide is aimed at System Administrators and Database Administrators.

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CHAPTER

2

Security Metadata

Figure 1
Security Metadata

The modules covered in this chapter are the following:

- Admin Units - HIG1860
- Users - HIG1832
- Roles - HIG1836
- Modules - HIG1880
- Products - HIG1890

The module descriptions provide you with detailed information about reference data in Network Manager by Exor, including:

- an overall description of the module.
- a detailed explanation of each field, including available features (such as List of Values, default values and other characteristics).
- helpful information for using the form

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Admin Units and Security

This chapter describes the forms and processes that are used for defining and managing the metadata required for managing Administration Units and Security Access to the data in Network Manager.

Admin Unit Security

Careful consideration must be given to the administration of Admin Unit security with ***Network Manager by Exor***. Each object (e.g., Network Element, Group, Asset Item, Accident etc) within the ***Exor*** database will have an Admin Unit associated with it.

Generally speaking, a User must be granted access to the Admin Unit associated with an Item, or an Admin Unit at a higher level within the same Admin Unit hierarchy in order to access the Item.

Exor supports multiple Admin Types, which can be used to impose different security regimes on different Asset Types. For example, in a Region or District one contractor may be responsible for Signs whilst a second contractor may have responsibility for Traffic Signals. The Sign Contractor may not need any access to the Traffic Signal Items and similarly the Traffic Signal Contractor may not need access to the Sign Items. Assigning these 2 Asset Types different Admin Types and granting the appropriate Admin Units to a User will ensure that only the required Asset Item Types may be accessed by the different 'sets' of Users even though ALL the Asset Items are located within the same Region or District. Asset security is explored further later in this section.

A User may be granted access to one or more Admin Units of different Admin Types, which will also determine the mode of access the User will have to an Asset Item. The access modes are:

Normal	write access to the database is allowed
Readonly	no write access to the database is allowed

Admin Units and mode of Access are granted to a User in the ***Users – HIG1832*** module.

Each Network Element will have an associated Admin Unit of a particular Admin Type. When an Item of Asset is located on a Network, the Admin Unit over the extent of the location is 'denormalised' to the Admin Unit of the located Asset Item. Further Asset Items of the same Admin Type cannot be located on the same extent of Network if the Admin Unit is different, i.e. you cannot have 2 or more different Admin Units of the same Admin Type on the same extent of Network.

Note that a User who has been granted 'Unrestricted' access in the Users – HIG1832 module, can access all Asset Items of any Type within modules such

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as Asset Items - NM0510. If the Unrestricted user has not been granted specific Admin Unit or Role based access to certain Items or Item Type, such Items will be accessed in READONLY mode.

Administering Network security by means of Asset Location is a method that ensures that a Network need not be 'broken' at a notional point such as a regional or 'political' boundary. A separate 'controlling' Asset Type could be used to define the extent of a region, for example.

This is advantageous in the event of a change in boundaries, where the Network can remain unchanged with only the 'controlling' Asset Item placement being changed. Reports on Asset or other events using Merge Queries or PBI Queries for example may be limited to a region or area by specifying the 'controlling' Asset Type as a parameter.

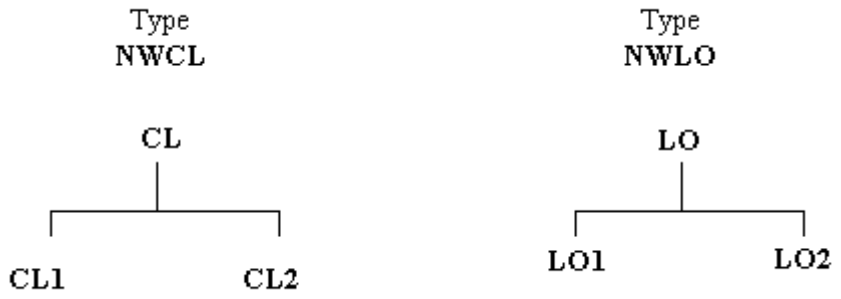
An example of this type of Admin Unit security is shown in Figure 5.

One of the main issues, which must be addressed when deciding on the implementation of Admin Unit security, is how Network maintenance will be carried out.

If Network maintenance operations are carried out 'centrally' over the entire Network, then the 'denormalised' Asset placement approach may be appropriate. However, if Network maintenance is carried out in Regional Offices for example, with each region responsible for the Network and Asset within their Regional area, then the Network must be 'broken' at the Regional boundary as the Admin Unit will be different on each side of the boundary line. In this scenario a Region may have no access to the other Regions data or could be granted Read-only access to the appropriate Admin Units in the other Regions.

The following figures depict several different scenarios in relation to administering Admin Unit security. Scenarios 1 and 2 relate ONLY to Network operations and exclude the existence of any Asset Items placed on the Network.

The system contains 2 Admin Types, namely **NWCL** (Classified Network) and **NWLO** (Local Network), each containing the Admin Units as set out in the hierarchy below.



A Road network structure exists containing 2 simple Network Types namely, Classified Roads and Local Roads, each Datum Network Element being assigned to a particular Admin Unit of the appropriate Admin Type.

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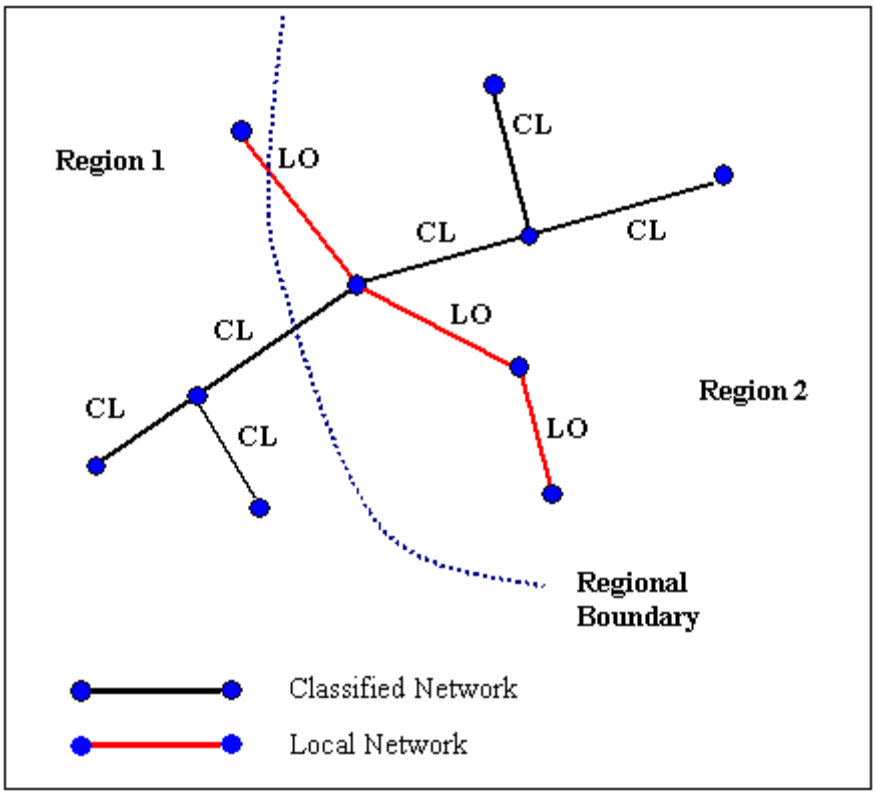
Scenario 1

In this scenario the Road Network is maintained by 2 discreet sets of Users. User 1 has maintenance responsibilities for ALL Classified Roads but requires Read Only access to the Local network and User 2 responsibility for ALL Local Roads but requires Read Only access to the Classified network. A third User requires Read Only access to the complete Network.

Figure 2



The following Admin Units have been granted to the appropriate Users.

User	Admin Units	Mode
User 1	**CL** **LO**	**Normal** **Read Only**
User 2	**CL** **LO**	**Read Only** **Normal**
User 3	**CL** **LO**	**Read Only** **Read Only**

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From this arrangement of Admin Types the following securities will be invoked:

User 1
- can access Classified Roads in Normal Mode
- can access Local Roads in Read Only mode

User 2
- can access Classified Roads in Read Only Mode
- can access Local Roads in Normal mode

User 3
- can access Classified Roads and Local Roads in Read Only mode

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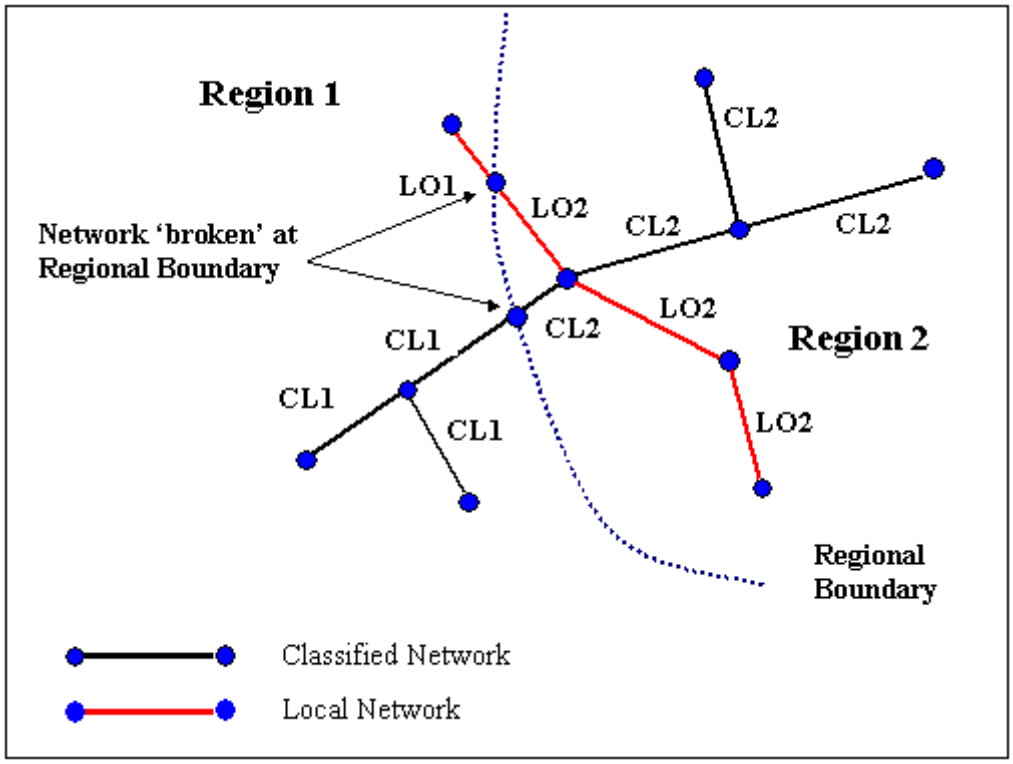
Scenario 2

In this scenario the Road network is maintained within Regional areas. Each Region has network maintenance responsibilities for ALL Roads within it's Region and does NOT require any access to the network outside its Region. A third User requires Read Only access to the complete Network.

To facilitate this level of security the Network must be 'broken' at the Regional Boundary.

Figure 3



The following Admin Units have been granted to the appropriate Users.

User	Admin Units	Mode
User 1 (Region1)	CL1 LO1	Normal Normal
User 2 (Region2)	CL2 LO2	Normal Normal
User 3	CL LO	Read Only Read Only

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From this arrangement of Admin Types the following securities will be invoked:

User 1
- can access Classified and Local Roads located within Region 1 in Normal Mode
- has No access any Roads in Region 2

User 2
- can access Classified and Local Roads located within Region 2 in Normal Mode
- has No access any Roads in Region 1

User 3
- can access Classified Roads and Local Roads from both Regions in Read Only mode

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Scenario 3

In this Scenario Asset is introduced. As explained earlier in this section, Regional Admin Unit security may be administered by Asset location. When an Item of Asset is located on part of a Network, the Admin Unit over the extent of the location is 'denormalised' to the Admin Unit of the located Asset Item. Further Asset Items of the same Admin Type cannot be located on the same extent of Network if the Admin Unit is at the same or a lower level within the hierarchy or is of a different Admin Type.

To provide Regional Admin Unit based security by means of Asset location, Asset Items of Type ***REGO – Region***, have been located on the Network. This Asset Type has an associated Admin Type of **REGO**. The Admin Unit hierarchy for this Admin Type is displayed in Figure 4.

Note that the User locating this Asset MUST be an 'Unrestricted' User as defined in the Users – HIG1832 module, to by-pass the invoked Admin Unit security.

A further Admin Type (***CONT***) has been added to allow security on Sign Items. The maintenance of Signs is the responsibility of 2 competing Contractors, each Contractor working within the same Regional Areas. Each Contractor must not have access to the Sign details maintained by the other.

The Admin Unit hierarchies for Admin Types REGO and CONT are displayed in Figure 4.

Figure 4

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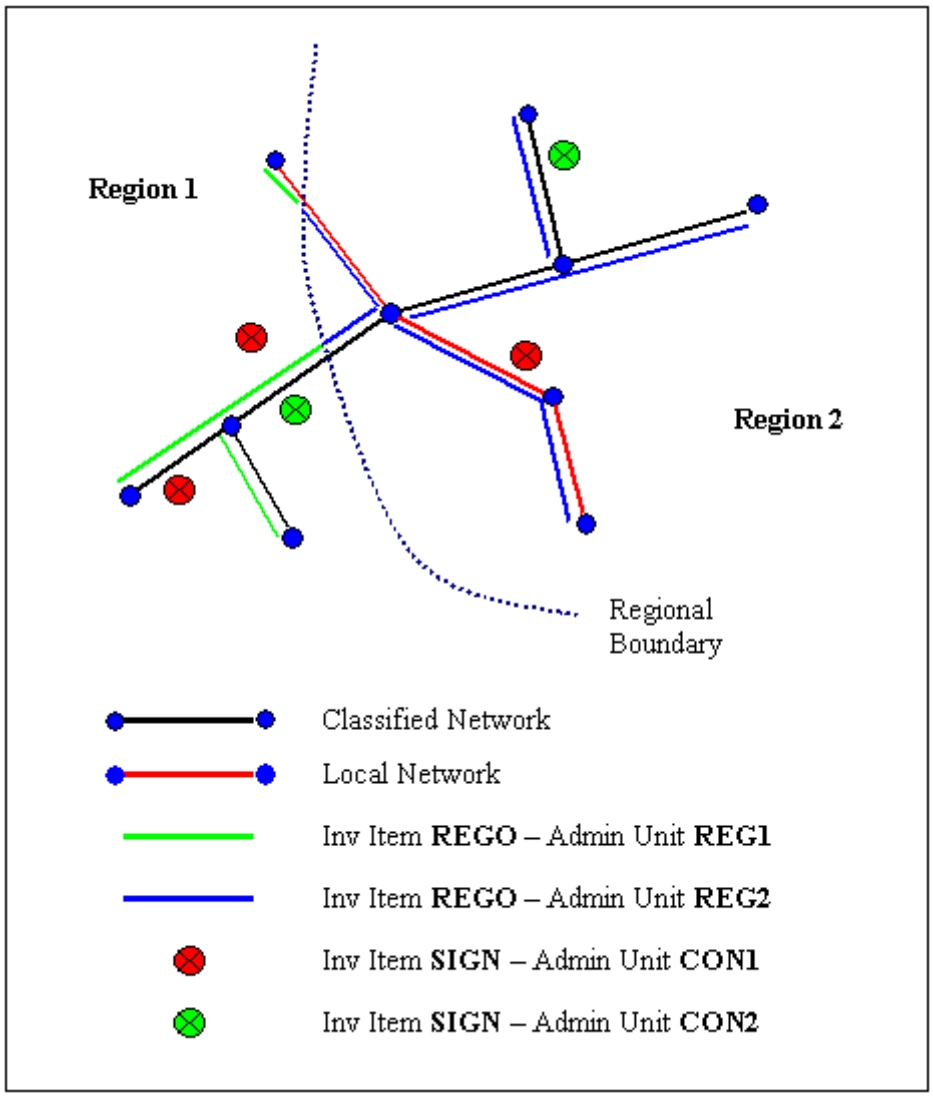
Figure 5



The following Admin Units have been granted to the appropriate Users.

User	Admin Units	Mode
User 1	CL1 LO1 REG1 CON	Normal Normal Normal Read Only
User 2	CL2 LO2 REG2 CON	Normal Normal Normal Read Only
Contractor 1	CL LO CON1	Read Only Read Only Normal
Contractor 2	CL LO CON2	Read Only Read Only Normal

From this arrangement of Admin Types the following securities will be invoked:

User 1 - can access Classified and Local Roads located within Region 1 in Normal Mode

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- has No access any Roads in Region 2
- can access all Asset Items of any Type with an Admin Unit of REG1 in Normal Mode
- can access all Signs in Read Only Mode

User 2
- can access Classified and Local Roads located within Region 2 in Normal Mode
- has No access any Roads in Region 1
- can access all Asset Items of any Type with an Admin Unit of REG2 in Normal Mode
- can access all Signs in Read Only Mode

Contractor 1
- can access ALL Classified and Local Roads in Read Only Mode
- can only access Signs with an Admin Unit of CON1 in Normal Mode

Contractor 2
- can access ALL Classified and Local Roads in Read only Mode
- can only access Signs with an Admin Unit of CON2 in Normal Mode

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Admin Unit Security on Network Data

Admin Unit security on Network Data is imposed on a User by virtue of the Admin Unit(s) and Mode of access the User has been granted in the ***Users - HIG1832***.

Users may access ALL Network data irrespective of the Admin Units granted, i.e. all Groups and Datum Network Elements may be viewed in READONLY mode, but will only have NORMAL access to those Groups or Datum Network Elements with Admin Units to which the User has been specifically been granted NORMAL access. A User will not be permitted to update a Group or conduct a Network operation, e.g. Split, on any part of a Network with an Admin Unit to which they have not been granted NORMAL access.

Consider an example.

Figure 6

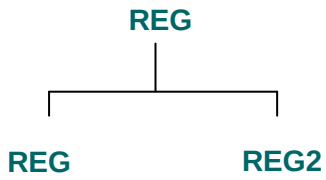
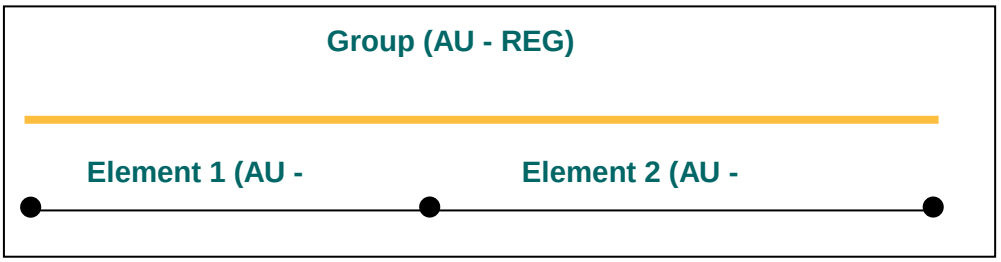


Figure 6 displays the Admin Unit hierarchy used to secure a Network. A Group has been created with an Admin Unit of REG, with 2 member Elements. Element 1 has an Admin Unit of REG1 whilst Element 2 has an Admin Unit of REG2 as displayed in Figure 7.

Figure 7



The following Admin Units have been granted to the appropriate Users.

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User	Admin Units	Mode
User 1	**REG1**	**Normal**
User 2	**REG**	**Normal**

From this arrangement of Admin Types the following Network securities will be invoked:

User 1
- can access the Group in READONLY mode
- can access Element 1 in NORMAL mode
- can access Element 2 in READONLY mode

User 2
- can access the Group in NORMAL mode
- can access Element 1 in NORMAL mode
- can access Element 2 in NORMAL mode

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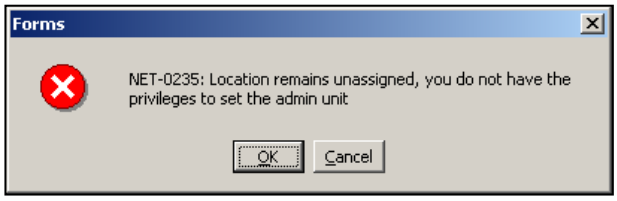
Assigning an Admin Unit to a Network Location

As demonstrated in Scenario 3 when an Item of Asset is located on part of a Network, the Admin Unit over the extent of the location is 'denormalised' to the Admin Unit of the located Asset Item. Further Asset Items cannot be located on the same extent of Network if the Admin Unit is at the same or a lower level within the hierarchy or is of a different Admin Type, unless the User locating the Asset Item has been flagged as '**Unrestricted**' in ***Users –*** *HIG****-1860***.

In order for a 'restricted' User to locate Asset the Network location must have an Admin Unit assigned to it by placing an initial continuous Asset Item over the extent of the required network. ***An Unrestricted User must do this***. This should form part of the business process flow when any new Network is created.

If a 'restricted' User attempts to locate an Item on an 'Unassigned' extent of network the message displayed in Figure 8 will be displayed.

Figure 8



If multiple Admin Types have been used when defining Asset Types, an 'assigning' Asset Type must be added to the Network for each Admin Type.

Consider an example.

Two discreet business units exist within an Organisation. The first is responsible for Signs, the second responsible for Pavement. Two Asset Types and Admin Unit Hierarchies have been defined as displayed in Figure 9.

Figure 9

Each business area has different Administrative boundaries. To facilitate this, each business unit has defined an Asset Type to represent an administrative area. These are SREG for Signs and PREG for Pavement with Admin Types

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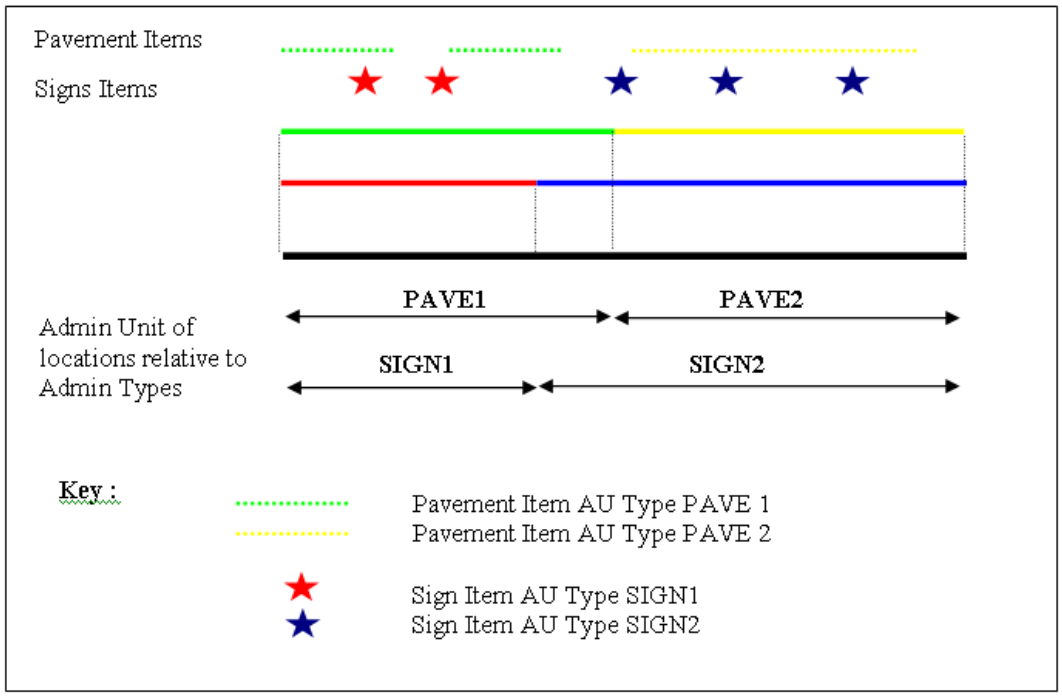
of SIGN and PAVE respectively. Figure 10 displays how part of a Network may be assigned under these circumstances.

Figure 10



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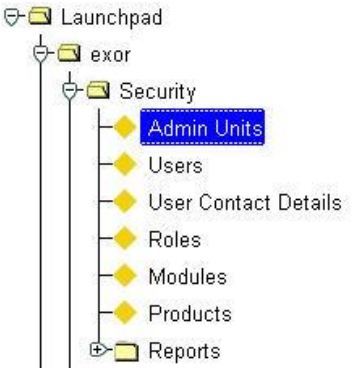
Admin Units – HIG1860

Figure 11
Admin Unit Menu



The Admin Unit structure is fundamental to the operation of the ***Exor*** system. This module allows an organisation to define the Administration Types and associated Admin Unit hierarchies to be used.

Exor supports multiple Admin Types that can be used to impose different security regimes on different Asset Types. Each Admin Type may have only one 'parent' or top-level Admin Unit.

Each top level Admin Unit may have many subsidiary or 'child' Admin Units representing the next level in an Administration Unit hierarchy. The 'child' Admin Units are defined in the 'Child Admin Unit(s)' panel. Each of these subsidiary Admin Units may also have many subsidiary or 'child' Admin Units to represent lower levels such as departments or area offices. The Admin Unit hierarchy for an Admin Unit Type may contain an unlimited number of levels.

The Admin Unit hierarchy is displayed graphically in the 'Tree' panel. Double Clicking an Admin Unit within the 'Tree panel' will make that Admin Unit the current 'Parent Admin Unit' within the form.

Figure 12
Admin Units

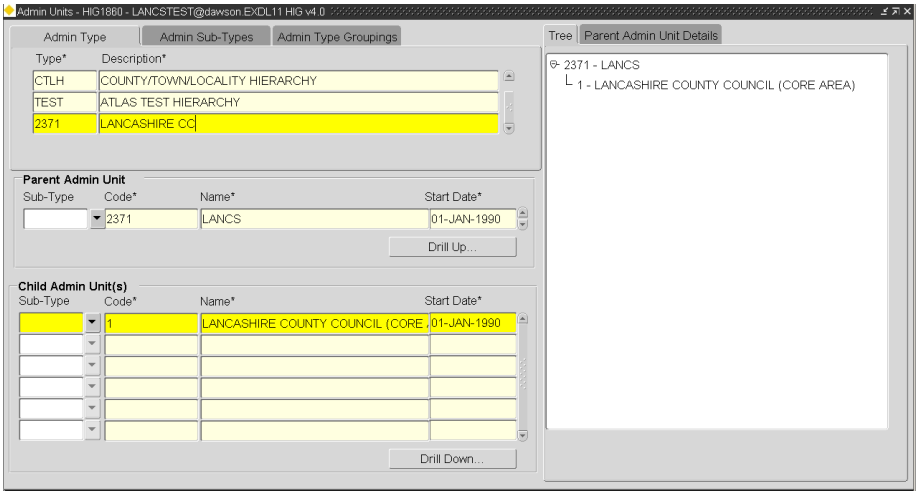


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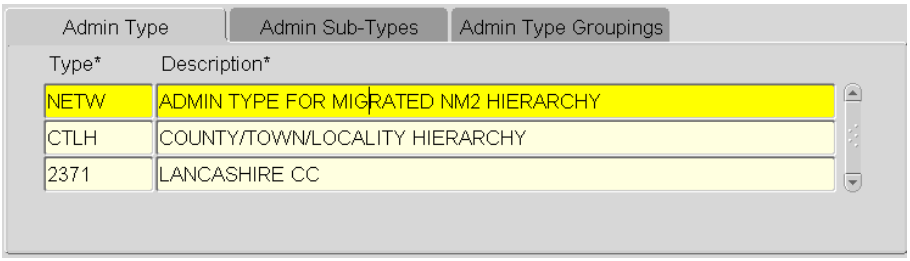
Figure 13



Admin Type Panel

When you enter this module any Admin Types and associated Admin Units previously defined will be displayed. Use the [***Next Record***] button on the menu toolbar or the scroll bar to navigate through the defined Admin Types and view the associated Admin Units.

Admin Type (Required)

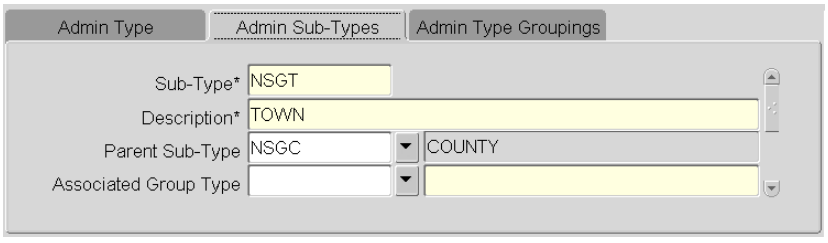
Enter the code for the Admin Type. A maximum of 4 characters is allowed.

Description (Required)

Enter a description for the Admin Type. A maximum of 80 characters is allowed.

Note that Admin Types may be saved before adding any Subsidiary Admin Units.

Figure 14



Admin Sub-Types

Admin Sub-Types are used within Street Gazetteer Manager to establish the hieratchical relationship beween Counties, Towns and Localities. These Sub -Types are system generated and MUST NOT be amended.

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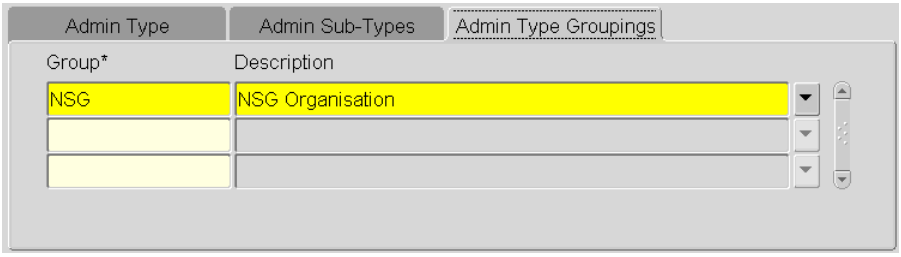
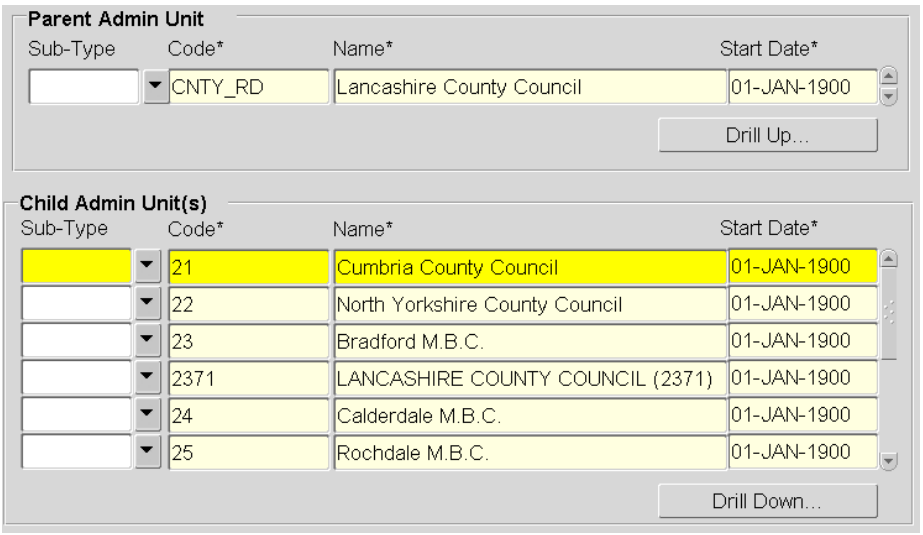
Figure 15



Admin Type Groupings

Admin Type Groupings are used within Street Gazetteer Manager to define Admin Units of a certain Type as 'Orgs and Districts' and to 'Lock' the County/ Town and Locality. These Admin Type Groupings are system generated and MUST NOT be amended.

Figure 16



Parent Admin Units

Sub-Type

Not currently used. Reserved for future product enhancement

Code (Required)

Enter the code for the **Top Level** or '**Parent**' **Admin Unit** for the currently selected **Admin Type**.

Name (Required)

Enter the name for the Admin Unit. A maximum of 40 characters is allowed.

Note that the Admin Unit Code and Name will be displayed in any list of values for this Admin Type.

Start Date (Required)

Enter the effective date for the Admin Unit.

Note that no Asset Items or other objects associated with an Admin Unit or any of its Subsidieries may be added before the Admin Unit start Date.

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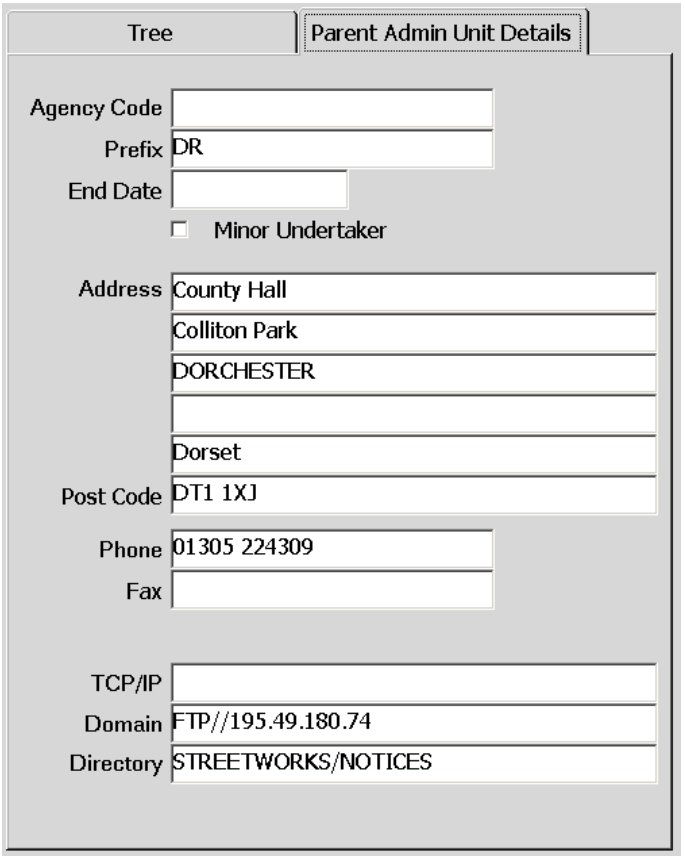
Further details may be added for the curent ‘ Parent Admin Unit’ using the ‘Parent Admin Unit Details’ panel on the right hand side of the form. This is shown in Figure 17.

Figure 17
Admin Unit Details



Parent Admin Unit Details

The Admin Unit Details window allows further details to be added for each Admin Unit.

Agency Code **(Optional)**

If required enter the Agency code for the Admin Unit. This may be used in certain implementations where RMMS networks are maintained (within the UK).

Prefix (Optional)

If the Admin Unit represents an Organisation within Street Works Manager, enter the 2 digit prefix for the Organisation.

End Date **(Optional)**

Enter the date at which the Admin Unit ceases to be effective.

Address (5 Lines) **(Optional)**

Enter the Address for the Admin Unit. Each line has a maximum of 60 characters available.

Postcode (Optional)

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Enter the postcode for the Admin Unit.

Phone **(Optional)**

Enter a Phone Number for the Admin Unit. A maximum of 20 Characters is available.

Fax **(Optional)**

Enter a Fax Number for the Admin Unit. A maximum of 20 Characters is available.

TCP/IP, Domain and Directory

These fields allow the definition of communication protocols used by a Street Work Organisation to specify where Street Works Batches are received and sent from.

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Child Admin Unit

To create a Subsidiary or 'Child' Admin Unit' click in the 'Code' field of the Child Admin Unit 'panel and press the [**Create Record**] button on the toolbar if required.

Sub-Type

Not currently used. Reserved for future product enhancement

Code **(Required)**

Enter a unique subsidiary admin unit code. Note that Admin Unit Codes need only be unique within the associated Admin Unit Type.

Name **(Required)**

Enter the full name of the Child Administration Unit.

Start Date **(Required, Default)**

Enter the effective date for the Subsidiary Admin Unit. The Start Date will default to the Start Date of the Parent Admin Unit.

Note that no Asset Items or other objects associated with an Admin Unit or any of its Subsidieries may be added before the Admin Unit start Date.

Before the remaining details may be entered for the Subsidiary Admin Unit the record must be saved. Press the ***[Save]*** button on the menu toolbar.

At this point if you highlight the new Child Admin Unit and press the [***Drill Down***] button this will move the Child Admin Unit to the 'Parent Admin Unit' panel. Enter further details for the Admin Unit as previously described using the 'Parent Admin Unit Details' panel.

To create another lower level in administration unit hierarchy repeat this process.

Once created the Admin Units may be assigned to a User using ***Users – Hig1832***.

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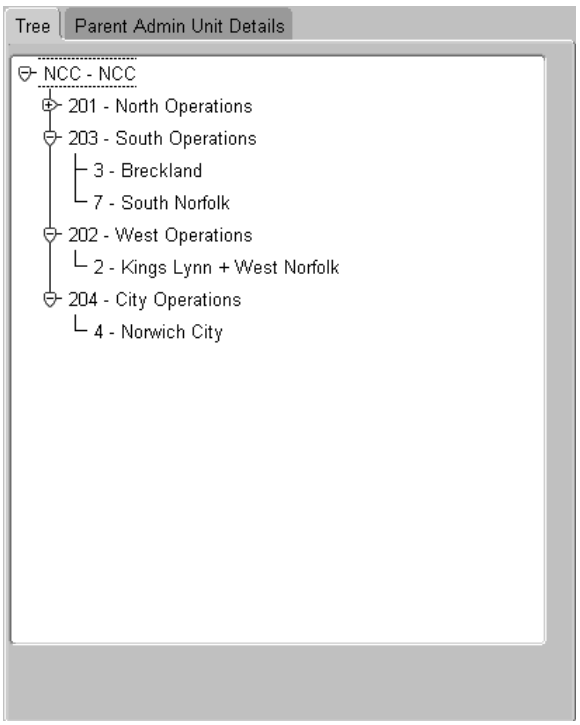
Figure 18



Admin Unit Hierarchy Browser

This panel is for display purposes only and is depicts the Admin Unit Hierarchy. The hierarchy may be 'expanded' or 'collapsed' by pressing the [-] collapse or [+] expand icons as appropriate.

Double Clicking and Admin Unit within the browser will cause the selected Admin Unit to become the 'active parent Admin Unit' and be displayed in the Admin Unit Panel.

The AU Hierarchy Browser will always display the currently selected 'Parent Admin Unit', i.e. the Admin Unit displayed in the 'Admin Unit' Panel, at the top of the 'tree'.

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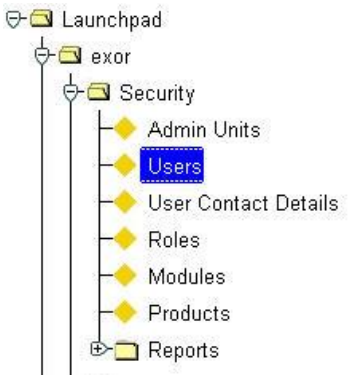
Users - HIG1832

Figure 19
Users Menu



Before an individual can access the ***Exor*** system they must be set up as a 'User'. A User is associated with a 'username' to uniquely identify that individual and a 'password' to ensure that only that individual can log in under their own username. Passwords may be changed using ***HIG1833 - Change Password*** (see General User Guide).

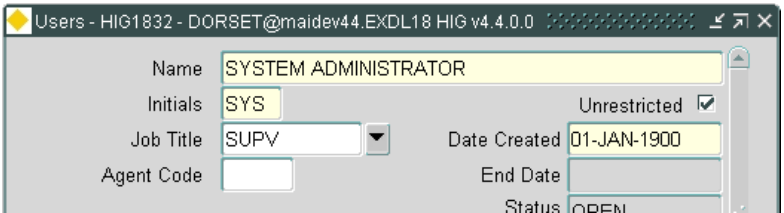
Each User is granted the appropriate Roles and Admin Units required for the tasks that they must perform and the data the need to access within the System. The Roles granted to a User determine the Exor Modules, Asset Types or Merge Query Results that the User may access (the mode of access to a module is defined using ***Roles - HIG1836*** or ***Modules - HIG1880***). The Admin Units granted to a User determines what data the User may access.

Each User may have a set of 'switches' or default values that affect how certain modules work. These are called User Options. User Options are similar to Product Options but are specific a User and not all Users of the System as is the case for a Product Option. Some User Options are also specified as Product Options, e.g. **SHOWINVPK**. If this is the case the value of the User Option (if assigned) will take precedence. Pressing the User Option Tab and selecting the required option from the available list and adding the appropriate value may define the User Options for each User. User Options may also be maintained using ***User Options - HIG1838*** (Page 89) or ***User Option Administration - HIG1837*** (Page 90).

Notes

- **User options are not mandatory.**
- **Only Users who have been granted the User Role HIG_USER_ADMIN may create other Exor Users.**
- **The Work Order Tab is only displayed if Maintenance Manger has been installed and licenced.**

Figure 20



Name **(Required)**

Enter the name of the individual for whom you are creating a user. This must by unique within the system. A maximum of 30 Characters is allowed.

Initials **(Required)**

Enter the initials of this user. This must be unique within the system. A maximum of 3 characters is allowed.

Job Title **(Required)** **List**

Enter an existing Job Title Code.
These codes are set up using Domains - HIG9120 and updating the PEO_TITLE_CODE option.

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Unrestricted **(Checkbox)**

If a User is 'Unrestricted' they may place Asset Items on a Network irrespective of the Admin Unit of the Asset Item or the Network Element. An Unrestricted User has access to all Asset Types and Items and Merge Queries irrespective of the User Roles or Admin Units granted to them.

Note that the following Network Operations may only be carried out by a User who is Unrestricted.

- **Close Element**
- **Close Route**
- **Reclassify**

Date Created **(Required)**

Enter the date from which the user is to be active. This will default to the current date but can be amended as required.

End Date **(Optional)**

Enter the date from which the user is to be end dated. This is done by pressing the [**Delete Record**] button, followed by the [**Save**] button.

Status **(Display Only)**

The Status of the user will be displayed

Admin Unit **(Optional)** **List**

Enter an existing Admin Unit Code.
These codes are set up using ***Admin Units - HIG1860***

Note that this Admin Unit is only used for administering admin unit security in Maintenance Manager and UKPMS. Network and Asset security is administered through the use of Admin Units entered in the Admin Units panel displayed be pressing the Admin Units tab.

Username (Required)

Enter the username by which this user will be known. This is the name that the User will use to log onto the system. A maximum of 30 characters is allowed.

Password **(Required)**

Enter the password for this user. Note that this password will not be visible as you type.

A User in HIG1833 - Change Password, may change passwords.

Temp. Tablespace **(Required)** **List**

Select a tablespace name from the List of Values. The Temp.Tablespace selected must have been created by the Exor owner during the installation process.

Default Tablespace **(Required, Default)** **List**

The field will default to the value defined for Product Option **USRTBLSPCE** in ***Product Options - HIG9130***.

Quota **(Required, Default)**

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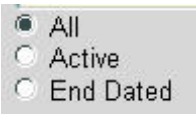
This is the default quota for the User Table space. The field will default to the value defined for Product Option **USRQUOTA** in ***Product Options - HIG9130***.

Profile **(Required, Default)**

This is the Oracle User profile and the value will default to the value defined for product option **USRPROFILE** in ***Product Options - HIG9130.***

Figure 21



The radio group at the base of the user details and above the **Roles** tab can be used to modify the basic query on the data.

- All – the query will have no restrictions
- Active – will query back only records that are current
- End Dated – will query back only records that have been end dated

When the button is selected the records will automatically re-query.

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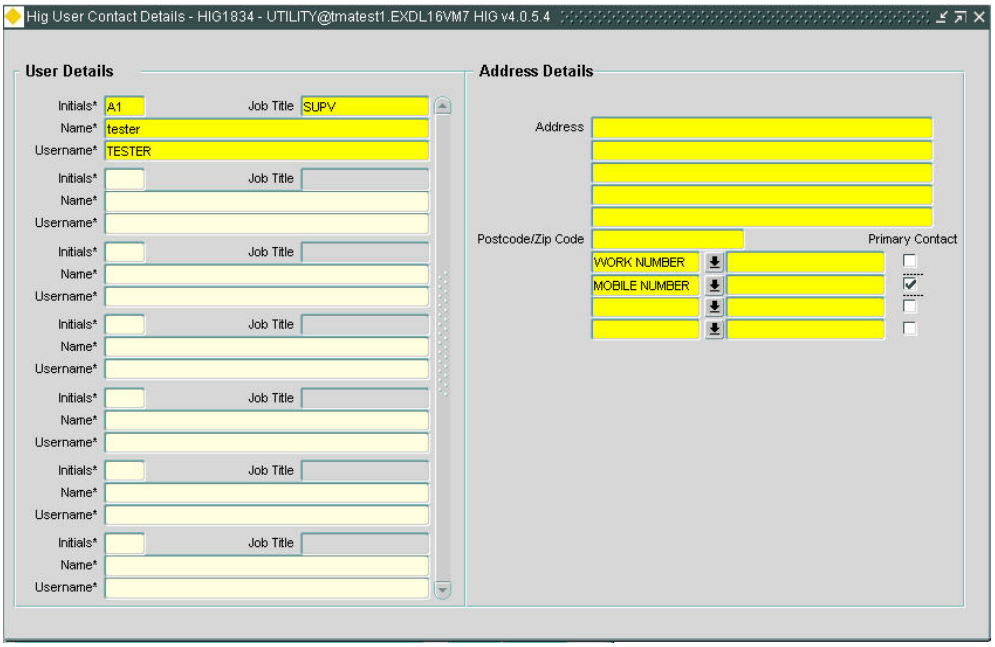
Reactivate User

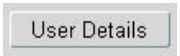
When an end dated record is displayed the [**Reactivate User**] button

becomes active. This button can be used to unlock the user account.

Figure 22



User Details

Selecting the [**User Details**] button 

will call ***Hig User Contact Details – HIG1834*** and show details of the selected user.

Initials	(Display Only)

The user initials of the user will be displayed.

Job Title	(Display Only)

The job title of the user will be displayed.

Name	(Display Only)

The name of the user will be displayed.

Username	(Display Only)

The username of the user will be displayed.

Address	(Optional)

Enter the address of the user.

Postcode/Zip Code	(Optional)

Enter the postcode of the address for the user.

The options for the next 4 fields are defined in ***Domains – HIG9120*** under the option **USER_CONTACT_TYPES**. The system values for these fields are:

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- WORK - work number
- MOBILE - mobile number
- HOME - home number
- FAX - fax number

These can be added to as appropriate.

Primary Contact	(Checkbox)

Only one number can be selected as the primary contact number.
If the user has been logged as an inspector in form ***Inspectors – TMA5290*** then the primary contact number will be recorded against the Inspector in form ***Inspections – TMA5000*** and will be printed on the ***Works Inspection Report – TMA6000***.

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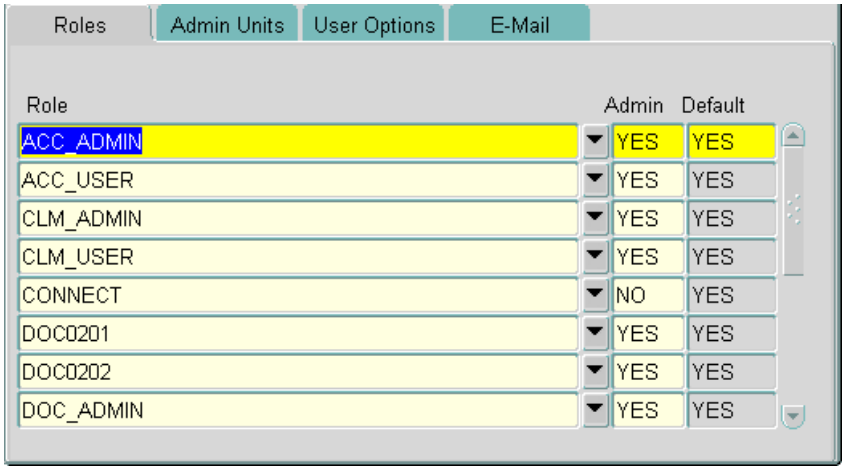
Each Exor User must be associated with at least one User Role to allow the User record to be saved. To add Roles to a User press the 'Roles' tab.

Figure 23



Roles

The Roles granted to a User determine the Exor Modules, Asset Types or Merge Query Results that the User may access (the mode of access to a module is defined using ***Roles - HIG1836*** or ***Modules - HIG1880***).

Note that each User must be granted *HIG_USER* in order to access *Exor*. The modules associated with the *HIG_USER* role may be amended as required.

Role (Required) List

Select a role from the List of Values.
These roles are pre-defined using ***Roles - HIG1836***

Before passing details of the new user to the individual concerned, it is usually a good idea to log out and log in again using the new username and password. Ensure that this new user can access only the required forms and reports within the system.

Admin (Required)

A value of 'YES' should be entered if the current User may grant this Role to another User, otherwise 'NO' should be entered.

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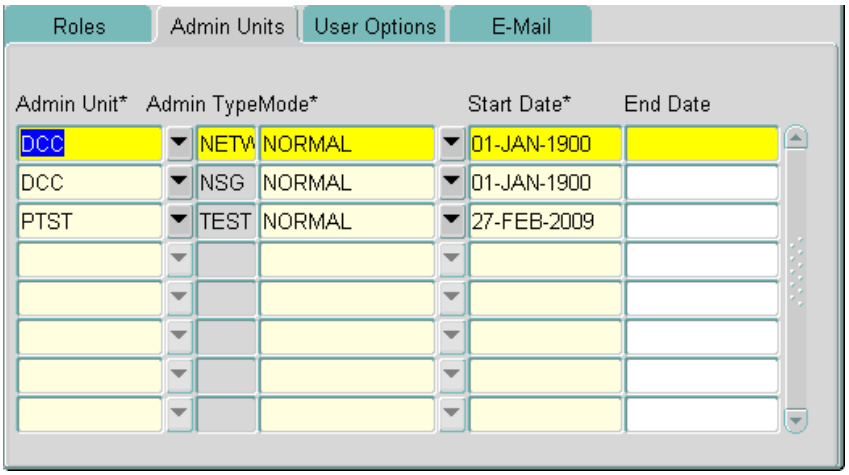
Figure 24



Admin Units

The Admin Units Panel allows Admin Units of any Admin Type to be 'granted' to a ***Exor*** User. It also allows the Mode of access to an object type to be defined. For example, a User may have 'Normal' access to the Asset Module, but may only have Readonly access to certain Asset Items displayed on the form.

A User may be granted access to many Admin Units.

Admin Unit **(Required)** **List**

Enter the Admin Unit to be granted to the User. The List of Values displays all admin units of all admin types.

Admin Type **(Display Only)**

The Admin Type of the selected Admin Unit will be displayed.

Start Date **(Required)**

Enter the Date from which the Admin Unit is granted to the User.

End Date **(Optional)**

Enter the Date from which the Admin Unit is revoked from the User.

Mode **(Required)**

Enter the Mode of access to the Admin Unit. This will be either Normal or Readonly.

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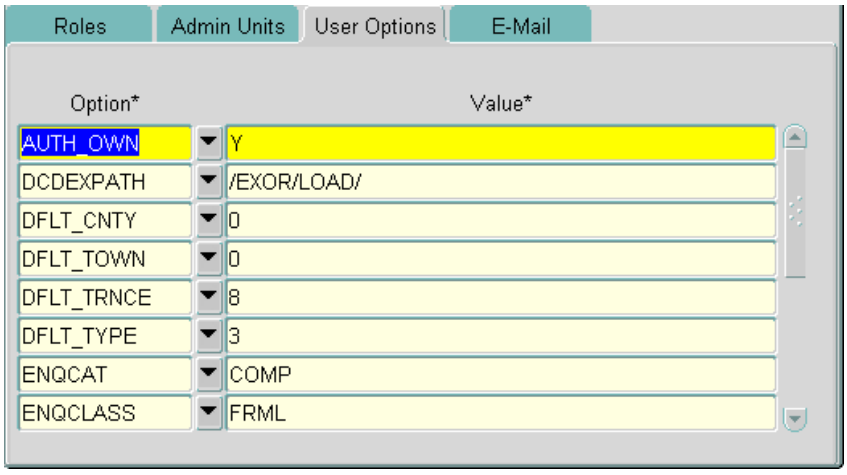
Figure 25



User Options

Each User may have a set of 'switches' or default values that affect how certain modules work. These are called User Options. User Options are similar to Product Options but are specific a User and not all Users of the System as is the case for a Product Option. Some User Options are also specified as Product Options, e.g. **SHOWINVPK**. If this is the case the value of the User Option (if assigned) will take precedence. User Options may also be maintained using ***User Options - HIG1838*** (Page 89), ***User Option Administration - HIG1837*** (Page 90) or preferably the User Options tab in the User Preferences tab of HIG1840 -User preferences (General User Guide).

For a description of each User Option refer to the Product Option sections of this guide.

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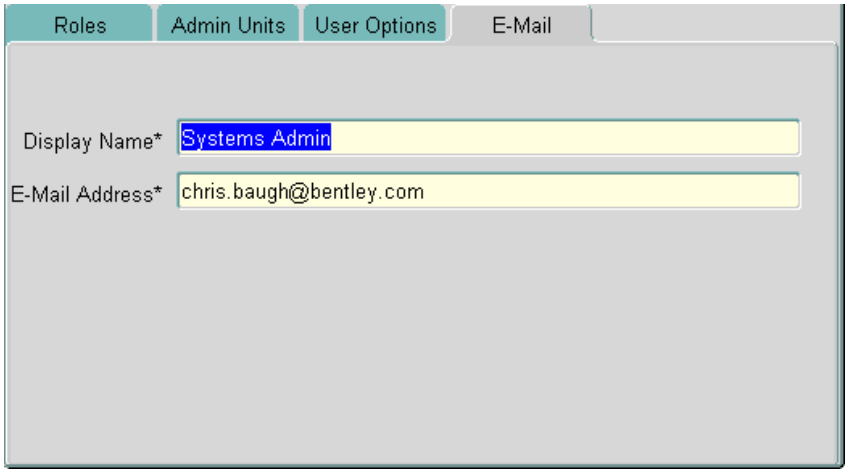
Figure 26



E-Mail

The E-Mail panel allows an e-mail display name and address to be added for each User. This may be used in conjunction with the MapCapture Loaders, CSV Loader etc.
See the Alert Manager guide for the use of the email address for auto emailing users.

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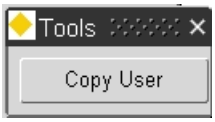
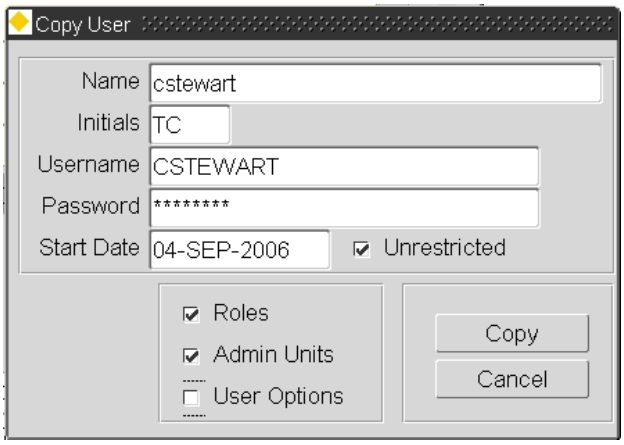
Figure 27



User Tools

The User Tools floating Toolbar contains Tools and utilities relating to Exor Users. The Toolbar may be toggled on/off by pressing the **[Toolbar]** button on th main Menu Toolbar.

Figure 28



Copy User

The Copy User utility allows an existing Exor User and optionally the Roles, Admin Units and User Options associated with that User to be copied and thus create a new User. This would allow User Templates to be created to assist the Systems Administrator with creating and managing New Users.

Note that the User must have the HIG_USER_ADMIN Role in order to copy a User.

Name (Required)

Enter the name of the individual for whom you are creating a user. This must by unique within the system. A maximum of 30 Characters is allowed.

Initials (Required)

Enter the initials of this user. This must be unique within the system. A maximum of 3 characters is allowed.

Username (Required)

Enter the username by which this user will be known. This is the name that the User will use to log onto the system. A maximum of 30 characters is allowed.

Password (Required)

Enter the password for this user. Note that this password will not be visible as you type.

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Passwords may be changed by a User in ***HIG1833 - Change Password.***

Start Date	(Required)	Default
Enter the Date on which the User will become 'Active'. The User will not be allowed to access the system until this Date. The default Date is the current System Date.		

Unrestricted	(Checkbox)
Check this box if the new User is to be 'Unrestricted'.	

Roles	(Checkbox)
Check this box to copy the selected Users Roles	

Admin Units	(Checkbox)
Check this box to copy the selected Users Admin Units	

User Options	(Checkbox)
Check this box to copy the selected Users User Options	

To copy the User press the **[Copy]** button. A dialogue will be displayed asking the User to confirm the copy. Press **[Yes]** to continue.

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Hig User Contact Details - HIG1834

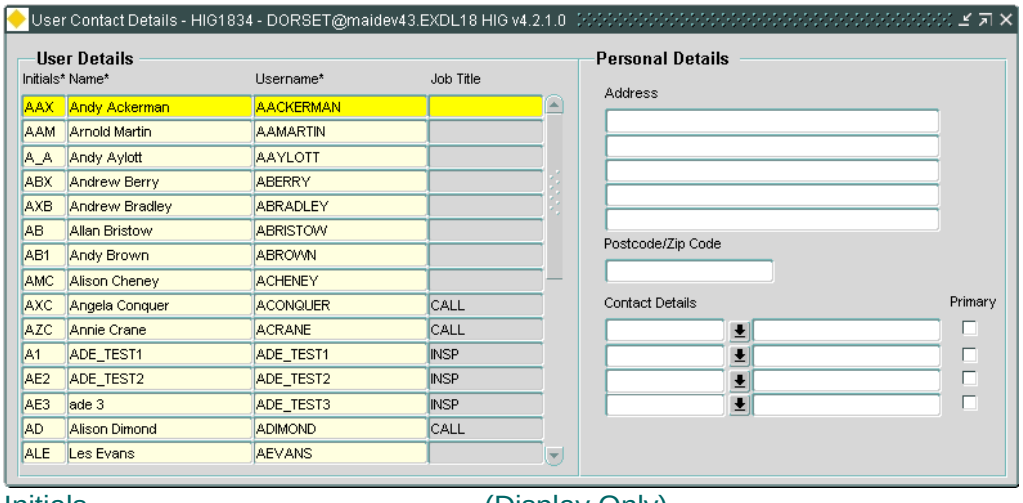
Figure 29
Users Menu

for a particular user from form ***Users –***
· **Details**] button.
Users are set up using form ***Users – HIG1832***. This information will be displayed in the **User Details** part of the form.

In the **Address Details** part of the form further contact details can be added to the user record including address and contact numbers. The contact number list are defined in ***Domains – HIG9120*** under the option **USER_CONTACT_TYPES**.

If the user has been logged as an inspector in form ***Inspectors – TMA5290*** then the primary contact number will be recorded against the Inspector in form ***Inspections – TMA5000*** and will be printed on the ***Works Inspection Report – TMA6000***.

Figure 30



Initials (Display Only)

The user initials of the user will be displayed.

Job Title (Display Only)

The job title of the user will be displayed.

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Name (Display Only)

The name of the user will be displayed.

Username (Display Only)

The username of the user will be displayed.

Address (Optional)

Enter the address of the user.

Postcode/Zip Code (Optional)

Enter the postcode of the address for the user.

Contact Details (Optional)

The options for the next 4 fields are defined in ***Domains – HIG9120*** under the option **USER_CONTACT_TYPES**. The system values for these fields are:

- WORK - work number
- MOBILE - mobile number
- HOME - home number
- FAX - fax number

These can be added to as appropriate.

Primary Contact (Checkbox)

Only one number can be selected as the primary contact number.
If the user has been logged as an inspector in form ***Inspectors – TMA5290*** then the primary contact number will be recorded against the Inspector in form ***Inspections – TMA5000*** and will be printed on the ***Works Inspection Report – TMA6000***.

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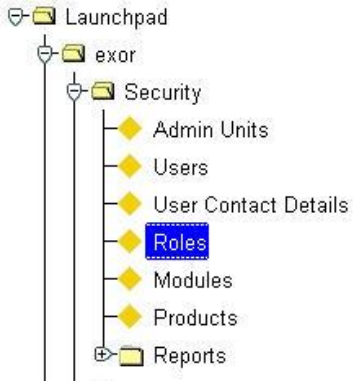
Roles - HIG1836

Figure 31
Roles Menu



At the core of the ***Exor*** security system are the Modules through which the end User accesses the forms. These Modules are grouped together into 'Roles' each of which consists of several related Modules. When creating a new User the User is associated to one or more 'Roles'. When the User logs on to the system they are presented with access to only those Modules that appear in the Roles to which that User is linked.

Asset Types are also secured via User Roles. When a new Asset Type is defined using the ***Asset Metamodel - NM0410*** form (see Asset Manager System Admin Guide) one or more User Roles are specified for the Asset Type. To access any Items of that Type a User must have been granted the appropriate User Role(s).

As well as restricting the Modules and Asset Types that are available to a User it is also possible to restrict the access that a User has to specific Modules. This is achieved by limiting the access rights to the Modules within the Roles Module (the mode of Access to Items of Asset is controlled using the 'Roles' tab in the Asset Metamodel module). The user can have either 'Normal' or 'Read Only' access to any of the Modules.

The use of Modules allows you to customise the standard Exor menus to improve usability as well as adding an extra level of security to the system.

Each Role within Exor must have a set of Modules associated with it. Any Users who are assigned a particular role will have access to all the Modules within the Role.

Note that each User must be Granted the HIG_USER Role.

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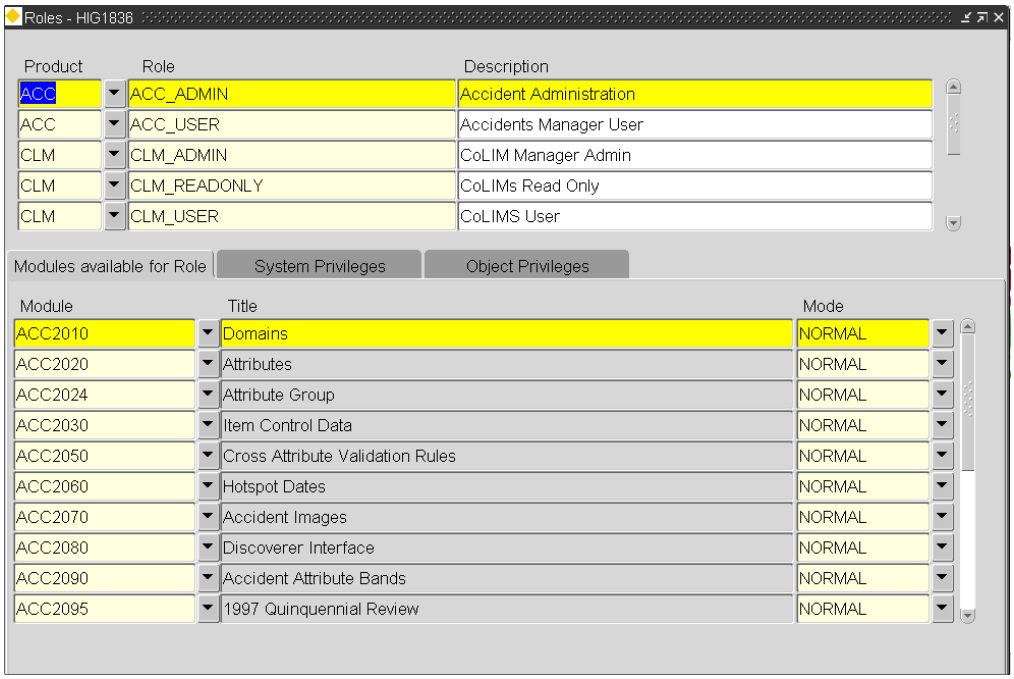
Figure 32



Roles

Product (Required) (List)

Select the Exor Product this Role is associated with.

Note that Modules from other Exor Products as well as the selected Product may be associated with the Role.

Role (Required)

Enter the name of the User Role. The name of the Role must not contain spaces or special characters such as '***/***',':' or ','.

Description (Required)

Enter a Description for the User Role.

Modules Available for a Role

The Exor Modules, and Mode of access a User may have to a Module, are associated with a User Role via the 'Modules Available for a Role' tab. Exor Modules are defined and 'registered' within the system using ***Modules - HIG1880***.

Note that Roles may also be asscoiated with Modules using the Modules form.

Module (Required) (List)

Select the required Exor module to associate with the User Role. Modules must first have been 'registered' using ***Modules-HIG1880*** (this is done during Installation or Upgrade process's).

Description (Display Only)

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The Module Description as defined in the Modules form will be displayed. This is the Name which is displayed in the windows Title Banner of the Module.

Mode	(Required)	(List)

Select the Mode of Access a User will have to the Module by virtue of having been granted this Role. The options are :

- **NORMAL**
- **READONLY**

A User may have **NORMAL** access to a Module by virtue of a granted Role, but may only have **READONLY** access to some or all of the data displayed within the Module. For example, a User with **NORMAL** access to the ***Asset Items - NM0150*** module may only have READONLY access to an Asset Type of SIGN. In this case the **READONLY** mode takes precedence.

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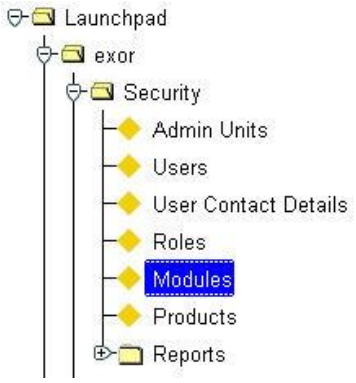
Modules - HIG1880

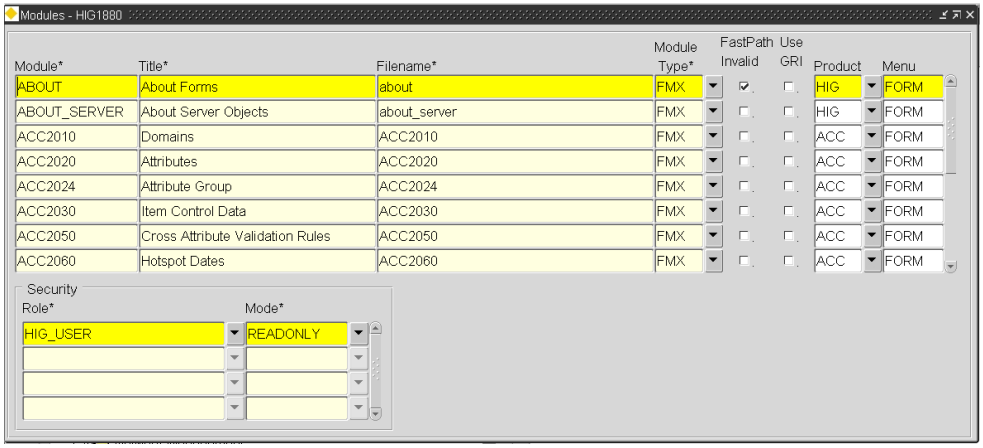
Figure 33
Modules Menu



The Modules - HIG1880 form is used to 'register' Exor modules, Reports etc, within the system.

This data is defined at the time of Implementation / Upgrade and should only be amended under strict supervision or control of Exor support staff.

Figure 34



Module (Required)

The Module Id will be displayed. This is the Unique Id of the Module used within the Fastpath module.

Module Title (Required)

This is the Description of the Module which is displayed in the Windows Title Banner when using the Module.

Filename (Required)

This is the name of the actual Oracle Forms, web page, Discoverer Report etc that is called when the Module is Launched.

Module Type (Required) (List)

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This is the Type of the Module. These include:

- FMX Forms Executable
- WEB Web Page
- DIS Oracle Discoverer Report
- SVR Server Based Executable (inc SQL)

FastPath Invalid (Checkbox)

If this flag is selected the Module cannot be called from the Fastpath option (see the General User Guide)

Use GRI (Checkbox)

If this checkbox is selected the module will use the Generic Reporting Interface (GRI) (page 103) when called.

Product (Required)

The Exor product to which the Module belongs will be displayed.

Any User Roles, and the Mode of access, to which the Module has been associated will be displayed in the Roles Panel. Further Roles may be associated with the module using this form, or the Module may be associated with the Role using the ***Roles - HIG1836*** (page 43) module.

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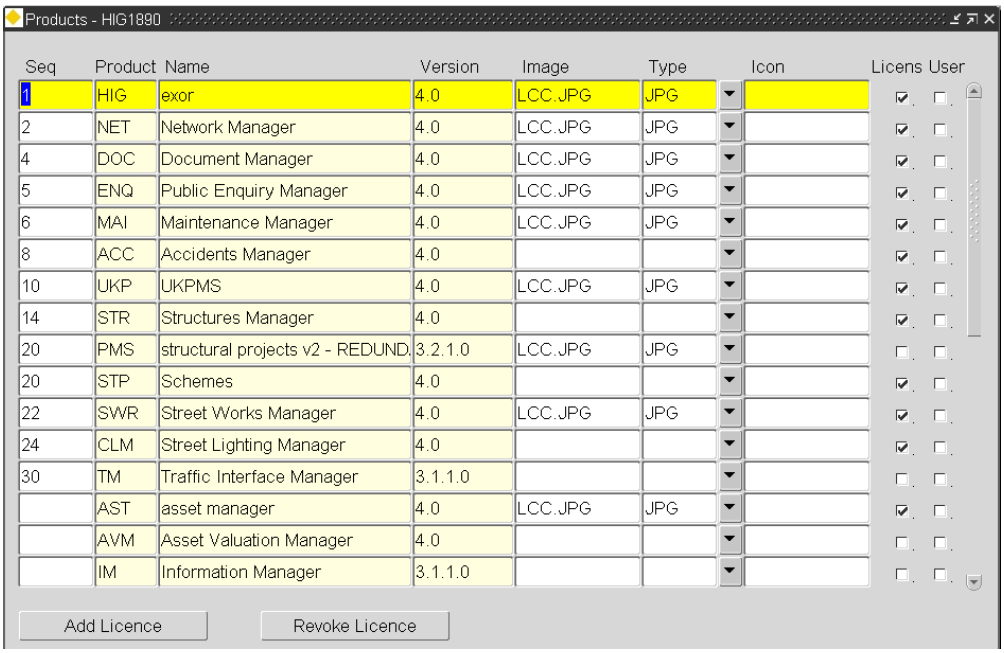
Products - HIG1890

Figure 35
Products Menu

The Products Module is used to Add or Revoke Exor Product Licences and to define any images or icons to be used on the Exor Launchpad or Application Button respectively.

PRODUCT LICENCES MUST NOT BE ADDED OR REVOKED WITHOUT THE EXPRESS PERMISSION OF EXOR SUPPORT STAFF.

Figure 36



Seq

The sequence number of a Product determines the display order of the Licensed Products on the Exor Launchpad.

Product

The 3 Letter Product code will be displayed, e.g. **NET** - Network Manager

Name

The Product Name will be displayed, e.g. Network Manager

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Version

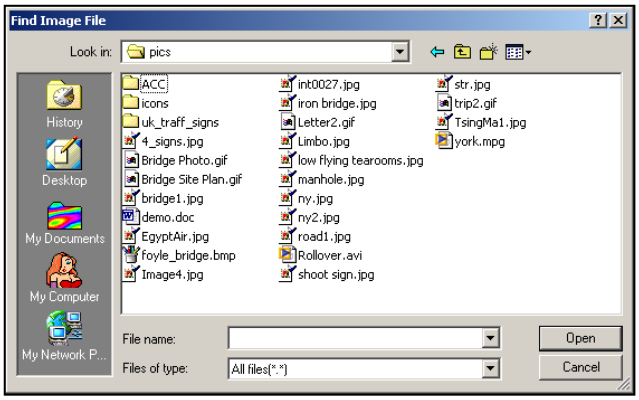
The currently installed Version of the Product will be displayed.

Image (Optional)

User definable Images may be displayed on the Exor Launchpad, with each Licenced Product having a separate Image.

To define an image for Use on the Exor Launchpad double click in the Image field. This will call the 'Find Image File' dialogue as shown in Figure 37.

Figure 37



Navigate to the appropriate directory and select the required File. The File and path will be displayed in the Image field.

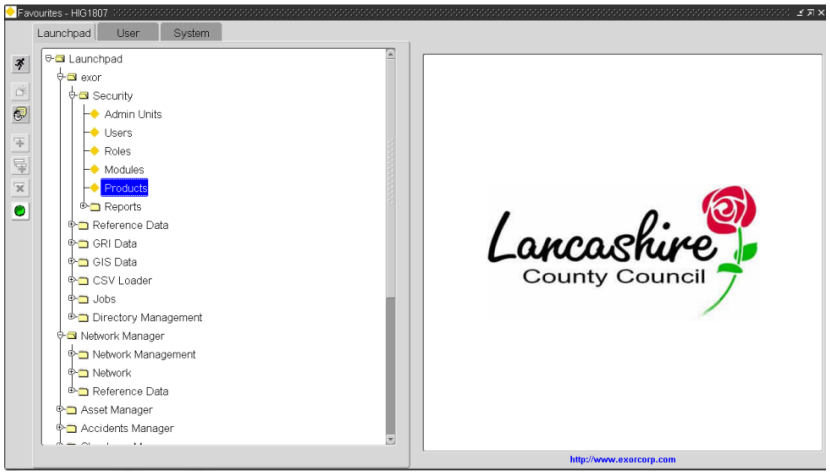
Note that the file extension must be included in the filename.

Type (Optional) List

Select the Type of file specified in the 'Image' field if a User definable Image is being used on the Exor Launchpad. The File Type must be correct for the selected Image type. The List of Values for File Types may be maintained in ***Domains - HIG9120*** and by updating the **IMAGE_TYPES** Domain.

When each of the required Products has had an Image defined save the changes and restart the Exor Session to view the Launchpad Images. Figure 38 shows an example of a User Definable Launchpad Image.

Figure 38



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Process Automation

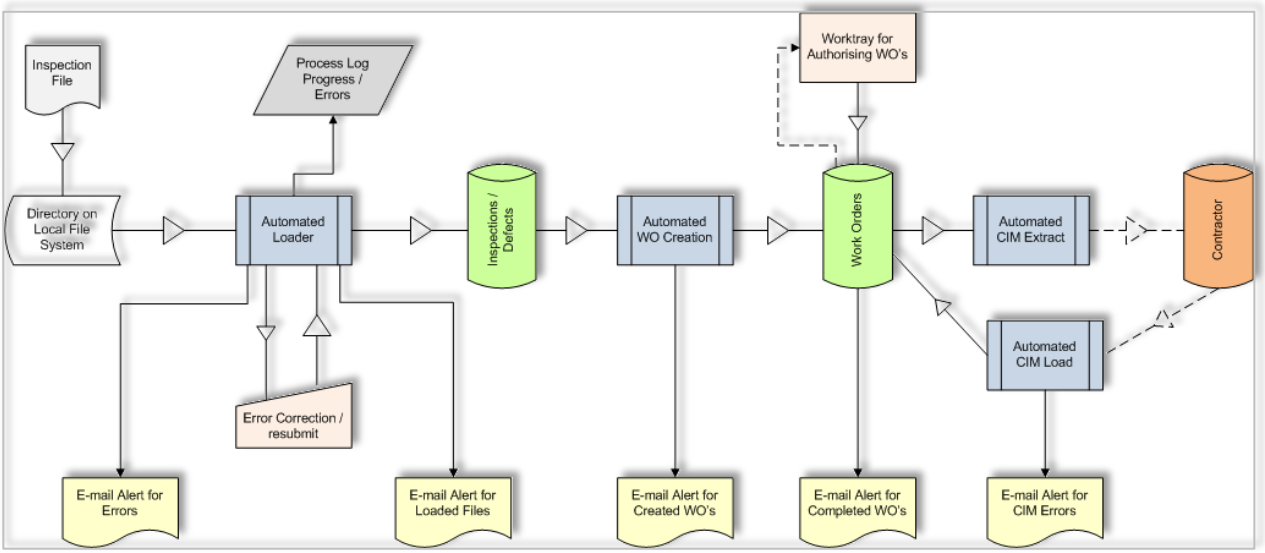
Overview

Reducing the amount of manual intervention needed to complete routine daily tasks, is an obvious way to drive up efficiency savings. Workflow Automation allows you to design a workflow that suits your business needs whilst providing a visible, auditable account of all processes and transactions taking place, using automated e-mail alerts and the Audit Manager to track the change history of various records.

The process diagram below shows one example of an automated business process with several automated processes:

- automatically load maintenance inspections
- automatically create work orders
- Automatically interface to a contractor system.
- Generate email alerts (Alert Manager)

The workflow has been designed with the ability to send e-mail alerts at various stages of the process.



To support the configuration, monitoring and execution of automated workflows the following modules are used in the Automated Process Framework:

- Process Types
- Submit a Process
- Process Monitor
- Scheduling Frequencies

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Automated Process Framework

The Automated Process Framework contains several administrator modules and allows a common methodology to be employed in the automation of processes undertaken by various business processes within the system.
The framework allows discreet database processes to be submitted, executed and monitored at user definable frequencies. Typical processes that can be automated include but are not restricted to:

- Maintenance inspection & defect loader
- Automatic work order creation and instruction
- Contractor Interface
- Map Capture Interface
- Bulk Document and Photo Loader

The Process Monitor module is provided allowing the user to interrogate the system to check the status or outcome of the processes.
Even with the automated processes available the user is still able to load files manually using the Submit a Process module if required.

Pre-Requisites

Two new roles have been defined and will need to be granted to the end users prior to using the Automated Process Framework, they are as follows:

PROCESS_USER

The end user requires the PROCESS_USER role to be granted to them, to allow them to use the ***Submit a Process – HIG2510*** module.

PROCESS_ADMIN

The end user requires the PROCESS_ADMIN admin role to take full advantage of the administration functions within the ***Process Monitor – HIG2520*** module.

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Process Types – HIG2500

Figure 39
Process Types Menu

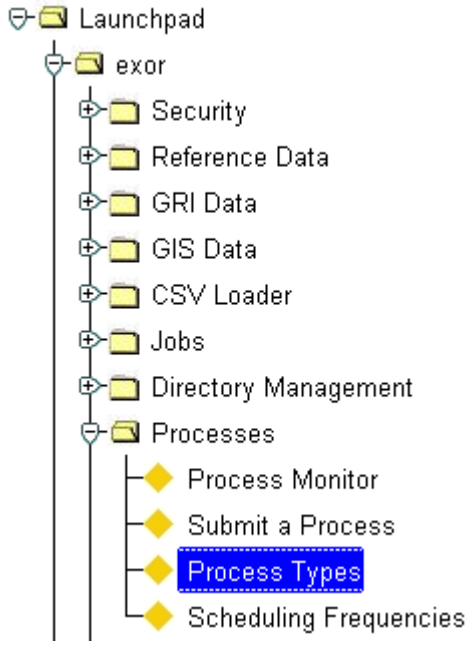
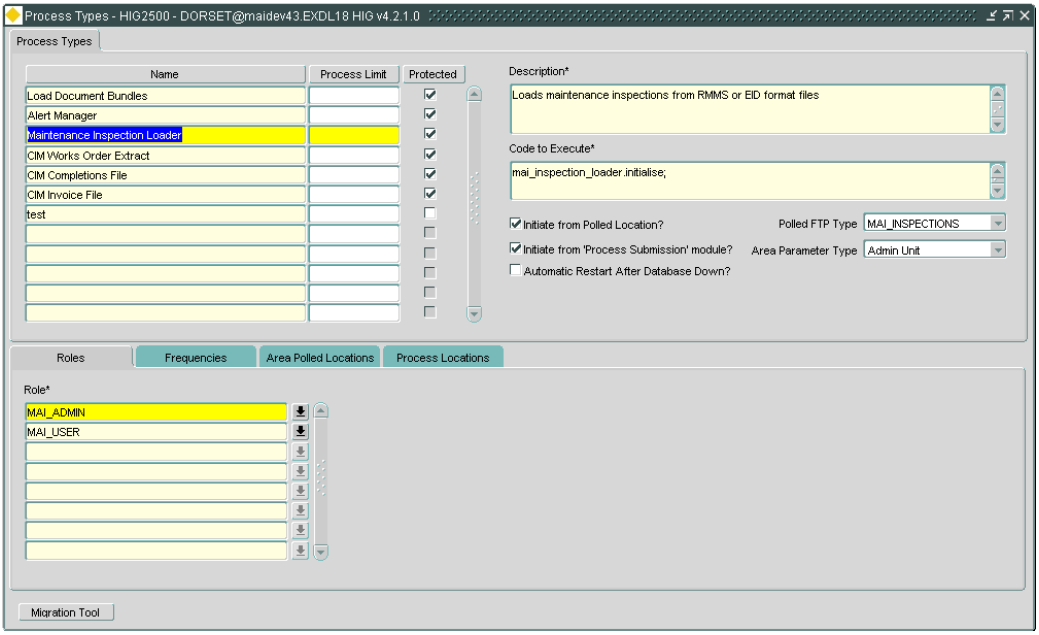


Figure 40
Process Types



Process Types

This module displays an overview of all the process types that have been defined within the Process Framework
Each type of operation that needs to plug into the framework needs to be defined as a ‘Process Type’.

Name	Required

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Each process type must have a unique name.

Process Limit	Optional

The process limit can be set if you want to restrict the number of processes of the given type that are running or scheduled to run at any one time.

Protected	Display Only	Checkbox

Processes that are shipped as standard will be flagged as protected, certain attributes may not be updated for a protected process.

Description	Required

Enter a description of the selected process allowing some context information to be specified if required.
This cannot be updated if the process is protected.

Code to Execute	Required

Enter the code to be executed when this process is submitted.
This cannot be updated if the process is protected.

Initiate from Polled Location	Optional	Checkbox

If checked, it indicates that a process of the given type can be initiated to poll one or more FTP directories for files that the process will utilise. These are associated in the 'Area Polled Locations' tab.
Note.
Checking/unchecking this checkbox does not enable/disable the 'Area Polled Locations' tab , however, unchecking the box will also result in the 'Polled FTP Type' being nullified and on commit any area polled locations will be automatically removed from the tab.
This cannot be updated if the process is protected.

Initiate from 'Process Submission' Module?	Optional	Checkbox

If checked, the process type will appear in the list of processes that can be submitted in ***Submit a Process - HIG2510***.
This cannot be updated if the process is protected.

Automatic Restart After Database Down?	Optional	Checkbox

If Checked, it indicates to the scheduling engine that a processes of this type can re-start from the beginning following a database re-start. If unticked, processes of this type will be left as 'Disabled' following a re-start.
This cannot be updated if the process is protected.
Note.
This should be defaulted to be unchecked to avoid restartable processes spawning multiple processes at once when a database is re-started, potentially causing a database crash.
This will mean that if a run process is stopped by the database going down for example then these run will not be restarted when the database is restarted. Subsequent scheduled runs for this process will not be affected.
So for example, by default, if an inbuilt process was set to run on the hour every hour and it lasted 20 minutes then if the database went down at 12:10 and was back up at 12:30 the failed 12:00 run will not attempt to rerun but would instead be run at the next scheduled time of 1:00.

Polled FTP Type	Optional	List

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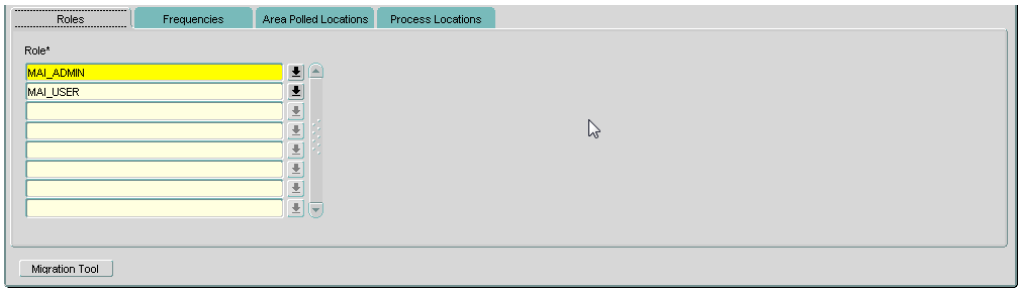
If the process utilises an FTP service the polled ftp type should be entered. The polled FTP types are defined using ***FTP Connection Types – HIG0100*** and ***FTP Connections – HIG0200*** respectively.

Area Parameter Type	Optional	List

This denotes the way in which a process of this type can be executed by area – i.e. for the Maintenance Inspection Loader the area type is 'Admin Unit', whereas the CIM process types use 'CIM Contractor'
This cannot be updated if the process is protected.

Figure 41
Roles Tab

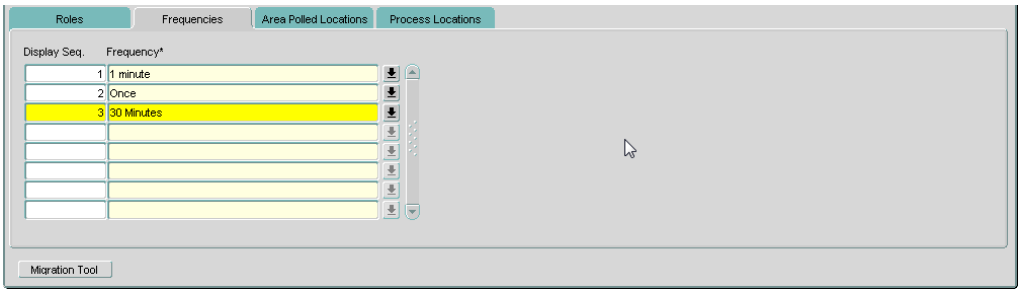


Roles

Role	Required	List

Enter the user roles that will have access to monitor or submit processes of the selected type.
Note.
Unrestricted users can submit/monitor processes of any type.

Figure 42
Frequencies Tab



Frequencies

Within this tab you can define the allowable repeat intervals for a process of the given type. When a process is submitted manually using ***Submit a Process – HIG2510*** one frequency from this list can be selected.
If the process type supports polling, then the frequencies relate to the list of possible polling frequencies rather than the list of process frequencies

Display Seq.	Required

Enter a number to order the display of the frequencies

Frequency	Required	List

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Enter one or more frequencies that can apply to this process type. These are used in ***Submit a Process – HIG2510*** and are defined using ***Scheduling Frequencies – HIG2530***.

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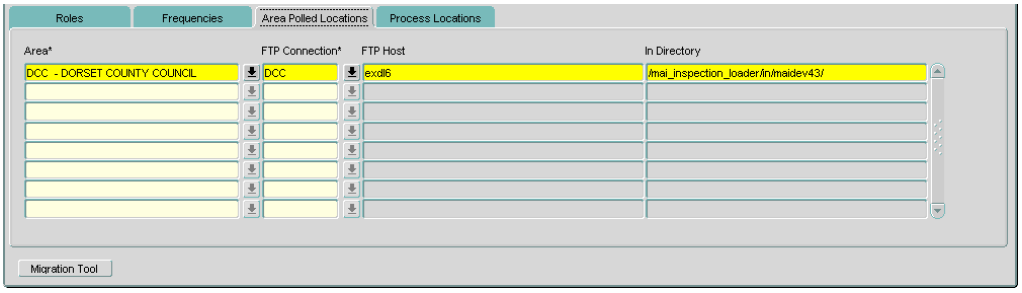
Figure 43
Area Polled Locations Tab



Area Polled Locations

Area Polled Locations are optional. They need to be set up if you need to submit your process to run against a given area e.g. admin unit or contractor area. This tab allows you to map the FTP connections under the given FTP type to the various areas your process type works with.

Area	Optional	List

Enter the area for the associated polled location, the content of the picklist will depend upon the value entered into the Area parameter Type field. This may be a list of Admin units, Contractors or CIM Contractors.

FTP Connection	Optional	List

Enter an FTP connection, this picklist will depend on the value set in the Polled FTP Type field.
All polled directories for the process type must be defined as connections against the same FTP type. FTP types are defined in ***FTP Connection Types - HIG0100*** and ***FTP Connections – HIG0200*** respectively.

FTP Host	Display Only

The FTP host for the selected FTP connection will be displayed

In Directory	Display Only

The 'in directory' for the selected FTP connection will be displayed.

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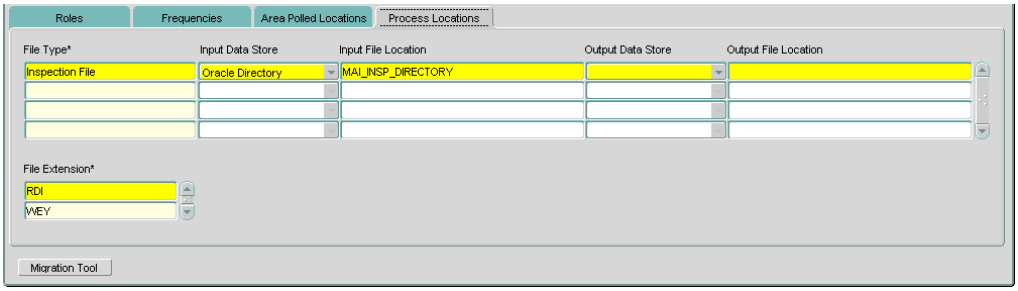
Figure 44
Process Locations Tab



Process Locations

The process locations tab is used to specify a location for the system to run the appropriate process once a file has been selected via the file picker manually or picked up from the appropriate ftp site.
The files that are copied to this location for processing will remain there unless the actual process removes the files after processing. If the process does not remove the files they will have to be removed manually periodically.

File Type

Enter a description of the file type to be processed.

Input Data Store

Enter the data store type, this can be either:

- Database Server
- Oracle Directory

Input File Location

Enter the file location.
For an Oracle Directory this will be a directory already specified in ***Directories – HIG1895***.
For a Database Server it will be a file location.

Output Data Store

Enter the data store type, this can be either:

- Database Server
- Database Table

Output File Location

Enter the file location.
For an Oracle Directory this will be a directory already specified in ***Directories – HIG1895***.
For a Database Server it will be a file location.

File Extension

The file extension that the process will interact with can be defined here.

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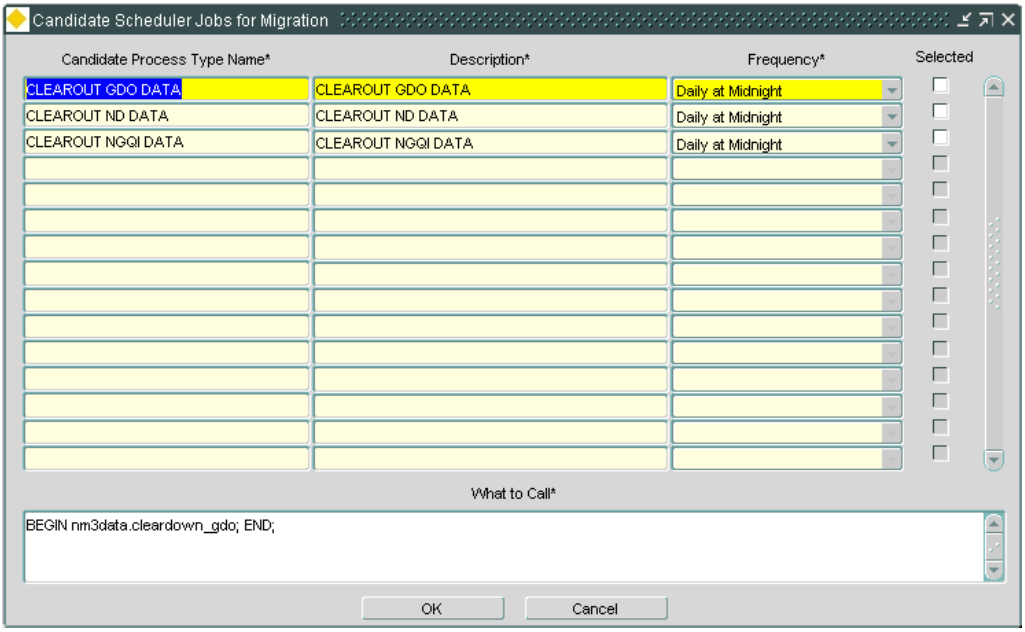
Figure 45
Migration Tool Button



Migration Tool

This button allows existing Oracle Scheduler jobs to be selected then converted into a process type and bring them into the process framework.

Select the required process followed by [OK] to move it into the framework.

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Scheduling Frequencies – HIG2530

Figure 46 Scheduling Frequencies Menu

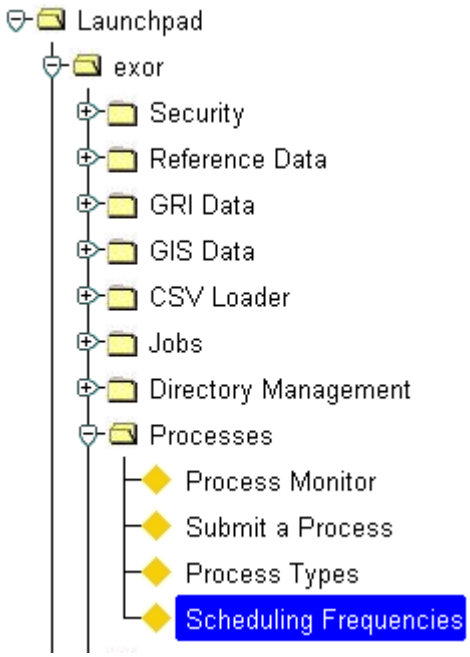
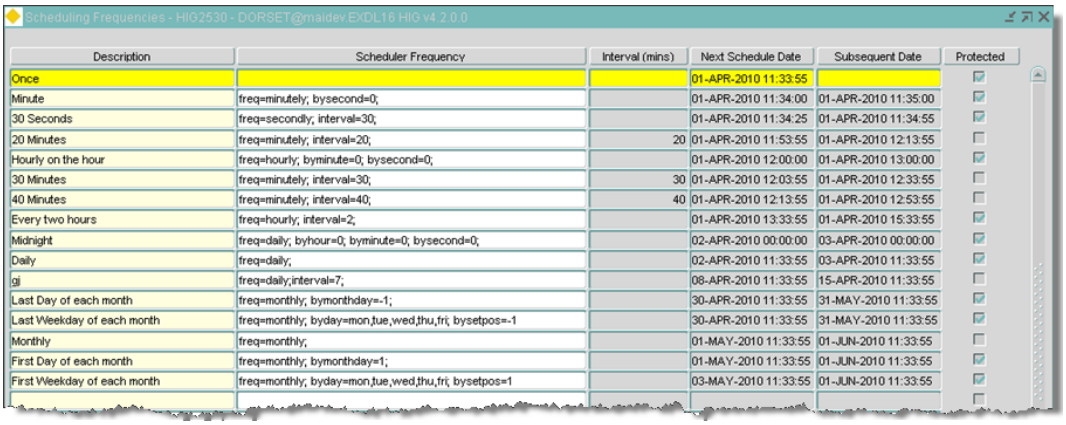


Figure 47 Scheduling Frequencies



Description	Scheduler Frequency	Interval (mins)	Next Schedule Date	Subsequent Date	Protected
Once			01-APR-2010 11:33:55		
Minute	freq=minutely; bysecond=0;		01-APR-2010 11:34:00	01-APR-2010 11:35:00	
30 Seconds	freq=secondly; interval=30;		01-APR-2010 11:34:25	01-APR-2010 11:34:55	
20 Minutes	freq=minutely; interval=20;	20	01-APR-2010 11:53:55	01-APR-2010 12:13:55	
Hourly on the hour	freq=hourly; byminute=0; bysecond=0;		01-APR-2010 12:00:00	01-APR-2010 13:00:00	
30 Minutes	freq=minutely; interval=30;	30	01-APR-2010 12:03:55	01-APR-2010 12:33:55	
40 Minutes	freq=minutely; interval=40;	40	01-APR-2010 12:13:55	01-APR-2010 12:53:55	
Every two hours	freq=hourly; interval=2;		01-APR-2010 13:33:55	01-APR-2010 15:33:55	
Midnight	freq=daily; byhour=0; byminute=0; bysecond=0;		02-APR-2010 00:00:00	03-APR-2010 00:00:00	
Daily	freq=daily;		02-APR-2010 11:33:55	03-APR-2010 11:33:55	
gj	freq=daily;interval=7;		08-APR-2010 11:33:55	15-APR-2010 11:33:55	
Last Day of each month	freq=monthly; bymonthday=-1;		30-APR-2010 11:33:55	31-MAY-2010 11:33:55	
Last Weekday of each month	freq=monthly; byday=mon,tue,wed,thu,fri; bysetpos=-1		30-APR-2010 11:33:55	31-MAY-2010 11:33:55	
Monthly	freq=monthly;		01-MAY-2010 11:33:55	01-JUN-2010 11:33:55	
First Day of each month	freq=monthly; bymonthday=1;		01-MAY-2010 11:33:55	01-JUN-2010 11:33:55	
First Weekday of each month	freq=monthly; byday=mon,tue,wed,thu,fri; bysetpos=1		03-MAY-2010 11:33:55	01-JUN-2010 11:33:55	

Scheduling Frequencies

This module allows the system manager to define a set of frequencies / repeat intervals that are to be used with the framework to suit their own operational requirements.
A job can be scheduled to run at a particular date and time if required or at repeat intervals if required.

Description	Required

Enter the description of the frequency to be defined.

Scheduler Frequency	Optional

Enter the Scheduler frequency, these should be entered in the format shown. These frequencies are defined for use by the Oracle scheduler. Some examples are shown in the screen shot.

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Any frequency or interval can be specified using this format.

Intervals (mins)	Display Only	
The interval specified will be displayed in minutes.		
Next Schedule Date	Display Only	
The next scheduled date is displayed to show the effect of the frequency entered.		
Subsequent Date	Display Only	
The subsequent scheduled date is displayed to show the effect of the frequency entered.		
Protected	Display Only	Checkbox
Frequencies shipped by Exor will be flagged as Protected and cannot be removed/amended		

Additional examples of scheduler frequencies are as follows, this list is intended as a series of examples and is not exhaustive.

Execute every Friday: - FREQ=WEEKLY; BYDAY=FRI;

Execute every other Friday: - FREQ=WEEKLY; INTERVAL=2; BYDAY=FRI;

Execute on the last day of every month: - FREQ=MONTHLY; BYMONTHDAY-1;

Execute on the next to last day of every month: - FREQ=MONTHLY; BYMONTHDAY-2;

Execute on March 10th: - FREQ=YEARLY; BYMONTH=MAR; BYMONTHDAY=10;

Execute every 10 days: - FREQ=DAILY; INTERVAL=10;

Execute daily at 4, 5, and 6PM: - FREQ=DAILY; BYHOUR=16,17,18;

Execute on the 15th day of every other month: - FREQ=MONTHLY; INTERVAL=2; BYMONTHDAY=15;

Execute on the 29th day of every month: - FREQ=MONTHLY; BYMONTHDAY=29;

Execute on the second Wednesday of each month: - FREQ=MONTHLY; BYDAY=2WED;

Execute on the last Friday of the year: - FREQ=YEARLY; BYDAY=-1FRI;

Execute every 50 hours: - FREQ=HOURLY; INTERVAL=50;

Execute on the last day of every other month: - FREQ=MONTHLY; INTERVAL=2; BYMONTHDAY-1;

Execute hourly for the first three days of every month: - FREQ=HOURLY; BYMONTHDAY=1,2,3;

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Submit a Process – HIG2510

Figure 48
Submit a Process Menu

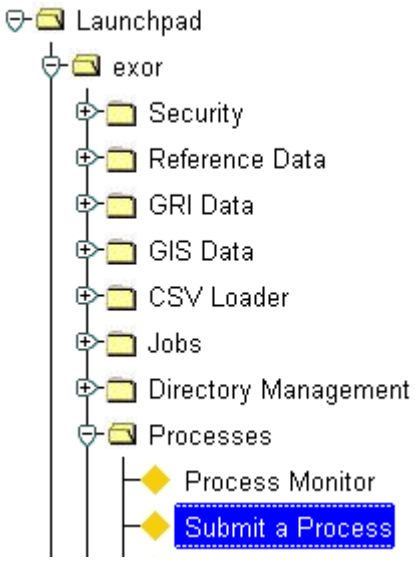
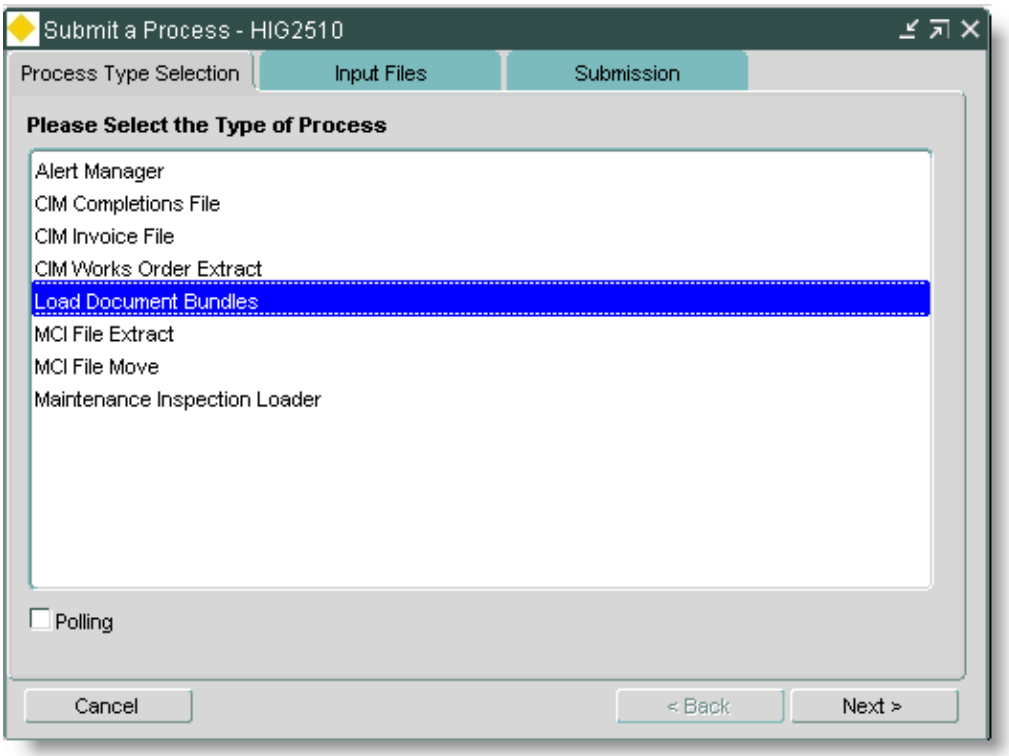


Figure 49
Process Type Selection



This module allows the manual submission of a process of any type provided it has been flagged as being able to 'initiate from the process submission module' from within the ***Process Types – HIG2500*** module.

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Process Type Selection

The process types will only be displayed in this tab if:

- There is a process type role in common with the user OR the user is unrestricted
- In ***Process Types - HIG2500*** the 'Initiate from Process Submission Module' checkbox is ticked

If this form is called in the guise of another module, for example, the maintenance inspection loader, the process tab will be unavailable as the process type has already effectively been selected.

The user selects the process required followed by [Next] to move to the Input files tab.

Polling	Display Only	Checkbox

This checkbox is enabled if the process type has the 'Initiate from Polled Location' checkbox ticked in ***Process Types - HIG2500***.

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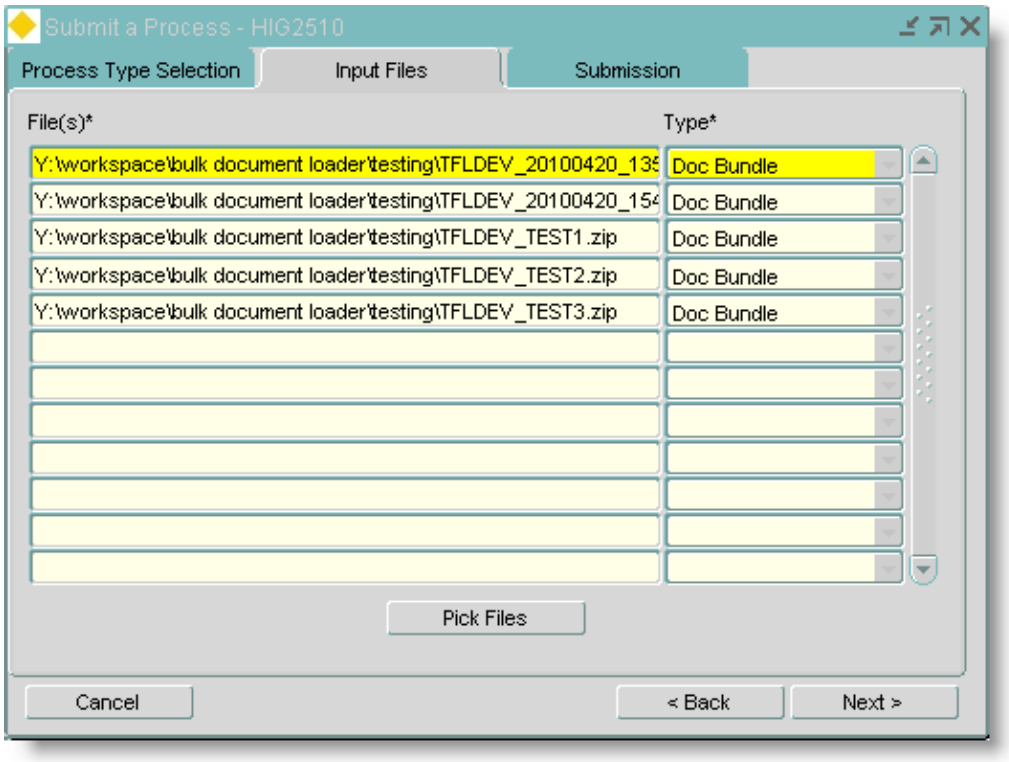
Figure 50
Input Files



Input Files

This tab is only enabled if:

- The selected process type has input file types associated with it as defined in the Process Locations tab in ***Process Types – HIG2500***.
- The polling checkbox is unticked – i.e. the files will be polled for, rather than be explicitly picked and submitted with the process

When in this tab the user can select the [Pick Files] button to select one or more files for submission, the following window will be displayed:

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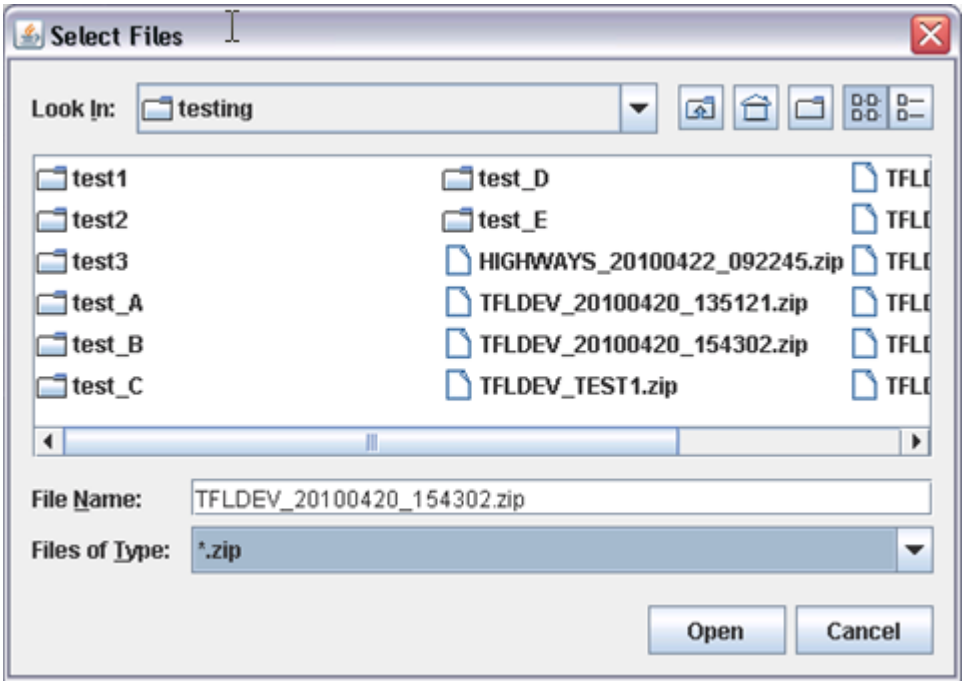
Figure 51
Select Files



Note: Some processes will allow one file to be picked and submitted at a time (maintenance Inspection Loader), while other processes will allow the selection of multiple files (Bulk Document Loader).
The user will be presented with an error message informing them if they have exceeded the number of files that may be submitted at any one time.

Files	Required

The file or files selected for submission from the [Pick Files] button will be displayed. The file name may be entered manually if required.

Type	Required	List

Upon selection of a file, an attempt is made to derive the file type based on the file extension. If a file type cannot be derived, or is incorrectly derived, the user can select the type from the drop down list.

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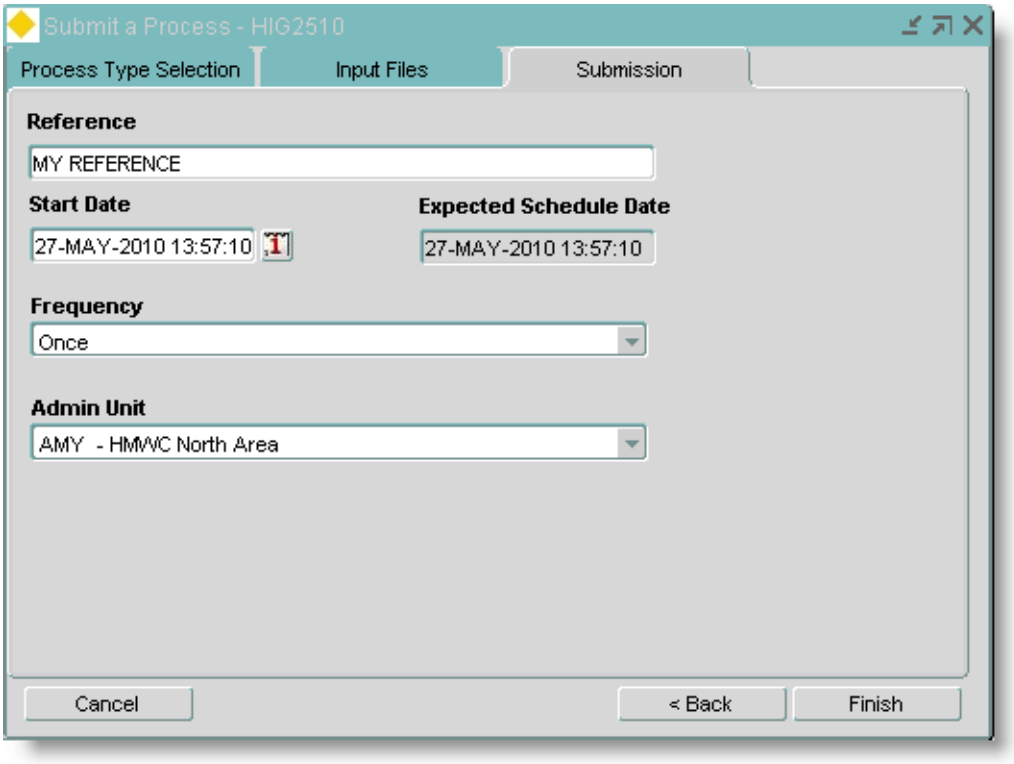
Figure 52 Submission Tab



Submission Tab

This tab displays the process information to the user before submitting the process, these details may be edited as required.

Reference	Optional

The user can enter a text reference if required.

Start Date	Required

This will default to the current date and time, this may be amended to a date and time in the future.

Expected Schedule Date	Display Only

Based on the start date the expected schedule date will be displayed.

Frequency	Required	List

Enter a frequency for the submission, valid frequencies for the process will have been defined in the frequencies tab in ***Process Types – HIG2500***.

Admin Unit / CIM Contractor	Optional	List

If Displayed, The title of this field will change depending upon the value entered into the Area Parameter Type field in ***Process Types – HIG2500***.
If the process type has an Area Parameter Type attributed to it, the user can select the area for which to submit the process. The list is restricted by user security e.g. if it's a list of admin units, it will be any admin unit that the user is permitted to work with. If it's a list of contractors the same logic applies. If no area type is attributed then the list is not shown.
If the submission is successful the following will be displayed:

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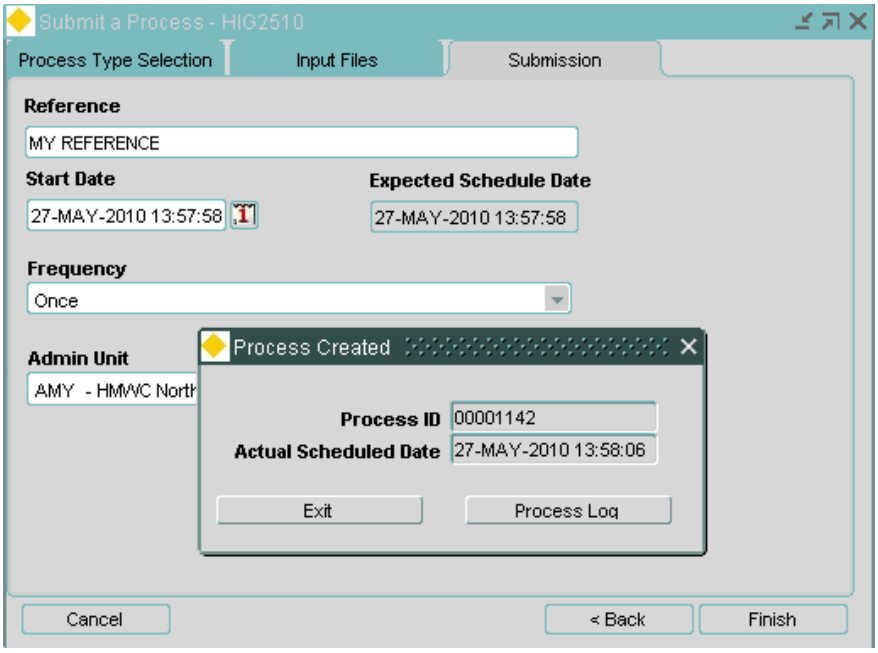
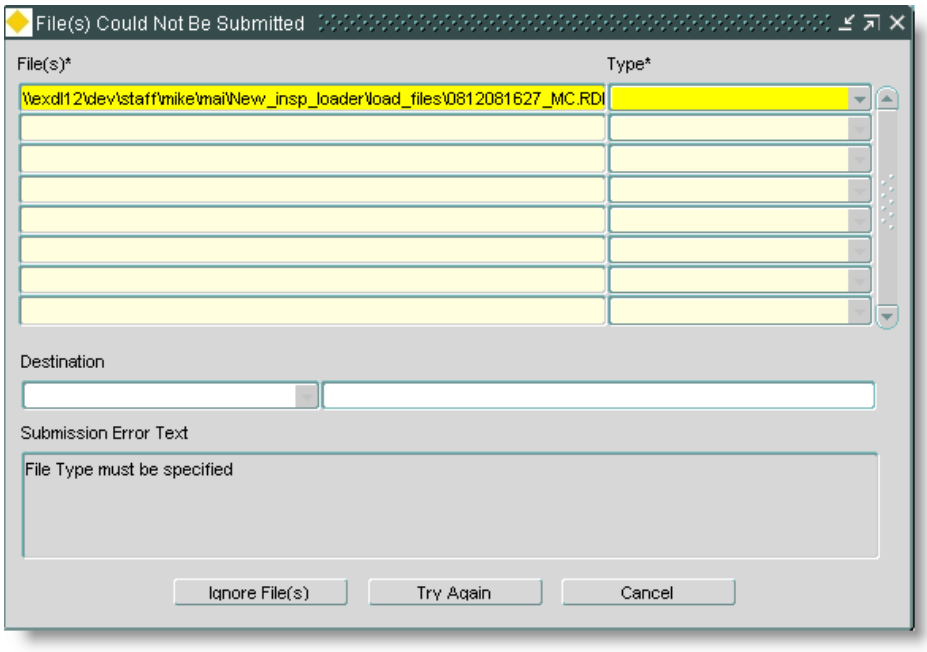


The process can be viewed using the ***Process Monitor – HIG2520*** form and querying back the Process ID

The [Process Log] button can be selected and will show the ***Process Log – HIG2540*** form with a full log of the process execution.

Upon pressing the [Next] button, any files associated to the process are moved to the pre-defined destination as defined in the process Locations Tab in ***Process Types – HIG2500*** ready for them to be picked up by the process.

Figure 53 Submission Error Trap



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If there are any issues submitting files, the submission will not go ahead and the user has the option to rectify the situation and re-submit by selecting the [Try Again] Button.

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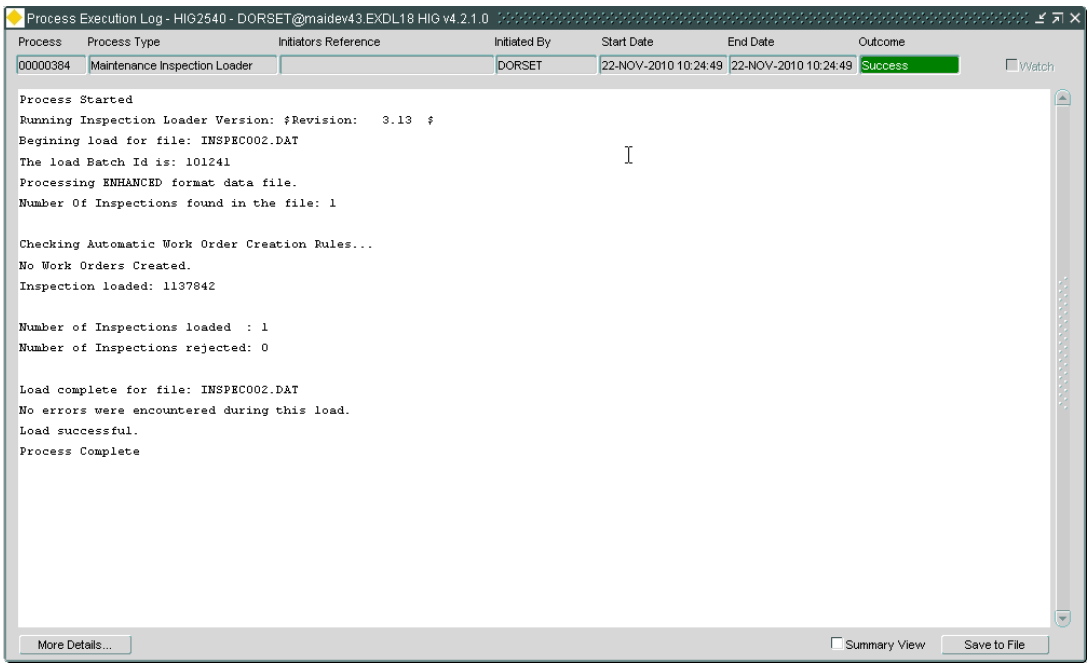
Process Log – HIG2540

Figure 54 Process Log



Process Monitor

The module shows a full log of the process execution.
The Summary View checkbox can be selected to alter the display of the data.

The Process Monitor is invoked either from the [Process Log] button which appears in the confirmation pop-up upon ***Submit a Process – HIG2510*** OR via the expand button in the ***Process Monitor - HIG2520***

If the execution is in progress, the module will re-query the log table every 3 seconds.
The 'Watch' checkbox will be ticked when the form is opened and the process is running, to stop the refreshing the checkbox can be unticked, resumed by ticking again.
When the process is not running the checkbox is disabled and unticked.

For executions that have completed, a log file can be saved locally by selecting the [Save to File] button.

The [More Details] button, if available will call a form appropriate to the process type selected.

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Process Monitor – HIG2520

Figure 55
Submit a Process Menu

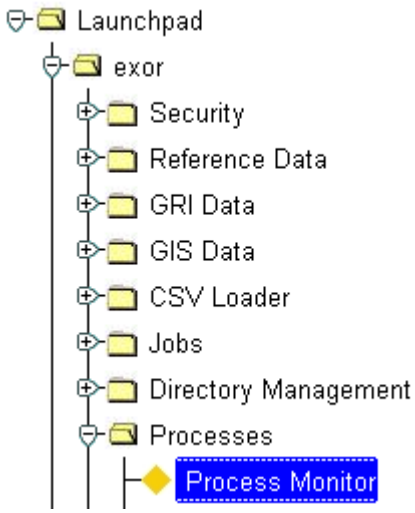
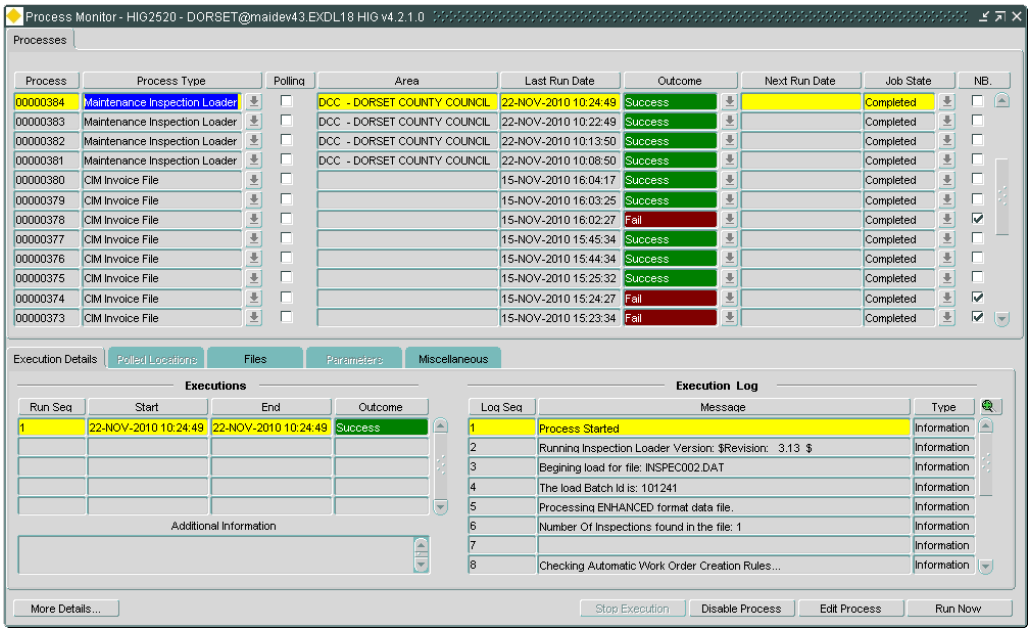


Figure 56
Process Monitor



Process Monitor

The process monitor shows the status of all processes that have been submitted either by manual submission or automatic submission.
This module can be interrogated using the standard querying tools and the data displayed can be ordered using the column header order by facility.
The process monitor will show processes that have succeeded, failed or are pending and had a number of facilities to display additional information regarding the process.
Processes that have failed may be reviewed, modified and re-submitted if appropriate.
Only processes that an user shares a role with may be viewed with this module.

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Alert manager can be set up to email users as to whether a process (e.g. inspection load) or sub process (e.g. auto-create a work order from an inspection load) has passed or failed.

Process	Display Only	
The unique system generated process Id will be displayed.		

Process Type	Display Only	List
The textual description of the process will be displayed, a list is available when querying back records		

Polling	Display Only	Checkbox
This checkbox indicates whether the process was initiated from a polled location.		

Area	Display Only	
If the process was restricted to a specified area when initiated the area it was restricted to will be displkayed.		

Last Run Date	Display Only	
The date and time that the process was last run will be displayed.		

Outcome	Display Only	List

The outcome of the process will be displayed if the run is completed and will be 'Success' or 'Fail'. For processes that are repeating at a given frequency, the outcome will only reflect the very latest run of the process.
Valid values that may appear in this field are:

- *Success* - the process as a success
- *Fail* - the process failed
- *To Be Determined* - the process has not run yet
- *Interim* - a sub process has a problem, for example a maintenance manager inspection load may have been a success but the subsequent automatic work order creation process may have failed.

Next Run Date	Display Only	
The date and time that the process was last run will be displayed.		

Job State	Display Only	

The latest state of the scheduler job will be displayed, valid values that may appear in this field are:

- *Disabled* - It is not scheduled to run
- *Scheduled* - It is scheduled to run sometime in the future
- *Running* - It is currently running
- *Completed* - It has completed
- *Failed* – It has run and failed
- *Broken* - It is not scheduled to run because it is broken

NB	Display Only	Checkbox
This will be checked if there have been any executions of the process which have an outcome of 'Fail', this is to highlight to the user that there is an issue that has to be addressed for the selected process.		

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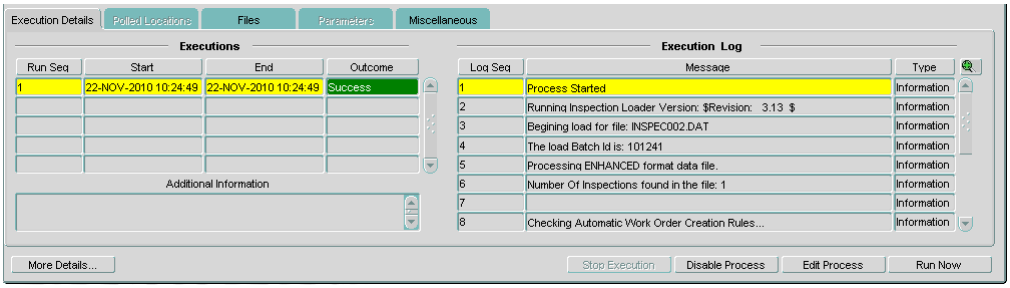
	The expand button will call the Process Log – HIG2540 to show the expanded log details and allows the user to save the log to a file
[More Details]	This button will call the appropriate module for the selected process, for example the MM Inspection Loader will call the Error Correction Module.
[Stop Execution]	This button will stop the execution of a process that is currently running.
[Disable Process]/ [Enable Process]	This button is labelled depending on the Job State Status, this allows the user to Disable or Enable a scheduled process. Only Scheduled processes can be Enabled/Disabled.
[Edit Process]	This button will disable a scheduled process to allow the user to edit it, It Calls ***Amend a Process – HIG2515*** allowing the user to edit the process and re-submit.
[Run Now]	This will allow a scheduled process to be run immediately

Figure 57 Executions Details Tab



Execution Details Tab

The executions panel within this tab will show details of all the executions of the process.
A process that runs at a frequency of Once would only have one record in this panel, repeating processes will have many records in this panel.

The executions log panel will show the log of the currently selected execution.

All the fields within this tab may be queried when searching for data, the user needs to select the correct panel before running a query against the data within that panel.
All columns in this tab can be ordered by the column headers.

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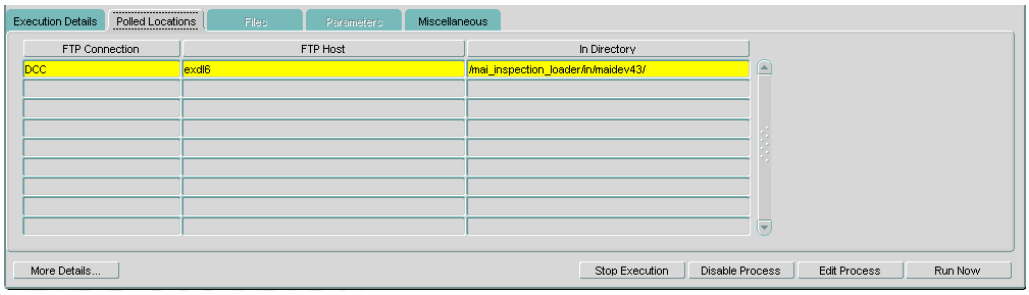
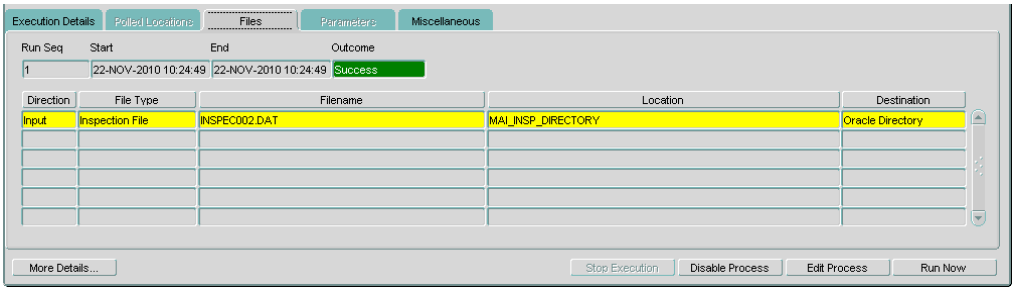
Figure 58
Polled Locations Tab



Polled Locations Tab

This tab will only be available if the process was invoked from a polled location.
All the fields within this tab may be queried when searching for data.
All columns in this tab can be ordered by the column headers

Figure 59
Files Tab



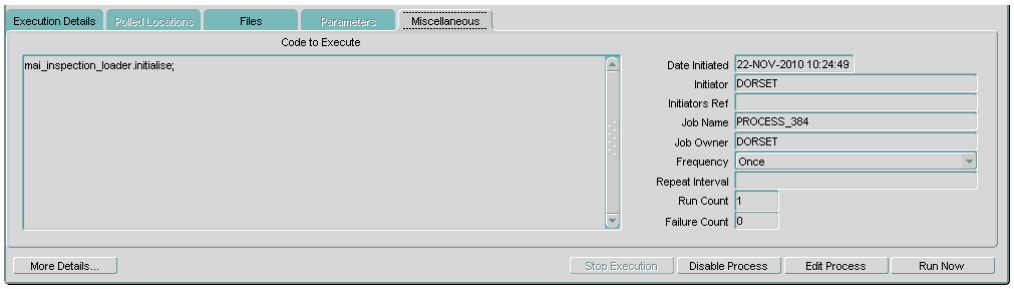
Files Tab

This tab shows an overview of the input and output files attributed to given execution of the process. The files are linked by the Run Seq id from the Execution details tab.

Parameters Tab

This tab is reserved for future use.

Figure 60
Miscellaneous Tab



Miscellaneous Tab

This tab shows other attribution for the process which may be of some relevance.

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FTP Connection Types – HIG0100

Figure 61
FTP Connection Types Menu

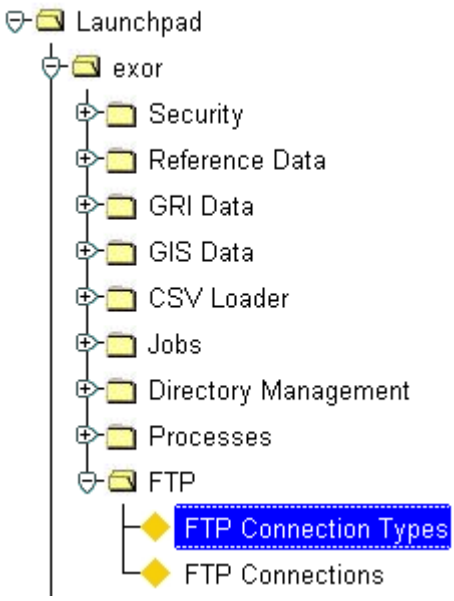
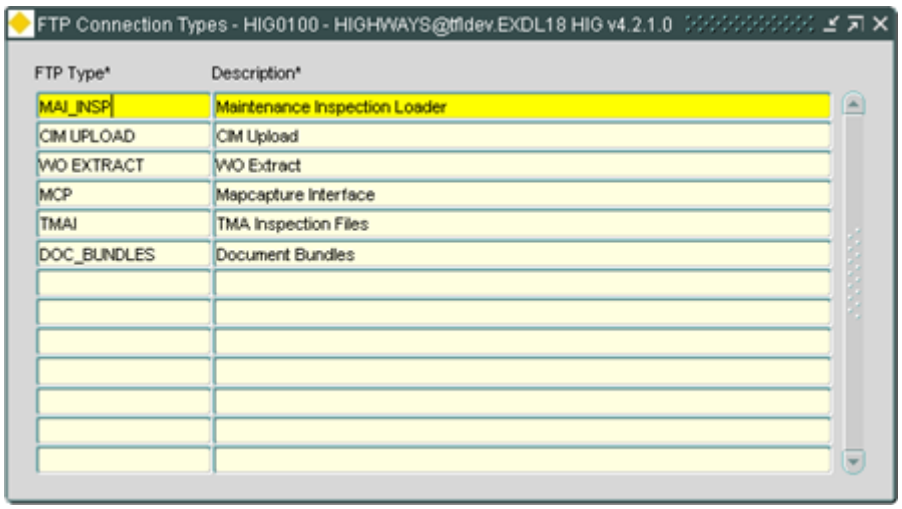


Figure 62
FTP Connection Types



FTP Connection Types

This module is used to define the FTP types which can then have one or more FTP locations as set up using ***FTP Connections – HIG0200***.

FTP Type	Required

Enter a unique FTP Type code.

Description	Required

Enter a description for the FTP Type code.

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FTP Connections – HIG0200

Figure 63
FTP Connections Menu

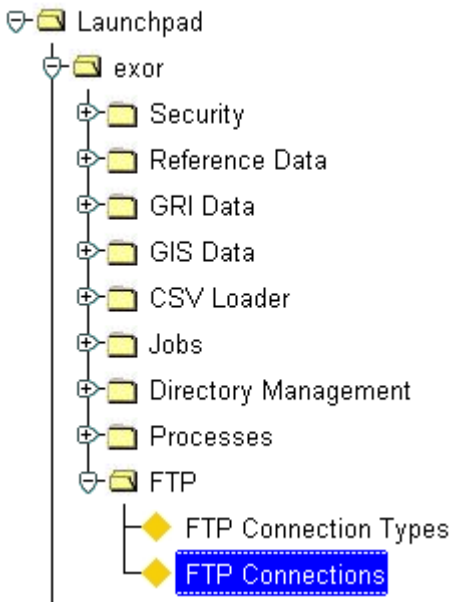
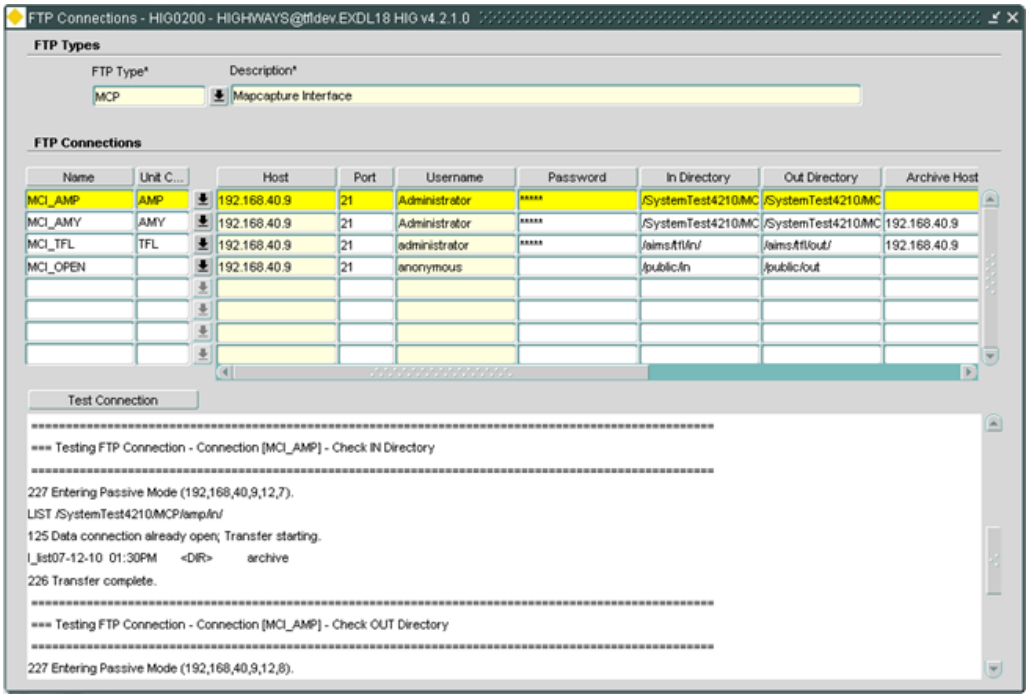


Figure 64
FTP Connections



FTP Connections

This module is used to define one or many FTP connections per FTP type. So for certain operations, for example, map capture file loading and exporting a connection to a particular destination can be defined along with an optional archiving area for the files.
The scroll bar at the bottom of the top window allows the entry of FTP archive information.

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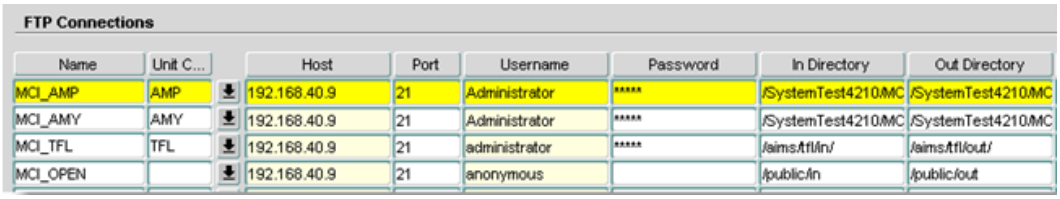
Figure 65
FTP Connections
Main Connection



FTP Connections

Name	Unit C...	Host	Port	Username	Password	In Directory	Out Directory
MCI_AMP	AMP	192.168.40.9	21	Administrator	*****	/SystemTest4210/MC	/SystemTest4210/MC
MCI_AMY	AMY	192.168.40.9	21	Administrator	*****	/SystemTest4210/MC	/SystemTest4210/MC
MCI_TFL	TFL	192.168.40.9	21	administrator	*****	/aims/tfl/in/	/aims/tfl/out/
MCI_OPEN		192.168.40.9	21	anonymous		/public/in	/public/out

Main Connection

Name	Required

Enter a unique name for the FTP connection.

Unit Code	Optional	List

Enter the Admin Unit code this will allow the user to link data from a specified admin unit to a selected FTP location.

Host	Required

Enter the FTP Hostname for the main location, this can be an IP address or hostname.

Port	Optional

Enter the FTP Port number, assumed to be 21 if left NULL.

Username	Required

Enter the FTP Username.

Password	Optional

Enter the FTP Password. For anonymous connections leave Password blank and enter anonymous for the username.

In Directory	Optional

This file location is required for incoming files to the system..

Out Directory	Optional

This file location is required for extracting files from the system.

Figure 66

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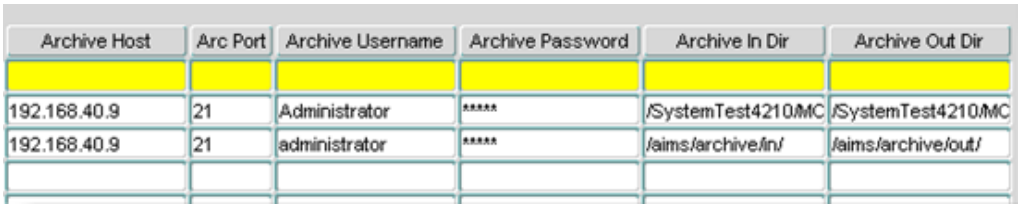
FTP Connections
Archive Connection



Archive Host	Arc Port	Archive Username	Archive Password	Archive In Dir	Archive Out Dir
192.168.40.9	21	Administrator	*****	/SystemTest4210/MC	/SystemTest4210/MC
192.168.40.9	21	administrator	*****	/aims/archive/in/	/aims/archive/out/

Archive Connection

Archive connections can exist on the same host as the Main connection, or a completely separate one.

Archive Host Optional

Enter the FTP Hostname for the archive location, this can be an IP address or hostname.

Arcive Port Optional

Enter the FTP Port number for the archive location, assumed to be 21 if left NULL.

Archive Username Optional

Enter the FTP Username for the archive location.

Archive Password Optional

Enter the FTP Password. For anonymous connections leave Password blank and enter ‘anonymous’ for the username.

Archive In Directory Optional

This folder is used to store an Archived copy of the files coming in for loading

Archive Out Directory Optional

This folder is used to store an Archived copy of the files going out to the users.

Test Connection

Each FTP Connection can be tested by selecting the ftp connection record followed by the **[Test Connection]** button.
The connection test will

1. Test the username and password connection to the host
2. Test IN and OUT folders by performing an ‘ls’ (list directory) command to list the files (if any exist)
3. Test IN and OUT archive folders by performing an ‘ls’ (list directory) command to list the files (if any exist)

It is advised that you test the connection before attempting to use the FTP Type in the Process Framework to ensure they are valid.

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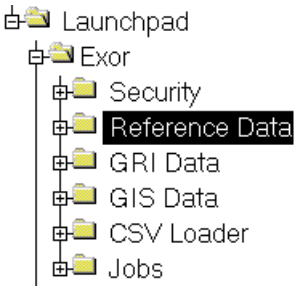
CHAPTER

2

Reference Data

Figure 67
Reference Data menu



The modules covered in this Chapter are the following:

- Domains - HIG9120
- Product Option List - HIG9135
- Product Options - HIG9130
- User Options - HIG1838
- User Option Administration - HIG1837
- V3 Errors - HIG9185
- Units and Conversions - HIG1820

The module descriptions provide you with detailed information about reference data used within ***Exor***, including:

- an overall description of the module.
- a detailed explanation of each field, including available features (such as List of Values, default values and other characteristics).
- helpful information for using the form

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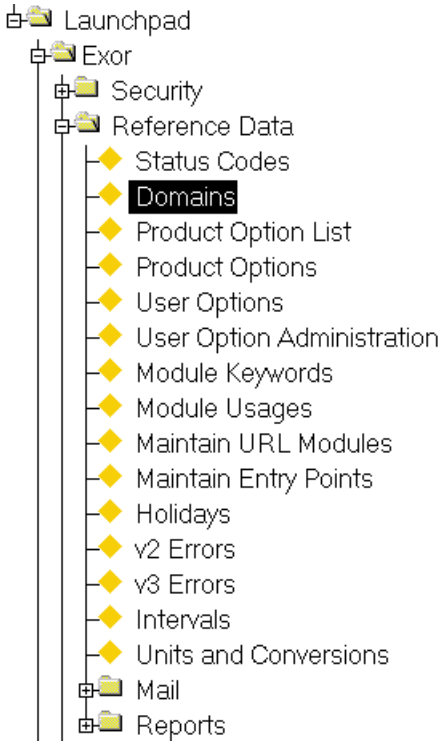
Domains - HIG9120

Figure 68
Domains Menu Option



The ***Domains - HIG9120*** module is used to maintain the system Domains and associated Lookup Values that provide data entry validation throughout the ***Exor*** suite of Products. The fields and Modules that use these Domains are highlighted in the appropriate User and System Admin Guides.

Note that Domains with associated Domain Values (Lookups flagged as 'System Data') must not be amended in any way.

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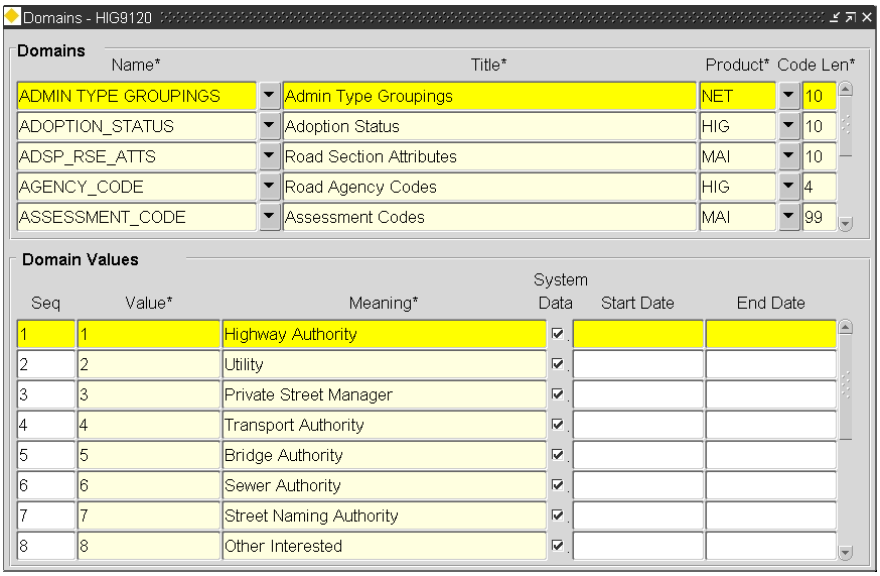
Figure 69



Domains Panel

Domain Name (Required)

Enter a Name for the Domain. Spaces and special characters such as '/',':' or ';' should not be used. A maximum of 20 characters are allowed.

Domain Title (Required)

Enter a title for the Domain. A maximum of 40 characters is allowed.

Domain Product (Required)

Select the Exor Product which contains the Module in which this Domain will be used, e.g. ***NET*** - Network Manager.

Value Length

Enter the maximum possible length (max number of digits) for a Value within this Domain.

Domain Values Panel

The Domain Value panel is used maintain the Lookup values for a Domain. It is these lookup values and meanings that will be displayed to a User when the appropriate List of Values is called.

Seq (Required)

Enter the sequence number for the Domain Value. This will order the display of the Lookup values.

Value (Required)

Enter the Lookup Value. The 'string' length of the value cannot exceed the length entered in the 'Value Length' field.

Meaning (Required)

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Enter a meaning for the Domain Value. This will be displayed along with the Domain Value in the appropriate List of Values is called.

System Data (Checkbox)

Domain Values populated during the Installation or Upgrading of ***Exor*** will be 'Checked'. ***These Domains and associated Domain Values MUST NOT be changed.*** All User defined Domain Values should be 'Unchecked'

Start Date (Optional)

If required, enter the date from which the Domain Value is effective. The Value may not be selected prior to this date.

End Date (Optional)

If required, enter the date at which the Domain Value ceases to be effective. The Value may not be selected after this date.

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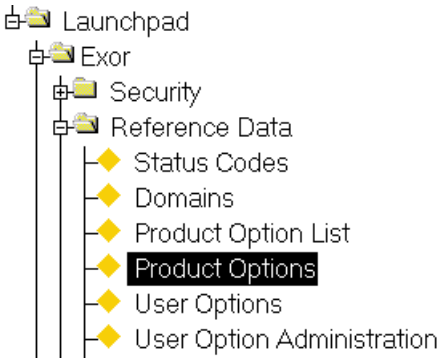
Product Options – HIG930

Figure 70
Product Options Menu



Product Options allow 'switches' or default values to be set, which defines how certain functionality operates within the ***Exor*** suite of Products. For example the Product Option ***SHOWINVPK*** determines whether or not the 'Primary Key' field is displayed on the ***Asset Items - NM0510*** module whereas ***INVVIEWSLK*** determines whether or not the Route and Offset details of a Parent Route in a Network Type Inclusion are displayed in the Asset Views.

The values for Product Options are normally defined during Product Implementation or Upgrade and should not be amended without consultation with Exor support staff.

Product Options values are maintained using ***Product Options - HIG9130***. The Product Options themselves are 'registered' and defined using ***Product Option List - HIG9135.***

Full details of Product Options for each Exor application can be found in the relevant System Admin Guides.

Several Product Options may have a User Option of the same name. The Product Option will act as the default settings. The system will check for the existence of a User Option value that will take precedence over the Product Option value. If no User Option value has been defined for the User the Product Option value will be used. Product Options that also have an accompanying User Option are marked with an Asterisk (*) below.

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HIG Product Options (Core Exor)

Prod	Option Id	Option Name	Sample Value	Remarks
HIG	ALLOWDEBUG	Allow Debug	Y	Allow Debug mode to be set
HIG	BATMAXPRN	Max Batch Print Warning Level	50	This is the maximum number of items allowed to be batch printed, of the number of items goes above this limit a warning is given to the user
HIG	BROWSERPTH	Path to Internet Explorer	"C:\PROGRAM FILES \INTERNET EXPLORER \IEXPLORE.EXE"	Path to Internet Expolrer
HIG	DBWINTITLE	DB Info in Window Titles	Y	When set, connection and product information will be displayed in client window titles. If set to Y the following information is shown : Username Database Alias Server Name Current Exor Product (e.g. NET) Version Number of the current Product
HIG	DEBUGAUTON	Use Autonomous Debug	Y	If this is "Y", then whenever any debug output is written it will be written in an autonomous transaction, so the output is immediately visible and is not dependent on a commit in the calling session. This should normally be set to "Y" UNLESS you are running across a distributed database (DB Links) - exor Traffic Manager is one such example of this.
HIG	DEFREPTYPE	Word Template Default Rep Type	REPT	Default Document manager report type used inside the OLE generation of documents in MS Word
HIG	DEFUNITID	Default Unit Identifier	1	This should be set to the ID of the unit of measurement used as the Default Unit in the User Preferences window. If User Option PREFUNITS is also set, the PREFUNIT value will take precedence over the DEFUNITID value.
HIG	DEFVISNTH	Default Visible Theme Flag	Y	View the default visible theme flag
HIG	DIRREPSTRN	Directory Separator	/	Separator used in assembling file paths etc
HIG	DISBRNDIMG	Discoverer Web Brand Image		URL for web Discoverer brand image. e.g. http://www.exor.com/logo.gif
HIG	DISCEULUSR	Discoverer EUL User	EXOR	The Oracle user of the Discoverer EUL. This is used in conjunction with HIG1950
HIG	DISCO_MODE	Discoverer Run Mode	WEB	How Exor will access Discoverer - via the web or client server.
HIG	DISCO_VERS	Discoverer Version	4	The version of Oracle Discoverer in use
HIG	DISFRMSTYL	Discoverer Web Frame Style	separate	Frame style for Discoverer over the web.
HIG	DISWEBHOST	Discoverer Web Host		The host for accessing Discoverer over the web. e.g. http://www.exor.com/
HIG	DISWEBPATH	Discoverer Web Path		Path to Discoverer on the web host. e.g. infomgr/Discwb33/html/english/ms_ie/start_ie.htm
HIG	DISWINHGHT	Discoverer Web Window Height	764	Window height for Discoverer over the web.
HIG	DISWINWDTH	Discoverer Web Window Width	1026	Window width for Discoverer over the web.
HIG	EDIFDLROLE	EDIF Download Users Role	MAI_USER	EDIF Download Users Role restricts to users with specified role (all users apply when null).
HIG	FAVMODE	Favorite Mode	USER	Determines the default starting tab for the user in the launchpad
HIG	FAVURL	URL displayed in HIG1807	http://www.bentley.com	URL displayed in HIG1807
HIG	GAZAUTOQRY	Gazetteer Results Auto Query	Y	This must be a Y or N. If the option is set to Y the data will automatically populate the results block in the Gazetteer when you

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				click/tab into it.
HIG	GRIDATE	GRI Format Mask	DD-MON-YYYY	Used in conjunction with the date property class to provide a flexible data format mask
HIG	GRIJOBPRM	Name of GRI job id param.	GRP_JOB_ID	Name of GRI job id param.
HIG	GRILSTNAME	GRI Listener Name	LSTNER	The pipe identifier string - A string which is used to uniquely identify all jobs associated with the particular Exor schema.
HIG	HIGGISAVLB	GIS Availability Flag	Y	This option must be set to Y or N. When set to Y, the GIS button is enabled on the launchpad
HIG	HIGGISTYPE	GIS Type	DDE	A means of flagging the type of GIS which is interfaced to Exor - Either DDE, NONE or OTHER
HIG	HIGPUBSYN	Create Public Synonyms	Y	Enter a value of Y if public synonyms are employed to provide access to dynamically created objects such as Asset views or accidents validation procedures etc.
HIG	HIGUSEIMAG	Launchpad Image Usage	TRUE	Use a value of TRUE to force the launchpad to use images
HIG	HIGWINTITL	Window title for Highways	MAIDEV43	This is the window title for Highways by exor
HIG	HIG_ST_CSS	URL for static CSS		If the organisation has a static style sheet (i.e. not accessed from within the oracle server) then set this option so that it is used (for example in mail messages)
HIG	HTMLHLPST	WebHelp HTML Entry Point	/HIG/WEBHELP/HIG.HTM	Entry Point for HTML help
HIG	HTML_BASE	WebHelp HTML Base	HTTP://barney.development.exorcorp.local/webhelp	Base URL for HTML help
HIG	IDWINTITLE	Module ID on Window Titles	Y	When set, the module id will be displayed in client window titles.
HIG	INVVIEWSLK	Show SLK On Inventory Views	N	Set to "Y" to include the parent inclusion route SLK details on the inventory view
HIG	JDBCHOST	JDBC Server Host Name	Exdl9	This value is used by map services when checking / creating map data source information for non-administrator users of the system.
HIG	JDBCPORT	JDBC Server Port	1521	This value is used by map services when checking / creating map data source information for non-administrator users of the system. It must be set to the value of the port that the Oracle TNS Listener is listening on
HIG	JDBCSID	JDBC Server SID	Oracle	This value is used by map services when checking / creating map data source information for non-administrator users of the system. It must be set to the name of the Oracle database service that is hosting the Exor and spatial data.
HIG	JPRIVLEVEL	Java Privs Level	R	Level at Which Java Priviliges Are Granted For Oracle Directories, R = Role, U = User, B = Both
HIG	LINESTYLE*	Map Highlight Line Style	L.HIGHLIGHT	This is the Style (color/line width etc) in which selected Line and Polygon features will be highlighted within Exor Map Services.
HIG	LOGOIMAGE	LOGO	EXOR.JPG	This is the default logo used in Exor Reports. If a Report Style has been defined using Product / User Option RPRTSTYLE, the Logo defined within it will take precedence.
HIG	MAPCAP_DIR	The MapCapture Load directory	c:\exor\mc_load	The directory on the server where MapCapture survey files will be placed ready for loading into NM3. This is the MapCapture upload directory
HIG	MAPCAP_EML	MapCapture email address	101	This is the internal id of the MapCapture Loader Admin Email group and will be set at install. You should not change this value unless instructed by Exor support.
HIG	MAPCAP_INT	MapCapture load process timeout	1	This is the interval (in minutes) for the actual loader process to look and see if there are any load sets ready for loading.
HIG	NETINVCODE	Network Asset Code		This is for Backward Compatibility and is not

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				used in Exor V3
HIG	NETUSELRS	Use of Linear Referencing		This is for Backward Compatibility and is not used in Exor V3
HIG	NM3WEBCSS	NM3 Path to CSS		This is the address where the NM3WEB package looks for the cascading style sheet to be used in the NM3 HTML pages Note that this could be a full-blown web address.e.g. nm3web.process_download?pi_name=exor.css
HIG	NM3WEBHOST	NM3 Web Host	http://localhost/	This is the address of the apache server used by the NM3 components
HIG	NM3WEBPATH	NM3 Web Path	pls/exor	This is the address Database Access Descriptor used by the NM3 components Note that the "pls" part of this IS case sensitive
HIG	NOT_6I_REP	Using non-6i Reports Server	Y	Using non-6i Reports Server
HIG	NSGDATA	System Uses NSG Data	N	This option should only be set to 'Y' of NSG data manager has been installed and is licensed. Note that it should be set to 'N' when initially loading NSG data.
HIG	OVRVWSTYLE*	Overview Line Style	L.LIGHT DUTY	This is the Line style for overview map boundary indicator
HIG	PCOMMIT	Commit on count = set value	1000	This value to be used for performing large inserts or delete to avoid exceeding rollback segments
HIG	POINTSTYLE*	Map Highlight Point Style	M.CIRCLE_PINK	This is the Style in which selected Point features will be highlighted within Exor Map Services.
HIG	REGSDELAY	Registration of SDE Layers	Y	Should the derived Spatial Layers be registered in the SDE schema
HIG	REPOUTPATH	Reports Output Path	C:/exor/reports	Path for the output of reports
HIG	REPURL	Reports Server URL	http://homer.development.exorcorp.local/reports/rwservlet?server=rep_homer_asfr&envid=MAIDEV43	URL to get to the application server Reports Server (not 6i run_product)
HIG	RMMSFLAG	RMMS Network Type Flag	3	1=RMMS, 3=MMGR, 4=Welsh Office This flag identifies the type of road network. It affects the validation and display of certain road section attributes, such as linkcode and section number.
HIG	RPRTSTYLE	Report Style	EXOR_DEFAULT	This is the Style to apply to Report Layouts
HIG	SDEINST	SDE instance name		SDE instance name
HIG	SDESERVER	SDE Server		Server on which SDE is running
HIG	SDMREGULYR	Register User layers for SDM	Y	When set to Y the system will maintain a set of SDO/SDE metadata for each theme and each individual subordinate schema that has been granted the necessary privileges for access
HIG	SDODEFTOL	SDO Default Tolerance	0.5 - nearest Metre 0.05 - nearest CM 0.005 - nearest mm	This is the default tolerance used when registering an SDO table in USER_SDO_GEOM_METADATA. It represents the accuracy of the vertices of the shape.
HIG	SDOPTZOOM*	Map Highlight Point Scale	This should have a default value of 150	This is the zoom scale when Exor Map Services zooms to a Point feature.
HIG	SHAPE_TAB	SDM Shape Table Name	SHAPE	This must hold the table name of the SDM Shapes table
HIG	SMTPAUDIT	Audit info in mail titles	Y or N	If set to "Y" information about the sender will be included in the mail message title for any mails sent by the system
HIG	SMTPDOMAIN	SMTP Domain	Exor.co.uk	This is the Domain which will be used by the NM3 Mailer for communicating with the SMTP server
HIG	SMTPPORT	SMTP Port	25	This is the port on which the SMTP server which will be used by the NM3 Mailer This is usually port 25

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HIG	SMTPSERVER	SMTP Server	Exor1	This is the SMTP server which will be used by the NM3 Mailer NOTE: Unless your SMTP server is set up to allow relaying (or it is configured to allow the DB server to send externally) you will only be able to send emails to internal email addresses One way around this is to have the DB server also acting as a SMTP server
HIG	SQLLDR_ERR	SQL*Loader Allowed Errors	50	The number of insert errors that will terminate the load. Default = 50, to stop on first error = 1
HIG	SQLLDR_EXE	SQL*Loader Executable	SQLLDR	The name of the SQL*Loader executable. This is mainly used in some loader routines
HIG	TMPTBLSPCE	Default User Temp Tablespace	TEMP	This must be a valid tablespace name. In Maintain Users (HIG1832), this name appears as a default value for the users default tablespace whenever a new user is created. This option may be amended at any time.
HIG	UPDRDONLY	Allow update of subordinates	Y	Update subordinates allowed if parent is readonly
HIG	USRPROFILE	Default User Profile	DEFAULT	This option must be a valid Oracle user profile. In Users - HIG1832, this value appears as a default whenever a new user is created.
HIG	USRQUOTA	Default User Quota	10M	This option must contain a valid disk quota in the format 999K or 999M. In Users - HIG1832, this value appears as a default quota for the user tablespace whenever a new user is created.
HIG	USRTBLSPCE	Default User Tablespace	EXOR	This must be a valid tablespace name. In Users - HIG1832, this name appears as a default value for the users default tablespace whenever a new user is created.
HIG	UTL_URLDIR	Web Reports Output URL	http://barney.exorcorp.local:7777/exor_reports	URL for Output via Spool and UTL_FILE
HIG	WEBDOCPATH	Document Access Path	docs	Document Access Path as set in Document Access Information section of Database Access Descriptor (DAD) configuration
HIG	WEBCONFIG	Config Value	Y	Set this to the required sso_userid - A maximum of 30 characters
HIG	WEBMAINIMG	Image for main menu	docs/exor.gif	Image which is displayed in the main menu (NMWEB0000) on the HTML forms
HIG	WEBMAINURL	URL for image in main menu	http://www.exorcorp.com/	URL which image (displayed in the main menu (NMWEB0000) on the HTML forms) takes you to
HIG	WEBMENUMOD	HTML Main Menu Module	NMWEB0000	Module to which the HTML forms "Main Menu" link takes you to
HIG	WEBMAPDBUG	Map Debug	0	This option turns debug on /off for Exor Web mapping. This value should only be changed on instruction from Exor Support.
HIG	WEBMAPDSRC	Data Source	IAMS_DIBNAH	Name of the JDBC Data Source connecting map server to RDBMS
HIG	WEBMAPMSV	OMV Servlet URL	http://exdl9:8888/mapviewer/omserver	URL to specify the Oracle Map viewer Servlet
HIG	WEBMAPNAME	Base Map	ACT	Name of the Base Map as defined in Oracle metadata
HIG	WEBMAPTITL	Map Banner	EXOR MAPPING	This is the text which appears in the Title Banner of Exor Web Maps
HIG	WEBMENUMOD	HTML Main Menu Module	NMWEB0000	Module to which the HTML forms "Main Menu" link takes you to
HIG	WEBTOPIMG	Image for top frame	docs/exor_small.gif	Image which is displayed in the top frame on the HTML forms
HIG	WEEKEND	Weekend Day Numbers	1,7	This option must contain a list of numeric values in the range 1 to 7. They define the days of the week which constitute the weekend in a particular country, for use in working day calculations. The following convention must be adopted: 1=Sunday 2=Monday
HIG	WMSDEFSTAT	WMS Default State	0	Set to 0 if WMS is not to be displayed at startup. Set to 1 if WMS is to be displayed at startup

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HIG	WMSIMGFMT	WMS Image Format	image/gif	This specifies the image type that is required from a WMS data provider when rendering WMS sourced map information. It must be a valid WMS value and must be supported by the target WMS compliant data source
HIG	WMSLAYERS	WMS Data Layers	1:50000_Raster, 1:10000_Raster	This specifies a comma-separated list of layer names that are required to be produced from a WMS compliant data source if WMS data is required. There should be no spaces in or between any of the layer names and the names must exactly match those that exist in the target WMS system.
HIG	WMSLYRNAME	WMS Layer Name	WMS Data	If you have WMS is enabled in your web mapping system, this option will specify the text used to name the WMS layer in the layer control tool of the web map.
HIG	WMSSERVER	WMS Servlet URL	http://devappserv1 servlet/com.esri.wms Esrimap?VERSION=1.1.0	This option specifies the URL that is used to access the servlet providing the WMS compliant data source. It MUST have ?VERSION=1.1.0 included in the URL (or the appropriate version identifier for your system) as this is used when building the URL to read the WMS data
HIG	WMSSVCNAME	WMS Service	SERVICENAME=roads	This option specifies the service name that is defined in the WMS compliant data source where the required WMS data is stored. Note that SERVICENAME= is required in this option.

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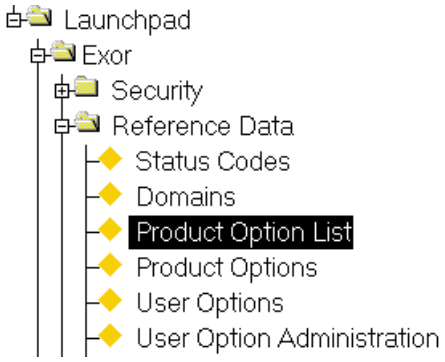
Product Option List - HIG9135

Figure 71 Product Option List menu

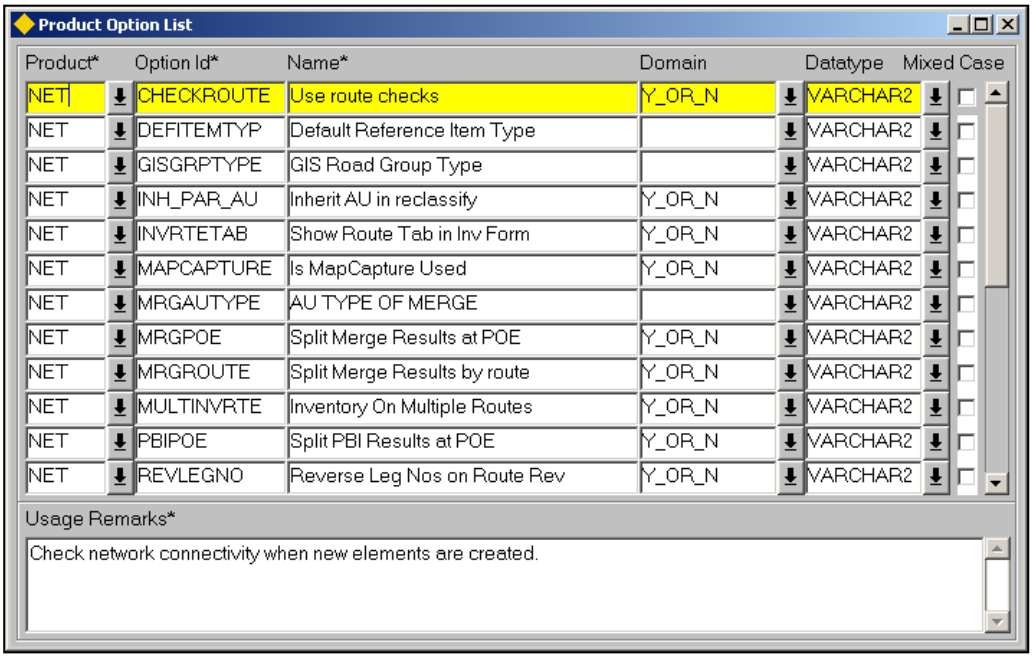


The ***Product Options List - HIG9135*** module is used to 'register' Product Options within ***Exor*** and define characteristics such as the 'Data Type' of allowable values, the System Domain a Product Option Value is validated against if appropriate etc.

Note that the list of Product Options is normally defined during Implementation or Upgrade of a Exor Product and should not be amended unless instructed to do by Exor Support staff.

The values for Product Options are defined using ***Product Options - HIG9130*** (page 81).

Figure 72



Product (Required)

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The code of the Product to which the Product Option belongs will be displayed.

Option Id (Required)

The Product Option Id will be displayed

Name (Required)

The Product Option name will be displayed

Domain (Optional)

If the value for the Product Option (entered using ***HIG9130***) is validated against a System Domain (***Domains -HIG9120*** (page 78)) the appropriate Domain name will be displayed.

Data type (Required)

The data type of the allowable values for the Product Option will be displayed. The value entered for the Product Option in HIG9130, will be validated against this Data type.

Mixed Case (Checkbox)

If mixed case entry is allowed for this Product Option the checkbox will be selected.

Usage Remarks (Required)

Comments relating to the Use of this Product Option are maintained in this field.

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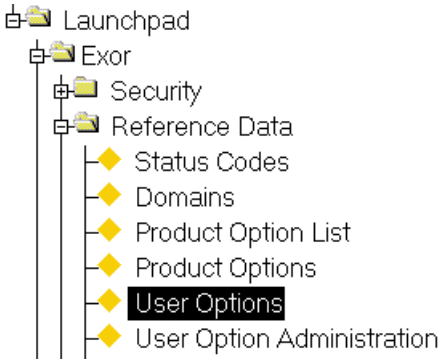
User Options - HIG1838

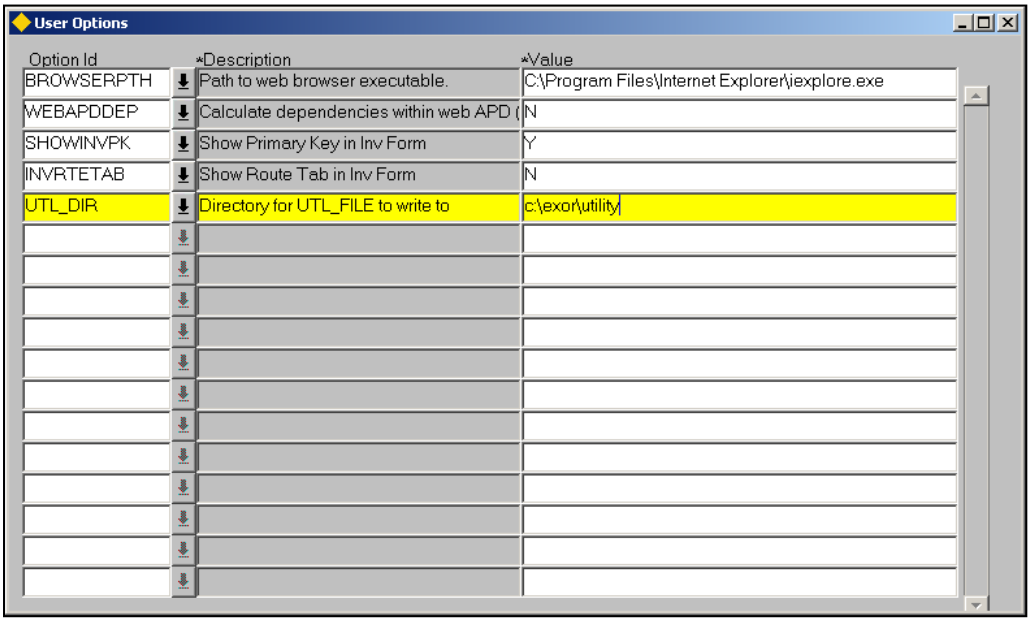
Figure 73
User Option Menu



The ***User Option - HIG1838*** module is used to maintain the values for System Options specific to each User.

User Options are similar to Product Options but allow certain 'switches' or default values to be specific a User and not all Users of the System as is the case for a Product Option. Some Product Options are also specified as User Options, e.g. SHOWINVPK. If this is the case the value of the User Option (if assigned) will take precedence

Figure 74



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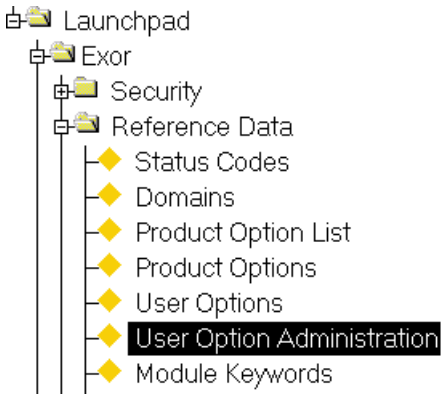
User Option Administration - HIG1837

Figure 75 User Option Admin menu

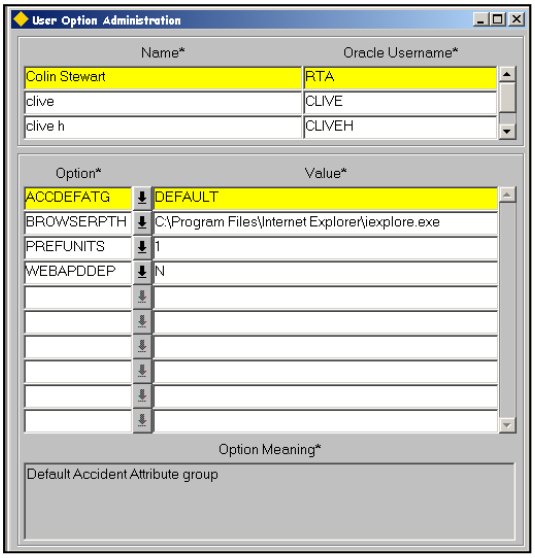


The ***User Option Administration - HIG1837*** module allows the System Administrator (or any User with 'Normal' access to the module) to maintain User Options and associated values for a User. When the module is called all current Users are automatically queried back.

User Options are similar to Product Options but are specific a User and not all Users of the System as is the case for a Product Option. Some User Options are also specified as Product Options, e.g. SHOWINVPK. If this is the case the value of the User Option (if assigned) will take precedence. User Options may also be maintained using User Options - HIG1838 (Page 89) or Users - HIG1832 (Page 29).

For a description of each User Option refer to the Product Option sections of this guide.

Figure 76



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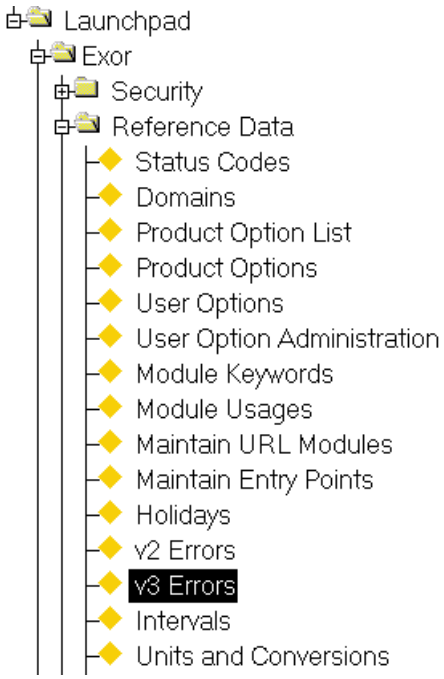
V3 Errors - HIG9185

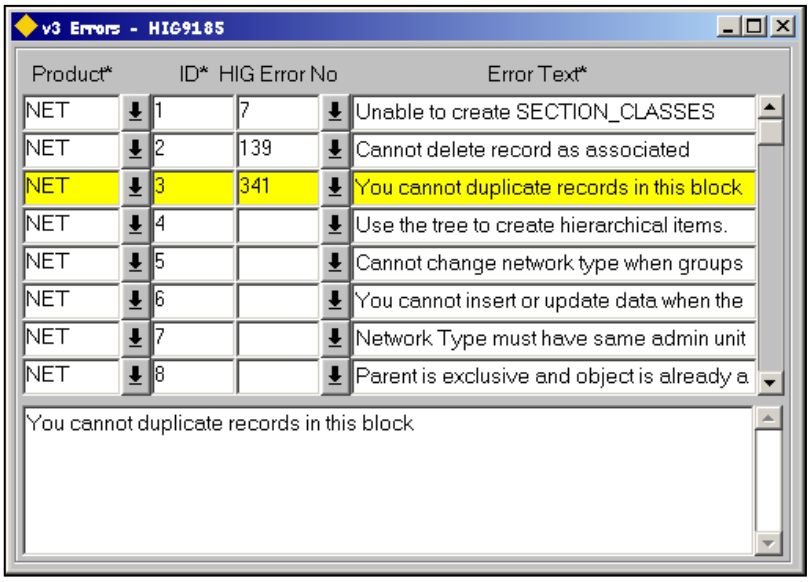
Figure 77 V3 Errors Menu



The ***Errors (v3) - HIG9185*** module is used to maintain the Error and Information messages displayed in all ***Exor V3*** modules.

These messages are defined at the time of Implementation or Upgrade and must not be amended unless otherwise instructed by Exor Support.

Figure 78



Product

The code of the Exor Product in which the error is used is displayed.

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ID

The Id of the message will be displayed

HIG Error No

If the error is also used in ***Exor*** V2 modules the V2 error number will be displayed. This is for backward compatibility.

Error Text

The Error message Text will be displayed. The full text will also be displayed in the panel at the bottom of the form.

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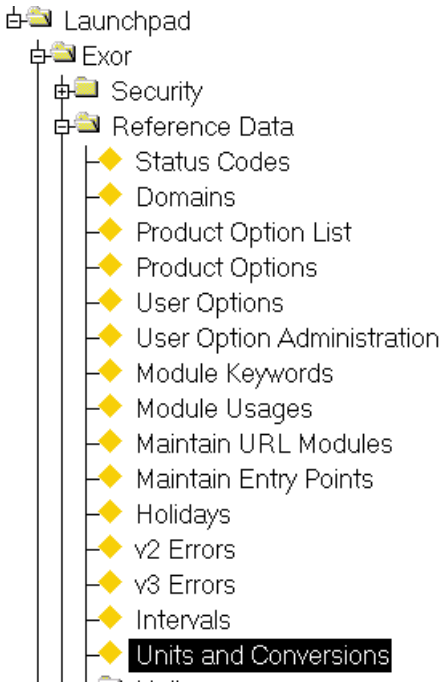
Units and Conversions - HIG1820

Figure 79 Units and Conversions Menu



This form is used to define the Database Functions allowing Dynamic Unit Conversion from one unit of measurement to another. This allows linear Offset measurements to be converted from miles to kilometres or meters to miles, for example, in forms such as ***Assets on a Route – NM0560***.

The 'Units' set-up in this form are also used to define the system units used for Linear Network Types in module ***NM0002 – Network Types***.

A domain of name 'LENGTH' with associated units of measurement and conversion functions will be shipped as meta data when the system is first installed. This will allow conversion for metres to KM, CM and Miles and each of KM, CM and Miles to be converted back to Metres.

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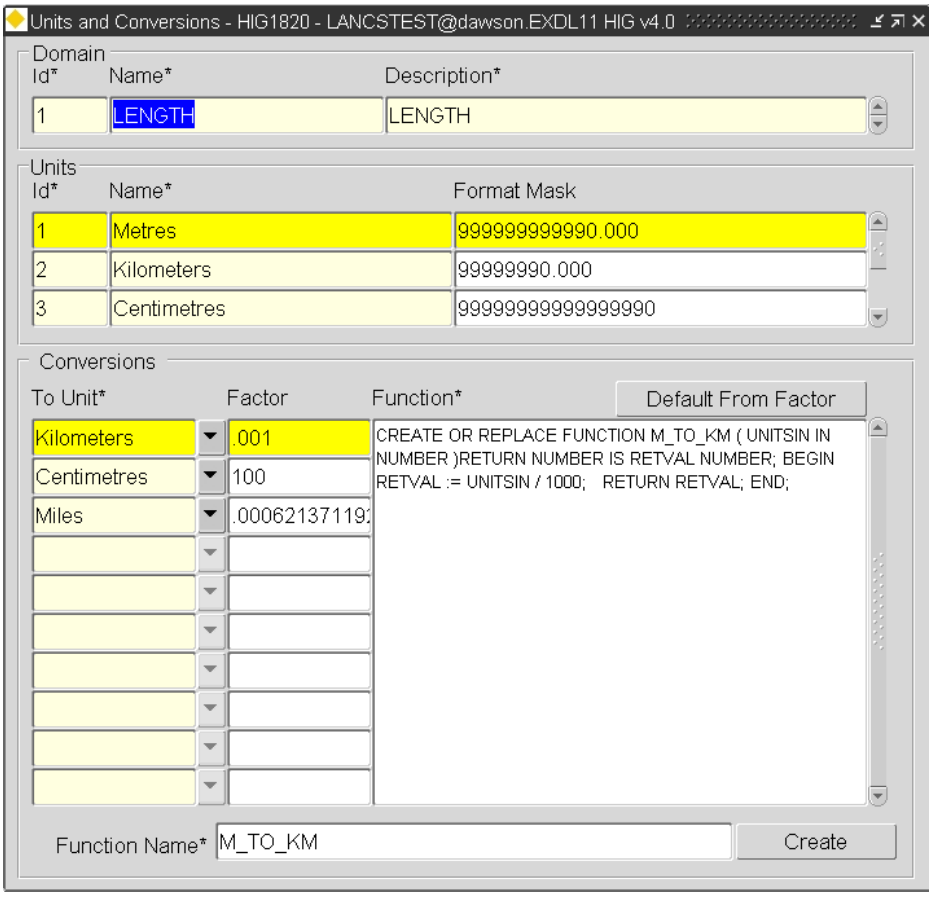
Figure 80
Units and Conversions



Domain Panel

Use this panel to add new, delete or maintain Unit Domains. When you enter this form existing Unit Domains will be displayed. Use the **[Next]** or **[Previous]** record buttons on the toolbar to display the required Unit Domain. To add a new Unit Domain press the [**Create Record**] button on the toolbar or press **[F6]**. A Unit Domain may have several units of measurement associated to it.

Id	(Display Only)
A system generated Identity number will be generated when the domain is first saved.	
Name	(Required)
Enter the name of the Domain e.g. LENGTH	
Description	(Required)
Enter a title for the Domain.	

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Units Panel

Id (Display Only)

A system generated Identity number will be generated when the Unit is first saved. This Id code is used for defining the Units of Measurement for Linear Network Types in module ***NM0002 – Network Types***.

Name (Required) List

Enter the Unit of measurement e.g. Miles, Kilometres etc.

Format Mask (Optional)

If required enter a format mask for the Unit.

Conversions

To Unit (Required) List

Enter the Unit of measurement you want to convert the selected Unit in the Units part of the form to.

Note that a Unit must be defined before a conversion can be added for it.

Factor (Optional)

Enter the conversion factor to be used in the Function. For example to convert Kilometres to Metres the Factor would be 1000. This Factor may be used along with the 'Function Name' to automatically generate the Text necessary to create the Function. To generate the Text enter the 'Function Name' in the appropriate field and press the ***[Default From Factor]*** button on the form.

Function (Required)

Enter the conversion sequence that will be used for this conversion function. This example will convert Miles to Metres.

```
CREATE OR REPLACE FUNCTION MILES_TO_M
      (UNITSIN IN NUMBER) RETURN NUMBER IS
BEGIN
  RETURN UNITSIN*1600;
END MILES_TO_M;
```

Note that this text may be automatically generated by entering the Conversion factor in the 'Factor' field, the Function Name in the 'Function Name' field then pressing the [Default From Factor] button on the form.

Function Name (Required)

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Enter the name for this function e.g. MILES_TO_M

Before the function can be used it must first be created. This is done by pressing the [Create] button on the form.

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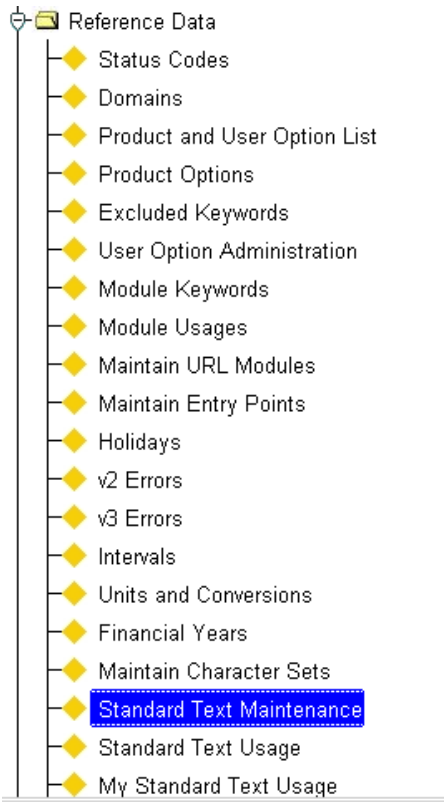
Standard Text Maintenance - HIG4010

Figure 81
Standard Text Maintenance Menu



The *Standard Text Maintenance* form allows the system administrator to set up some standard text for selected fields within specific modules.

Permission is then given to a user to view and use the standard text using ***Standard Text Usage – HIG4020***.

When the user is in a field that has the standard text functionality enabled they select the right mouse key and select the Standard Text option, this will then display a list of the standard text options that are available to that user. They may then highlight the required text and press the [Select] button to overwrite the text in that field or the [Append] button to append the standard text to the existing text in that field.

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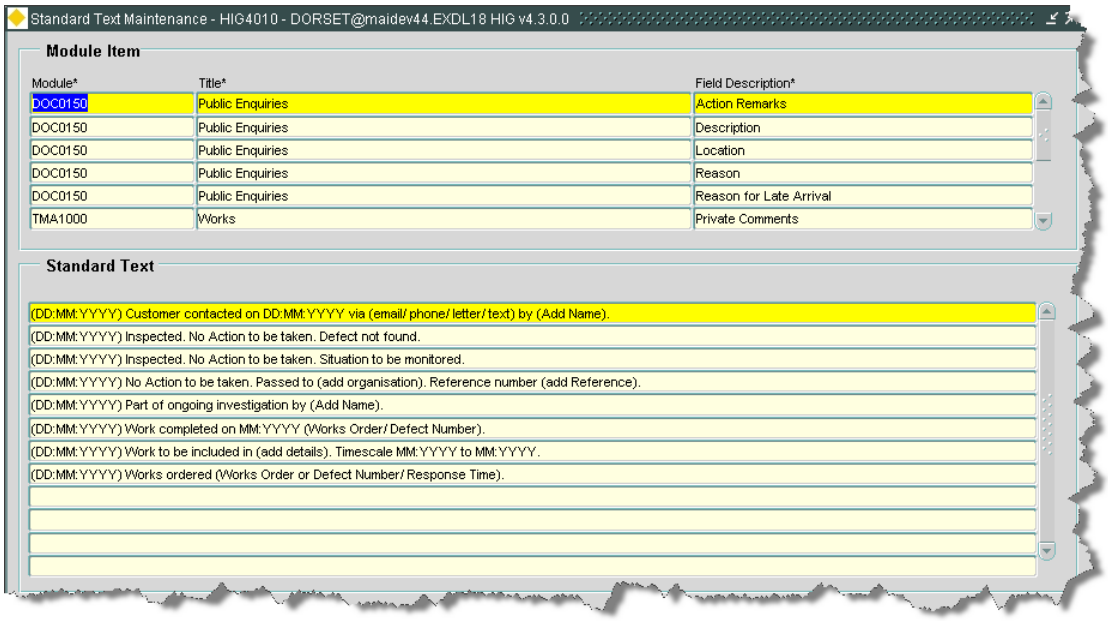
Figure 82
Standard Text Maintenance



The following fields are already populated with those modules and fields within those modules that have had the standard text functionality enabled, these fields can only be updated by Exor development staff.

- Module
- Title
- Field Description

Standard Text (Optional)

Enter the standard text that will be selectable by the user when they use this facility in the appropriate field within the form. The text available to each user may be controlled using ***Standard Text Usage – HIG4020.***

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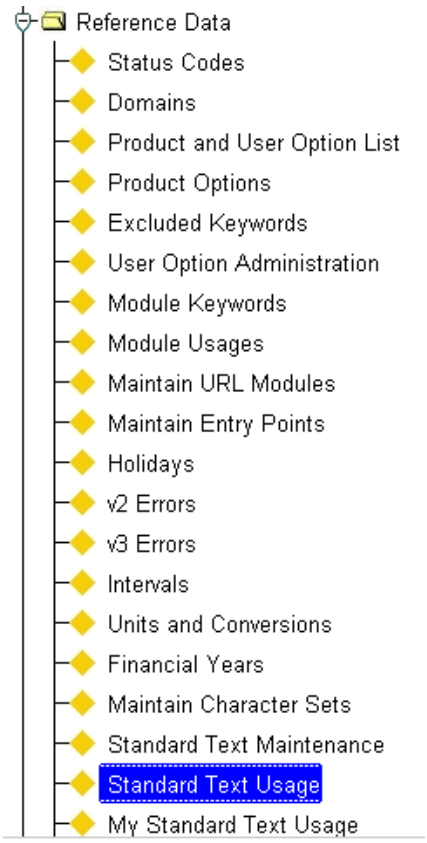
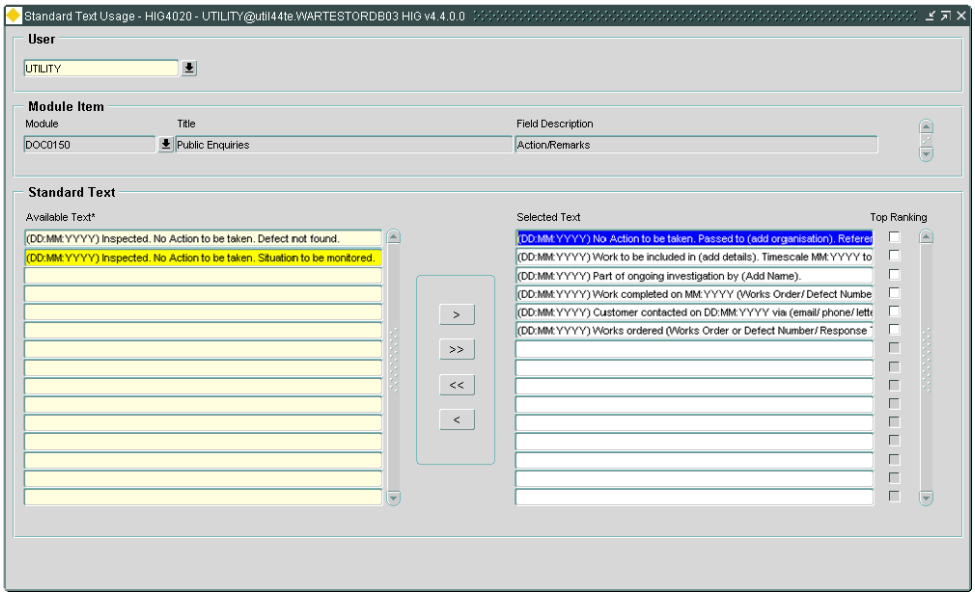
Standard Text Usage - HIG4020

Figure 83 Standard Text Usage Menu



The *Standard Text Usage* form allows the system administrator to allocate standard text set up in ***Standard Text Maintenance – HIG 4010*** to specific users.

Figure 84 Standard Text Usage



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User (Required) List

Select the required user that is to have standard text made available for use in each of the relevant modules.

Module (Required) List

Either scroll through to, or query back the required module / field combination that has already had the standard text defined using ***Standard Text Maintenance – HIG4010***.

Available Text

This will display the available text for the selected module / field combination, use the following buttons to:

[>] Move the selected text to the Selected Text panel
[>>] Move all text to the Selected Text panel
[<<] Move all text back to the Available Text panel
[<] Move the selected text back to the Available Text panel

Selected Text

This will display the selected text for the module / field combination.

Top Ranking Checkbox

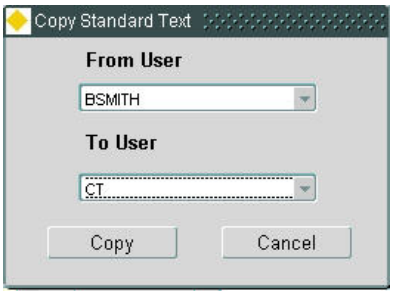
This checkbox is used to re-order the list of standard text placing the items checked and most frequently used at the top of the list.

To copy all the Standard text that has been set up for one user to another user select the toolbar icon, .

This will display the floating toolbar, select the [Copy] button.

This will display the following Copy Standard Text window:

Figure 85
Copy Standard Text



From User (Required) List

Select the user that the standard text selections will be copied from.

To User (Required) List

Select the user that the standard text selections will be copied to.

Select the [Copy] button to complete the copy of the standard text or [Cancel] to cancel the operation.
A dialogue box will be displayed asking for confirmation of the copy.

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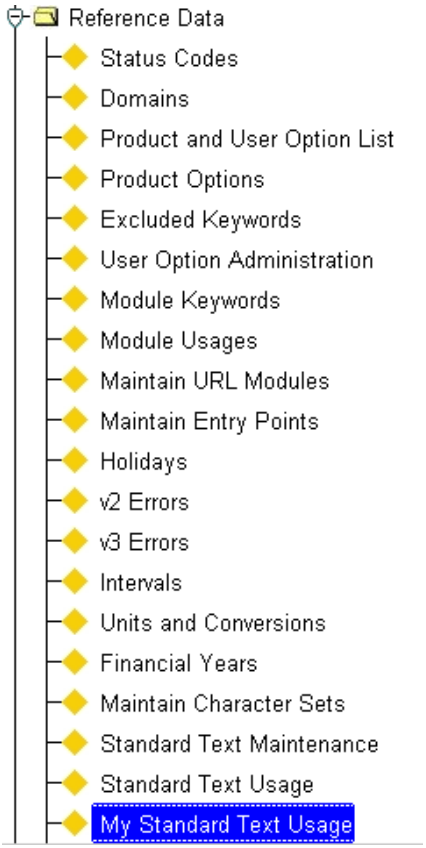
My Standard Text - HIG4025

Figure 86
My Standard Text Menu



The *My Standard Text Usage* form allows a user to view the standard text for each module assigned to the user by the system administrator.

The user can move standard text between *Available Text* and *Selected Text*.

The user must have *Normal* access to the form in order to move standard text.

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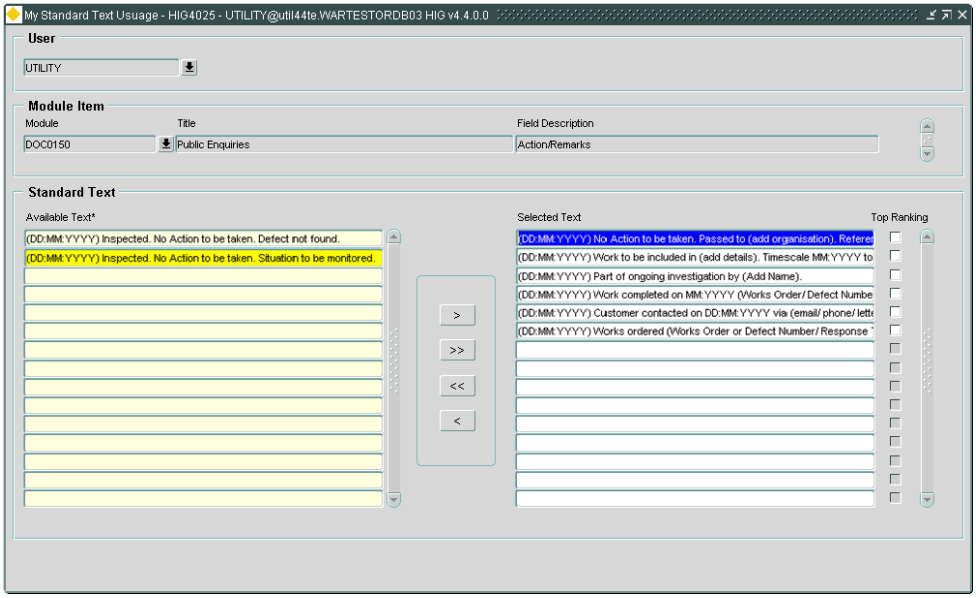
Figure 87
Standard Text Usage



User (Display Only)

The current user id will be displayed.

Module (Required) List

Either scroll through to, or query back the required module / field combination that has already had the standard text defined using ***Standard Text Maintenance – HIG4010***.

Available Text

This will display the available text for the selected module / field combination, use the following buttons to:

[>] Move the selected text to the Selected Text panel
[>>] Move all text to the Selected Text panel
[<<] Move all text back to the Available Text panel
[<] Move the selected text back to the Available Text panel

Selected Text

This will display the selected text for the module / field combination.

Top Ranking Checkbox

This checkbox is used to re-order the list of standard text placing the items checked and most frequently used at the top of the list.

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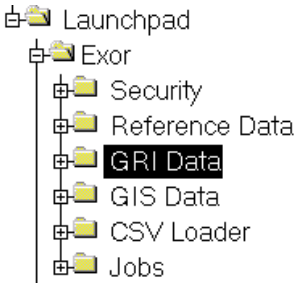
CHAPTER

3

GRI Data (Generic Reporting Interface)

Figure 88
GRI Data Menu



The forms covered in this section are the following:

- ***GRI Modules - GRI0220***
- ***GRI Parameters - GRI0230***
- ***GRI Module Parameters - GRI0240***
- ***GRI Parameter Dependencies - GRI0250***
- ***Report Styles – HIG1850***
- ***Discoverer API Definition – HIG9150***

The module descriptions provide you with detailed information about GRI reference data in ***Exor***, including:

- an overall description of the module.
- a detailed explanation of each field, including available features (such as List of Values, default values and other characteristics).
- helpful information for using the form

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Generic Reporting Interface Modules – GRI

Within the core area of the ***Exor*** software resides the GRI modules that are accessible via the GRI Data menu available within the core product

The GRI is used throughout the system for reporting and data loading and provides a consistent interface.

The following sections describe the content of the four GRI modules together with their purpose.

The four GRI modules are named

- Modules
- Parameters
- Module Parameters
- Dependencies

Modules – HIG1880

The Modules form is used specify if the selected Module will use the Generic Reporting Interface (GRI) by selecting the 'Use GRI' checkbox. For full details of the ***Modules - HIG1880*** form see page 46.

Once a module has been registered and the GRI indicator set to '**Y**', the details of the module can be entered into the ***GRI Modules - GRI0220*** form.

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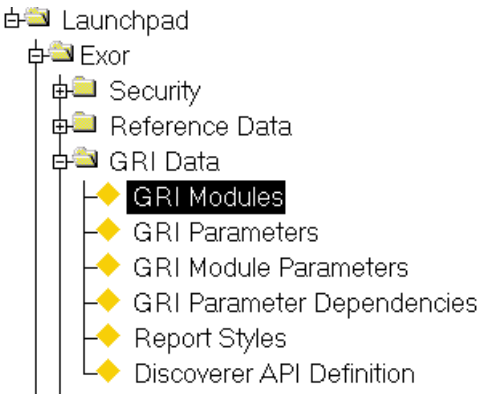
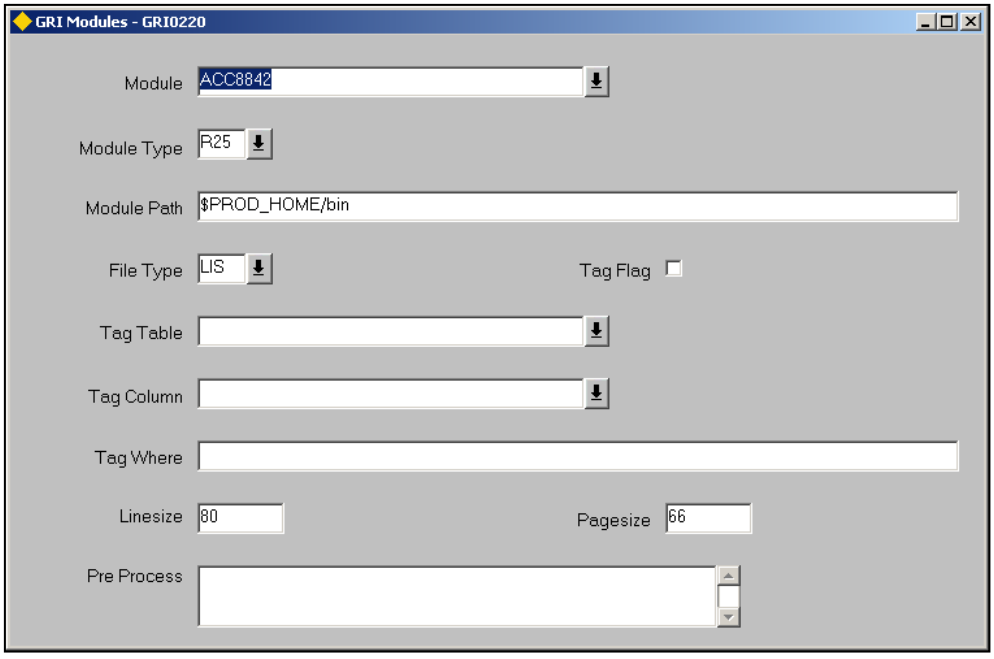
GRI Modules - GRI0220

Figure 89
GRI Modules
Menu Option



In order to register a module the user has to enter the following module details.

Figure 90



In order to register a module the user has to enter the following module details.

Module

Select the Module for which to define the GRI Moduel details. The LOV is restricted to those Modules flagged as Use GRI in ***Modules - HIG1880***

Module Type

Select the Module Type. This will be the same type as defined for the Module in HIG1880.

Module Path

This value is where the module can be located. A value of $PROD_HOME/bin should be set by default for all modules. The value $PROD_HOME is a

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reference to an environment variable and this will be translated into an actual location by the ***Exor*** software.

File Type

This defines the output file extension of the module. Normally set to .lis (List) this value is again available via a List of Values and is supplied as a domained value.

Tag Flag

Report Tags were implemented to provide a generic and effective way of driving a query by a subset of network Elements (sections). The check box can be either checked, indicating that report tags are to be used or NULL indicating that they are not to be used. Normally report tags are selected where the module parameters include a road group and where the report is driven by the Road Network.

Tag Table

This is the table name to be used to populate the tags table. This table is available from a List of Values and can be any valid table that the SYSTEM_OWNER has access to.

Tag Column

This is the column name of the specified tag table from where the actual tag value is to be obtained from. Again this value is available from a List of Values, the value of the list being restricted by the selected tag table.

Tag Where

This is a piece of SQL and provides a restriction to the selected tag column values. This statement actually forms the WHERE clause on the tag value selection. The tag selection therefore uses dynamic sql.

Line size

This value denotes the width of the selected module. This is normally required for a report type module and is normally set to 80 or 132 and refers to the columnar value of the report width.

Page size

This value defines the paging of the report. Again this value is normally set to 65 and indicates the lines per page of the specified module.

Pre Process

This column provides the ability to specify a parameterised database package, procedure or function that will be used to pre-process some for of data elements prior to the main execution of the selected module. This would be useful in areas where some for of function is applied to large areas of network elements or related data. For example all Asset Items could be summed by type for a specified road group and have the main module use this summed data to provide output. By using pre-defined server based routines we can ensure that the data obtained is both accurate and is processed in the most efficient manner.

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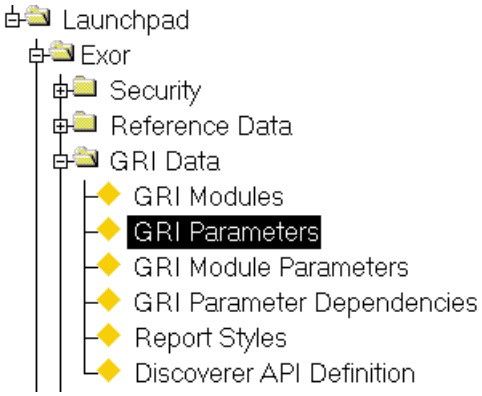
GRI Parameters - GRI0230

Figure 91 GRI Parameters Menu Option



The ***GRI Parameters - GRI0230*** module provides the User with various report parameters against which the User can manually enter (or select) a value.

The parameters form provides us with the ability to define these parameters together with the data type expected for the Parameter values and also provides the ability to define a known database column on which a List of Values will be dynamically created for and/or to be validated against.

The form has been designed as a Parent/Child form, the parent being the parameter and the child records being possible

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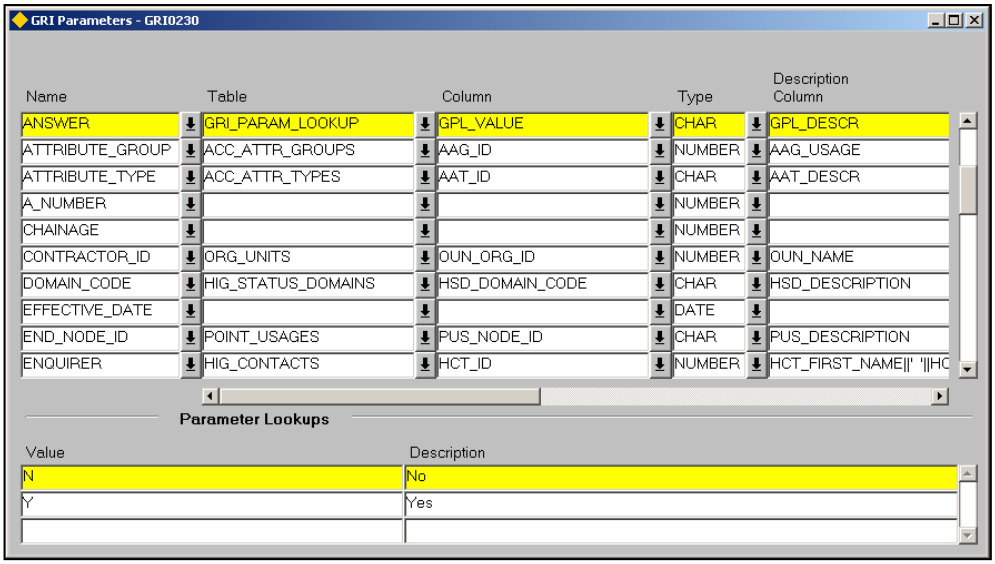
Figure 92



GRI Parameters

Name

The Unique Parameter Name

Table

The table from which a List of Values can be defined from

Column

The table column from which the List of Value is derived from

Type

The expected data type for the parameter value

Description Column

The column from which the List of Value description is obtained from.

Parameter Lookups

Value

The value to be listed with the parameter specific List of Values

Description

The manually defined description of the specified value

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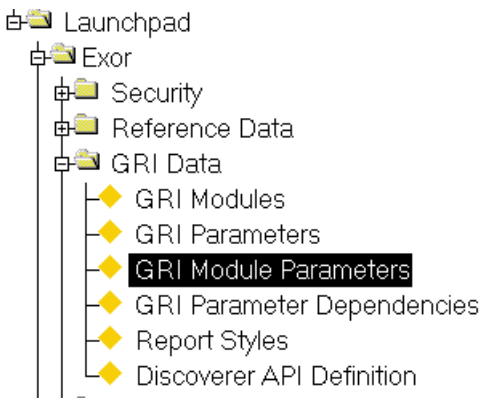
GRI Module Parameters - GRI0240

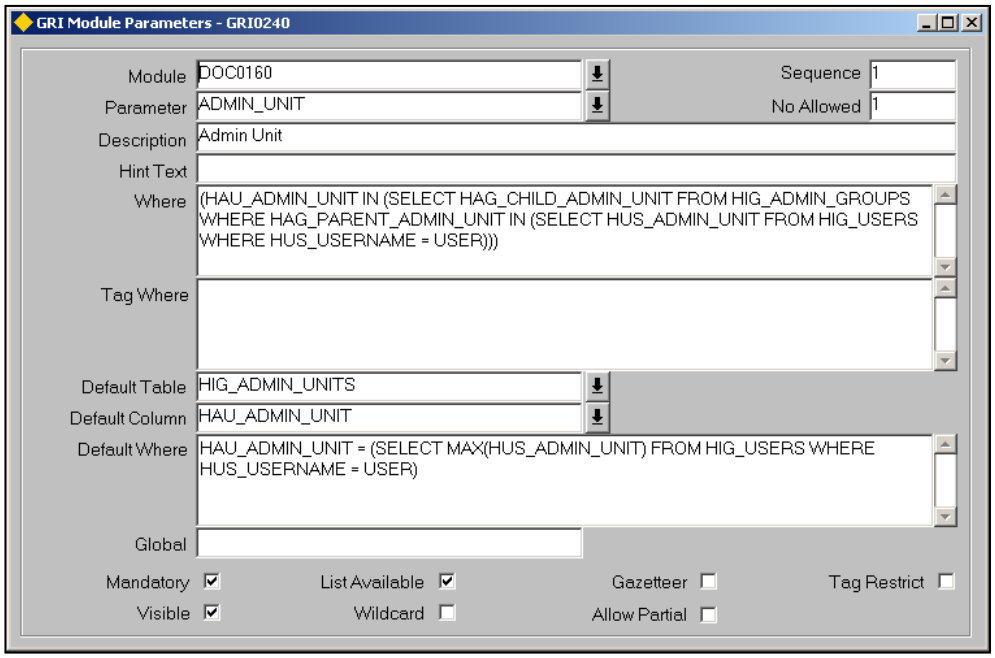
Figure 93 GRI Parameters Menu Option



The ***GRI Module Parameters*** module is used to define the actual module parameters.

The columns of the module parameters form are as follows:

Figure 94



Module

This is an actual registered module. Available from a List of Values this column is required and so must be provided.

Sequence

This is the display sequence of the parameter within the GRI

Parameter

This is the actual parameter, again available via a List of Values

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No Allowed

This denotes the maximum number of values that the user may enter for the module. In some report modules. The user is allowed to enter say a series of Elements (rather than a Road Group).

Description

This is the parameter description that is displayed to the user within the GRI interface.

Hint Text

This text will be displayed to the user when the cursor moves to the specified parameter within the GRI interface

Where Clause

This is a piece of SQL that will be used to dynamically effect the data queried by this parameter. Any entered text must be syntactically correct or else the module will fail.

Tag Where

Again this is a piece of SQL that will be used to extend the restriction on the report tags data.

Default Table

This is the default table from which the parameter value is obtained.

Default Column

This is the default column from which the parameter value is obtained.

Default Where

This is again a piece of SQL and is used to dynamically restrict the value obtained via the Default Table/Column.

Global

This column provides the module designer with the ability to define a globally referenced value.

Mandatory

If this is checked then the parameter value MUST be entered by the user

List Available

If this is checked then a List of Values has been defined and is therefore available to the user within the GRI interface.

Gazetteer

If this is checked then the Gazetteer will be available to the parameter for network selection.

Tag Restrict

If this value is checked then the parameter will be restricted by values pre-selected in the report tags table.

Visible

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If this is checked then the parameter will be displayed to the user within the GRI interface. It is possible (and sometimes necessary) to have parameters based on User options where we do not wish the user to change the value and in this type of scenario a non-visible module parameter may be used.

Wildcard

If this is checked then the User may use one of Oracles wildcard characters within the supplied parameter value.

Allow Partial

If this is checked then the parameter may be partially entered and a LIKE function applied to the parameter.

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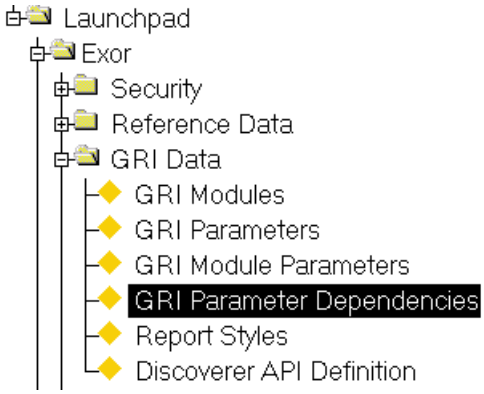
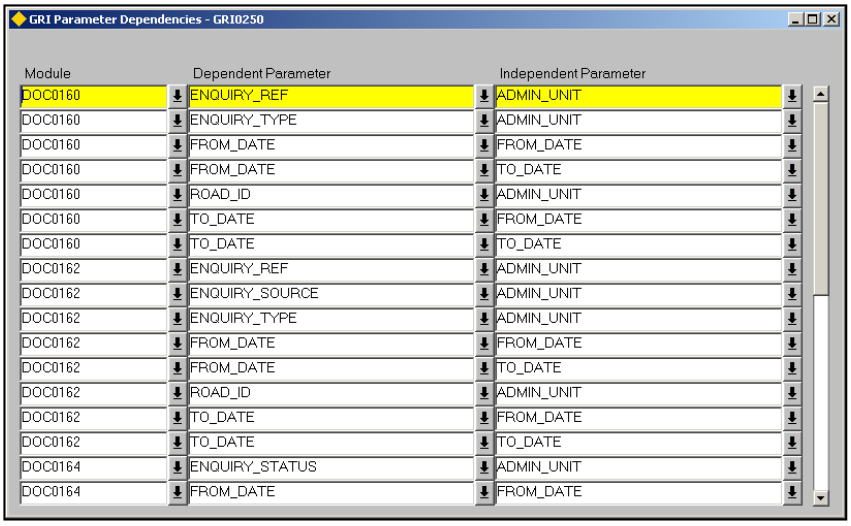
GRI Parameter Dependencies - GRI0250

Figure 95 GRI Parameter Dependencies Menu Option



The parameter dependencies module provides the module designer with the ability to state that the value of parameter 'A' is dependant in some way to that of parameter 'B'. As an example if we define both a Start Date and an End date for a parameter we may wish to enforce a rule that the entered value for a Start Date must NOT exceed the entered value of the End Date and so we say that the Start date is dependant on the End date (and visa versa).

Figure 96



Module	Dependent Parameter	Independent Parameter
DOC0160	ENQUIRY_REF	ADMIN_UNIT
DOC0160	ENQUIRY_TYPE	ADMIN_UNIT
DOC0160	FROM_DATE	FROM_DATE
DOC0160	FROM_DATE	TO_DATE
DOC0160	ROAD_ID	ADMIN_UNIT
DOC0160	TO_DATE	FROM_DATE
DOC0160	TO_DATE	TO_DATE
DOC0162	ENQUIRY_REF	ADMIN_UNIT
DOC0162	ENQUIRY_SOURCE	ADMIN_UNIT
DOC0162	ENQUIRY_TYPE	ADMIN_UNIT
DOC0162	FROM_DATE	FROM_DATE
DOC0162	FROM_DATE	TO_DATE
DOC0162	ROAD_ID	ADMIN_UNIT
DOC0162	TO_DATE	FROM_DATE
DOC0162	TO_DATE	TO_DATE
DOC0164	ENQUIRY_STATUS	ADMIN_UNIT
DOC0164	FROM_DATE	FROM_DATE

The following columns are defined within the dependencies form:

Module

The registered GRI enable Module

Dependant Parameter

The dependant parameter

Independent Parameter

The Independent parameter

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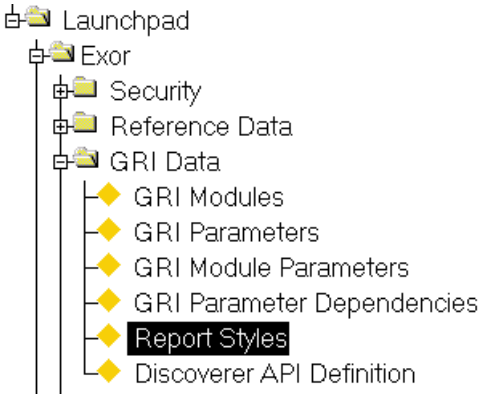
Report Styles - HIG1850

Figure 97
Report Styles
Menu Option



The ***Report Styles - HIG1850*** module allows different Styles, Colour Schemes and Logos etc to be defined for use when using ***Exor*** Reports. Each Report Style allows a Logo to be defined which appears at the Top Right Hand corner of each Report page. This image is stored within the ***Exor*** Database as a 'Loaded Object'.

If no image is defined for a Report Style the image defined in Product / User Option **LOGOIMAGE** will be used.

Each Report Page may also have a text string defined for the footer.

Each Row within a Report may have a different fill and font colour for ease of reading large amounts of data. The Report Heading and Text within the Heading may also have a different Colour Scheme.

The Report Style used for a Report is set using Product / User Option **RPRTSTYLE.**

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Figure 98 shows the Report areas controlled by a Report Style.

Figure 98

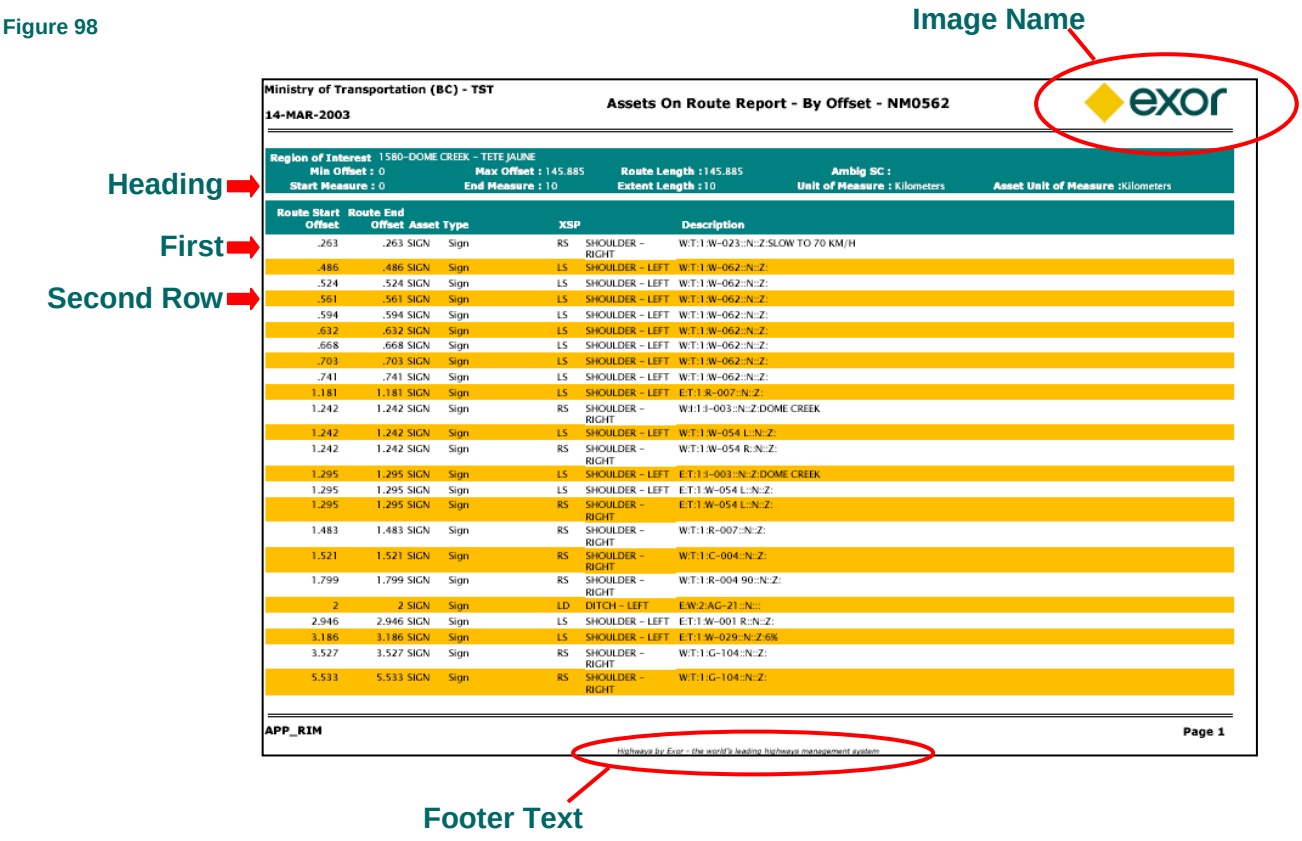
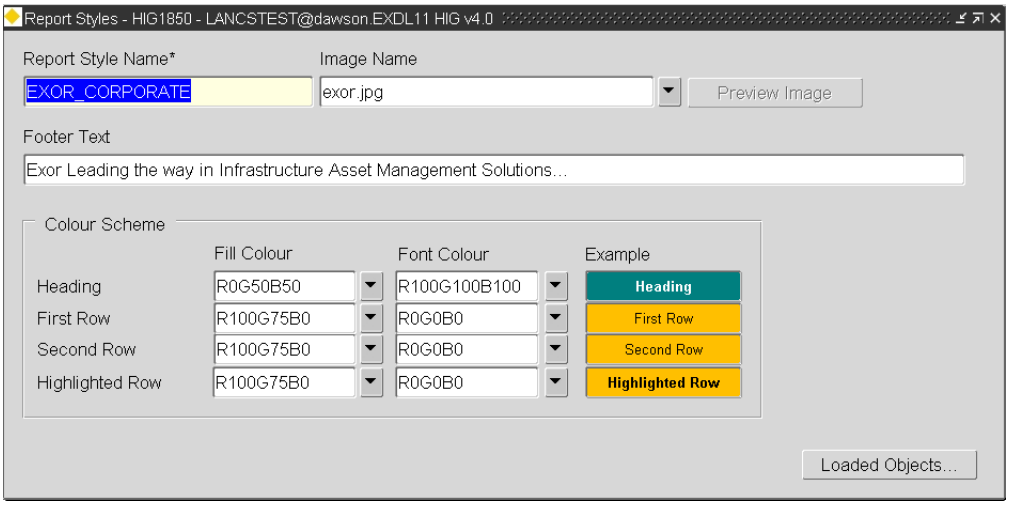


Figure 99



Report Style (Required)

Enter the required name for the Report Style. A Maximum of 30 characters is allowed.

Image Name List

If required, select the image for use as a Logo. The list of values will display all files that have been loaded into the nm_upload_files table. Images may be loaded into the database using the **[Loaded Objects]** button on the form. If

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no image is selected the Image defined for Product / User Option **LOGOIMAGE** will be used.

To view the selected Image press the **[Preview Image]** button. The image will be displayed in a pop-up window as shown in Figure 100.

Figure 100

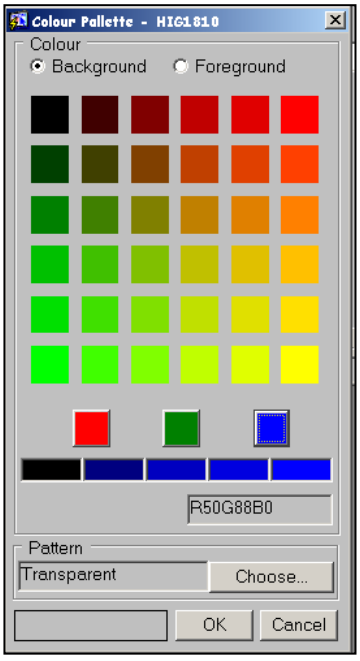
Footer Text

If required, enter the text string to appear on the report footer. A maximum of 256 characters is allowed.

Heading/First Row/Second Row

Enter the Colour for the Report Heading and Alternate Rows along with the associated Font Colours. If no colours are entered the Fill colour will be NULL and the text displayed in black. Pressing the 'drop down list' icons will call a Colour Palette from which the suitable Colours may be selected as displayed in Figure 101.

Figure 101



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Highlighted Row

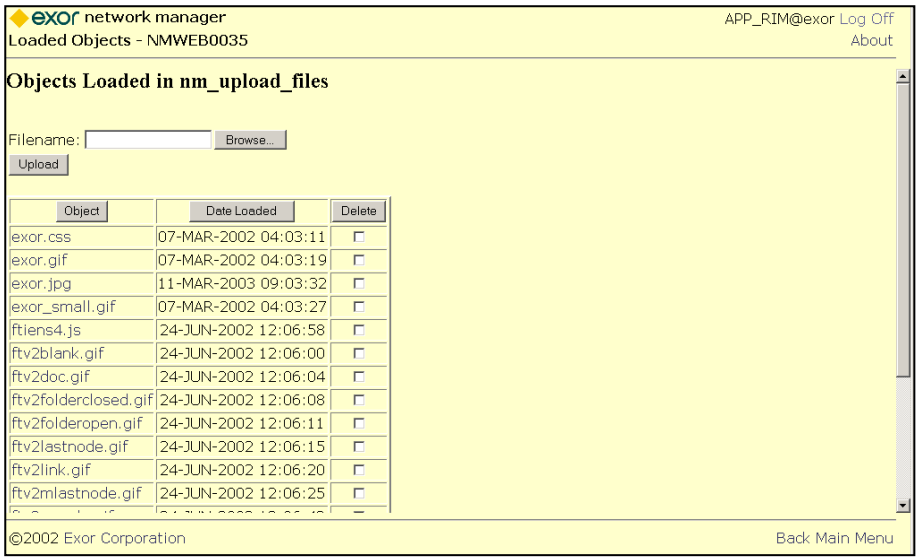
Some reports include a Highlighted Row. An example of this are the Assets on Route Reports which highlight the Referencing Item when not referencing to the selected Network. The Fill and Font Colours for this Highlighted row may be selected as described above.

Loaded Objects Button

Images to be used as Logo's in reports must be loaded into the Exor database. This is down via the ***Loaded Objects - NMWEB0035*** module called by pressing the **[Loaded Objects]** button.

When the [Loaded Objects] button is pressed your Web Browser will be called and a Dialogue displayed to allow the User to enter their Username and Password. Once this is done and the **[OK]** button is pressed the Loaded Objects in NM_UPLOAD_FILES page will be displayed as show in Figure 102.

Figure 102



This page will display all of the Objects loaded into the Exor Database. To upload a new Image for use as a Report Logo press the **[Browse]** button and select the required file and press the **[Upload]** button

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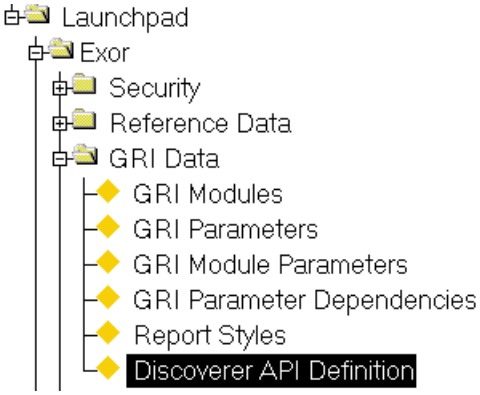
Discoverer API Definition – HIG9150

Figure 103 Discoverer API Menu



The Discoverer API Definition – HIG9150 module is to provide a mechanism to easily "suck" details of tables (or views) from the Exor application into a pre-created *Oracle Discoverer* ™ (disco) end-user layer (EUL).

There are a number of pre- requisites that apply to its use. These are :

- Disco (v4 or v5) end-user layer pre-created. This oracle user must be initially created using the **HIG1832** module to ensure that all *Exor* records necessary are created.
- Business Area(s) pre-created in disco admin edition.
- **DISCEULUSR** product option set. This is the Oracle user of the Discoverer EUL
- **DISCO_VERS** product option set. This is the version of Oracle Discoverer in use. Valid values for this option are currently 4 or 5.

Figure 104

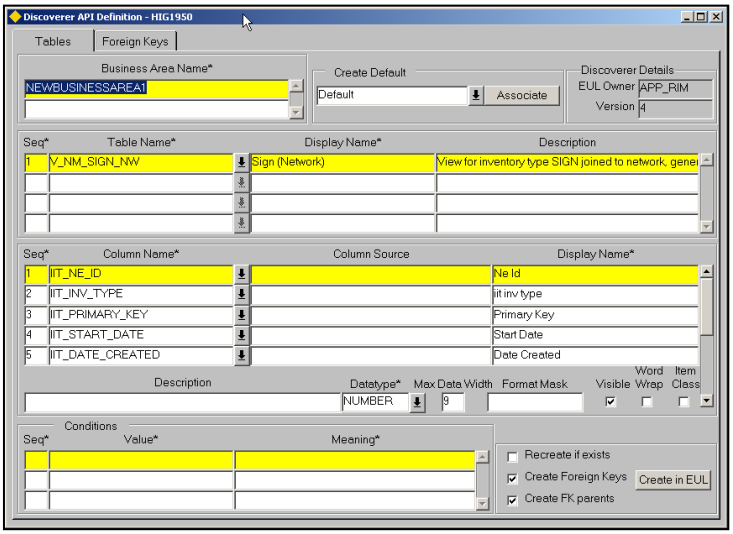
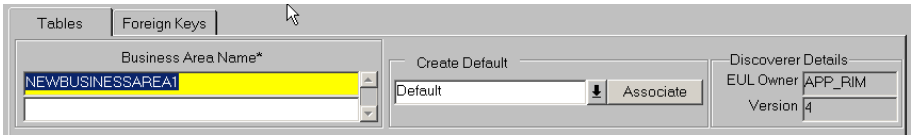


Figure 105



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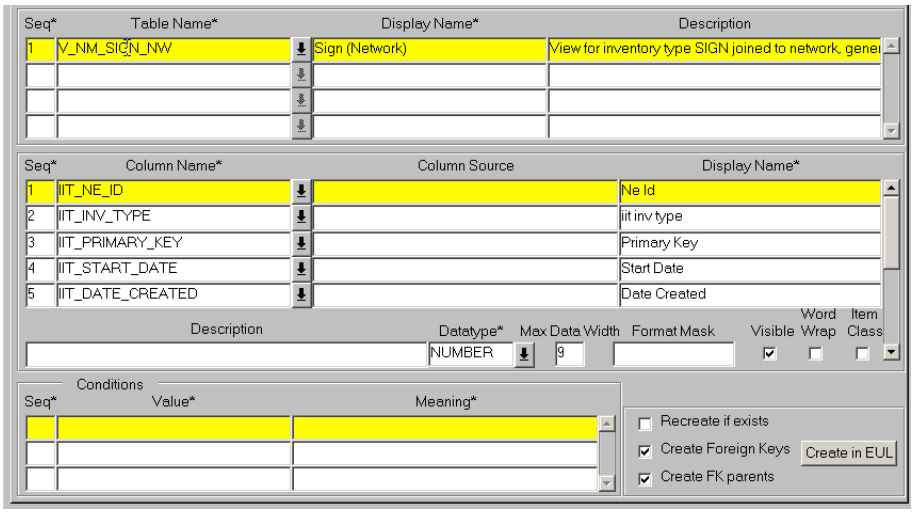
Business Area Name

When you launch the module, the list of business areas is automatically updated from the discoverer user specified in the DISCEULUSR. If you have deleted any business areas in discoverer, however, the business area will not be deleted from this form.

Discoverer Details

This form displays a list of the product option values for the relevant product options.

Figure 106



Tables and Columns

Enter the details for the table (or view) that you wish to be able to view in discoverer. Both the Table Name and the column name fields have a List Of Values associated with them to allow you to easily select any table owned by the Exor application owner. These are shown in the figures below.

Figure 107

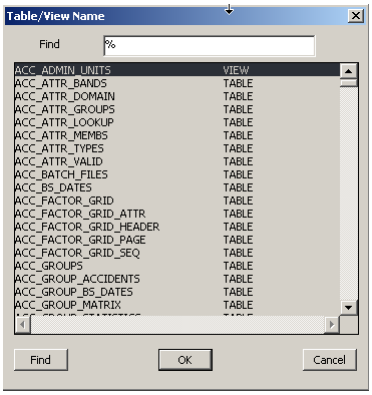
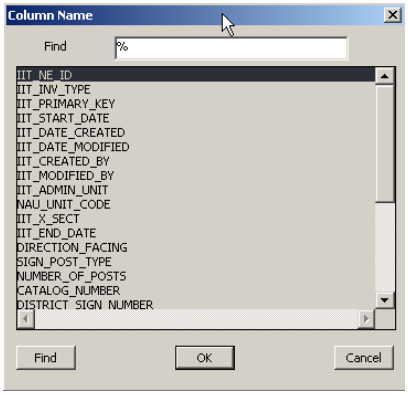


Figure 108



It is possible to specify the “column source” for a particular column. This allows you to specify simple functions as the source of the column in discoverer; a simple “TO_CHAR” function call is wrapped around the IIT_DATE_CREATED field as shown in Figure 109.

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Figure 109

You may also give each column a description, a max data width, a format mask, and specify if the field will be word wrapped, all of these attributes will be used by disco. In addition to this you may also specify if the column is to be visible in the disco user edition or not. The “item class” checkbox determines whether or not a disco item class will be created for this field.

Figure 110

The datatype uses a List Of Values (Figure 111), it must be noted, however, that only “simple” datatypes (NUMBER, DATE, VARCHAR2) are supported by this interface, there is no support for datatypes such as CLOB, BLOB or any user defined objects.

Figure 111

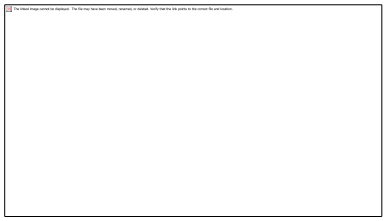

Figure 112

Conditions

For each column you may specify lists of values for which you wish a Disco condition to be created. For all values in this block, a disco condition will be created where the restriction is “COLUMN=’VALUE’” – obviously if you create many of these condition records they are mutually exclusive, so if you include more than one of them in a discoverer workbook then no data will be returned.

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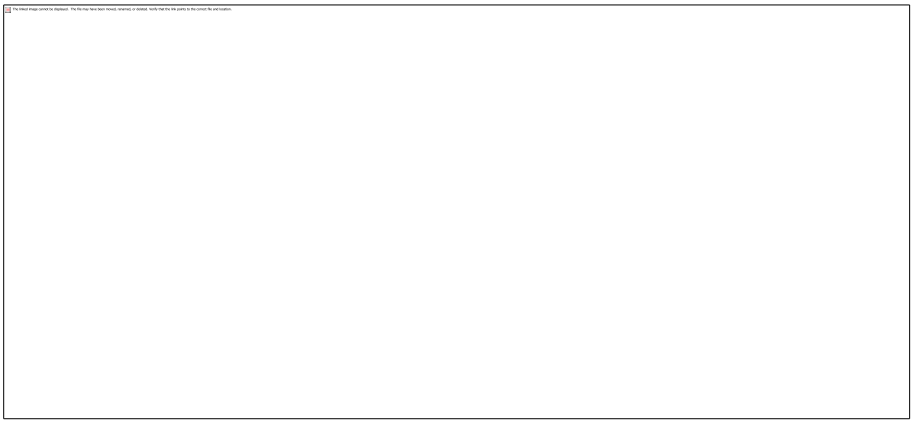
Figure 113



Foreign Keys

Any foreign keys between tables already specified on the “tables” tab may be specified on the “foreign keys” tab of HIG1950. It is also possible on this tab to automatically create the foreign key associations from the data dictionary for a particular table

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Associate Tables Automatically

It is possible to automatically “suck” details for any table within Exor straight into the interface.

In the “Create Default” area of the form (Figure 114) you select the association type from the List Of Values (Figure 115) and then press the “Associate” button.

Figure 114

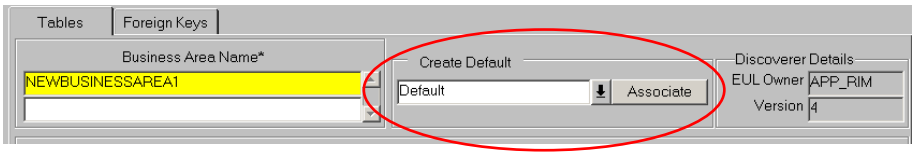
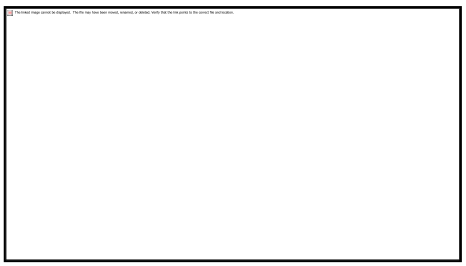


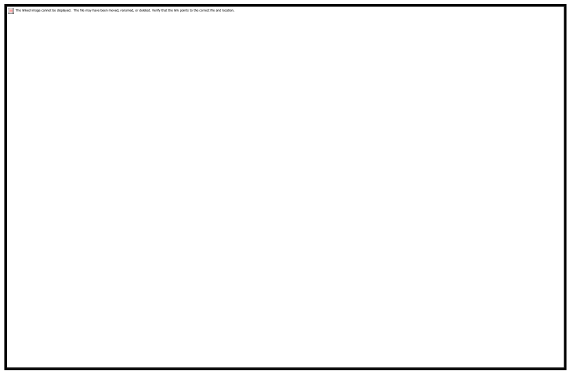
Figure 115



Default Association

If you choose to associate a table using the “default” method, then the table and it’s columns will be extracted into the Exor disco interface tables. You may also choose to hide the “who” columns from disco user edition, these are the columns such as iit_date_created, iit_date_modified, iit_created_by and iit_modified_by where the “iit” part of the column name is dependent on the Exor table being associated. You may also choose to autocreate any foreign key parents for the specified table. These are extracted from the database using the oracle data dictionary tables.

Figure 116



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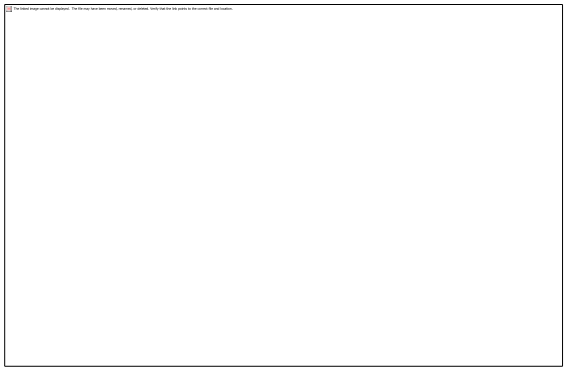
Asset (& Asset Joined to Network) Association

To automatically create the entries for any Asset type specified in the system it is simply a matter of selecting the Asset type from the list of values and then pressing the “create” button. You can also autocreate condition values from the associated Asset domain values for each Asset type attribute if you wish

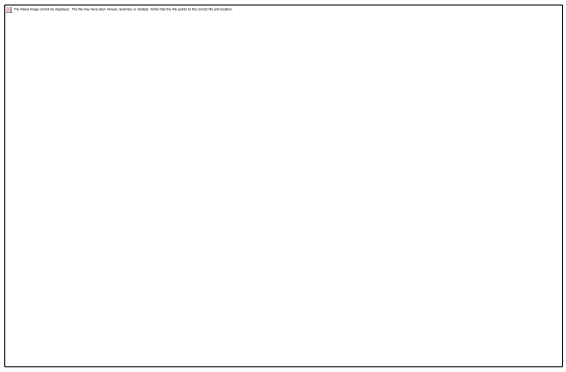
Figure 117



Accidents & Structures Manager Association

You can also associate the default “flattened” views from Accidents or Structures Manager (assuming you are licensed for these products). In this case you select the Item Type, and the name of the view which represents the “flattened” structure for that item type. Once again the condition values may be autocreated from any associated domain

Figure 118



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Creation in the Discoverer EUL

Once you have created the data you require in HIG1950, then all that remains is for you to create each table in the Disco EUL. This is simply achieved by pressing the “Create in EUL” button. You may also specify to recreate the table in the EUL if it already exists and to create any foreign keys you have specified, and also to automatically create any foreign key parents which exist in the interface tables but have not yet been created in discoverer.

Figure 119

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CHAPTER

4

GIS Data

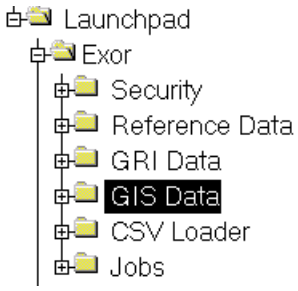

Figure 120
GIS Data Menu

Please refer to the GIS_THEMES_SET guide for details on defining spatial themes.

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CHAPTER

5

Resource File Generation and Use

Exor as shipped to clients has predefined Boilerplate text. This text is used to label fields and provide messages in Exor forms. Each form has different boilerplate text.

There may be a need to modify this standard boilerplate for some applications, at some client sites. The document is intended to explain how to set up the application to enable users to generate their own form Boilerplate text, and also how system administrators can implement the client specified resource files for their users.

This process is a two-stage process. The resource files must first be generated by following a set of steps, enabling the user to specify the screen display. This procedure is described in the second section of this Chapter. The second stage is the setting up of client machines to read these resource files. This is described in the third sections of this Chapter..

The final section provides a number of registry shortcuts.

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Generating the Resource File

Required Oracle Tools

Before you will be able to generate resource files you will need to ensure that you have the appropriate Oracle Tools installed on your client machine. The tool used to build resource files for ***Exor*** is Oracle Terminal. This is available on the Oracle Forms 6i Install disk version 6.0.5.35.0. If you have already patched Oracle Forms you will need to remove those patches before Oracle Terminal can be installed (if it is not already installed). Once Oracle Terminal has been installed you should reinstall any required Oracle patches.

This does not need to be installed on all clients, only the client from which you are generating the resource files.

Registry Settings

Boilerplate text is modified via a sequence of steps which involve modification of the exor registry environment. The editing of the registry is a powerful operation and should be carried out only by a system administrator. Be sure that you have taken a backup of your registry before starting this procedure.

Registry Setting Environment variables that are required are as follows;-

HKEY_LOCAL_MACHINE\SOFTWARE\exor	
form_prompts	INDEX, SET, DISABLED or USE
prompt_style	TXT, PRN or RES
separator	Directory separator, typically \ (WINNT) or / (UNIX)
Exor_home	Directory under which files will be created

Form_prompts and prompt_style settings are modified at various stages through the generation process, and also in the deployment of the resource files. The following sections of this document request that you change the value for each step appropriately

Resource Files will be generated in the directory pointed to by the exor_home setting in a subdirectory 'prompts'. You should ensure that this directory exists. The Separator setting is used to ensure that the directory path is built correctly.

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Generate the Index File

The first step in the generation of resource files is to create an index file. Set the registry settings as shown below (in addition to the others which should already be set.)

```
HKEY_LOCAL_MACHINE\SOFTWARE\exor
form_prompts        INDEX
prompt_style        PRN
Exor_home           D:\nm3\resource
Separator           \
```

Open each ***Exor*** form in turn that you wish to modify the boilerplate for, then exit the form. This will create files of the format <PROD>_ind.prn, where PROD is the product the form is associated with (HIG for core products, NM0 for NM3 forms, DOC for Document Manager forms etc.)

Generate the Text File

Set the registry settings as shown below (in addition to the others which should already be set.)

```
HKEY_LOCAL_MACHINE\SOFTWARE\exor
form_prompts        SET
prompt_style        TXT
Exor_home           D:\nm3\resource
Separator           \
```

Open each ***Exor*** form in turn that you wish to modify the boilerplate for, then exit the form. This will create files of the format <PROD>.txt, where PROD is the product the form is associated with (HIG for core products, NM0 for NM3 forms, DOC for Document Manager forms etc.)

Modify the Text File

You may now use a text editor to go ahead and edit the <PROD>.txt that has been generated. You need only modify the text for the boilerplate you wish to amend. For instance if you want to change the boilerplate for Groups of Sections so that the text 'Offset' is displayed rather than 'SLK' you would generate the NM0.TXT file with the following text:.

```
…
NM0110.NM_MEMBERS.DISP_NM_LENGTH~Length
NM0110.NM_MEMBERS.NM_SLK~SLK
NM0110.NM_MEMBERS.NM_CARDINALITY~C
…
NM0110.CLOSE.CANCEL_BUT~Cancel
NM0110.ROUTE_SLK_DETAILS.MIN_SLK~Min SLK
NM0110.ROUTE_SLK_DETAILS.MAX_SLK~Max SLK
NM0110.ROUTE_SLK_DETAILS.MAX_TRUE~Max True
…
```

And you would change the boilerplate to that shown below:

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…
NM0110.NM_MEMBERS.DISP_NM_LENGTH~Length
NM0110.NM_MEMBERS.NM_SLK~Offset
NM0110.NM_MEMBERS.NM_CARDINALITY~C
…
NM0110.CLOSE.CANCEL_BUT~Cancel
NM0110.ROUTE_SLK_DETAILS.MIN_SLK~Min Offset
NM0110.ROUTE_SLK_DETAILS.MAX_SLK~Max Offset
NM0110.ROUTE_SLK_DETAILS.MAX_TRUE~Max True
…

Then you would save the file.

Convert the Text File to a Print File

Once you have completed making all the changes to the boilerplate that you require then set the registry as shown below.

HKEY_LOCAL_MACHINE\SOFTWARE\exor	
form_prompts	DISABLED
prompt_style	PRN
Exor_home	D:\nm3\resource
Separator	\

Start up ***Exor*** and run form HIG9190, TXT to PRN Conversion.

Figure 121

Navigate to the directory where your <PROD>.txt file is located and retrieve the appropriate file. If you leave the “Append to File” check box checked then you will append your modified boilerplate text to an existing PRN file. If you uncheck the box a new PRN file will be created. Press the Convert button to create the PRN file. A new file <PROD>.prn will be created.

You should ensure that you do not add a TXT file to a PRN file that already has boilerplate information for the same form(s) as this will cause an error when you attempt to generate the resource file.

The PRN is editable and viewable if you need to check the contents of that file.

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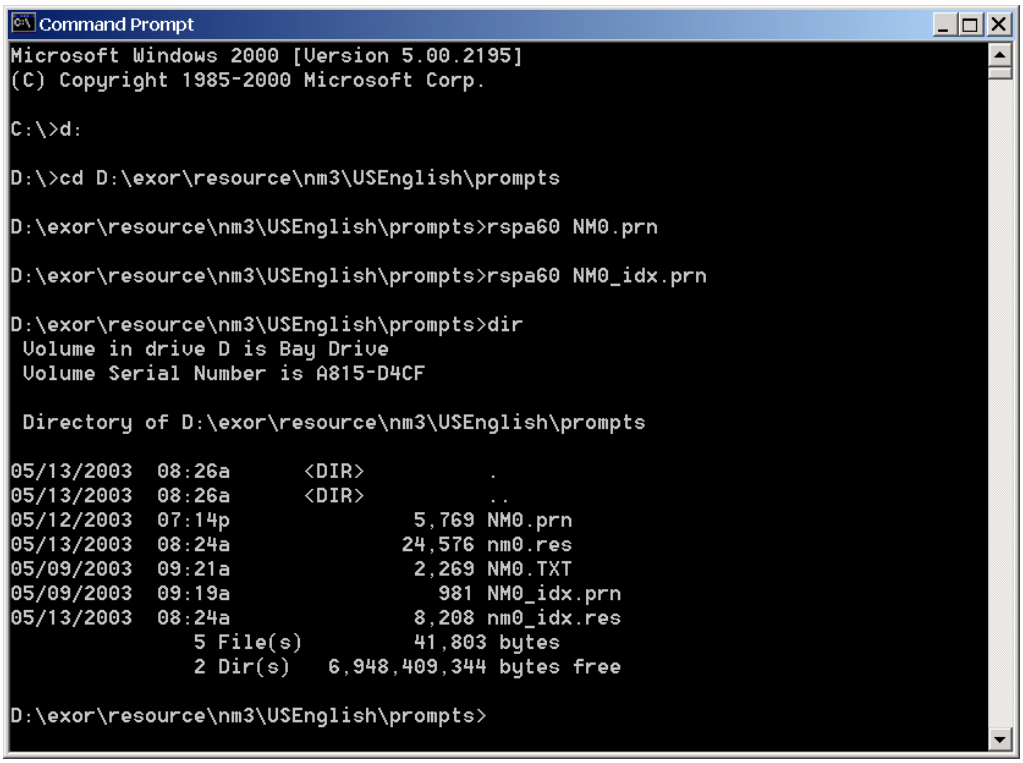
Generate the Resource File

Once you have created the PRN file you need to generate the resource file itself. This is the file that Oracle forms will use to display the modified boilerplate text. Start a Windows command prompt and navigate to the directory where PRN file is located. Then run
rspa60 <PROD>.prn
rspa60 <PROD>_idx.prn

When the commands complete successfully you will get no feedback, but new files will be created, <PROD>.res and <PROD>_idx.res, as shown in the screenshot below

Figure 122



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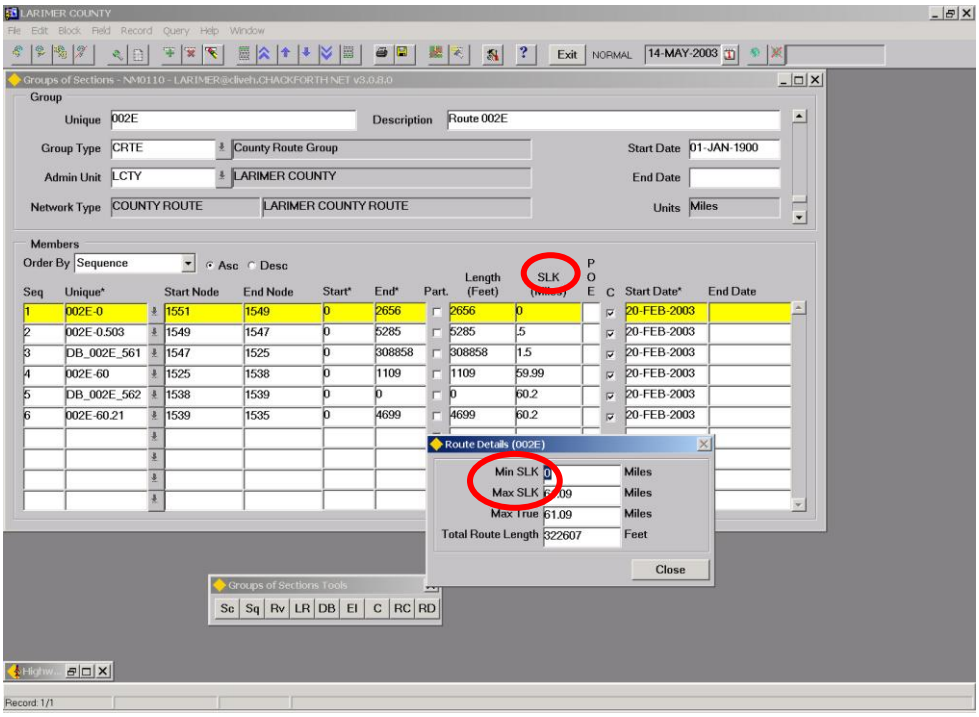
Using the Resource File

Once you have generated the resource files move them to a common directory that all clients can access, such as the ***Exor*** bin directory. Then set the registry for each client machine as shown below.

```
HKEY_LOCAL_MACHINE\SOFTWARE\exor
form_prompts        USE
prompt_style        RES
Exor_home           D:\nm3\resource
Separator           \
```

When users now log onto ***Exor*** they should see the modified boilerplate text. The screen shot below show the original Group of Sections form that was used in the example in Chapter 1.

Figure 123



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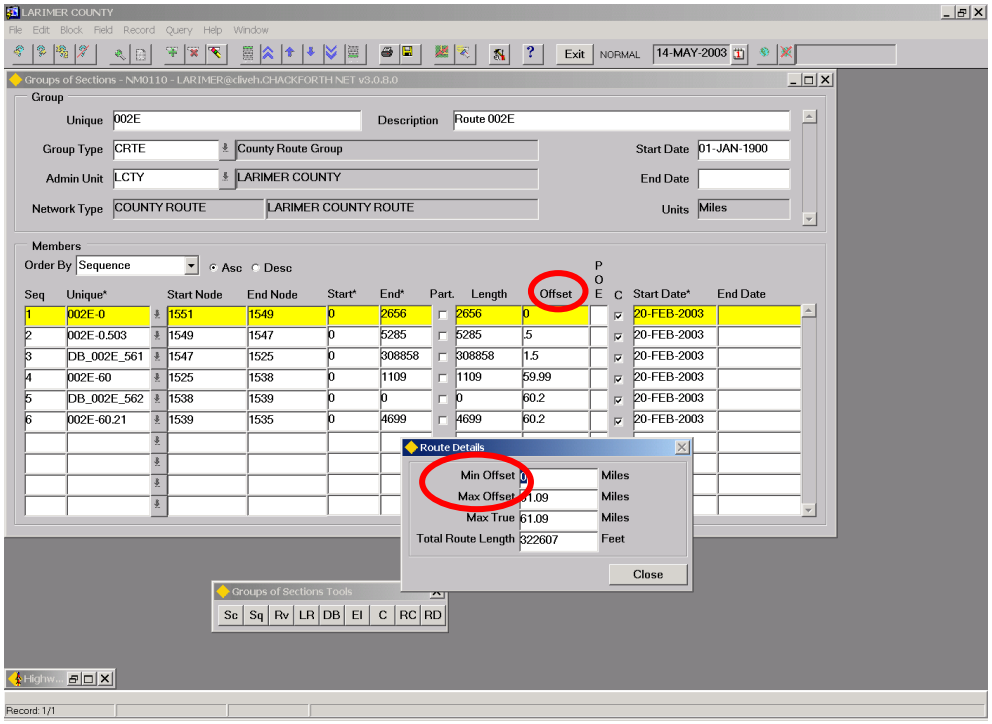
This second screen shots below shows the Group of Sections form when used with the resource file with the changes shown in the ‘Modify the Text File’ section on page 127.

Figure 124



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Registry Shortcuts and Batch File

This section gives examples of various registry shortcuts that you can use to help with the each stage of the generation of the shortcuts. You should modify the exor_home setting appropriately and ensure that a prompts directory exists below it.

Generate the index file – index.reg

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\exor]
"exor_home"="d:\\nm3\\resource files"
"separator"="\\"
"form_prompts"="INDEX"
"prompt_style"="PRN"
```

Generate the text file – text.reg

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\exor]
"exor_home"="d:\\nm3\\resource files"
"separator"="\\"
"form_prompts"="SET"
"prompt_style"="TXT"
```

Convert the text file to prn – convert.reg

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\exor]
"exor_home"="d:\\nm3\\resource files"
"separator"="\\"
"form_prompts"="DISABLED"
"prompt_style"="PRN"
```

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Use the resource File – use.reg

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\exor]
"exor_home"="d:\\nm3\\resource files"
"separator"="\\"
"form_prompts"="USE"
"prompt_style"="RES"
```

Opening each form that you wish to modify can be a laborious task. This can be automated somewhat by running a batch file to open each FMX in the current directory. You would still need to exit each form (ALT+F4), but this batch file will save some time. Modify the user/password@instance as appropriate for your site.

Form_run.bat

```
Rem
Rem This will execute every form in the directory in which it
is executed.
Rem  You will still need to close each form manually, so that
it can move onto the next one.
Rem
for %%i in (*.fmx)     do ifrun60.exe
userid=user/password@instance module=%%i window_state=minimize
```

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CHAPTER

6

Setting Up MapCapture Asset Loader

The enhanced MapCapture loaders facilitate the loading of MapCapture generated inspection files with no input from the Inspector after publishing the survey file to the ftp server before receiving an email indicating the results of each asset type in the survey.

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MapCapture Loader Configuration

To set this up several Product Options need to be populated.

Product	Option Id	Option Name	Sample Value	Remarks
NET	MAPCAPTURE	Is Map Capture Used	Y	Set this option to "Y" if the system uses MapCapture. This will enable the Asset views required for MapCapture to be generated whenever the normal Asset views are created
HIG	MAPCAP_DIR	The MapCapture Load directory	c:\exor\mc_load	The directory on the server where MapCapture survey files will be placed ready for loading into NM3. This is the MapCapture upload directory
HIG	MAPCAP_INT	MapCapture load process timeout	1	This is the interval (in minutes) for the actual loader process to look and see if there are any load sets ready for loading.
HIG	MAPCAP_EML	MapCapture email address	101	This is the internal id of the MapCapture Loader Admin Email group and will be set at install. You should not change this value unless instructed by Exor support.

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Oracle Settings

The MapCapture loaders rely on JAVA in the database to perform file operations. It is important that JAVA is correctly installed in the database. Refer to your Oracle documentation to ensure the correct installation of JAVA.

You may wish to check that JAVA is installed by running the following

```
CREATE OR REPLACE AND RESOLVE JAVA SOURCE NAMED echoinput AS
import JAVA.io.*;
import JAVA.SQL.*;
public class EchoInput
{
  public static void main (String[] args)
  {
    for (int i=0; i<args.length;i++)
    System.out.println(args[i]);
  }
}
/

create or replace procedure
echo_input (      s1 varchar2, s2 varchar2, s3 varchar2)
as language java
name 'EchoInput.main(java.lang.String[])';
/

set serveroutput on
call dbms_java.set_output(5000);
call echo_input('Java', 'Successfully', 'Installed');
/
```

This simple call should echo ‘Java Successfully Installed’ if Java is correctly installed.

Once JAVA is installed it will be necessary to grant JAVA access on the file system, specifically the directory specified in the MAPCAP_DIR. To do this run the following, replacing ‘NM3’ with your NM3 Application oracle username and replace MAPCAP_DIR with the value in your product option.

Note that the string should end with the appropriate file system separator and the ‘*’ wildcard symbol. This should be run as the sys user. Note also that the procedure performs a commit and exits the sql session.

```
Connect / as sysdba
begin
 dbms_java.grant_permission( 'NM3'
                    ,'java.io.FilePermission'
                    ,'MAPCAP_DIR\*'
                    ,'read,write,delete' );
 commit;
end;
/
exit
```

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You can check that this JAVA permission has been granted by running the following simple file listing routine. Run this as the NM3 Application owner and replace MAPCAP_DIR with the value in your product option.

```
set serveroutput on
declare
  l_files nm3file.file_list;
begin
  nm3context.initialise_context;
  l_files := nm3file.get_files_in_directory('MAPCAP_DIR');
  FOR i IN 1..l_files.COUNT LOOP
    dbms_output.put_line(l_files( i));
  END LOOP;
end;
/
```

The MapCapture loader takes advantage of NM3Mail, and attention should also be paid to the document specifying the set up of those procedures.

A number of Oracle initialization parameters also need to be set.

- Job_queue_processes. This should be set to a non zero value. It governs the number of processes that can be created for the execution of jobs.
- Job_queue_interval. This is the wakeup interval in seconds for job queue processes. It should be set to a value equal to or less than the value set in MAPCAP_INT (in seconds, i.e. 3 =180). (This parameter is obsolete in Oracle 9 from 901 onwards).

Additionally the System DBA will need to generate an Oracle DBMS Job that wakes up and actually runs the load. This is achieved by running the following in SQL as the NM3 Application owner.

```
exec nm3mapcapture_int.create_mapcapture_loader_job;
```

This statement will set up a job to run at the interval specified by MAPCAP_INT option. The job will look for complete sets of MapCapture inspection files and attempt to load them.

If you wish to change the interval, change the product option to the new value you wish to use then run;-

```
exec nm3mapcapture_int.drop_mapcapture_loader_job;
```

This will drop the existing job, then run;-

```
exec nm3mapcapture_int.create_mapcapture_loader_job;
```

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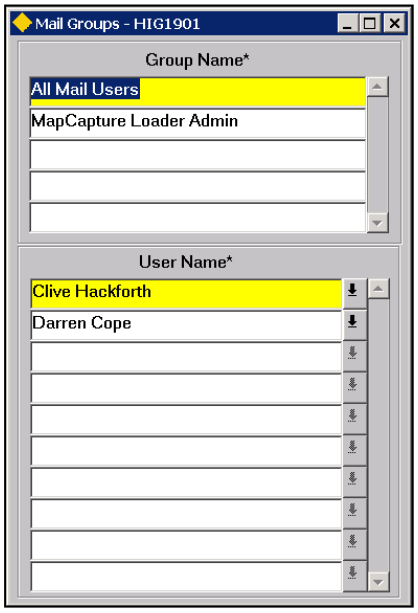
The Loader Process

The new loaders are automated once the MapCapture User has exported the survey to the MAPCAP_DIR directory. The Oracle Jobs will pick up the data files; move them through the 2 stage loading routine and into the NM3 database. The jobs will also generate an email for each of the datafiles to be loaded, confirming status of each load. These emails will be sent to each member of the MapCapture Loader Admin email group. You should use form HIG1901 to add existing email users to the group as shown in Figure 125.

Figure 125



Refer to the NM3 Mail Setup and Configuration for more information on setting up NM3 Mail users and groups.

Each asset type will be given a unique batch number and this is referenced in the email. If any errors occur they will be listed in a LOG email, and any bad records will be listed in that email. If you have an error issues you will need to run NM0511 Reconcile MapCapture Load Errors form. For information on Reconciling Map Capture Load Errors refer to the Asset Manager User Guide.

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NM0580 - Create MapCapture Metadata File

To create the MapCapture metadata file run module ***NM0580***. This will call the GRI to create the file in the directory specified by the UTL_FILE_DIR directory. The file will be called surveyp.ped, as required by Mapcapture

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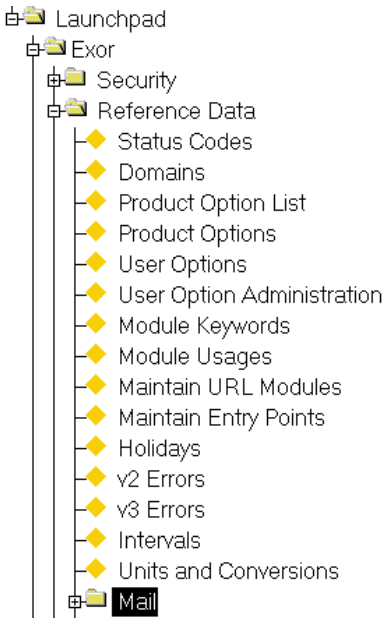
NM3 Mail Installation and Configuration

Figure 126 Mail Menu Option



There are now various modules with in *Exor* that take advantage of email within the application.

CSV loaders can now be set to run in batch mode, and email the user when the load has completed. This avoids the issue with the webpage timing out when large loads are running.

MapCapture loading. A new mail group is mailed with results of the automated load of MapCapture files.

There is some configuration needed to be made to set up nm3 mail. NM3Mail uses an SMTP server to send mail and 3 Product Options need to be set to allow this. These are as follows

Product Option	Usage
SMTPDOMAIN	**This is the Domain which will be used by the NM3 Mailer for communicating with the SMTP server**
SMTPPORT	**This is the port on which the SMTP server which will be used by the NM3 Mailer** **This is usually port 25**
SMTPSERVER	**This is the SMTP server which will be used by the NM3 Mailer**
	NOTE: Unless your SMTP server is set up to allow relaying (or it is configured to allow the DB server to send externally) you will only be able to send emails to internal email addresses **One way around this is to have the DB server also acting as a SMTP server**

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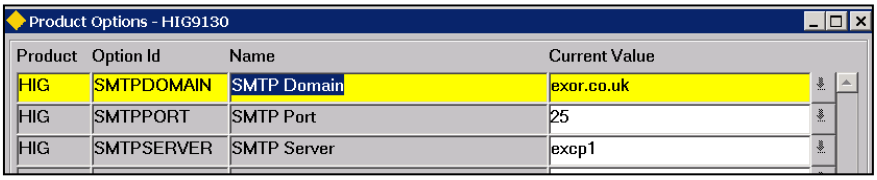
You should contact your corporate network/email administrator to establish what these setting should be.

Typical Settings might be as shown in Figure 127.

Figure 127



Oracle Settings

Additionally the System DBA will need to generate an Oracle DBMS Job to search for pending emails and send them off. This is achieved by running the following in SQL as the NM3 Application owner.

```
exec nm3mail.submit_send_mail_job(3);
```

This statement will set up a job to run every 3 minutes to poll for pending messages and send them. Passing a different value to the procedure will cause the job to run at that interval.

A number of Oracle initialization parameters also need to be set.

Job_queue_processes. This should be set to a non zero value. It governs the number of processes that can be created for the execution of jobs.

Job_queue_interval. This is the wakeup interval in seconds for job queue processes. It should be set to a value equal to or less than the value set in nm3mail.submit_send_mail_job (in seconds, ie 3 =180). (This parameter is obsolete in Oracle 9 from 901 onwards).

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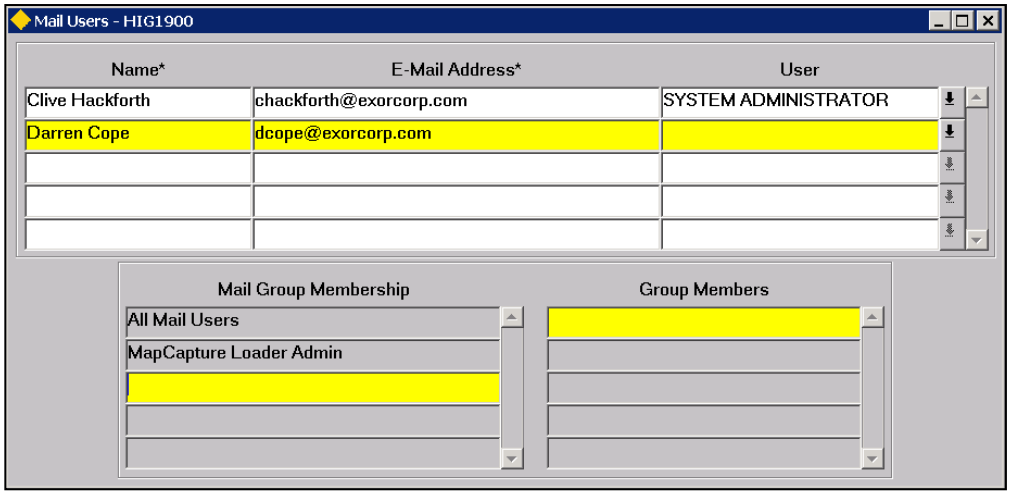
Figure 128



Mail User - HIG1900

Not all mail users need necessarily to be NM3 application Users and it is possible to set up email addresses for non-application users.

Enter the Name, email address and if applicable the application Username as shown in Figure 128. Each user is automatically added to the All Mail Users Group. Any other Groups the email account is a member of will be shown in the block below.

You can see from this screenshot that the first account is an NM3 user and the second account is not.

As of NM31 there is also a tab on Users Hig1832 to set email addresses up for Application users. Non application users will still need to be set up here.

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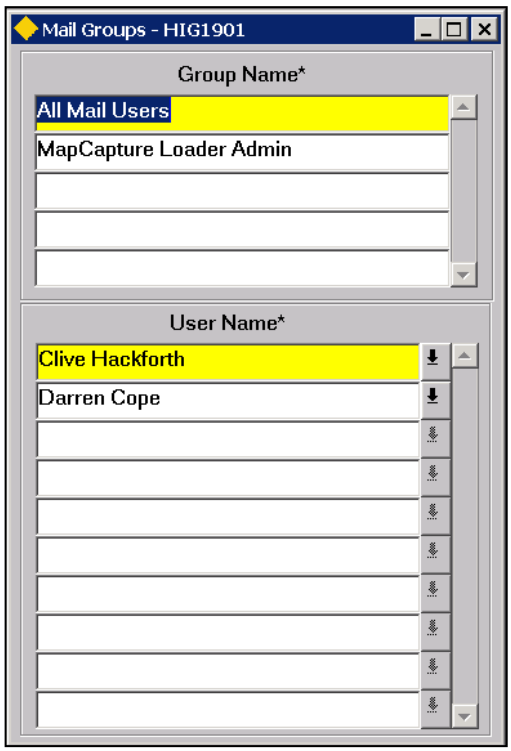
Figure 129



Mail Groups – HIG1901

Mail users can be grouped to together to create mailing lists. MapCapture uses a defined mailing list to send out details of load progress. To add Mail Groups add a new record in the first block, to add members to a group use the second block after selecting the Mail Group.

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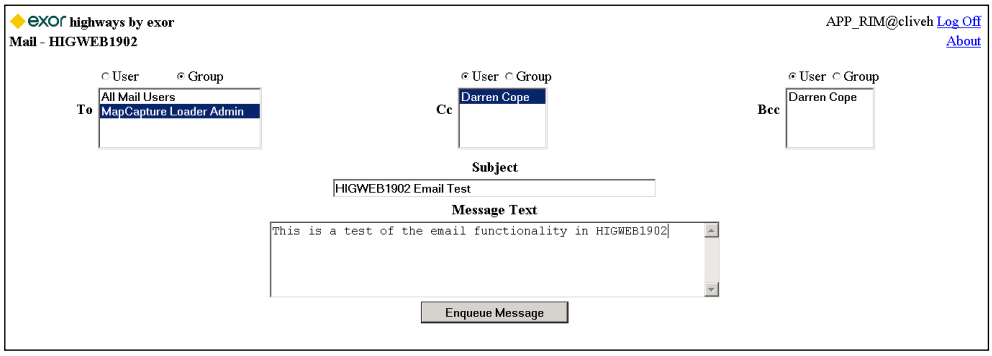
Figure 130



HIGWEB1902 – Sending Mail

Use this form to send email to Individual users or Groups.

Oracle Test Mailing

If you wish to test the sending of emails from PLSQL this can be achieved by running the following code.

```
DECLARE

 l_tab_to  NM3MAIL.tab_recipient;
 l_tab_cc  NM3MAIL.tab_recipient;
 l_tab_bcc NM3MAIL.tab_recipient;

 l_message NM3TYPE.tab_varchar32767;

 l_from_user nm_mail_message.nmm_From_nmu_id%type;

BEGIN
  select nmu_id
  into l_from_user
  from nm_mail_users where nmu_name='email_account_holder';

  l_tab_to(1).rcpt_id := l_from_user;
  l_tab_to(1).rcpt_type := 'USER';

  l_message(1) := 'This is a PLSQL test of nm3mail';

  NM3MAIL.write_mail_complete  (p_from_user              =>  l_from_user             --  IN
NM_MAIL_MESSAGE.nmm_from_nmu_id%TYPE
                      ,p_subject                        =>    'Test    message'    --IN
NM_MAIL_MESSAGE.nmm_subject%TYPE
                      ,p_html_mail       => TRUE         -- IN BOOLEAN DEFAULT TRUE
                      ,p_tab_to          => l_tab_to --IN tab_recipient
                      ,p_tab_cc          => l_tab_cc --IN tab_recipient
                      ,p_tab_bcc         => l_tab_bcc --IN tab_recipient
                      ,p_tab_message_text => l_message --IN NM3TYPE.tab_varchar32767
                      );

  NM3MAIL.send_stored_mail;
END;
/
```

Substitute the 'email_account_holder' in the code above with an email name from HIG1900

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