

Protecting Natural Utilities



Natural Security provides an improved mechanism for controlling the use of Natural utilities, as described in this section. It is strongly recommended that this new mechanism be used, as it provides more efficient protection of utility functions.

The old Version 2 mechanism for protecting Natural utilities (described in the section System Libraries And Utilities - Old Protection Mechanism) is still available for compatibility reasons, but will be removed with one of the next releases of Natural Security.

This section describes how you can control with Natural Security the use of various Natural utilities. It covers the following topics:

- Which Utilities Can Be Protected?
- Utility Profiles
- Defining Default Profiles
- Defining Individual Profiles - Utility Maintenance

Please note that any protection settings in library security profiles ("People-/Terminal-protected") and any links to protected libraries *do not* apply if the use of utilities is controlled by utility profiles.

Which Utilities Can Be Protected?

The use of the following Natural utilities can be controlled with Natural Security:

- NATLOAD
- NATUNLD
- SYSBPM
- SYSDDM
- SYSERR
- SYSMAIN
- SYSOBJH
- SYSPARM
- SYSRPC
- SYSTRANS

Utility Profiles

Utility protection is function-oriented, which means that it is based on the concept that you can allow or disallow individual functions of a utility. To control the use of a utility, you need not define a library security profile for the library which contains the utility.

You control the use of a utility by defining *utility profiles* for it. In a utility profile, you can allow and disallow the individual functions of the utility.

Basically, a utility profile consists of a list of the utility's functions, each of which can be allowed or disallowed by marking it with "A" or "D" respectively.

Types of Utility Profiles

For each utility listed above, you can define:

- a default profile,
- user-specific profiles,
- library-specific profiles,
- user-library-specific profiles.

Each utility is treated individually; that is, any utility profiles only apply to the utility they are defined for, and not to any other utilities.

Note:

If the use of a utility is protected by a utility profile, the profile parameter settings MADIO=0 and MAXCL=0 apply automatically.

Default Utility Profile

The *default profile* of a utility applies for all users (except those for which user-specific profiles are defined). It determines which of the utility's functions the users may use and which not.

User-Specific Utility Profiles

If an individual user is to use (or not to use) other functions than the other users, you can define a *user-specific utility profile*.

Such a profile only applies to this user, it overrides the default profile, and determines which of the utility's functions this particular user may use and which not.

Example:

| |
|--|
| <p>Default Profile for SYSBPM Utility</p> <p>Functions</p> <p>...</p> <p>D Delete Object from Buffer Pool Disallowed</p> <p>...</p> |
| <p>User-Specific Profile of User UX for SYSBPM Utility</p> <p>Functions</p> <p>...</p> <p>A Delete Object from Buffer Pool Allowed</p> <p>...</p> |

In this example, the SYSBPM function "Delete Object from Buffer Pool" is disallowed for all users - except for the user UX, for whom it is allowed.

This means that UX is the only user who may delete objects from the buffer pool.

User-specific utility profiles can be defined for users of types GROUP, ADMINISTRATOR and PERSON.

A user-specific utility profile can only be defined if a default profile (or a template) has been defined for that utility. (Templates are described under Defining Default Profiles below.)

Library-Specific Utility Profiles

Several utilities affect individual Natural libraries (for example, SYSERR can be used to maintain error messages that belong to a specific library). Generally, the utility's default profile applies to all affected libraries.

However, if some of the utility's functions are only to be allowed/disallowed for a particular library, you can define a *library-specific utility profile*.

Such a profile only applies to this library, it overrides the default profile as well as any user-specific profiles for that utility, and determines which of the utility's functions may be applied to this library and which not.

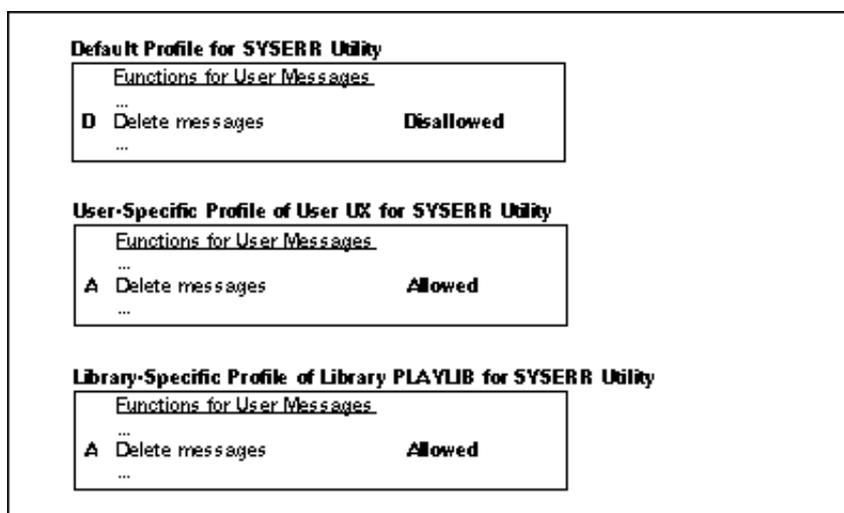
Example 1:

| | |
|---|-------------------|
| Default Profile for SYSERR Utility | |
| <u>Functions for User Messages</u> | |
| ... | |
| A Delete messages | Allowed |
| ... | |
| Library-Specific Profile of Library MYLIB for SYSERR Utility | |
| <u>Functions for User Messages</u> | |
| ... | |
| D Delete messages | Disallowed |
| ... | |

In this example, the SYSERR function "Delete messages" is allowed for all libraries - except for the library MYLIB, for which it is disallowed.

This means that all users can delete user error messages from any library, except from library MYLIB. No-one can delete messages from MYLIB.

(If any user-specific profiles were defined for SYSERR, they would apply to all other libraries, but not to library MYLIB.)

Example 2:

In this example, the SYSERR function "Delete messages" is disallowed for all libraries - except for the library PLAYLIB, for which it is allowed. For the user UX, the function "Delete messages" is allowed for all libraries.

This means that all users can delete error messages from library PLAYLIB. However, no user - except user UX - can delete messages from any other library. User UX is the only user who may delete messages from any library (including PLAYLIB).

Please note that user UX's permission to delete messages from PLAYLIB depends on the library-specific profile, not the user-specific profile.

Library-specific utility profiles can be defined for the following utilities: NATLOAD, NATUNLD, SYSBPM, SYSDDM, SYSERR, SYSMAIN, SYSOBJH, SYSTRANS.

A library-specific utility profile can only be defined if a default profile has been defined for that utility.

User-Library-Specific Utility Profiles

As described above, several utilities affect individual Natural libraries. Two kinds of situations may occur in which a *user-library-specific utility profile* may have to be defined:

- A *user-specific* utility profile determines which of a utility's functions a particular user may use, regardless of the libraries which are affected by the functions (provided that no *library-specific* profiles are defined for this utility). However, if this user is to have different function usage permissions for a particular library affected by the utility's functions, you can define these in a *user-library-specific* utility profile.
- A *library-specific* utility profile determines which of a utility's functions may be used when applied to a particular library; for this library, it applies for all users (regardless of any *user-specific* profiles). However, if a particular user is to have different function usage permissions for this library, you can define these in a *user-library-specific* utility profile.

A *user-library-specific* profile only applies for one user and one library, it overrides the library-specific utility profile of that library as well as the user-specific profile of that user, and it determines which of the utility's functions the user may use for this library.

Example 1:

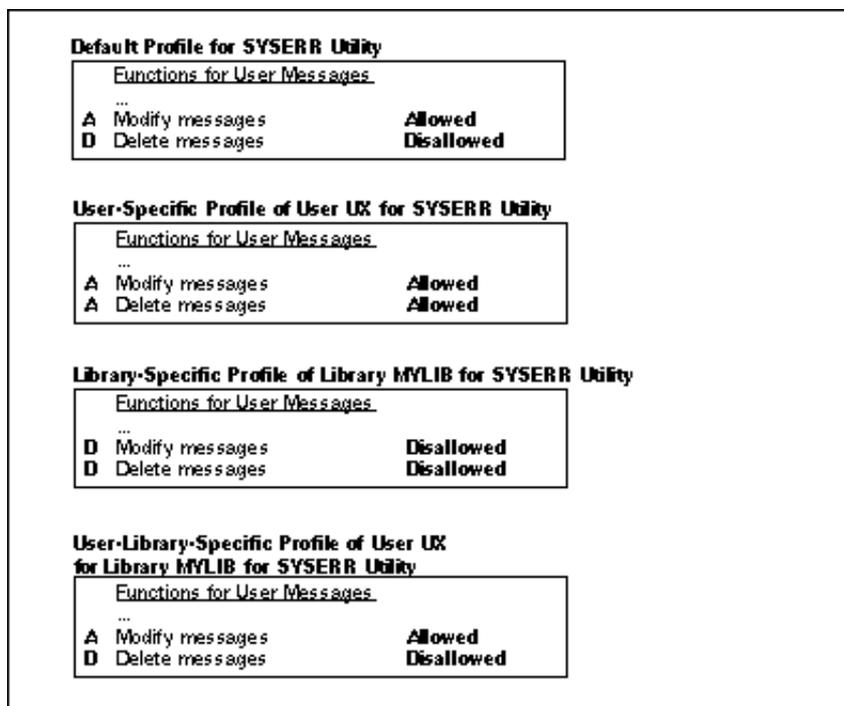
| | |
|--|-------------------|
| Default Profile for SYSERR Utility | |
| <u>Functions for User Messages</u> | |
| ... | |
| D Modify messages | Disallowed |
| D Delete messages | Disallowed |
| User-Specific Profile of User UX for SYSERR Utility | |
| <u>Functions for User Messages</u> | |
| ... | |
| A Modify messages | Allowed |
| D Delete messages | Disallowed |
| User-Library-Specific Profile of User UX for Library MYLIB for SYSERR Utility | |
| <u>Functions for User Messages</u> | |
| ... | |
| A Modify messages | Allowed |
| A Delete messages | Allowed |

In this example, the SYSERR function "Delete messages" is disallowed for all users (due to the default profile). The SYSERR function "Modify messages" is also disallowed for all users (due to the default profile) - except for user UX, for whom it is allowed (due to his/her user-specific profile). Also, for the user UX both functions are allowed for the library MYLIB (due to the user-library-specific profile).

This means that no user can modify or delete any error messages from any library. The only exception is user UX: User UX may modify messages from any library; moreover, user UX may delete messages from library MYLIB (but not from any other library).

Please note that user UX's permission to modify messages from MYLIB depends on the user-library-specific profile, not the user-specific profile.

Example 2:



This example results in the following setup:

- Error messages of library MYLIB may only be modified by user UX.
- Error messages of any other library may be modified by any user.
- Error messages of library MYLIB cannot be deleted by any user.
- Error messages of any other library may only be deleted by user UX, but not by any other user.

User-library-specific utility profiles can be defined for the following utilities: NATLOAD, NATUNLD, SYSBPM, SYSDDM, SYSERR, SYSMAN, SYSOBJH, SYSTRANS.

A user-library-specific utility profile can only be defined for a user for which a user-specific utility profile has been defined.

Which Utility Profile Applies?

When a user tries to use a utility function, Natural Security looks for the appropriate utility profile to determine whether the user is allowed to perform the function.

Natural Security looks for the following utility profiles in the following order:

1. the **user-library-specific** profile of the **user** for the library affected (only if the user is of type A or P);
2. the **user-library-specific** profile of the **group** in which the user is contained for the library affected;
3. the **library-specific** profile of the library affected;
4. the **user-specific** profile of the **user** (only if the user is of type A or P);
5. the **user-specific** profile of the **group** in which the user is contained;
6. the utility's **default** profile.

The first profile encountered in this search determines whether the user is allowed to perform the function.

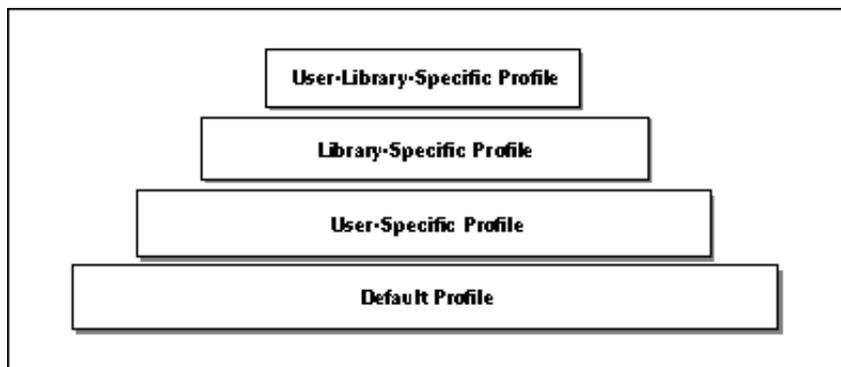
For this search, Natural Security uses the user ID and group ID as determined by the current values of the system variables *USER and *GROUP respectively.

If none of the above profiles exists, the "old" utility protection mechanism applies.

A user may obtain information about the utility profile which currently applies by using the Natural system command PROFILE (see also the PROFILE Command in the section Protecting Libraries).

The following diagram shows the hierarchy of the utility profiles.

Hierarchy of Utility Profiles



Example:

Assume the following situation: User UX (user type A), who is contained in group GX, wants to copy programming objects with the SYSMAIN utility from library LIB1 to library LIB2.

First, Natural Security checks if the user may copy programming objects with SYSMAIN **from library LIB1**; that is, if the Copy function for Programming Objects is allowed:

1. It checks the *user-library-specific* profile of user UX and library LIB1 for SYSMAIN.
2. If no such profile exists,
it checks the *user-library-specific* profile of user GX and library LIB1 for SYSMAIN.
3. If no such profile exists,
it checks the *library-specific* profile of library LIB1 for SYSMAIN.
4. If no such profile exists,
it checks the *user-specific* profile of user UX for SYSMAIN.
5. If no such profile exists,
it checks the *user-specific* profile of user GX for SYSMAIN.
6. If no such profile exists,
it checks the *default* profile of SYSMAIN.

Then, Natural Security checks if the user may copy programming objects with SYSMAIN **into library LIB2**; that is, if the Copy function for Programming Objects is allowed:

1. It checks the *user-library-specific* profile of user UX and library LIB2 for SYSMAIN.
2. If no such profile exists,
it checks the *user-library-specific* profile of user GX and library LIB2 for SYSMAIN.
3. If no such profile exists,
it checks the *library-specific* profile of library LIB2 for SYSMAIN.
4. If no such profile exists,
it checks the *user-specific* profile of user UX for SYSMAIN.
5. If no such profile exists,
it checks the *user-specific* profile of user GX for SYSMAIN.
6. If no such profile exists,
it checks the *default* profile of SYSMAIN.

When Does a Utility Profile Take Effect?

As the various Natural utilities and their functions differ greatly from one another, the time when Natural Security checks whether a user may use a requested utility function differs from utility to utility (and from function to function).

Further Utility Protection Considerations

Normally a user invokes a utility by entering the corresponding system command (for example, to invoke the SYSERR utility, you enter the system command SYSERR). In this case, one of the utility profiles defined for this utility applies and controls the use of the utility as described in this section.

However, it is also possible (although not recommended) to invoke a utility by logging on to the library which contains the utility (for example, with the system command LOGON SYSERR). In this case, the *library* security profile of that library controls whether the utility may be invoked. To prevent this, either *do not define a library security profile for a utility library* in the first place, or, if you need such a security profile for some purpose, define it as "People-protected".

Available System Commands

When a user uses a utility under the control of a utility profile, the only Natural system commands available to the user within the utility are: FIN, LOGON, MAIL and PROFILE; all other system commands cannot be used. The reason for this is to preclude any "loopholes" in the protection established by the utility profiles.

Where to Define Profiles?

To define *default profiles*, you use the Administrator Services section of Natural Security (as described under Defining Default Profiles below).

To define *all other utility profiles*, you use the Utility Maintenance section of Natural Security (as described under Defining Individual Profiles - Utility Maintenance below).

Defining Default Profiles

On the Main Menu, you select "Administrator Services". The Administrator Services Menu will be displayed.

Note:

Access to Administrator Services may be restricted; see Access to Administrator Services in the section Administrator Services.

On the Administrator Services Menu 2, you select "Definition of utility defaults/templates". The Define Utility Defaults/Templates screen will be displayed, listing all the utilities for which profiles can be defined.

The status of a utility (as indicated in the Message field) can be one of the following:

| Status | Meaning |
|-------------------------|---|
| Nothing defined | No profile is defined for the utility. The use of the utility is controlled by the "old" protection mechanism. See the section System Libraries And Utilities - Old Protection Mechanism. |
| Default defined | A default profile has been defined for the utility. This default profile applies for all users for which no individual user-specific profile is defined. Any "old" protection mechanism settings are ignored for this utility. |
| Template defined | A profile has been defined for the utility. However, this profile can only be used as a template to define individual user-specific utility profiles. The use of the utility is controlled by the "old" protection mechanism (see the section System Libraries And Utilities - Old Protection Mechanism), except for those users for which a user-specific utility profile is defined. This status is primarily intended to allow you a smooth transition from the "old" to the "new" protection mechanism. |

Whether a default profile is a "real" profile or only a template is determined by the field "Applies as Default Profile" (see below) within the profile.



To avoid the applicability of the "old" and the "new" protection mechanism getting mixed up, you should always define a default profile (not only a template) for a utility if you intend to define user-specific profiles for that utility.

On the Define Utility Defaults/Templates screen, you can mark a utility with one of the following function codes:

| Code | Function |
|------|---|
| AD | Define a default profile or template for the utility. |
| MO | Modify the utility's existing default profile or template. |
| DE | Delete the utility's existing default profile or template. |
| DI | Display the utility's existing default profile or template. |

When you mark a utility with code "DE", a window will be displayed in which you confirm the deletion by entering the utility name. When you delete a utility's default profile or template, all other profiles for that utility - that is, user-specific, library-specific and user-library-specific utility profiles - will also be deleted.

When you mark a utility with code "AD", "MO" or "DI", its default profile or template will be displayed.

The profile for each utility provides several options, which correspond to functions of the utility concerned. The individual options are described below for each utility.

You can *allow* or *disallow* each option by marking it with "A" or "D" respectively. Initially, all options are disallowed.

Note:

Natural Security performs consistency checks on the combinations of allowed and disallowed options - impossible combinations of "A" and "D" will automatically be rejected.

Moreover, each profile provides the following field, which determines whether the profile is a "real" default profile or only a template:

Applies as Default Profile

| | |
|---|---|
| Y | Default Profile - The profile applies for all users for which no individual utility profile is defined. |
| N | Template - The profile does not apply for any user. It can only be used as a template for the definition of individual user-specific utility profiles. |

Once this field is set to "Y" and any user-specific or library-specific profiles have been defined for that utility, you *cannot* reset this field to "N". This is to ensure consistent utility protection.

Default Profile for NATLOAD Utility

The profile for the NATLOAD utility provides the following options:

| Option | Explanation |
|-----------------------------|---|
| Load Natural Objects | Determines whether the user may load programming objects. |
| Del. | Determines whether the user may process delete instructions for programming objects (this requires that the loading of programming objects is allowed). |
| Load DDMs | Determines whether the user may load DDMs. |
| Del. | Determines whether the user may process delete instructions for DDMs (this requires that the loading of DDMs is allowed). |
| Load Error Messages | Determines whether the user may load error messages. |
| Del. | Determines whether the user may process delete instructions for error messages (this requires that the loading of error messages is allowed). |
| Scan Natural Objects | Determines whether the user may scan the work file for programming objects. |
| Scan DDMs | Determines whether the user may scan the work file for DDMs. |
| Scan Error Messages | Determines whether the user may scan the work file for error messages. |
| PC Upload | Determine whether the user may use the NATLOAD parameters of the same names. |
| Replace | |
| New Library | |

Default Profile for NATUNLD Utility

The profile for the NATUNLD utility provides the following options:

| Option | Explanation |
|-----------------------------------|--|
| Unload Natural Objects | Determines whether the user may unload programming objects. |
| Unload DDMs | Determines whether the user may unload DDMs. |
| Unload Error Messages | Determines whether the user may unload error messages. |
| Unload Delete Instructions | Determines whether the user may unload delete instructions. |
| PC Download | Determine whether the user may use the NATUNLD parameters of the same names. |
| Target Library | |

Default Profile for SYSBPM Utility

The SYSBPM utility is only available with Natural on mainframe computers.

The profile for the SYSBPM utility provides the following options:

Buffer Pool Statistics

| Option | Explanation |
|---|---|
| Display General | Determine whether the user may use the SYSBPM functions/commands of the same names. |
| - General BP Statistics (*) | |
| - BP Load/Locate Statistics (*) | |
| - Fragmentation (*) | |
| - Internal Function Usage (*) | |
| - BP Hash Table Statistics | |
| Display Cache | |
| - General BP Cache Statistics | |
| - BP Cache Call Statistics | |
| - BP Cache Hash Table Statistics | |

Buffer Pool Library Object Maintenance

| Option | Explanation |
|--|---|
| Buffer Pool Statistics | Determine whether the user may use the SYSBPM functions/commands of the same names. |
| - Individual Obj. Statistics (*) | |
| - Obj. Directory Information (*) | |
| - Display Object Hexadecimal (*) | |
| Blacklist Maintenance (*) | |
| - Maintain Blacklist ADD | |
| - Add Object Set to Blacklist | |
| - Maintain Blacklist DELETE | |
| - Maintain Blacklist DELETE ALL | |
| - Delete Obj. Set from Blacklist | |
| - Maintain Blacklist | |
| - Edit Object Set | |
| - List Object Sets | |
| - Maintain Blacklist UPDATE | |
| Preload List Maintenance (*) | |
| - Edit Preload List | |
| - Gen. Preload List from BP | |
| - List Preload Lists | |
| Functions for the Objects Displayed | |
| - CLEAR | |
| - DELETE | |
| - FDELETE | |
| - RESIDENT | |

Buffer Pool Global Commands

| Option | Explanation |
|--------------------|---|
| CHECK HASH | Determine whether the user may use the SYSBPM functions/commands of the same names. |
| CLOSE BPC | |
| CLOSE HASH | |
| Delete Obj. | |
| - DELETE BP (*) | |
| - DELETE BPC | |
| INITIALIZE | |
| - INITIALIZE BP | |
| - INITIALIZE BPC | |
| INITIALIZE OLD (*) | |
| REBUILD HASH | |
| REORG HASH | |
| REORGC HASH | |
| RESET BP | |
| SELECT BP | |
| DISPLAY BP (*) | |

(*) Note:

With Natural Version 3.1.5, the SYSBPM utility was revised. Consequently, the structure of SYSBPM's Natural Security utility profiles was also restructured. On the utility profile screens, the functions/commands which already existed in the old profiles are marked with an asterisk (*); the Natural Security protection of these functions/commands is fully compatible with previous versions. However, in order to control the full range of SYSBPM functions/commands properly, you may have to adjust in your SYSBPM utility profiles the settings of the new functions/commands, that is, those which are *not* marked with an asterisk

Default Profile for SYSDDM Utility

The SYSDDM utility is only available with Natural on mainframe computers.

The profile for the SYSDDM utility provides the following options:

| Option | Explanation |
|--|--|
| Generate DDM from Adabas FDT | Determine whether the user may use the SYSDDM functions of the same names. |
| Catalog DDM | |
| Edit DDM | |
| Delete DDM | |
| List DDMs | |
| List DDMs with Additional Information | |
| Copy DDM to Another FDIC File | |
| Show Defined DBIDs and Used FNRs | |
| SQL Services | |
| DL/I Services | |
| Rename DDM | |

Default Profile for SYSERR Utility

The profile for the SYSERR utility provides the following options:

| Option | Explanation |
|---|--|
| Add New Messages | Determine whether the user may use the SYSERR functions of the same names. |
| Delete Messages | |
| Display Messages | |
| Modify Messages | |
| Print Messages | |
| Scan in Messages | |
| Select Messages from a List | |
| Translate Messages into Another Language | |

You can allow/disallow these options separately for:

- user messages (PF7),
- Natural system messages (PF8).

Default Profile for SYSMAIN Utility

The SYSMAIN utility is not identical on all platforms, so that some of the following SYSMAIN options and functions may not be available on some platforms.

The profile for the SYSMAIN utility provides the following options:

| Option | Explanation |
|----------------------------|---|
| Programming Objects | This general setting in the first column of the screen determines whether the user may use SYSMAIN at all for this type of object. If this is set to "D" (disallowed), all subordinate function specifications for this object type must also be set to "D". |
| Debug Environments | |
| User Messages | |
| DDMs | |
| Natural Messages | |
| Profiles | |
| Rules | |
| DL/I Subfiles | |
| Resources | |

In addition, you can allow/disallow the following functions for each object type individually:

| Option | Explanation |
|-------------|--|
| Co | Determines whether the user may use the SYSMAIN function COPY for this type of object. |
| De | Determines whether the user may use the SYSMAIN function DELETE for this type of object. |
| Fi | Determines whether the user may use the SYSMAIN function FIND for this type of object. |
| Im | Determines whether the user may use the SYSMAIN function IMPORT for this type of object. |
| Li | Determines whether the user may use the SYSMAIN function LIST for this type of object. |
| Mo | Determines whether the user may use the SYSMAIN function MOVE for this type of object. |
| Ren | Determines whether the user may use the SYSMAIN function RENAME for this type of object. |
| Rep | Determines whether the user may use the SYSMAIN function REPLACE for this type of object. |
| FNAT | Determines whether the user may use the SYSMAIN function SET FNAT for this type of object. (*) |
| FSEC | Determines whether the user may use the SYSMAIN function SET FSEC for this type of object. (*) |
| FDIC | Determines whether the user may use the SYSMAIN function SET FDIC for this type of object. (*) |

(*) These options can be set in the default profile and in user-specific profiles, but not in library-specific or user-library-specific profiles.

Default Profile for SYSOBJH Utility

The SYSOBJH utility is not available with Natural on mainframe computers.

Note:

If you use a central mainframe FSEC system file in a multiple-platform configuration (see also Using Natural Security On Multiple Platforms), you would define utility profiles for the SYSOBJH utility on the mainframe computer, although the utility itself is not available on mainframes.

The profile for the SYSOBJH utility provides the following options:

| Option | Explanation |
|---------------|--|
| Unload | Determines whether the user may use the SYSOBJH Unload function. |
| Load | Determines whether the user may use the SYSOBJH Load function. |
| Delete | Determines whether the user may use the SYSOBJH Delete function. |

In addition, you can allow/disallow the above functions for each object type individually:

| Option | Explanation |
|------------|---|
| Nat | Determines whether the function may be applied to Natural programming objects. |
| Err | Determines whether the function may be applied to error messages. |
| CPr | Determines whether the function may be applied to command processors. |
| NRe | Determines whether the function may be applied to Natural-related objects. |
| Ext | Determines whether the function may be applied to external objects. |
| FDT | Determines whether the function may be applied to Adabas FDTs. |
| Par | Determines whether SYSOBJH parameters may be specified for the function. |
| Rep | Determines whether the SYSOBJH parameter REPLACE may be specified for the function. |

Also, the profile for SYSOBJH provides the following general options:

| Option | Explanation |
|----------------------|---|
| Admin | Determine whether the user may use the "Admin" section of SYSOBJH. |
| FSEC | Determines whether the user may specify the SYSOBJH parameters of the same names. |
| FDIC | |
| Transfer only | Determines whether only sources may be processed (Y) or sources and objects may be processed (N). |

Default Profile for SYSPARM Utility

The SYSPARM utility is only available with Natural on mainframe computers.

The profile for the SYSPARM utility provides the following options:

| Option | Explanation |
|------------------------|---|
| List Profiles | Determine whether the user may use the SYSPARM functions of the same names. |
| Display Profile | |
| Add New Profile | |
| Modify Profile | |
| Copy Profile | |
| Delete Profile | |

Default Profile for SYSRPC Utility

The profile for the SYSRPC utility provides the following options:

| Option | Explanation |
|--------------------------------------|--|
| Parameter Maintenance | Determine whether the user may use the SYSRPC functions of the same names. |
| Service Directory Maintenance | |
| Remote Directory Maintenance | |
| Stub Generation | |
| Terminate Server | |

Default Profile for SYSTRANS Utility

The profile for the SYSTRANS utility provides the following options:

| Option | Explanation |
|----------------|---|
| Unload | Determines whether the user may use the SYSTRANS Unload function. |
| Load | Determines whether the user may use the SYSTRANS Load function. |
| Replace | Determines whether the user may use the Replace option of the SYSTRANS Load function. |
| Scan | Determines whether the user may use the SYSTRANS Scan function. |
| Restart | Determines whether the user may use the SYSTRANS Restart function. |

In addition, you can allow/disallow the above functions for each object type individually:

| Option | Explanation |
|------------|---|
| NAT | Determines whether the function may be applied to Natural programming objects. |
| Map | Determines whether the function may be applied to maps. |
| DDM | Determines whether the function may be applied to DDMs. |
| FDT | Determines whether the function may be applied to Adabas FDTs. |
| Err | Determines whether the function may be applied to error messages. |
| CPr | Determines whether the function may be applied to command processors. |
| Lib | Determines whether the function may be applied to libraries. |
| All | Determines whether the function may be applied to all objects on the work file to be processed. |

Also, the profile for SYSTRANS provides the following options, which apply to the Direct Transfer functions of SYSTRANS:

| Option | Explanation |
|----------------------------------|---|
| Direct Transfer Functions | Determine whether the user may use any SYSTRANS Direct Transfer functions (using Natural RPC). |
| Transfer | Determines whether the user may use the SYSTRANS function "Direct Transfer (using RPC)". |
| Restart | Determines whether the user may use the SYSTRANS function "Restart Direct Transfer". |
| Report | Determines whether the user may use the SYSTRANS function "Get Report from Direct Transfer Load". |
| Define | Determines whether the user may use the SYSTRANS function "Define Local Transfer System". |

Defining Individual Profiles - Utility Maintenance

Natural Security's Utility Maintenance is used to perform all functions related to the maintenance of individual utility profiles (that is, user-specific profiles, library-specific profiles and user-library-specific profiles).

The components of an individual profile correspond to those of the corresponding default profile (as described under Defining Default Profiles above).

Note:

Owner logic applies to the creation/maintenance of individual utility profiles.

How to Invoke Utility Maintenance

On the Main Menu, enter code "M" for "Maintenance". A window will be displayed.

In the window, mark object type "Utility" with a character or with the cursor. The Utility Maintenance selection list will be displayed.

The Utility Maintenance selection list shows all utilities for which either a default profile or a template has been defined. For each utility, the following information is displayed:

| | |
|------------------|--|
| Default | Indicates whether a default profile has been defined for this utility (YES/NO). "NO" means that only a template has been defined. |
| User | Indicates whether any user-specific profiles exist for this utility (YES/NO). |
| Library | Indicates whether any library-specific profiles exist for this utility (YES/NO). |
| User-Lib. | Indicates whether any user-library-specific profiles exist for this utility (YES/NO). |

Utility Maintenance Functions

From the Utility Maintenance selection list, you invoke all functions for the creation, modification, deletion and display of individual utility profiles.

The following functions are available:

| Code | Function |
|--|--|
| DD | Display default profile or template. This function displays the default profile (or the template) defined for a utility. |
| Functions for <i>user-specific</i> utility profiles: | |
| DU | Display user-specific profiles. This function displays a list of existing user-specific profiles for a utility. From the list, you can select the profiles to be displayed. |
| AU | Add or maintain user-specific profiles. This function displays a list of users (of types A, P and G). From the list, you can select the users for which you wish to define user-specific profiles for a utility. |
| MU | Maintain user-specific profiles. This function displays a list of existing user-specific profiles for a utility. From the list, you can select the profiles to be maintained. |
| Functions for <i>library-specific</i> utility profiles: | |
| DL | Display library-specific profiles. This function displays a list of existing library-specific profiles for a utility. From the list, you can select the profiles to be displayed. |
| AL | Add or maintain library-specific profiles. This function displays a list of libraries. From the list, you can select the libraries for which you wish to define library-specific utility profiles. |
| ML | Maintain library-specific profiles. This function displays a list of existing library-specific profiles for a utility. From the list, you can select the profiles to be maintained. |
| Functions for <i>user-library-specific</i> utility profiles: | |
| DX | Display user-library-specific profiles. This function displays a list of existing user-library-specific profiles of a specific user for a utility. From the list, you can select the profiles to be displayed. |
| AX | Add or maintain user-library-specific profiles. This function displays a list of libraries. From the list, you can select the libraries for which you wish to define user-library-specific utility profiles for a specific user. |
| MX | Maintain user-library-specific profiles. This function displays a list of existing user-library-specific profiles of a specific user for a utility. From the list, you can select the profiles to be maintained. |

"Add or Maintain" or "Maintain"?

The "Add or Maintain" functions (codes AU, AL, AX) display lists of all users/libraries, comprising those for which utility profiles exist as well as those for which no utility profiles have been defined. They allow you to add new utility profiles as well as modify, delete and display existing utility profiles.

The "Maintain" functions (codes MU, ML, MX) display lists of only those users/libraries for which utilities profiles exist. They allow you to modify, delete and display existing utility profiles.

You can "switch" directly from "Add or Maintain" to "Maintain" by reducing the displayed list from a list of all users/libraries to a list of only those with existing profiles. To do so, you mark with "X" the selection criterion field "U" (user-specific profile exists) "L" (library-specific profile exists) or "U-L" (user-library-specific profile exists) respectively in the heading of the list.

However, if you know beforehand that you are going to only maintain existing profiles but not add any new ones, it is recommended (for better performance) that you directly use codes MU, ML and MX respectively.

Start Values

Each of the functions listed displays a list of items (users, libraries, profiles). When you invoke a function, a window will be displayed in which you can enter a start value for the list of items to be displayed.

For functions related to *user-library-specific* profiles, the ID of the user whose user-library-specific profiles are to be listed must also be specified in the start value window.

Subfunctions

When you invoke one of the functions listed, you get a list of items (users, libraries or utility profiles).

On this list, you mark one or more items with a code to invoke a subfunction to be performed on the item.

The available subfunctions (Add, Modify, etc.) differ depending on the function invoked.

For a list of available subfunctions, you enter a question mark (?) in the field "Co".

Information Displayed

Add/Maintain/Display User-Specific Utility Profiles

On the selection list of users displayed with function codes AU, DU and MU, the following information is displayed for each user:

| | |
|-------------|---|
| Type | Indicates the user type (A, P or G). |
| U | An "X" indicates that the user has a user-specific profile for this utility. |
| U-L | An "X" indicates that the user has one or more user-library-specific profiles for this utility. |

Add/Maintain/Display Library-Specific Utility Profiles

On the selection list of libraries displayed with function codes AL, DL and ML, the following information is displayed for each library:

| | |
|--------------|--|
| Prot. | Indicates the "people-protected" and "terminal-protected" settings as defined in the library security profile. |
| Link | (empty) |
| L | An "X" indicates that the library has a library-specific profile for this utility. |
| U | An "X" indicates that the library has one or more user-library-specific profiles for this utility. |

Add/Maintain/Display User-Library-Specific Utility Profiles

On the selection list of libraries displayed with function codes AX, DX and MX, the following information is displayed for each library:

| | |
|--------------|--|
| Prot. | Indicates the "people-protected" and "terminal-protected" settings as defined in the library security profile. |
| Link | Indicates whether the user is linked to the library (LK = normal link, SL = special link). |
| U-L | An "X" indicates that the user has a user-library-specific profile for this library for this utility. |
| L | An "X" indicates that the library has a library-specific profile for this utility. |

Adding a User-Specific Utility Profile

A user-specific utility profile can only be defined for a utility for which either a *default profile* or a *template* exists.

To add a user-specific utility profile, you mark the desired utility on the Utility Maintenance selection list with "AU". A window will be displayed in which you can enter a start value for the list of users to be displayed. Then a list of users (of types A, P and G) will be displayed.

On that list, you mark the desired user with "AD". The user-specific profile for the utility will be displayed for you to define.

The options you can allow or disallow within the profile are the same as in the corresponding default profile or template (see Defining Default Profiles above).

The initial "allowed/disallowed" settings in the user-specific profile are taken from the default profile or the template.

Modifying/Displaying a User-Specific Utility Profile

To modify or display a user-specific utility profile, you mark the desired utility on the Utility Maintenance selection list with "MU" or "DU" respectively. A window will be displayed in which you can enter a start value for the list of user-specific profiles to be displayed. Then a list of existing user-specific profiles for the selected utility will be displayed.

On that list, you mark the desired profile with "MO" (modify) or "DU" (display) respectively. The profile will be displayed for modification/display.

The options in the profile are the same as in the corresponding default profile or template (see Defining Default Profiles above).

Deleting a User-Specific Utility Profile

To delete a user-specific utility profile, you mark the desired utility on the Utility Maintenance selection list with "MU". A window will be displayed in which you can enter a start value for the list of user-specific profiles to be displayed. Then a list of existing user-specific profiles for the selected utility will be displayed.

On that list, you mark the desired profile with "DE". A window will be displayed in which you confirm the deletion.

When you delete a user-specific utility profile, all *user-library-specific* utility profiles for this user for this utility will also be deleted.

Adding a Library-Specific Utility

A library-specific utility profile can only be defined for a utility for which a *default profile* (not only a template) has been defined.

To add a library-specific utility profile, you mark the desired utility on the Utility Maintenance selection list with "AL". A window will be displayed in which you can enter a start value for the list of libraries to be displayed. Then a list of libraries will be displayed.

On that list, you mark the desired library with "AD". The library-specific profile for the utility will be displayed for you to define.

The options you can allow or disallow within the profile are the same as in the corresponding default profile (see Defining Default Profiles above).

The initial "allowed/disallowed" settings in the library-specific profile are taken from the default profile.

Modifying/Displaying a Library-Specific Utility Profile

To modify or display a library-specific utility profile, you mark the desired utility on the Utility Maintenance selection list with "ML" or "DL" respectively. A window will be displayed in which you can enter a start value for the list of library-specific profiles to be displayed. Then a list of existing library-specific profiles for the selected utility will be displayed.

On that list, you mark the desired profile with "MO" (modify) or "DL" (display) respectively. The profile will be displayed for modification/display.

The options in the profile are the same as in the corresponding default profile (see Defining Default Profiles above).

Deleting a Library-Specific Utility Profile

To delete a library-specific utility profile, you mark the desired utility on the Utility Maintenance selection list with "ML". A window will be displayed in which you can enter a start value for the list of library-specific profiles to be displayed. Then a list of existing library-specific profiles for the selected utility will be displayed.

On that list, you mark the desired profile with "DE". A window will be displayed in which you confirm the deletion.

Adding a User-Library-Specific Utility Profile

A user-library-specific utility profile can only be defined for a user for which a *user-specific profile* for that utility exists.

To add a library-specific utility profile, you mark the desired utility on the Utility Maintenance selection list with "AX". A window will be displayed in which you enter the ID of the user for whom a user-library-specific profile is to be defined; also, you can enter a start value for the list of libraries to be displayed. Then a list of libraries will be displayed.

On that list, you mark the desired library with "AD". The user-library-specific profile for the specified user for this library will be displayed for you to define.

The options you can allow or disallow within the profile are the same as in the corresponding default profile (see Defining Default Profiles above).

The initial "allowed/disallowed" settings in the user-library-specific profile are taken from the corresponding library-specific profile; if no such profile exists, they are taken from the corresponding user-specific profile.

Modifying/Displaying a User-Library-Specific Utility Profile

To modify or display a library-specific utility profile, you mark the desired utility on the Utility Maintenance selection list with "MX" or "DX" respectively. A window will be displayed in which you enter the ID of the user whose user-library-specific profile(s) are to be listed; also, you can enter a start value for the list of profiles to be displayed. Then a list of existing user-library-specific profiles of the specified user for the selected utility will be displayed.

On that list, you mark the desired profile with "MO" (modify) or "DX" (display) respectively. The profile will be displayed for modification/display.

The options in the profile are the same as in the corresponding default profile (see Defining Default Profiles above).

Deleting a User-Library-Specific Utility Profile

To delete a user-library-specific utility profile, you mark the desired utility on the Utility Maintenance selection list with "MX". A window will be displayed in which you enter the ID of the user whose user-library-specific profile(s) are to be listed; also, you can enter a start value for the list of profiles to be displayed. Then a list of existing user-library-specific profiles of the specified user for the selected utility will be displayed.

On that list, you mark the desired profile with "DE". A window will be displayed in which you confirm the deletion.