

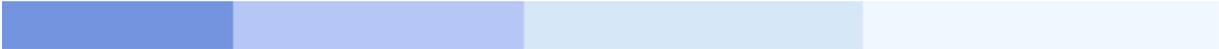


PREDICT

Coordinator

Version 4.3.1

 SOFTWARE AG



This document applies to Predict Version 4.3.1 and to all subsequent releases. Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Coordinator - Overview

This document provides you with all the information you require to transfer data between Predict environments with the Predict Coordinator.

- Introduction An overview of the functions available. Describes how Coordinator functions are logged.
- Coordinator Check Cycle Describes the three phases of the Coordinator Check Cycle: Objects to be imported must pass all phases of this cycle.
- Migrate Functions Describes all Migrate functions and commands. The syntax of Migrate commands in batch mode is also provided.
- ALF Functions Describes all Access Layer Format (ALF) functions and commands. Contains examples of export and import operations both online and in batch mode.
- Data Transfer Examples Tells you how to perform load and unload functions step by step.
- Data Transfer to/from Natural LightStorm Contains a table indicating the Natural LightStorm object types to which the Predict object types and their subtypes are mapped when they are exported to Natural LightStorm.

Introduction

The Predict Coordinator is the utility that enables data exchange between different FDIC files and between Predict and Natural LightStorm. The Coordinator uses its own FDIC file called the Coordinator FDIC which serves as temporary storage. The application that contains the Coordinator functions is located in the Natural library SYSDICBE.

Note:

Throughout this documentation, reference is made to Load and Unload functions and commands. In most cases, the text also applies to Import and Export.

This section covers the following topics:

- Functional Scope
 - Coordinator FDIC
 - Calling Coordinator Functions
 - Coordinator Main Menu
 - Building Extracts with Predefined Retrieval Model AL
 - Logging Coordinator Functions
 - Transferring Data between Heterogeneous Environments
 - Coordinator Commands
-

Functional Scope

With the Coordinator you can:

- Transfer data from one Predict 4.3 environment to another.
- Unload data from a Predict 4.3 environment (see the section Unload in the Coordinator documentation for details)
 - to a Predict 4.2 environment in Migrate 4.2 format or
 - to a Predict 4.3 environment in Migrate 4.3 format.
- Load data in Migrate format to a Predict 4.3 environment (see the section Load in the Coordinator documentation for details) unloaded from a
 - Predict 3.4 environment or
 - Predict 4.1 environment or
 - Predict 4.2 environment or
 - Predict 4.3 environment.
- Export data from a Predict 4.3 environment (see the section Export in the Coordinator documentation for details)
 - to a Natural LightStorm 3 or 3.2 environment in ALF format or
 - to a Predict Case 2.5 environment in ALF 2.2 format.
- Import data in Predict ALF format to a Predict 4.3 environment (see the section Import in the Coordinator documentation for details)
 - exported from a Predict 3.4 environment in Predict ALF format.
- Import data in ALF 2.2 format to a Predict 4.3 environment
 - exported from a Predict 4.1 environment in ALF 2.2 format or
 - exported from a Predict 4.2 environment in ALF 2.2 format or
 - exported from a Predict 4.3 environment in ALF 2.2 format.
- Additional features are provided with which you can
 - Test the data to be loaded without actually transferring it to the Main FDIC.
 - Purge data on transfer medium.
 - Check the integrity of data on the Coordinator FDIC.

- Clear the Coordinator FDIC.
- Continue a load operation that was interrupted for any reason.
- Consolidate Internal IDs.

Coordinator FDIC

A Coordinator FDIC file is defined with the function Defaults > Coordinator Defaults. Specify the file number and database number of the Coordinator FDIC with the parameters Coordinator FDIC DBnr/Fnr.

The checks of the Coordinator Check Cycle are performed on this Coordinator FDIC. Possible conflicts must be resolved on the Coordinator FDIC before the load operation can continue.

Two extracts are created in the Coordinator FDIC automatically during a load operation:

- **#SAG-TRANSFER** contains the IDs of the objects to be transferred to the Main FDIC.
- **#SAG-ERROR**. If the load could not be performed, this extract contains the objects that were rejected during the Coordinator Check Cycle and could not be transferred to the Main FDIC. **#SAG-ERROR** is linked to a report listing of the same name.

The data on the Coordinator FDIC is deleted after the load has been successfully executed.

Note:

Coordinator functions under Predict Security are described in the section Security.

Calling Coordinator Functions

Coordinator functions are called from library SYSDICBE. Enter the following commands at the NEXT prompt to display the Coordinator menu:

```
LOGON SYSDICBE  
MENU
```

Coordinator Main Menu

```

08:54:41          ***** P R E D I C T 4.3.1 *****          2003-05-31
                    - Coordinator -
Migrate Function          ALF Function

U  Unload Migrate          E  Export ALF
L  Load Migrate            I  Import ALF
T  Test Migrate           S  Test ALF
D  Purge Migrate transfer medium  P  Purge ALF transfer medium
B  Info on Migrate transfer medium  A  Info on ALF transfer medium

Function .....          Data type .....* O  Object type .....*

Transfer medium
Medium type .....* 1          From FDIC          To FDIC
DBnr ..... 188          DBnr ..... 188          DBnr ..... 188
Fnr ..... 32          Fnr ..... 32          Fnr ..... 32
Password .....          Password ..          Password ..
Cipher .....          Cipher ....          Cipher ....
Identification ..*

Command ==>          Scroll ==> CSR
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12---
                    Quit          RFind Flip - +          Left Right
    
```

Overview of Parameters

Not all parameters are valid for all functions. See table below.

Parameter	Export/ Unload	Import/ Load	Test	Purge	Info
Data type	R	R	R		
Object type	O	O	O		
Transfer medium					
Medium type	R			D	D
DBnr, Fnr	R if Medium type=D			R	R
Password, Cipher	A	A	A	A	A
Identification	R if Medium type=D			R	R
From FDIC					
DBnr, Fnr	R				
Password, Cipher	A				
To FDIC					
DBnr, Fnr		R	R		
Password, Cipher		A	A		

Key

- R Required
- O Optional. If left blank, function applies to all object types
- D required, must be D
- A if applicable

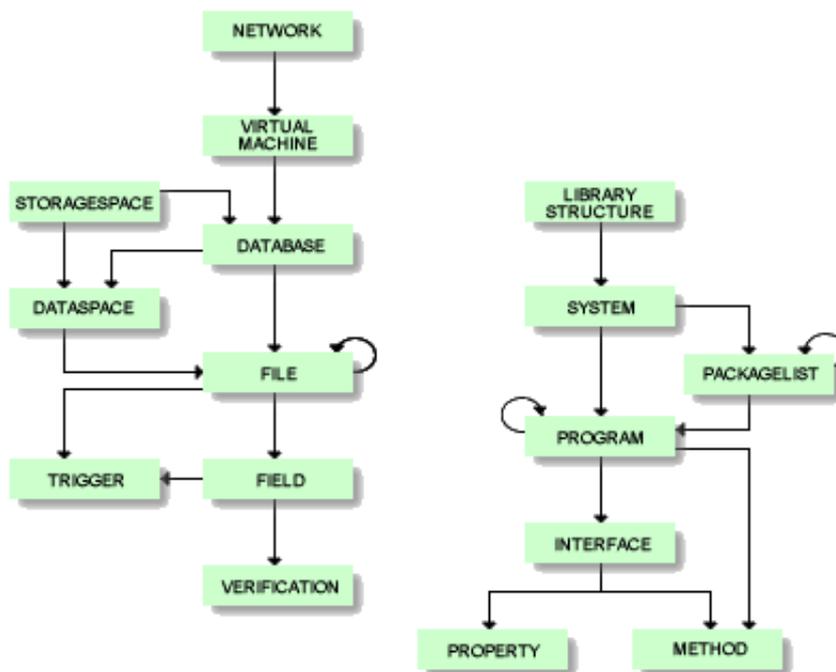
Parameters	
Function	Enter code from menu. See Migrate functions and ALF functions.
Data type	Must be specified for functions Import/Load, Export/Unload and Test. <ul style="list-style-type: none"> ● O Object The function is to process one or all object types (both predefined and user-defined). ● M Metadata The function is to process metadata from predefined or user-defined object types. ● R Retrieval model The function is to process retrieval models. ● I Internal ID The function is to process only Internal IDs.
Object type	Applies to functions Import/Load, Export/Unload and Test. Determines the type of object to be processed. Enter an asterisk to select an object type from a list of all possible values. Leave this field blank if you wish to process all object types.
Transfer medium	
Medium type	Determines the type of processing: writing the data to a transfer medium (Natural workfile or a database file), or counting the number of bytes to be transferred. <ul style="list-style-type: none"> ● D Database file. Specify the database file and ID of the transfer medium as described below. Note: The transfer medium file must be a Predict file. ● 1,5,6,7 Natural workfile 1, 5, 6 or 7. ● C Only applicable for the function Export/Unload. The size of the transfer medium required for the function is determined. No data is written.
DBnr	Database of the file used as transfer medium. Only applicable for medium type D.
Fnr	Number of the file used as transfer medium. Only applicable for medium type D.
Password	Password of the file used as transfer medium (if required). Only applicable for medium type D.
Cipher	Cipher code of the file used as transfer medium (if required). Only applicable for medium type D.
Identification	ID of up to 8 characters to identify the result of one Export/Unload operation. Only applicable for medium type D. For functions Purge data on ALF/Migrate transfer medium: An asterisk can be entered to select a transfer medium ID for deletion.
From FDIC - For functions Export / Unload:	
DBnr, Fnr	Data is read from this database file.
Password, Cipher	You only need to enter password and cipher if these were specified for the database file.
To FDIC - For functions Import / Load:	
DBnr, Fnr	Data is written to this database file.

Password, Cipher	You only need to enter password and cipher if these were specified for the database file.
---------------------	---

Building Extracts with Predefined Retrieval Model AL

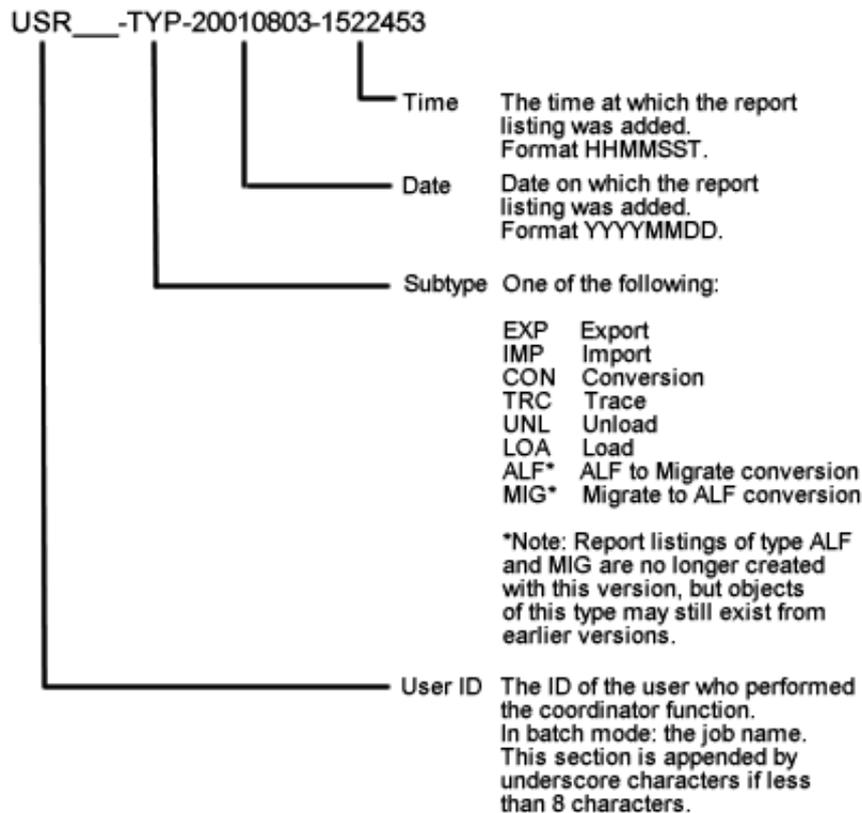
The diagram below shows which objects are exported/unloaded with an extract that has been built using retrieval model AL. This predefined retrieval model can be used to create an extract which corresponds to the objects unloaded in earlier version with parameter All=Y. Examples:

- If a database is exported/unloaded with retrieval model AL, tablespaces, files, fields, triggers and verifications are also exported/unloaded.
- If a system is exported/unloaded with retrieval model AL, interfaces, methods, packagelists, properties and programs are also exported/unloaded.



Logging Coordinator Functions

All Coordinator functions (except Info/Purge transfer data) are logged to an object of type report listing which is added automatically on the Main FDIC or the Coordinator FDIC, depending on the function executed. If CREATE-RT is set to Y, the ID of this object consists of the following:



The report listing contains the following information:

- an overview of how the function ran
- all error messages that occurred during conversion.

At the start of an Import/Load function, a report listing #SAG-ERROR is added and linked to extract #SAG-ERROR, and a report listing for the current operation is added and linked to extract #SAG-TRANSFER.

Transferring Data between Heterogeneous Environments

The Coordinator can be used with other products to transfer data between heterogeneous environments, for example from an OS/390 environment to UNIX. The recommended methods are described below.

For all these methods, certain restrictions apply when transferring Predict data that are listed here.

With Entire Net-Work

For this method, the Software AG product Entire Net-Work must be installed on both source and target environments.

- Unload/Export the data to transfer medium type D (database file).
- Load/Import the data.

This is the simplest method. The data can be accessed from either environment. All necessary EBCDIC-ASCII conversions are performed automatically.

Note:

This method is only available for transferring Predict data. The other methods can also be used to transfer Predict Case or Natural LightStorm data.

With File Transfer

- Unload/Export the data to a workfile or dataset
- Copy this workfile/dataset to your target environment with a file transfer program, for example the UNIX program ftp.
- Load/Import the data to the target environment.

If copy program ftp is used, all necessary EBCDIC-ASCII conversions are performed automatically.

With Entire Connection

- Unload/Export the dictionary data to a PC workfile using Entire Connection.
- Copy to target environment with a file transfer program, for example the UNIX program ftp.
- Load/Import the data to the target environment.

Note:

The Entire Connection mainframe component must be version 2.2 or higher.

With a Tape

- Unload/Export the data to tape.
- Load/Import the tape to the target environment.
- Convert the data from EBCDIC to ASCII.

Note:

To avoid problems with the EBCDIC-ASCII conversion, the datasets in the mainframe environment must be generated with a fixed block length (FB) of 1800.

- Load the converted data to the target environment.

Restrictions

The following restrictions apply when transferring Predict data between heterogeneous environments:

- IMS databases cannot be transferred to an ASCII environment.
- Depending on the conversion tables used, problems may occur with special characters (for example \$, : or Ä).

Coordinator Commands

The following general commands can be executed from within the application SYSDICBE.

?	HELP for Commands.
? nnnn	Displays Natural message nnnn.
? DICnnnn	Displays Predict message nnnn.
END or .	Terminate the Coordinator.
FIN	Executes the Natural FIN command.
LOGON	Executes the Natural LOGON command.
LOGOFF	Executes the Natural LOGOFF command.
MENU	Displays the Coordinator Main Menu. Global data will be initialized.

Coordinator Check Cycle

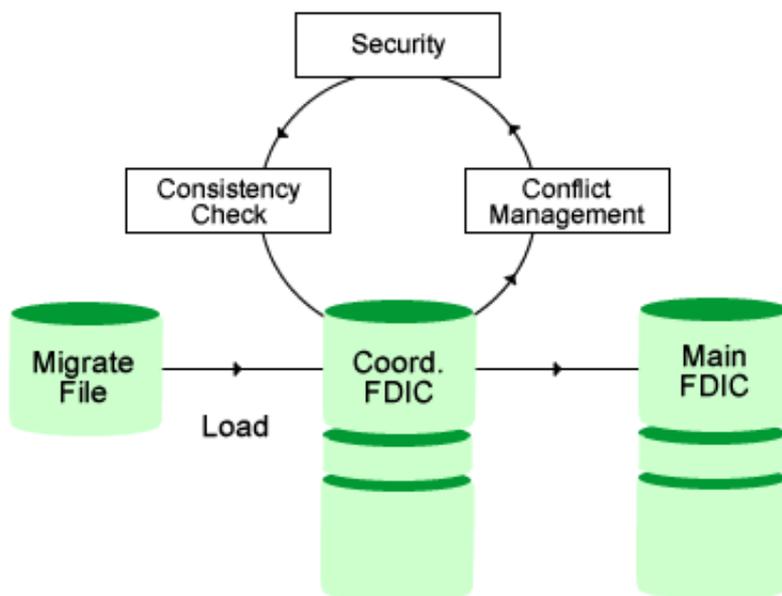
This section describes the three phases of the Coordinator Check Cycle.

This section covers the following topics:

- Conflict Management
- Security
- Consistency Check

Conflict Management

During this phase of the Check Cycle, the Coordinator detects conflicts that result from the Internal IDs of objects on the Coordinator FDIC. The concept of the Internal ID and possible solutions of conflicts are described in this section.



Internal ID

From Predict Version 3.3, all objects are given an Internal ID. This Internal ID is assigned automatically when an object is added. It is unique worldwide and remains the same throughout the entire lifespan of the object. Even if an object is renamed, the Internal ID remains unchanged.

If in an earlier version of Predict, the same object ID was used in different environments, you ran the risk of overwriting the "wrong" object when you tried to consolidate your data. This is no longer possible, because the Internal ID and not the object ID is now used to identify the objects uniquely.

When you transfer data with the Coordinator you must decide whether the Internal ID is transferred with the object or whether a new Internal ID is assigned in the target environment. This is controlled by the parameter with Internal ID of the Export/Unload function. This parameter is set to Y as default.

If with Internal ID is set to Y, objects are loaded to the target environment together with their Internal ID. If you set this parameter to N, the Internal ID will be ignored. The advantages and disadvantages of the two methods as well as examples are given below.

Parameter with Internal ID set to N:	Parameter with Internal ID set to Y:
<ul style="list-style-type: none"> ● An object is copied without its Internal ID. ● A copy of the object with a new Internal ID is created in the target environment. ● The object is no longer coupled with the object in the source environment. 	<ul style="list-style-type: none"> ● An object is copied with its Internal ID. ● An object with the same Internal ID is created in the target environment. ● The object is coupled with the object in the source environment.
Advantage	Advantage
No conflicts resulting from the Internal ID are possible. Each object receives a new Internal ID, and the objects are handled on the basis of their object IDs.	Objects can be transferred backwards and forwards within your organization, and you will still be able to identify each object uniquely.
Disadvantage	Disadvantage
Conflicts will occur when these copies are consolidated at a later date.	Conflicts are possible. These conflicts must be resolved before you can load the data. See Conflicts resulting from the Internal ID

Example 1

- In an environment with two FDIC files, FDIC A and FDIC B, the following transfer operations are performed **with the parameter with Internal ID set to Y**:
 - The system TOURS is created on FDIC A. TOURS is unloaded from FDIC A and loaded into FDIC B.
 - On FDIC A, the system TOURS is renamed in SAG-TOURS. The renaming does not affect the object's Internal ID; the Internal ID remains unchanged.
 - The system SAG-TOURS is unloaded from FDIC A and loaded into FDIC B.

Result:

On FDIC B, the system TOURS has been overwritten by SAG-TOURS, because TOURS and SAG-TOURS have the same Internal ID. This means that on FDIC B, only the system SAG-TOURS exists.

- Performing the example above **with the parameter with Internal ID set to N** has the following result:
 - Both systems TOURS and SAG-TOURS exist on FDIC B.
 - Transferring objects in former versions of Predict, before the Internal ID was introduced, had the same result.

Note:

Choose this method if you wish to create a copy of the object in the target environment in order to use this copy as a template for new objects.

Example 2

- In an environment with two FDIC files, FDIC A and FDIC B, the following transfer operations are performed **with the parameter with Internal ID set to Y**:
 - The system SAG-TOURS is created on FDIC A.
 - The system SAG-TOURS is created on FDIC B.
 - The system SAG-TOURS is unloaded from FDIC A and loaded into FDIC B.

Result:

The Coordinator determines that SAG-TOURS on FDIC A and SAG-TOURS on FDIC B are different objects, because they have different Internal IDs. The Coordinator informs you about this conflict and cancels the operation.

Possible solutions of this conflict:

- On the Coordinator FDIC, you can:
 - rename the system SAG-TOURS, for example, to TOURS. then the system can be loaded. This results in two systems on FDIC B: SAG-TOURS and TOURS.
 - delete the system SAG-TOURS on FDIC B. Then the system SAG-TOURS can be loaded.
 - delete the system SAG-TOURS on the Coordinator FDIC.
- Performing the example above **with the parameter with Internal ID set to N** has the following result: On FDIC B, the system SAG-TOURS is overwritten by the loaded system SAG-TOURS. Transferring objects in former versions of Predict, before the Internal ID was introduced, had the same result.

Note:

Choose this method if you wish to create a copy of the object in the target environment in order to use this copy as a template for new objects.

Conflicts resulting from the Internal ID

Conflicts may occur when objects are unloaded with their Internal IDs and then loaded. These conflicts must be resolved by the user before the data transfer can be continued. Conflicts are normally resolved on the Coordinator FDIC.

When a conflict occurs, the report listing created when the function is started is updated. See Logging Coordinator Functions.

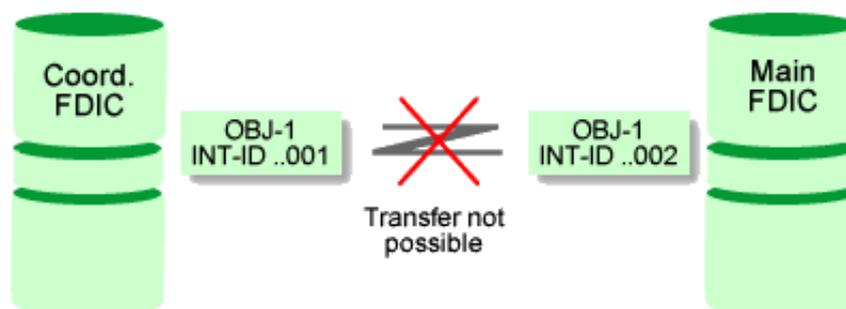
The possible conflicts and their solutions are described in the following sections.

Note:

If you remove the conflicting object from the extract containing the list of objects to be transferred, this will enable you to continue the data transfer. It is not, however, a solution we recommend.

Conflict 1 - Renaming Problem

Main FDIC contains an object with the same object ID but with different Internal ID, and no other object with this Internal ID exists on the Coordinator FDIC:

**Solution**

There are two ways to resolve this conflict, depending on the desired result.

Solution 1

Consolidate the Internal IDs of objects of the same name (see Consolidating Internal IDs in Batch Mode).

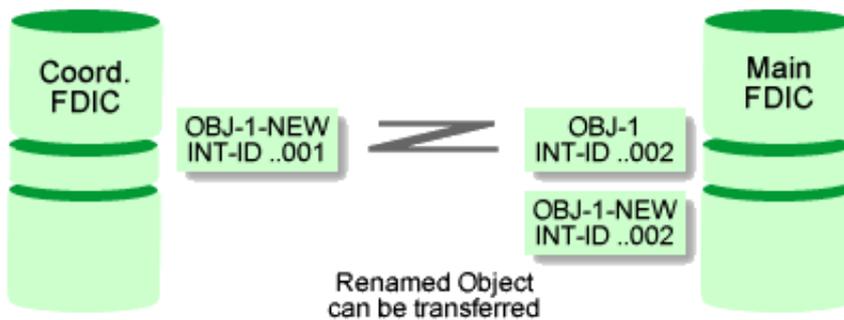
Note:

Choose this solution only if both objects with the same name and different Internal IDs have the same business meaning.

1. Execute command CLEAR to cancel the load operation with which the conflict occurred.
2. Unload the object that caused the conflict once again with its Internal ID (function Unload with parameter Data type=I from the Coordinator main menu).
3. Execute the function Load Internal ID to consolidate the Internal IDs. As a result, all objects of the same name will have the same Internal ID.
4. Reexecute the load operation you cancelled in step 1.

Solution 2

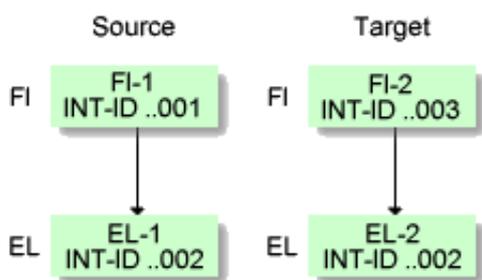
Rename OBJ-1 on the Coordinator FDIC:



Conflict 2 - Inconsistencies with Files

This conflict can only occur if you used the Special Function Maintain Standard Fields > Move field to another standard file to assign a standard field to another standard file. See Maintain Standard Fields in Chapter **Special Functions** in the **Predict Administration Documentation**.

In the example below, the target environment contains a field with the same Internal ID as the object to be loaded, but the corresponding file has a different Internal ID to the file in the source environment.

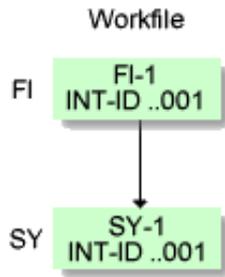


This conflict is resolved automatically:

The field in the source environment (Coordinator FDIC) is given another Internal ID. This is logged in the report listing (see Logging Coordinator Functions) so that the relationship can be restored at a later time with the Special Function Maintain standard fields > Reassign standard relationships.

Conflict 3

The data to be loaded contains different objects with the same Internal ID as shown in the example below. This conflict can only occur if there are errors in the ALF or Migrate file you created.

**Solution**

Correct your ALF or Migrate file, or delete one of the conflicting objects in the Coordinator FDIC.

Security

Coordinator Functions under Predict Security

When data is transferred to or from another FDIC, the data is checked against the corresponding security definitions in Natural Security (NSC). The database and file number of the Natural Security file are specified with parameters General Defaults > Protection > DBnr/Fnr of NSC file.

The following rules apply:

- For functions Unload and Export, security checks are performed against the NSC file of the **source** FDIC.
- For functions Load, Import and Test, security checks are performed against the NSC file of the **target** FDIC.
- Source and target FDICs do not necessarily have to have the same NSC file.

Functions Unload and Export

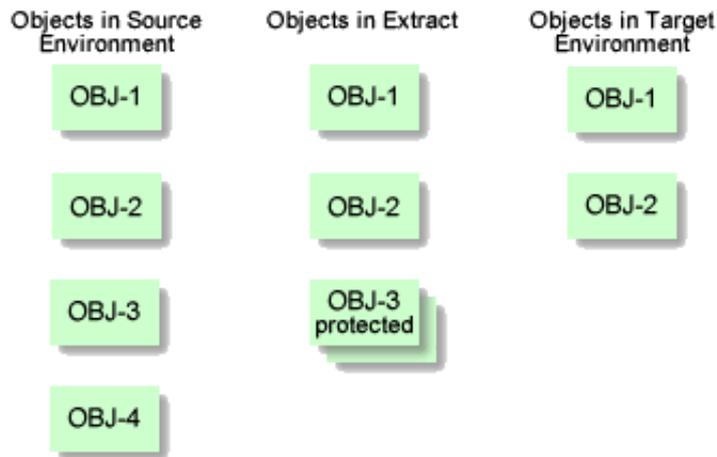
For functions Unload and Export you need the following access:

- at least READ access to an object. Objects for which you do not have READ access will not be unloaded / exported.
- READ access to the extract(s) containing the objects to be transferred.
- EXECUTE permission to the function CO-EXPORT in Natural Security.

Unloading IMS Data

You must have at least READ access to all objects within the IMS structure, and all objects must be present in the transfer set (not necessarily in the same extract). If one of the objects is missing or if you do not have sufficient access to one or more objects in the structure, all IMS objects are skipped, and the function continues without these objects. The report listing is updated accordingly.

Security Checks for Functions Unload and Export



Objects in Extract

OBJ-4 is not included in the extract because of insufficient access rights and will not be exported/unloaded (for example, when function Build Extract is used with restrictions).

However, depending on the retrieval function used to create the extract, the extract may contain objects to which the user does not have READ access (OBJ-3 in this example). These objects will not be exported/unloaded either.

It is also possible that the current user does not have READ access to objects in the extract because it was created by another user with different access rights.

Objects in Target Environment

When the Unload or Export function is executed, Predict Security checks the objects in the extract against Natural Security authorizations in the source environment. If the user does not have at least READ access to an object, the object is not exported/unloaded and the rejected object is logged to a report listing.

Functions Load and Import

For functions Load and Import you need

- ADD access in the target environment if new objects are loaded/imported.
- MODIFY access in the target environment if existing objects are to be overwritten.
- EXECUTE permission to the function CO-IMPORT in Natural Security.

If objects fail the security check because the user does not have sufficient access, the Load/Import function stops, and the objects must either be removed from the set of objects to be transferred or the appropriate permission must be granted in the target environment.

Function Test

No data is transferred with this function, but the same access rights are required as for functions Load and Import, and the same checks are performed. If objects fail the security check because the user does not have sufficient access, the Test function stops.

Function Purge Transfer Data

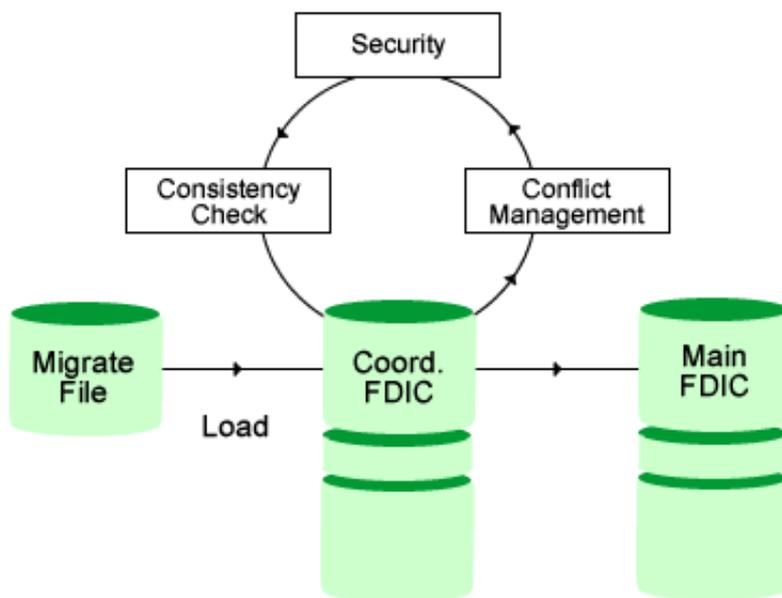
No special security checks are performed for function Purge Transfer Data.

Protecting Coordinator Functions

Coordinator functions are protected using Authorizations for the following functions in Natural Security:

NSC Function	Coordinator Functions
CO-IMPORT	Load, Import and Test
CO-EXPORT	Unload and Export

Consistency Check



The Consistency Check is the third phase of the Coordinator Check Cycle. Objects to be transferred are checked for logical consistency, for example that a file number only occurs once within a database. The same checks are performed as in Maintenance functions.

When they are created, all logically inconsistent objects are written to the report listing which logs the function, and extract #SAG-ERROR is added or modified.

You must resolve logical inconsistencies on the Main or Coordinator FDIC before you can continue the data transfer.

If you delete objects in the Coordinator FDIC to resolve the inconsistencies, the extract #SAG-TRANSFER is updated accordingly.

Migrate Functions

This section covers the following topics:

- Unload
- Load
- Overview of Command Keywords
- Restricted Functionality on Coordinator FDIC
- Test
- Purge Data on Transfer Medium
- Information on Transfer Medium

Unload

The **online** Unload function is used to unload data from an FDIC in Migrate format. The scope of this function is determined by one or more extracts. It is not possible to specify individual objects.

Using **commands** you can also write individual objects to the Coordinator FDIC in Migrate format.

This section covers the following topics:

- Calling the Online Function
- Unloading Objects
- Unload Options
- Unloading Objects with Commands
- Unloading Metadata
- Unloading Retrieval Models
- Unloading XRef Data
- Unloading Extracts in Batch Mode
- Sample Unload Command
- Unloading Internal IDs

Calling the Online Function

Call the function by entering code U in the Coordinator Main Menu.

```

09:22:34          ***** P R E D I C T  4.3.1  *****          2003-05-31
                   - Unload Extracts -

      Extract ID *                No.      Extract ID *                No.
      1                    6
      2                    7
      3                    8
      4                    9
      5                   10

Unload options                                Build set for unloading                                No.
With code .....* N                          Metadata ..... N (Y/N)
With profile ..... N (Y/N)                   Retrieval models ..... N (Y/N)
With internal ID ..... Y (Y/N)               XRef data ..... N (Y/N)
Include Extracts ..... N (Y/N)
Target environment .....* 43
Create Report listing ... Y (Y/N)

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      -      -      Stop  -      -      Flip Print  -      -      -      -
    
```

Parameters	
Extract ID	Up to ten extracts can be specified. You can enter an asterisk to select an extract from a list. The No. column displays the number of objects contained in the extract.
Unload options	These are described in detail below.
Build set for unloading	<p>The following types of data can be unloaded without using extracts. The column No. on the right indicates the number of metadata object types, retrieval models and XRef data members which will be unloaded.</p> <ul style="list-style-type: none"> ● Metadata <ul style="list-style-type: none"> ○ Y An additional screen appears in which you can specify the metadata to be unloaded. See Unloading Metadata. ● Retrieval models <ul style="list-style-type: none"> ○ Y An additional screen appears in which you can specify the retrieval models to be unloaded. See Unloading Retrieval Models. ● XRef data <ul style="list-style-type: none"> ○ Y An additional screen appears in which you can specify the XRef data to be unloaded. See Unloading XRef Data.

Unloading Objects

General Information

There are two methods of unloading Predict objects:

- Using **extracts**. Using the menu functions, you can only unload objects that are contained in an extract. Up to ten extracts can be specified for one unload operation. For more information see the section Extract in the **Predefined Object Types in Predict documentation**.
- Using **unload commands**. In the command line you can also specify individual objects or ranges of objects. The scope of the function can be limited by parameters. See Overview of Command Keywords.

Unload Options

With Code

Applies to the following Predict-owned external objects connected to Predict file objects:

- DDMs
- Copy code members
- Card formats such as ADAWAN, ADACMP.

If this parameter is set to Y, the connected external objects will be unloaded together with the file object only if the file has not been modified since generation.

If this parameter is set to M, the connected external objects will be unloaded even if the file object has been modified after generation.

With Profile

Applies to objects of type user: If this parameter is set to Y, Predict and LIST XREF profiles are unloaded, too.

With Internal ID

Determines whether objects are unloaded with or without Internal ID. See Internal ID.

If this parameter is set to Y, an object is unloaded **with** its internal ID. An object with the same internal ID is added in the target environment. The object remains coupled with the object in the source environment by means of this internal ID.

If this parameter is set to N, an object is unloaded **without** its internal ID. An object with a new internal ID is added in the target environment. The object is no longer coupled with the object in the source environment.

Include Extracts

If this parameter is set to Y, the extract(s) used for the Unload function will also be unloaded.

Target Environment

Data can be unloaded to the following environments:

- **42** Predict 4.2 Data is unloaded in Migrate 4.2 format.
- **43** Predict 4.2 Data is unloaded in Migrate 4.3 format.

Create Report Listing

If this parameter is set to Y (default), a report listing of type UNL is created on the Main FDIC.

Unloading Objects with Commands

With Unload commands you can unload objects of different types selectively. The command used depends on the object type.

- all object types
- object type *database, dataspace, file*
- object type *interface*
- object type *keyword, method, property, server, trigger, user-defined*
- object type *network, storagespace, virtual machine*
- object type *packagelist, program, system*
- object type *file relation*
- object type *user*
- object type *verification*

Specifying the Object Type

The following rules apply when an object type is required for a migrate command:

Specify the object type as two-character code or long name of a Predict object type (predefined or user-defined).

For example:

UNLOAD OBJECTTYPE PR or
UNLOAD OBJECTTYPE PROGRAM

will unload objects of type program.

Unloading All Object Types

Enter command

UNLOAD OBJECTTYPE ALL <parameters>

Unloads Predict objects of all object types to transfer medium.

Keyword	Field	Position
FROM-DATE	From date	1
KEY	With keyword	2
OWNER	With owner ID	3
CODE	With code/profile	4
INTERNAL-ID	With internal ID	5
TARGET	Target environment	6
CREATE-RT	Create Report Listing	7

Unloading Databases, Dataspaces, Files

Enter command

UNLOAD OBJECTTYPE <object type><parameters>

Keyword	Field	Position
ID	Object ID	1
TYPE	Object of type	2
FROM-DATE	From date	3
KEY	With keyword	4
OWNER	With owner ID	5
ALL	All option	6
CODE	With code	7
INTERNAL-ID	With internal ID	8
TARGET	Target environment	9
CREATE-RT	Create Report Listing	10

Unloading Keywords, Methods, Nodes, Properties, Servers, Triggers, User-Defined Object Types

Enter command

UNLOAD OBJECTTYPE <object type><parameters>

Keyword	Field	Position
ID	Object ID	1
FROM-DATE	From date	2
KEY	With keyword	3
OWNER	With owner ID	4
INTERNAL-ID	With internal ID	5
TARGET	Target environment	6
CREATE-RT	Create Report Listing	7

Unloading Interfaces, Library Structures

Enter command

UNLOAD OBJECTTYPE IE <object type><parameters>

Keyword	Field	Position
ID	Object ID	1
FROM-DATE	From date	2
KEY	With keyword	3
OWNER	With owner ID	4
ALL	All option	5
INTERNAL-ID	With internal ID	6
TARGET	Target environment	7
CREATE-RT	Create Report Listing	8

Unloading Networks, Storagespaces, Virtual Machines

Enter command

UNLOAD OBJECTTYPE <object type><parameters>

Keyword	Field	Position
ID	Object ID	1
FROM-DATE	From date	2
KEY	With keyword	3
OWNER	With owner ID	4
ALL	All option	5
CODE	With code	6
INTERNAL-ID	With internal ID	7
TARGET	Target environment	8
CREATE-RT	Create Report Listing	9

Unloading Packagelists, Programs, Systems

Enter command

UNLOAD OBJECTTYPE <object type><parameters>

Keyword	Field	Position
ID	Object ID	1
TYPE	Object of type	2
FROM-DATE	From date	3
KEY	With keyword	4
OWNER	With owner ID	5
ALL	All option	6
INTERNAL-ID	With internal ID	7
TARGET	Target environment	8
CREATE-RT	Create Report Listing	9

Unloading File Relations

Enter command

UNLOAD OBJECTTYPE RL <parameters>

Keyword	Field	Position
ID	File relation ID	1
TYPE	File relation of type	2
FROM-DATE	From date	3
KEY	With keyword	4
OWNER	With owner ID	5
INTERNAL-ID	With internal ID	6
TARGET	Target environment	7
CREATE-RT	Create Report Listing	8

Unloading Users

Enter command

UNLOAD OBJECTTYPE US <parameters>

Keyword	Field	Position
ID	User ID	1
FROM-DATE	From date	2
KEY	With keyword	3
OWNER	With owner ID	4
PROFILE	With profile	5
INTERNAL-ID	With internal ID	6
TARGET	Target environment	7
CREATE-RT	Create Report Listing	8

Unloading Verifications

Enter command

UNLOAD OBJECTTYPE VE <parameters>

Keyword	Field	Position
ID	Verification ID	1
STATUS	Verification of status	2
FROM-DATE	From date	3
KEY	With keyword	4
OWNER	With owner ID	5
CODE	With code	6
INTERNAL-ID	With internal ID	7
TARGET	Target environment	8
CREATE-RT	Create Report Listing	9

Unloading Metadata

Calling the Online Function

Enter function code U and data type M in the Coordinator main menu, or enter Y for parameter Metadata in the Unload Extracts screen. The following screen appears.

```

13:13:29          ***** P R E D I C T 4.3.1 *****          2003-05-31
                   - Build set for METADATA -

Object type .....*

Unload options
From date ..... 0000-00-00 00:00 (YYYY-MM-DD HH:II)
    
```

Object type

Leave this field blank to unload metadata for all object types, or enter an object type code to unload metadata for a specific object type.

To specify metadata for several object types, the additional screen must be called up repeatedly.

From date

If you specify a date in this field, only metadata created on or after the date specified will be unloaded.

Command

UNLOAD METADATA <object type><parameters>

Object Type	Code	Keyword	Field	Position
any object type	any code	FROM-DATE	From date	1
ALL	blank	INTERNAL-ID	With internal ID	2
		TARGET	Target environment	3
		CREATE-RT	Create Report Listing	4

Unloading Retrieval Models

Calling the Function

Enter function code U and data type R in the Coordinator main menu, or enter Y for parameter Retrieval models in the Unload Extracts screen. The following screen appears:

```

13:06:56          ***** P R E D I C T 4.3.1 *****          2003-05-31
                   - Build set for RETRIEVAL MODEL -

Object type .....*
Retrieval model .....

Unload options
  From date ..... 0000-00-00 00:00 (YYYY-MM-DD HH:II)
    
```

Object type

Leave this field blank to unload retrieval models for all object types, or enter an object type code to unload retrieval models for a specific object type.

To specify retrieval models for several object types, the additional screen must be called up repeatedly.

Retrieval model

If an object type is specified, a retrieval model ID can be entered to limit the scope of the function. The ID can be either unique or with asterisk notation.

From date

If you specify a date in this field, only retrieval created on or after the date specified will be unloaded.

Unloading Retrieval Models in Batch Mode

To unload retrieval models of a **specific type** from the transfer medium, enter command:

UNLOAD RETRIEVALMODEL <object type><parameters>

where <object type> is any Predict object type (predefined or user-defined). See Specifying the Object Type

Keyword	Field	Position
ID	Retrieval model	1
FROM-DATE	From date	2
INTERNAL-ID	With internal ID	3
TARGET	Target environment	4
CREATE-RT	Create Report Listing	5

To unload retrieval models of **all object types** from the transfer medium, enter command:

UNLOAD RETRIEVALMODEL ALL<parameters>

Keyword	Field	Position
FROM-DATE	From date	1
INTERNAL-ID	With internal ID	2
TARGET	Target environment	3
CREATE-RT	Create Report Listing	4

Unloading XRef Data

Natural XRef data is normally loaded and unloaded with Natural utilities. If, however, you wish to unload XRef data from one FDIC file to another, the Unload function can be used.

Calling the Function

Enter function code U, data type O and object code XR in the Coordinator main menu, or enter Y for parameter XRef data in the Unload Extracts screen. The following screen appears.

```

13:27:32          ***** P R E D I C T 4.3.1 *****          2003-05-31
                    - Build set for XREF -

Member .....
Library .....
User system Fnr ..... (0-5000)
User system DBnr ..... (0-65535)

Unload options
From catalog date ..... 0000-00-00 00:00 (YYYY-MM-DD HH:II)
    
```

Member

External program on user system file.

Library

Library containing the external program.

User system Fnr

Number of user system file.

User system DBnr

Database containing the user system file.

From catalog date

If you specify a date in this field, only XRef data created on or after the date specified will be unloaded.

Unloading XRef Data in Batch Mode

To unload XRef data from the transfer medium, enter command

UNLOAD OBJECTTYPE XR <parameters>

Keyword	Field	Position
MEM	Member	1
LIB	Library	2
FNR	User system Fnr	3
DBNR	User system DBnr	4
FROM-DATE	From catalog date	5
TARGET	Target environment	6
CREATE-RT	Create Report Listing	7

Unloading Extracts in Batch Mode

The workfile can be defined with Command SET. The default workfile is workfile 1.

See the sample unload command.

Command: UNLOAD EXTRACT <parameters>

This command unloads up to 10 extracts in migrate format. At least one extract must be specified; all parameters are optional.

Keyword	Field	Position
EXTRACT1	No. 1 Extract ID	1
EXTRACT2	No. 2 Extract ID	2
EXTRACT3	No. 3 Extract ID	3
EXTRACT4	No. 4 Extract ID	4
EXTRACT5	No. 5 Extract ID	5
EXTRACT6	No. 6 Extract ID	6
EXTRACT7	No. 7 Extract ID	7
EXTRACT8	No. 8 Extract ID	8
EXTRACT9	No. 9 Extract ID	9
EXTRACT10	No. 10 Extract ID	10
CODE	With code	11
PROFILE	With profile	12
WITH-ET	Include Extracts	13
INTERNAL-ID	With internal ID	14
TARGET	Target environment	15
CREATE-RT	Create Report Listing	16

Sample Unload Command

Enter the following command to unload

- all metadata created since January 1, 1997
- retrieval model AL for object types program and system
- XRef data for file number 99 on database 123
- objects contained in Extracts EXT-1 and EXT-2, together with
 - any Predict-owned external objects connected to Files contained in the Extracts
 - the Predict and LIST XREF profiles of any Users contained in the Extracts

```
UNLOAD METADATA ALL, FROM-DATE=2003-05-31_00:00
UNLOAD RETRIEVALMODEL PR, ID=AL
UNLOAD RETRIEVALMODEL SY, ID=AL
UNLOAD OBJECTTYPE XR, FNR=99, DBNR=123
UNLOAD EXTRACT EXTRACT1=EXT-1, EXTRACT2=EXT-2, CODE=Y, PROFILE=Y
```

See also section Data Transfer Examples in this documentation.

Unloading Internal IDs

If you are working with more than one FDIC file, it is strongly recommended that you consolidate the Internal IDs of the objects at your site. After you have unloaded the objects you wish to consolidate, execute the function Load Internal ID as described on Importing Internal IDs.

You can **unload** the Internal IDs of all objects or any subset of objects. However, it is not possible to **load** selectively. All objects on the transfer medium are loaded with their internal IDs.

See also Consolidating Internal IDs in Batch Mode.

Calling the Online Function

Enter code U and object type I in the Coordinator main menu.

Only parameters Extract ID, Include Extracts and Target environment are applicable.

Unloading Internal IDs in Batch Mode

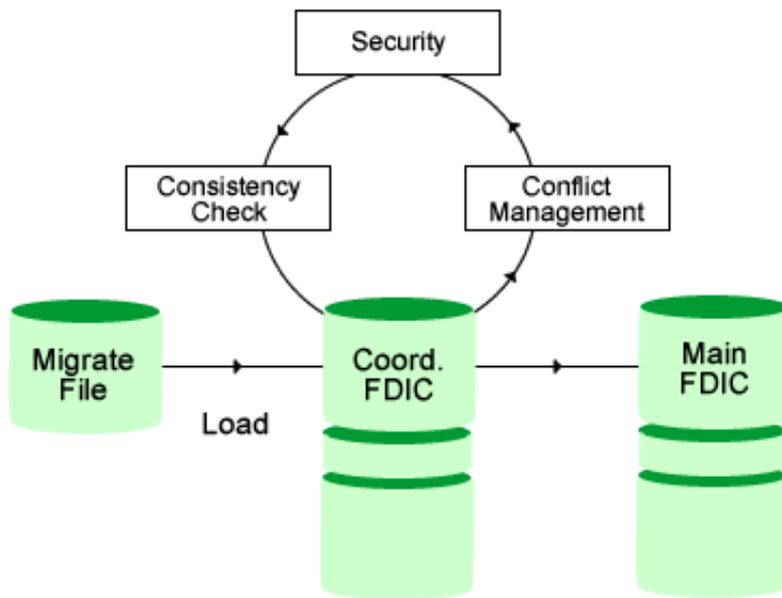
Internal IDs can be unloaded with the command UNLINTERNAL in library SYSDICBE. See Sample Batch Command.

Load

This function loads Migrate data from the Coordinator FDIC. The following types of data can be loaded:

- Predict objects
- XRef data
- Metadata
- Retrieval models

Data to be loaded must pass through all three phases of the Coordinator Check Cycle. See the section Coordinator Check Cycle in this documentation.



This section covers the following topics:

- Calling the Function
- Load Options
- Loading Predict Objects
- Loading Metadata
- Loading Retrieval Models
- Loading Internal IDs

Calling the Function

The Load Migrate function is called with function code L from the Coordinator Menu or with a LOAD command depending on the object type.

The objects to be loaded must meet the following selection criteria before they can pass the Coordinator Check Cycle:

Data type	Type of data to be loaded: <ul style="list-style-type: none"> ● O Objects. See Loading Predict Objects. ● M Metadata. See Loading Metadata. ● R Retrieval models. See Loading Retrieval Models. ● I Internal IDs. See Loading Internal IDs.
Object type	Enter a predefined or user-defined object type or blank to load all object types.
from date	Only objects added/modified on or after this date will be loaded.

If an Object Type is specified as a selection criterion, you can specify the following additional criteria:

Object ID	Enter an internal object ID or use asterisk notation to limit the function to a range of objects.
Object of type	A subtype can be specified for some object types. For example, a Load function can be limited to databases of type Adabas.

Additional selection criteria are contained in the Load screen:

```

13:03:47          ***** P R E D I C T  4.3.1  *****          2003-05-31
                    - Load All objects -

Terminate, Help .....

Load options

From date ..... 0000-00-00 00:00 (YYYY-MM-DD HH:II)
Prefix .....
Suffix .....
With code .....* Y
With profile ..... N (Y/N)
Load Adabas file attributes * A
Replace ..... N (Y/N)
Create Report listing ..... Y (Y/N)
    
```

Load Options

From date

Data created/modified on or after this date will be loaded.

Prefix, Suffix

Up to 20 characters to be added as prefix/suffix to the object ID of each object loaded (if applicable).

The following rules apply when loading objects with prefix/suffix:

- When an object is loaded, all checks are performed against the **composite ID**.
For example, if object TEST is loaded and parameters Prefix and Suffix are set to "OLD-" and "-32" respectively, checks are performed in the Main FDIC against an object OLD-TEST-32.
- The following objects do not obtain a prefix/suffix:
 - Objects of types Field and User

- Owners
- the following files:
 - SAG-ADA-CHECKPOINT
 - SAG-ADA-CONF
 - SAG-ADA-DIST
 - SAG-ADA-LOG
 - SAG-ADA-SECURITY
 - SAG-DISTINCT-TYPE
 - SAG-DT
- If a composite object ID (prefix + ID + suffix) exceeds 32 characters, the object is loaded without prefix/suffix and a message is written to the report listing.

Note:

Checks against rules defined for the object type in Metadata Administration (length, illegal characters) are performed in the Consistency Check phase of the Coordinator Check Cycle.

- Child objects always obtain a prefix/suffix. Exceptions to this rule are listed above.
- A new internal ID is assigned if objects are loaded with prefix/suffix.

With Code

Only applicable for object type File or All and the following Predict-owned external objects connected to Predict file objects:

- DDMs
- Copy code members
- Card formats such as ADAWAN, ADACMP.

If this parameter is set to Y, the connected external objects will be loaded together with the file object.

With Profile

Applies to user objects. If this parameter is set to Y, Predict and LIST XREF profiles are also loaded.

Load Adabas file attributes

Only applicable for object type File or All. The following data will be loaded additionally:

N

Neither physical Adabas attributes nor Vista information.

A

Physical Adabas attributes.

S

Physical Adabas attributes and Vista information.

Replace

The system behavior depends on whether the objects in the Migrate file have an internal ID or not.

Note:

For functions Load and Test, this parameter is also handled like a selection criterion.

If this parameter is set to N and an object with the same internal ID or object ID exists in the target environment, the object is rejected and the transfer operation continues.

Two factors determine whether an object is replaced during a load operation:

- the load parameter Replace and
- whether the object has an internal ID.

Replacing Objects with Internal ID

This is the default for data unloaded from a 3.4, 4.1 , 4.2 or 4.3 environment (the Unload parameter with internal ID is set to Y as standard).

- If Replace is set to Y, an existing Predict object with the same **internal ID** is replaced during load - even if the object ID is different.
- If Replace is set to N, an object with the same **internal ID** in the target environment is not overwritten. This is the default value.

Replacing Objects without Internal ID

Objects without an internal ID can occur in the following instances:

- data was exported/unloaded from a 3.4 or above environment with parameter With internal ID set to N.

Create Report Listing

If this parameter is set to Y (default), a report listing of type LOA is created on the Coordinator FDIC. It is moved to the Main FDIC together with the data to be loaded.

Loading Predict Objects

With Load commands you can load objects of different types selectively. The command used depends on the object type.

An overview of the keywords is given in the section Overview of Command Keywords.

Loading All Object Types

Enter command

LOAD OBJECTTYPE ALL <parameters>

Loads Predict objects from transfer medium.

Keyword	Field	Position
FROM-DATE	From date	1
PREFIX	Prefix	2
SUFFIX	Suffix	3
CODE	With code/profile	4
PROFILE	With profile	5
ADA	Load Adabas file attributes	6
REPLACE	Replace	7
CREATE-RT	Create report listing	8

Loading Databases, Dataspaces, Packagelists, Relationships, Programs, Systems

Enter command

LOAD OBJECTTYPE <object type> <parameters>

Keyword	Field	Position
ID	Object ID	1
TYPE	Object of type	2
FROM-DATE	From date	3
PREFIX	Prefix	4
SUFFIX	Suffix	5
REPLACE	Replace	6
CREATE-RT	Create report listing	7

Loading Files

Enter command

LOAD OBJECTTYPE FI <parameters>

Keyword	Field	Position
ID	File ID	1
TYPE	File of type	2
FROM-DATE	From date	3
PREFIX	Prefix	4
SUFFIX	Suffix	5
CODE	With code	6
ADA	Load Adabas file attributes	7
REPLACE	Replace	8
CREATE-RT	Create report listing	9

Loading Interfaces, Keywords, Methods, Networks, Properties, Storagespaces, Triggers, Virtual Machines and User-Defined Object Types

Enter command

LOAD OBJECTTYPE <object type> <parameters>

Keyword	Field	Position
ID	Object ID	1
FROM-DATE	From date	2
PREFIX	Prefix	3
SUFFIX	Suffix	4
REPLACE	Replace	5
CREATE-RT	Create report listing	6

Loading Users

Enter command

LOAD OBJECTTYPE US <parameters>

Keyword	Field	Position
ID	User ID	1
FROM-DATE	From date	2
PREFIX	Prefix	3
SUFFIX	Suffix	4
PROFILE	With profile	5
REPLACE	Replace	6
CREATE-RT	Create report listing	7

Loading Verifications

Enter command

LOAD OBJECTTYPE VE <parameters>

Keyword	Field	Position
ID	Verification ID	1
STATUS	Verification of status	2
FROM-DATE	From date	3
PREFIX	Prefix	4
SUFFIX	Suffix	5
CODE	With code	6
REPLACE	Replace	7
CREATE-RT	Create report listing	8

Loading XRef Data

Enter command

LOAD OBJECTTYPE XR <parameters>

Keyword	Field	Position
MEM	Member	1
LIB	Library	2
FNR	User system Fnr	3
DBNR	User system DBnr	4
FROM-DATE	From catalog date	5
REPLACE	Replace	6
CREATE-RT	Create report listing	7

Loading Metadata

Loads metadata from a Migrate file.

- To load metadata of a **specific type**, enter command

LOAD METADATA <object type><parameters>

where <object type> is any Predict object type (predefined or user-defined). See Unloading Objects with Commands.

- To load metadata of **all object types**, enter command

LOAD METADATA ALL<parameters>

Keyword	Field	Position
FROM-DATE	From date	1
REPLACE	Replace	2
CREATE-RT	Create report listing	3

Loading Retrieval Models

Loads retrieval models from a Migrate file.

- To load retrieval models of a **specific type**, enter command

LOAD RETRIEVALMODEL <object type><parameters>

where <object type> is any Predict object type (predefined or user-defined). See Unloading Objects with Commands.

Keyword	Field	Position
ID	Retrieval model	1
FROM-DATE	From date	2
REPLACE	Replace	3
CREATE-RT	Create Report Listing	4

- To load retrieval models of **all object types**, enter command

LOAD RETRIEVALMODEL ALL<parameters>

Keyword	Field	Position
FROM-DATE	From date	1
REPLACE	Replace	2
CREATE-RT	Create Report Listing	3

A retrieval model can be loaded only if the parent object, all child objects and links to these objects exist.

Loading Internal IDs

This function is used to consolidate Internal IDs if you have your Predict data in separate FDIC files (see Consolidating Internal IDs in Batch Mode). Before you execute this load function, you must first unload objects with their Internal IDs.

Note:

It is not possible to load selectively: all objects on the transfer medium are loaded with their Internal IDs.

Calling the Function

Enter function code L and data type L in the Coordinator main menu. In batch mode, the function is called with the following command in library SYSDICBE:

LOAD INTERNAL-ID ALL UPDATE=Y

```

13:57:04          ***** P R E D I C T 4.3.1 *****                2003-05-31
                    - Load Internal ID -

Terminate, Help .....

Load options
With update ..... N (Y/N)
Create Report listing ..... Y (N/Y)
    
```

Parameters	
Load options	
With update	<ul style="list-style-type: none">● Y All objects on transfer medium are loaded together with their Internal IDs.● N Objects that would be transferred are listed.
Create Report listing	<ul style="list-style-type: none">● Y A report listing of type LOA is created. Default.

Overview of Command Keywords

The list contains all keywords for migration commands in alphabetical order. Keywords cannot be truncated.

Command Keywords	
ADA	<p>Applies to objects of type file and blank (all objects). Determines whether the physical Adabas attributes and the Vista elements are loaded too:</p> <ul style="list-style-type: none"> ● N Neither Adabas attributes nor Vista elements are loaded, but if an Adabas file linked to an Adabas database is loaded, default attribute values are loaded. ● A The physical Adabas attributes only are loaded. ● S The physical Adabas attributes and the Vista elements are loaded.
ALL	<ul style="list-style-type: none"> ● Y Associated lower-level objects are unloaded. ● N Associated lower-level objects will not be unloaded. Default. ● U When unloading file objects: associated userviews will be unloaded, but verifications will not. ● R When unloading packagelist objects: related packagelists only are unloaded (subcollections of a total collection). <p>Note: File descriptions will always be unloaded together with their field descriptions.</p> <p>Lower-level objects are described in the diagram in the section Introduction of this documentation.</p>
CODE	<p>Applies to the following Predict-owned external objects connected to Predict file objects:</p> <ul style="list-style-type: none"> ● DDMs ● Copy code members ● Card formats such as ADAWAN, ADACMP. ● Y The connected external objects will be unloaded together with the file object only if the file has not been modified since generation. ● M The connected external objects will be unloaded even if the file object has been modified since generation.
CREATE-RT	<p>Y A report listing is created.</p>
DBNR	For object type XR. Database number of user system file.
FDIC-CIPHER	Cipher of FDIC file, if required.
FDIC-DBNR	Database number of FDIC file.

FDIC-FNR	Number of FDIC file.
FDIC-PASSWORD	Password of FDIC file, if required.
FNR	For object type XR. File number of user system file.
FROM-DATE	<p>A selection criterion for loading/unloading objects</p> <ul style="list-style-type: none"> ● for object type XREF: unload XREF data younger or equal FROM-DATE ● for all other object types: load/unload data which was added/modified at or after FROM-DATE. <p>Format: YYYY-MM-DD-HH:II.</p>
ID	ID of object to be loaded/unloaded.
KEY	A keyword given as selection criterion when unloading objects.
LIBRARY	For object type XR. Library containing external program.
MEDIUM-DBNR	Identifies the database number of the transfer medium file. Used for commands PURGE and SET.
MEDIUM-CIPHER	Cipher of the file used as transfer medium (if required).
MEDIUM-DBNR	Identifies the database number of the transfer medium. Used for commands PURGE and SET.
MEDIUM-FNR	Number of the file used as transfer medium.
MEDIUM-PASSWORD	Password of the file used as transfer medium (if required).
MEDIUM-TYPE	Transfer medium type. See Overview of Parameters in the section Coordinator Main Menu for further information. Used for SET command.
MEDIUM-ID	Up to 8 characters to identify one transfer operation created with a sequence of unload commands. See Overview of Parameters in the section Coordinator Main Menu for further information.
MEMBER	For object type XR. External program on user system file.
OWNER	An owner ID given as selection criterion for unloading objects.
PREFIX	A prefix of up to 20 characters to be added to the object ID of each object loaded. If a resulting object ID is longer than 32 characters, it is truncated and a warning is given.
PROFILE	<p>For object type User.</p> <ul style="list-style-type: none"> ● Y The Predict profile and LIST XREF profile of the user(s) selected will also be loaded/unloaded.
REPLACE	<ul style="list-style-type: none"> ● Y Existing Predict object with same ID is replaced during loading ● N Object will not be overwritten. Default.

STATUS	<p>Restricts a Load or Unload operation to verifications of the specified type. Valid values:</p> <ul style="list-style-type: none"> ● A automatic ● C conceptual ● D documented ● F free ● N Natural Construct ● S SQL ● blank all.
SUFFIX	<p>A suffix of up to 20 characters to be added to the object ID of each object loaded. If a resulting object ID is longer than permitted, it is truncated and a warning is given.</p>
TARGET	<p>Specifies the data format when transferring data with an Export or Unload operation. Valid values:</p> <p>Export:</p> <ul style="list-style-type: none"> ● S Natural Lightstorm 3 and Predict Case 2.5 ● S2 Natural Lightstorm 3.2 <p>Unload:</p> <ul style="list-style-type: none"> ● 41 Predict 4.1 format ● 42 Predict 4.2 format
TYPE	<p>The type of object used as selection criterion for loading/unloading objects.</p>

Restricted Functionality on Coordinator FDIC

The only functional groups available on the Coordinator FDIC are Maintenance and Retrieval.

You can switch from the Main FDIC to the Coordinator FDIC using the command COORDINATOR in SYSDIC and switch back with the command BACK.

This section contains:

- Maintenance
 - Retrieval
-

Maintenance

The following functions are available on the Coordinator FDIC:

- Display
- Edit description
- Edit owner, whereby
 - if parameter Edit owner is set to Force, it does not matter whether the Owner is on the Main or Coordinator FDIC.
- Edit procedure code of a program
- Link FI EL
- Modify, whereby the following restrictions apply:
 - the default passive association cannot be modified
 - if asterisk notation is used to select objects, only objects on Coordinator FDIC are displayed
 - if asterisk notation is used to select Keywords, only Keywords on Coordinator FDIC are displayed, but Keywords from the Main FDIC are also valid.
- Purge
- Purge option of function Modify Adabas attributes.
- Rename: only the object ID can be modified.
- Select

All other maintenance functions are not available on the Coordinator FDIC.

Retrieval

The following restriction applies:

Attributes of objects on the Main FDIC will not be displayed. For example: If you execute the function Systems with children with child type Program and Systems have already been transferred to the Coordinator FDIC but Programs are on the Main FDIC, only the IDs of the child objects will be displayed but no attributes.

Test

The function Test Migrate is identical to the Load function except that no data is transferred from the Coordinator to **Main** FDIC.

Calling the Function

Enter code T in the Coordinator Menu or enter command TEST. The parameters are the same as for command LOAD.

Purge Data on Transfer Medium

The function Purge Data on Transfer Medium deletes the entire contents of the transfer medium.

Calling the Function

Enter code T in the Coordinator Menu or enter command PURGE.

The Purge data on transfer medium function is called with code D in the Coordinator Menu.

Parameters Required for the Function

- Medium type must be D (database file).
- DBnr and Fnr must be specified.
- If the database is protected by password and cipher, these must be entered, too.
- Transfer medium ID must be specified. Enter an asterisk in field Identification to select a transfer medium ID for the specified database and file number.

Keyword	Field	Position	Remarks
MEDIUM-ID	Identification	1	These parameters are obligatory.
MEDIUM-DBNR	DBnr	2	
MEDIUM-FNR	Fnr	3	
MEDIUM-PASSWORD	Password	4	These parameters are only required if the Coordinator FDIC is protected by password and cipher.
MEDIUM-CIPHER	Cipher	5	

Information on Transfer Medium

This function provides information on the data contained on the Migrate Transfer Medium.

This section covers the following topics:

- Calling the Function
- Command CHECK
- Command CLEAR
- Command CONTINUE
- Command SET

Calling the Function

Enter function code B in the Coordinator Main Menu. Parameter Medium type must be D, and a valid transfer medium ID must be specified. Enter an asterisk in field Identification to display a list of transfer medium IDs for selection.

A screen similar to the one below is displayed.

```

13:13:57      +----- Information on Migrate transfer medium -----+      2003-05-31
                !
Migrate Func !   Transfer medium ID ..... EMPLOY                               !
                !
U  Unload Mi !   Transfer medium creation information:                          !
L  Load Migr !   Date .. 2003-05-31   Terminal-Id .. DAEDC627           !
T  Test Migr !   Time .. 13:13:57    Op-System .... MVS/ESA             !
D  Purge Mig !   User .. SMR          Tp-System .... COMPLETE          !
B  Info on M !   System files used for unloading:                          !
                !   FNAT= (00180/00102)                                  !
Function ... !   FDIC= (00180/00200) (PRD version 4.3 )                  ! ..*
                !
Transfer med !   Last access information:                                    !
Medium typ !   Date .. 2003-05-31   User ..... GER                       !
DBnr ..... !   Time .. 13:13:31    Mode ..... input                   ! .. 180
Fnr ..... !   Transfer medium size information:                          ! .. 200
Password . !   Migrate records .... 7                                   ! ..
Cipher ... !
Identifica !           Hit Enter to continue                               !
                !
Command ===> +-----+
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      -      -      Stop      -      -      Flip Print      -      -      -      -
    
```

Command CHECK

Use this command to check the integrity of data on the Coordinator FDIC in the following situation:

- an import/load function has been interrupted due to conflicts in the Coordinator Check Cycle, and
- the conflict has been resolved on the Main or Coordinator FDIC.

This command rechecks all objects to be transferred against the phases of the Coordinator Check Cycle. It does not transfer data to the Main FDIC. If you wish to restart an import/load function and transfer data to the Main FDIC if no errors occur, use the Command CONTINUE.

Specify the Coordinator FDIC containing the data to be checked with Command SET.

With command CHECK, no parameters can be specified.

Command CLEAR

This command deletes the contents of the Coordinator FDIC belonging to the Main FDIC specified. Use this command to free the Coordinator FDIC for another import/load operation.

You can only clear a Coordinator FDIC created during an import/load operation you initiated yourself. To clear a Coordinator FDIC of another user, use the Special Function Refresh Coordinator FDIC. See the section Special Functions in the **Predict Administration documentation**.

Note:

If you set parameter Defaults > Coordinator Defaults > Coordinator FDIC, Clear with system utility to Y, System utilities (for example AOS in a mainframe environment) are used to delete the contents of the Coordinator FDIC after a CLEAR command, a successful import operation or after Special Function Refresh Coordinator FDIC. This improves performance if your Coordinator FDIC contains large amounts of data.

Keyword	Position	Remarks
DBNR	1	These parameters are obligatory. They specify the Main FDIC. The Coordinator FDIC of this Main FDIC will be cleared.
FNR	2	
PASSWORD	3	These parameters are only required if the Coordinator FDIC is protected by password and cipher.
CIPHER	4	

Command CONTINUE

This command has two uses:

- to restart a load/import operation that was interrupted for any reason during the Check Cycle, or
- to start a load/import operation after execution of function Test.

The command CONTINUE starts at the Coordinator Check Cycle. This means that no additional syntax check is performed on the data in the Migrate file, and no check is performed against selection criteria.

If the data on the Coordinator FDIC passes the Coordinator Check Cycle successfully, it will be transferred to the Main FDIC. If you only wish to test the integrity of data on the Coordinator FDIC without transferring it to the target environment, use the Command CHECK.

With command CONTINUE, no additional parameters can be specified.

Command SET

Use this command to set the parameters listed in the table below. The values remain valid for the duration of the current session or until a new SET command is issued.

Keyword	Field	Position
	From FDIC/To FDIC	
FDIC-DBNR	DBnr	1
FDIC-FNR	Fnr	2
FDIC-PASSWORD	Password	3
FDIC-CIPHER	Cipher	4
	Transfer Medium	
MEDIUM-TYPE	Medium type. Default value is 1.	5
MEDIUM-DBNR	DBnr	6
MEDIUM-FNR	Fnr	7
MEDIUM-PASSWORD	Password	8
MEDIUM-CIPHER	Cipher	9
MEDIUM-ID	Identification	10

ALF Functions And Commands

This section covers the following topics:

- Export
- Import
- Test ALF
- Purge Data on ALF Transfer Medium
- Information on ALF Transfer Medium

Export

This function transfers data from a Predict environment and converts it to a special data exchange format called Access Layer Format (ALF). This format is described in a separate documentation, the Data Exchange Format documentation, which is available on request.

Calling the Function

Enter code E in the Coordinator Main Menu or with commands EXPORT and BUILD. See sample export command on Example of an Unload Operation in Batch Mode.

```

13:42:28          ***** P R E D I C T  4.3.1  *****          2003-05-31
                    - Export Extracts -

      Extract ID *                No.      Extract ID *                No.
1                                6
2                                7
3                                8
4                                9
5                               10

Export options                    Build set for exporting                No.
With code .....* N                Metadata ..... N (Y/N)
With profile ..... N (Y/N)         Retrieval models ..... N (Y/N)
With internal ID ..... Y (Y/N)     XRef data ..... N (Y/N)
Include Extracts ..... N (Y/N)
Target environment .....* S2
Create Report listing ... Y (Y/N)

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      -      -      Stop  -      -      Flip Print  -      -      -      -
    
```

Parameters	
Target environment	Data can be exported to one of the following environments: <ul style="list-style-type: none"> ● S Natural LightStorm 3.1 or Predict CASE 2.5 ● S2 Natural LightStorm 3.2

All other parameters are the same as for the function Unload Migrate on Calling the Online Function.

Exporting XRef Data

To export XRef data enter function code E, data type O and object code XR in the Coordinator main menu, or enter Y for parameter XRef data in the Unload Extracts screen.

Exporting XRef Data in Batch Mode

To export XRef data from the transfer medium, enter command

BUILD OBJECTTYPE XR <parameters>

Keyword	Field	Position
MEM	Member	1
LIB	Library	2
FNR	User system Fnr	3
DBNR	User system DBnr	4
FROM-DATE	From catalog date	5

Example: Add XRef data for User system file number 99 on database number 123:

```
BUILD OBJECTTYPE XR, FNR=99, DBNR=123
```

Sample Commands

Use the following commands to export XRef data for file number 99 on database 123:

```
BUILD OBJECTTYPE XR, FNR=99, DBNR=123
EXPORT TARGET=S2
```

Exporting Internal IDs

If you are working with more than one FDIC file, we strongly recommend you consolidate the Internal IDs of the objects at your site. After you have exported the objects you wish to consolidate, execute the function Import Internal ID as described in Importing Internal IDs.

You can **export** the Internal IDs of all objects or any subset of objects. However, it is not possible to **import** selectively. All objects on the transfer medium are imported with their internal IDs.

See also Consolidating Internal IDs in Batch Mode.

Calling the Online Function

Enter code E and object type I in the Coordinator main menu.

Only parameters Extract ID, Include Extracts and Target environment are applicable.

Exporting Internal IDs in Batch Mode

Internal IDs can be exported with the command EXPINTERNAL in library SYSDICBE. See Sample Batch Command.

Import

The Import ALF function is used to import data from an ALF file to your current Predict environment.

Calling the Function

Enter Code I in the Coordinator Menu or with an IMPORT command depending on the object/data type.

Differences to Load Migrate Function

The Import ALF function is essentially the same as the Load Migrate function. The difference is that Import requires ALF data as source, and Load requires Migrate data.

Importing Internal IDs

This function is used to consolidate Internal IDs if you have your Predict data in separate FDIC files (see Consolidating Internal IDs in Batch Mode). Before you execute this import function, you must first export objects with their Internal IDs.

Note:

It is not possible to import selectively: all objects on the transfer medium are imported with their Internal IDs.

Calling the Function

Enter function code I and data type I in the Coordinator main menu. In batch mode, the function is called with the following command in library SYSDICBE:

IMPORT INTERNAL-ID ALL UPDATE=Y

```

13:57:04          ***** P R E D I C T  4.3.1  *****                2003-05-31
                    - Import Internal ID -

Terminate, Help .....

Import options
With update ..... N (Y/N)
Create Report listing ..... Y (N/Y)
    
```

Parameters	
Import options	
With update	Y All objects on transfer medium are imported together with their Internal IDs. N Objects that would be transferred are listed.
Create Report listing	Y A report listing of type IMP is created. Default.

Test ALF

The Test ALF function performs the same checks as the Import function, but no data is written to the Main FDIC.

After the Test ALF function has been executed successfully, you can execute the Command CONTINUE to start an Import function. Data will be transferred to Main FDIC if the Coordinator Check Cycle is passed successfully.

See also Coordinator functions under Predict Security.

Calling the Function

Enter code S in the Coordinator Menu.

Purge Data on ALF Transfer Medium

This function deletes data on the ALF transfer medium.

Calling the Function

The Purge data on transfer medium function is called with code P in the Coordinator Menu.

Parameters Required for the Function

- Medium type must be D (database file).
- DBnr and Fnr must be specified.
- If the database is protected by password and cipher, these must be entered, too.
- Transfer medium ID must be specified. Enter an asterisk in field Identification to select a transfer medium ID for the specified database and file number.

Enter command

PURGE <parameters>

Keyword	Field	Position	Remarks
ALF-ID	Identification	1	These parameters are obligatory.
ALF-DBNR	DBnr	2	
ALF-FNR	Fnr	3	
ALF-PASSWORD	Password	4	These parameters are only required if the Coordinator FDIC is protected by password and cipher.
ALF-CIPHER	Cipher	5	

Information on ALF Transfer Medium

This function provides information on the data contained on the ALF Transfer Medium.

Calling the Function

Enter function code A in the Coordinator Main Menu. Parameter Medium type must be D, and a valid transfer medium ID must be specified. Enter an asterisk in field Identification to display a list of transfer medium IDs for selection.

A screen similar to the one below is displayed.

```

13:22:38          ***** P R E D I C T  4.3.1  *****                2003-05-31
                    - Coordinator -
Migrate Function          ALF Function
      +----- Information on ALF transfer medium -----+
U  Unload Mi !
L  Load Migr !   Transfer medium ID ..... GERALF          !
T  Test Migr !
D  Purge Mig !   Transfer medium creation information:      !
B  Info on M !   Date .. 2003-05-31   Terminal-Id .. DAEDC641 !
                    !   Time .. 13:22:03   Op-System .... MVS/ESA   !
Function ... !   User .. GER           .. Tp-System .... COMPLETE ! ..*
                    !   System files used for exporting:      !
Transfer med !   FNAT= (00180/00102)                          !
Medium typ !   FDIC= (00180/00200) (PRD version 4.3 )        !
DBnr ..... !
Fnr ..... !
Password . !
Cipher ... !
Identifica !
                    Hit Enter to continue                    !
      +-----+
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      - - Stop - - Flip Print - - - -
    
```

In this example, a second screen is displayed when you hit ENTER because the information exceeds the size of one screen

```

13:22:38          ***** P R E D I C T 4.3.1 *****          2003-05-31
                    - Coordinator -
Migrate Function          ALF Function
+----- Information on ALF transfer medium -----+
U Unload Mi !
L Load Migr !   Transfer medium ID ..... GERALF !
T Test Migr !
D Purge Mig !   ALF information: !
B Info on M !   Version ..... 221 !
                  Usage ..... 3 !
Function ... !   Metastructure ! ..*
                  Name ..... PRD !
Transfer med !   Version ..... 331 !
Medium typ !
DBnr ..... !   Transfer medium size information: ! .. 180
Fnr ..... !   ALF records ..... 2 ! .. 200
Password . !
Cipher ... !           Hit Enter to continue ! ..
Identifica !
+-----+
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      - - Stop - - Flip Print - - - -
    
```

Data Transfer Examples

This section does not describe the functionality and parameters of the functions Unload and Load. This information is given in the sections Unload and Load. Instead, this section tells you how to proceed step by step and indicates some special considerations or restrictions that apply to the individual steps.

The examples given here are for the Migrate Load and Unload functions, but the information given applies in most cases equally to ALF Import and Export functions. Any differences in behavior are described as required.

This section covers the following topics:

- Unload
 - Load
 - Consolidating Internal IDs in Batch Mode
-

Unload

This section first describes the unload procedure in general and then gives two detailed examples: one unload operation performed online and one in batch mode.

Step 1 - Create Extract

Create one or more extracts which contain the objects to be unloaded. Before starting the unload operation, please consider the following points:

- It is not possible to select fields to be included in an extract. All fields of a file contained in an extract are exported automatically.
- If you select userviews, you must also select the related master files if they do not exist in the target environment.
- With IMS files and databases, you must always select the entire IMS structure.
- All objects that are referenced by objects contained in an extract but are not contained in the extract are stored in the target environment as placeholder objects.
- If Predict Security is active, you must have at least READ access to objects you wish to export.
- Metadata, retrieval models and XRef data cannot be included in an extract. You can specify them directly with the Unload function.
- After an extract has been created online, you have the option to select the objects in batch mode using the command BUILD.

Step 2 - Execute the Unload Function

Execute the Unload function under consideration of the following points:

- You have to decide whether the Internal ID of objects is to be used. If not, set the parameter with internal ID to N.
The concept of the Internal ID and examples of unload operations with or without Internal ID are given in the section Internal ID.
- If you wish to unload metadata and objects, you are recommended to perform this unload operation in two steps. First, unload the metadata, and then unload the objects to another transfer medium. This saves time when you load the data at a later time.

After the Unload function has been executed, the source FDIC file contains a protocol in an object of type report listing.

Example of an Online Unload Operation

In this example, all objects of an FDIC file are unloaded.

1. Call Predict

Call Predict with the commands LOGON SYSDIC and MENU.

2. Create an extract

Create an extract with the command ADD ET ALL-OBJECTS.

3. Select all objects

Select all objects with the command BUILD ET ALL-OBJECTS. Do not specify an object type in the screen below.

```

13:57:37          ***** P R E D I C T 4.3.1 *****          2003-05-31
Plan 14          - Build/extend an Extract -          Profile BOE

Extract ID ..... ALL-OBJECTS

Build extract for object type ..*

                                         Added 2003-05-31 at 13:57
                                         by WRKPR1

```

In the next screen, specify the parameters as follows:

```

13:58:29          ***** P R E D I C T 4.3.1 *****          2003-05-31
Plan 14          - Build/extend an Extract -          Profile BOE

Extract ID ..... ALL-OBJECTS

Build extract for object type ..*      ( All objects )

                                         Added 2003-05-31 at 13:57
                                         by WRKPR1

Retrieval type .....* D
Output-mode .....* L List

Search criteria
  Object ID .....

Drop existing objects N (Y,N)
List objects ..... N (Y,N)

Restrictions .....* E empty
Output options .....* D Profile Default

```

The following window appears:

```

+----- Status of Processing -----+
!                                     !
! Current time ..... 13:01:31 !
! No. of objects processed ... 99 !
! Resulting no. of objects ... 0 !
!                                     !
! Continue processing .....* !
+-----+

```

Enter U in the field Continue processing.

4. Unload the objects

Enter the command SYSDICBE to change to the Coordinator. The following parameters are specified in the Coordinator Main Menu:

- Set Function to U.
- Set Transfer medium type to 1. This is the default setting which is used in this example.
- Set To FDIC DBnr to 46 and To FDIC Fnr to 13. (Default setting is the current FDIC file.)

5. Specify additional parameters

In the next screen, specify the parameters as follows:

```

13:42:18          ***** P R E D I C T  4.3.1  *****          2003-05-31
                    - Unload Extracts -

      Extract ID *                No.      Extract ID *                No.
1 ALL-OBJECTS                    6
2                                7
3                                8
4                                9
5                                10

Unload options                    Build set for unloading                No.
With code .....* N                Metadata ..... N (Y/N)
With profile ..... N (Y/N)         Retrieval models ..... N (Y/N)
With internal ID ..... Y (Y/N)     XRef data ..... N (Y/N)
Include Extracts ..... N (Y/N)
Target environment .....* 43
Create Report listing ... Y (Y/N)

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      - - Stop - - Flip Print - - - - -
    
```

6. Unload successfully terminated

The source FDIC file contains a protocol in an object of type report listing. The ID of this object is consists of your user ID, the function code UNL and a timestamp. This protocol lists the objects that have been unloaded.

Example of an Unload Operation in Batch Mode

In this example, all objects of an FDIC file are unloaded.

1. Call Predict (online)

Call Predict with the commands LOGON SYSDIC and MENU.

2. Create an extract (online)

Create an Extract with the command ADD ET ALL-OBJECTS.

3. Start the unload process

Start the batch job with the following commands:

```

LOGON SYSDIC
MENU
BUILD EXTRACT ALL-OBJECTS LIST ALL          (select all objects)
SYSDICBE                                   (change to Coordinator)
SET MEDIUM-TYPE=5 FDIC-DBNR=46 FDIC-FNR=13 (optional)
UNLOAD EXTRACT EXTRACT1=ALL-OBJECTS CODE=Y PROFILE=Y
FIN
    
```

4. Unload successfully terminated

The source FDIC file contains a protocol in an object of type report listing.

Load

This section first describes the load procedure in general and then gives two detailed examples: one performed online and one performed in batch mode.

Before You Begin

Check whether an FDIC file has been defined as the Coordinator FDIC with parameters Coordinator FDIC DBnr/Fnr under Defaults > Coordinator Defaults. If this is not the case, define the Coordinator FDIC by specifying these parameters.

General Information

To start a load operation, you do not necessarily have to use the function Load, which first performs various checks and then transfers the data to the Main FDIC. You can instead execute the function Test. This command performs the same checks as the function Load but does not transfer the data.

If another load operation is in process when you start a load, the Coordinator FDIC is locked. If the Coordinator FDIC is locked by your own user ID, i.e. the load operation was started by you, you can unlock and clear the Coordinator FDIC with the command CLEAR.

If the Coordinator FDIC is locked by a load operation started by another user, you may have to contact this user and/or wait until the load is completed. If this load was interrupted, it may be necessary to clear the Coordinator FDIC. This can be done by your DB Administrator with the command SPECIAL REFRESH. See Refresh Coordinator FDIC in the section **Special Functions** in the **Predict Administration documentation**.

Note:

With both commands CLEAR and SPECIAL REFRESH, all the data on the Coordinator FDIC is deleted.

Overview of Load Phases

The following table shows the actions which are performed by the Coordinator, and the functions/commands you can use to execute the various actions. Each action is described below. See also section Coordinator Check Cycle in this documentation.

	Transfer to Coord. FDIC	Coordinator Check Cycle			Transfer to Main FDIC
		Conflict Management	Security	Consistency Check	
LOAD	----->	----->	----->	----->	-----
TEST	----->	----->	----->	-----	
CONTINUE		----->	----->	----->	-----
CHECK		----->	----->	-----	
Report Listing stored in	Coordinator FDIC	Coordinator FDIC	Coordinator FDIC	Coordinator FDIC	Main FDIC

- **Transfer to Coordinator FDIC**

The syntax of the ALF/Migrate file to be transferred is checked. If no error is detected, the data is transferred to the Coordinator FDIC.

If the ALF/Migrate file was created by you and an error occurred, you must correct the file and reexecute

the operation.

- **Conflict Management - First Phase of the Coordinator Check Cycle**

The Coordinator checks whether there are conflicts resulting from Internal IDs. In case of a conflict, the operation is cancelled.

After you solved the conflicts, continue by executing the command

- CHECK if the data is to be checked only and not to be transferred, or
- CONTINUE if the data is to be checked and transferred.

- **Security - Second Phase of the Coordinator Check Cycle**

The Coordinator checks whether you have the appropriate access rights to load the data. If there are objects for which you do not have the required access rights, the operation is cancelled.

After you have either obtained the necessary access rights or deleted the corresponding objects on the Coordinator FDIC, continue by executing the command

- CHECK if the data is to be checked only and not to be transferred, or
- CONTINUE if the data is to be checked and transferred.

- **Consistency Check - Third Phase of the Coordinator Check Cycle**

The data is checked for logical consistency (for example, uniqueness of file number with file objects). If inconsistencies are detected, the operation is cancelled.

After resolving the consistency conflicts on the Coordinator FDIC, continue by executing the command

- CHECK if the data is to be checked only and not to be transferred, or
- CONTINUE if the data is to be checked and transferred.

- **Transfer to Main FDIC**

All objects are transferred from the Coordinator FDIC to the Main FDIC. Then the contents of the Coordinator FDIC are deleted.

After successful execution of the load operation, the report listing containing the protocol can be found on the Main FDIC. It contains the list of the objects loaded.

If the Coordinator cancelled the load because of errors, the report listing can be found on the Coordinator FDIC.

Example of an Online Load Operation

In this example, the workfile used contains two objects: the program PROG-1 and the system SY-1. The program PROG-1 is to be imported.

1. **Call the Predict Coordinator**

```
LOGON SYSDICBE
MENU
```

2. **Specify the load parameters**

The following parameters are specified in the Coordinator Main Menu:

- Set Function to L.
- Set Transfer medium type to 1. This is the default setting which is used in this example.
- Set To FDIC DBNr to 46 and To FDIC Fnr to 13. (Default setting is the current FDIC file.)
- Set Object type to PR. All objects of this type are loaded.

3. **Coordinator FDIC is locked by another import**

Another import is running and locks the Coordinator FDIC. A window appears which contains information about the import in process:

```

13:59:43          ***** P R E D I C T 4.3.1 *****          2003-05-31
                    - Coordinator -
Migrate Function          ALF Function
+-----+-----+
U !                                     !
L !          Coordinator FDIC locked          !
T !          -----          !
D !                                     !
B ! Attention: User PRDUNDA TID LOADDOC for main FDIC 46 , 13          !
!          has given command          !
F !          Load All objects          !
!          on 2003-05-31 at 13:59:06          !
T !                                     !
! Status: Transfer main FDIC started at 13:59:11          !
!                                     !
!                                     !
+-----+-----+
Cipher .....          Cipher ....          Cipher ....
Identification ..*

Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--
- - - Stop - - Flip Print - - - -
    
```

If the current load operation was started by you, you can clear the Coordinator FDIC with the command CLEAR 46 13. Otherwise, you must wait until the current load operation is terminated. Start the load operation again as described under point 2, **Specify the load parameters**.

4. **Specify additional load parameters**

In the following screen, additional load parameters are specified. In this example, only new objects of type program are to be imported:

- Set Replace to N. This is the default setting.
- Start the load by pressing ENTER.

```

13:38:19          ***** P R E D I C T 4.3.1 *****          2003-05-31
                    - Load (PR) Program -

Program ID .....

Load options
Program of type .....*
From date ..... 0000-00-00 00:00 (YYYY-MM-DD HH:II)
Prefix .....
Suffix .....
Create Report listing ..... Y (Y/N)

Replace ..... N (Y/N)
    
```

5. **Conflict resulting from Internal ID**

The following window appears:

```

+----- Attention -----+
!
! Function not successfully terminated.
!
!      Error during CONFLICT MANAGEMENT
!
! ENTER 'Y' to go to
!      Coordinator FDIC (180,62)
!      of Main FDIC      ( 46,13)    ... Y
!
! Enter any other value to go to Coordinator Menu
+-----+
    
```

Enter Y to change to the Coordinator FDIC.

6. Display the report listing

Enter the command DISPLAY RT #SAG-ERROR to display the report listing which contains the list of errors. The report listing provides the following information:

```

          CHECKING OBJECTTYPE: PR , OBJECT-ID: PROG-1
DIC1635 OBJECT WITH THIS OBJECT ID, BUT DIFF. INTERNAL ID EXISTS.
DIC1628 CHECKED WITH ERRORS PR PROG-1.
    
```

7. Resolve the conflict

- Rename object PROG-1 to PROG-2.
- Enter the command SYSDICBE to return to the Coordinator.
- Enter the command CONTINUE to continue the import that was interrupted.

8. Error in Check Consistency phase

The following window appears:

```

+----- Attention -----+
!
! Function not successfully terminated.
!
!      Error during CHECK CONSISTENCY
!
! ENTER 'Y' to go to
!      Coordinator FDIC (180,62)
!      of Main FDIC      ( 46,13)    ... Y
!
! Enter any other value to go to Coordinator Menu
+-----+
    
```

Enter Y to change to the Coordinator FDIC.

9. Display the report listing:

Enter the command DISPLAY RT #SAG-ERROR to display the report listing which contains the list of errors. The Report Listing provides the following information:

```

          CHECKING OBJECTTYPE: PR , OBJECT-ID: PROG-1
DIC2851 MEMBER ALREADY DOCUMENTED IN SYSTEM PROGRAM : PROG-1
          PROGRAM PROG-1 IS ON THE MAIN FDIC.
DIC1628 CHECKED WITH ERRORS PR PROG-2.
    
```

10. Resolve the consistency conflict:

One way to resolve the conflict is:

- Enter command BACK to change to Main FDIC (target FDIC).
- Delete or change the member name in the program PROG-1.

- Enter command SYSDICBE to return to the Coordinator.
- Enter command CONTINUE to continue the load operation.

Another way to resolve the conflict is:

- Delete or change the member name in the program PROG-2.
- Enter command SYSDICBE to return to the Coordinator.
- Enter command CONTINUE to continue the load operation.

11. Load operation terminated successfully

- Enter command SYSDIC to change to Main FDIC (target FDIC).
- Select the report listing containing the protocol with the command SELECT RT name. The name of the report listing is built from your user ID followed by the string 'IMP' and a time stamp. See the section Logging Coordinator Functions.
- Display the report listing.

Example of a Load Operation in Batch Mode

In this example, a dataset exists which contains two objects: program PROG-1 and the System SY-1. The program PROG-1 is to be loaded.

1. Start the load operation

In the following job, the dataset containing the object to be loaded must be assigned to workfile 5.

```
LOGON SYSDICBE
MENU
SET MEDIUM-TYPE=5 FDIC-DBNR=46 FDIC-FNR=13          (optional)
LOAD OBJECTTYPE PR REPLACE=N
FIN
```

2. Coordinator FDIC is locked by another load operation

The job is cancelled and provides the following output:

```
+-----+
!                                     !
!                               Coordinator FDIC locked                               !
!                               -----                               !
!                                     !
!                                     !
!                                     !
! Attention: User ULH      TID DAESA048 for main FDIC  46 ,  13      !
!           has given command                                         !
!           Import All objects                                         !
!           on 2003-05-31 at 08:36:02                                 !
!                                     !
!                                     !
!           Status: Transfer main FDIC started at 08:36:06           !
+-----+
```

If the load in process was started by you, you can clear the Coordinator FDIC with the command CLEAR 46 13. Otherwise, you must wait until the current load operation is terminated.

Start the job again as described under point 1, **Start the load operation**.

3. Conflict resulting from Internal ID

The job is cancelled and provides the following output:

```
          CHECKING OBJECTTYPE: PR , OBJECT-ID: PROG-1
DIC1635 OBJECT WITH THIS OBJECT ID, BUT DIFF. INTERNAL ID EXISTS.
DIC1628 CHECKED WITH ERRORS PR PROG-1.
```

4. Resolve the conflict online

- Call Predict with the commands LOGON SYSDIC and MENU.
- Enter the command COORDINATOR to change to the Coordinator FDIC.
- Rename object PROG-1 to PROG-2.

5. Continue the load operation

You do not need to specify a workfile for the job started with the following commands.

```
LOGON SYSDICBE
MENU
SET FDIC-DBNR=46 FDIC-FNR=13           (optional)
CONTINUE
FIN
```

6. Error in Check Consistency phase

The job is cancelled and provides the following output:

```
DIC2851      CHECKING OBJECTTYPE: PR , OBJECT-ID: PROG-1
MEMBER ALREADY DOCUMENTED IN SYSTEM PROGRAM : PROG-1
PROGRAM PROG-1 IS ON THE MAIN FDIC.
DIC1628      CHECKED WITH ERRORS PR PROG-2.
```

7. Resolve the consistency conflict online

Call Predict with the commands LOGON SYSDIC and MENU.

One way to resolve the conflict is:

- Delete or change the member name in the program PROG-1.

Another way to resolve the conflict is:

- Enter the command COORDINATOR to change to the Coordinator FDIC.
- Delete or change the member name in the program PROG-2.

Continue the load operation as described under point 5, **Continue the load operation.**

8. Load terminated successfully

The load protocol is provided in the job output and in the Report Listing on the Main FDIC (target FDIC).

To display the Report Listing, see point 11 of the online example (Load operation terminated successfully).

Consolidating Internal IDs in Batch Mode

If you are working with more than one FDIC file, we strongly recommend you consolidate the Internal IDs of the objects at your site. In the sample job below, the Internal IDs are exported or unloaded from the source FDIC to Workfile 1 and from there are imported or loaded to the target FDIC.

Import:

```
LOGON SYSDICBE
MENU
SET fnr1 dbnr1 ALF-TYPE=1
EXPINTERNAL
SET fnr2 dbnr2
IMPORT INTERNALID ALL UPDATE=Y
FIN
```

where

dbnr1 and fnr1 represent the file and database number of the source FDIC,

and

dbnr2 and fnr2 represent the file and database number of the target FDIC.

Load:

```
LOGON SYSDICBE
MENU
SET fnr1 dbnr1 ALF-TYPE=1
UNLINTERNAL
SET fnr2 dbnr2
LOAD INTERNALID ALL UPDATE=Y
FIN
```

Sample Batch Command for Consolidating Internal IDs

Consolidating Internal IDs is a two-step process:

1. Export Internal IDs from FDIC to Workfile

Enter the following command to export the Internal IDs of all objects on a FDIC file to a workfile.

Export:

```
LOGON SYSDICBE
MENU
SET dbnr1 fnr1 ALF-TYPE=1
EXPINTERNAL
FIN
```

where dbnr1 and fnr1 represent the database and file number of the FDIC.

Unload:

```
LOGON SYSDICBE
MENU
SET dbnr1 fnr1 ALF-TYPE=1
UNLINTERNAL
FIN
```

2. Import Internal IDs to Current FDIC

Enter the following command to import the Internal IDs of all objects on the workfile created with the command above.

Import:

```
LOGON SYSDICBE
MENU
SET dbnr2 fnr2 ALF-TYPE=1
IMPORT INTERNAL-ID ALL UPDATE=Y
FIN
```

where dbnr2 and fnr2 represent the database and file number of the FDIC to be converted.

Load:

```
LOGON SYSDICBE
MENU
SET dbnr2 fnr2 ALF-TYPE=1
LOAD INTERNAL-ID ALL UPDATE=Y
FIN
```

Data Transfer To And From Natural Lightstorm

When Predict objects are exported to Natural Engineering Workbench within Natural LightStorm, the Predict object types and their subtypes are mapped to Natural LightStorm object types as indicated in the following table.

Key

- 1) The trigger attributes are not exported.
- 2) Attributes for 3GL specifications are not exported. Redefinitions are not exported.
- 3) Only if implementation pointer exists.
- 4) The name of the Natural System File is composed of the database number and the file number, for example, DBID_180-FNR_54.

Predict		Natural LightStorm	
ObjType	Subtype	Object Type	Type Code
DA	Adabas	Adabas Database	9101000
DA	Adabas D	Adabas D Database	9103000
DA	Conceptual	Conceptual Database	9107000
DA	DB2	DB2 Database	9102000
DA	Entire System Server	-	
DA	General SQL	General SQL Database	9104000
DA	IMS	-	
DA	Informix	Informix Database	9108000
DA	Ingres	Ingres Database	9109000
DA	NDB	-	
DA	Oracle	Oracle Database	9106000
DA	Other Handler	-	
DA	RMS	-	
DA	Sybase	Sybase Database	9105000
DA	Target Node	-	
DA	VSAM	-	
DC	DB2	-	
DC	SQL-DS	-	
ET	Extract	Diagram Object	698
FI	Adabas	Adabas File	9201000
FI	Adabas SQL View	-	
FI	Adabas View	Adabas View	9251000

FI	¹⁾ Adabas D Table	Adabas D Table	9203000
FI	Adabas D View	Adabas D View	9253000
FI	Conceptual	Conceptual File	9207000
FI	¹⁾ DB2 Table	DB2 Table	9202000
FI	DB2 View	DB2 View	9252000
FI	Entire System Server	-	
FI	¹⁾ General SQL	General SQL File	9204000
FI	IMS segment	-	
FI	IMS segment layout	-	
FI	IMS userview	-	
FI	Informix Table	Informix Table	9208000
FI	Informix View	Informix View	9258000
FI	¹⁾ Ingres Table	Ingres Table	9209000
FI	Ingres View	Ingres VIEW	9259000
FI	ISAM	-	
FI	ISAM BS2000	-	
FI	LEASY	-	
FI	logical VSAM	-	
FI	logical VSAM View	-	
FI	¹⁾ Oracle Table	Oracle Table	9206000
FI	Oracle View	Oracle View	9256000
FI	Other File	-	
FI	rdb	-	
FI	RMS	-	
FI	Sequential	-	
FI	Standard File	-	
FI	¹⁾ Sybase Table	Sybase Table	9205000
FI	Sybase View	Sybase View	9255000
FI	System Server View	-	
FI	VSAM	-	
FI	VSAM View	-	
EL	²⁾ Adabas	Adabas Field	9301000
EL	Adabas SQL View	-	
EL	²⁾ Adabas View	Adabas View Field	9351000
EL	²⁾ Adabas D Table	Adabas D Table Field	9303000
EL	²⁾ Adabas D View	Adabas D View Field	9353000

EL	2) Conceptual	Conceptual Field	9307000
EL	2) DB2 Table	DB2 Table Field	9302000
EL	2) DB2 View	DB2 View Field	9352000
EL	Entire System Server	-	
EL	2) General SQL	General SQL Field	9304000
EL	IMS segment	-	
EL	IMS segment layout	-	
EL	IMS userview	-	
EL	2) Informix Table	Informix Table Field	9308000
EL	2) Informix View	Informix View Field	9358000
EL	2) Ingres Table	Ingres Table Field	9309000
EL	2) Ingres View	Ingres View Field	9359000
EL	ISAM	-	
EL	ISAM BS2000	-	
EL	LEASY	-	
EL	logical VSAM	-	
EL	logical VSAM View	-	
EL	2) Oracle Table	Oracle Table Field	9306000
EL	2) Oracle View	Oracle View Field	9356000
EL	Other File	-	
EL	rdb	-	
EL	RMS	-	
EL	Sequential	-	
EL	Standard Field	Data Element Type	411
EL	2) Sybase Table	Sybase Table Field	9305000
EL	2) Sybase View	Sybase View Field	9355000
EL	System Server View	-	
EL	VSAM	-	
EL	VSAM View	-	
IE	-	-	
KY	Keyword	Keyword	305
LS	Library Structure	Library Structure	2240
MD	-	-	
NO	-	-	
NW	-	-	

PG	-	-	
PR	Copycode	System Function	424
PR	Dialog	System Function	424
PR	documented	-	
PR	Dynamic	-	
PR	Expert Model	System Function	424
PR	External Program	-	
PR	Function	System Function	424
PR	Global Data Area	Data Structure	551
PR	Helproutine	System Function	424
PR	Job	-	
PR	Local Data Area	Data Structure	551
PR	Map	System Function	424
PR	Natural Cmd Processor	System Function	424
PR	Parameter Data Area	Data Structure	551
PR	Program	System Function	424
PR	SQL Procedure	-	
PR	Subprogram	System Function	424
PR	Subroutine	System Function	424
PY	-	-	
RL	Common keys	Common Keys	9154000
RL	documented	Documented relation	9155000
RL	Natural Construct	-	
RL	Physical coupled	Physical coupled relation	9151000
RL	Referential Constraint	Referential constraint relation	9153000
RL	soft coupled	Soft coupled relation	9152000
RT	-	-	
SC	-	-	
SV	-	-	
SY	³⁾ Application	Natural Library ⁴⁾ +Natural System File	2210 2220
SY	Conceptual	-	
SY	DB2 Plan	-	
SY	3GL Application	-	
US	-	-	3
VE	automatic	Integrity Constraint	2010
	conceptual	Integrity Constraint	2010

	documented	Integrity Constraint	2010
	free	Integrity Constraint	2010
	sql	Integrity Constraint	2010
VM	-	-	
XRef	XREF DATA	Natural Object + Natural Library + Natural System File	2200 2210 2220
Metadata	-	-	
UDE	-	-	