

General Information

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- Basic Principles
 - Accessing DL/I Data
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Basic Principles

With Natural for DL/I, a Natural user can access and update data stored in a DL/I database. The Natural user can be executing in batch mode or under the control of the TP monitor CICS or IMS/TM .

A DL/I database is represented to Natural as a set of files, each file representing one database segment type. Each file or segment type must have an associated DDM generated and stored on the Natural FDIC system file.

Since Natural for DL/I is an extension to Natural, nearly all of the information contained in the Natural documentation applies to its use in the DL/I environment as well as in the Adabas environment.

The Natural statements used to access DL/I databases are a subset of those provided with the Natural language. No new statements are needed to access a DL/I database.

Applications developed using Natural for DL/I operate as standard DL/I applications. This means that all access to DL/I databases performed by Natural follows the DL/I product conventions. For an online Natural session or batch Natural program to issue a DL/I database call, a PSB must first be scheduled. The PCB in use must have segment sensitivity and the appropriate PROCOPT parameter must be specified for Natural, to be able to perform a segment update. Only standard DL/I database calls are issued by Natural.

Accessing DL/I Data

Natural for DL/I allows Natural programs to access DL/I databases using Natural statements.

To access DL/I data, Natural requires certain information on these data. This information mainly consists of four types of control blocks:

- the original database descriptions (DBDs) and program specification blocks (PSBs) which are required by DL/I itself;
- suitable copies of DL/I DBDs and PSBs for Natural, called NDBs and NSBs;
- user-defined fields (UDFs);
- Natural DDMs generated from NDBs and UDFs.

All information required by Natural to access DL/I databases is stored and maintained in the Natural FDIC system file. The Natural FDIC system file can be an Adabas file (if Adabas is installed), or a VSAM file (only in CICS environments).

As is the case with any DL/I application, a DL/I DBDGEN and PSBGEN must be performed to define the data structure the Natural application is to have access to, and the processing intent this application has on these data. This same information, which is contained in the DBD and PSB source statements, must also be defined to Natural.

The Natural batch procedures NATDBD and NATPSB are used to add this information to the Natural FDIC system file. They generate NDBs and NSBs from the respective DBDs and PSBs, using the DBDGEN and PSBGEN source respectively, as input.

It is the administrator's responsibility to ensure that the contents of the DL/I DBDLIB and PSBLIB and the Natural FDIC system file are compatible. It is therefore recommended that the DL/I procedures DBDGEN and PSBGEN and the Natural procedures NATDBD and NATPSB always be executed as a pair.

The DBDGEN source usually does not define all fields within a segment. Additional segment fields, called user-defined fields (UDFs), can be entered as part of creating the DDMs. UDFs in Natural are added by using either the batch utility NATUDF, the EDIT Segment Description facility of SYSDDM, or Predict.

Once all the necessary information has been stored on the Natural FDIC system file, Natural DDMs defining the DL/I database segment types can be created.