NAT-PAD

NATURAL Change Management
NATURAL Program Administration and Documentation
NATURAL Application Control

User Manual

MVS and OS/390

NAT-PAD Version 3.3.e

March 1, 2000

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1 Release Notes

1.1 NAT-PAD version 3.2.e

New functions

- Store all copy/move history: request date, userid initiated (not yet), userid accepted (not yet), from-lib, to-lib, userid-copied, copy-date, copy-time, copy-status (ok, error).
- Select code ‘S‘ for display status of one object in display ‘List of Objects’
- PF11 key to delete objects in one library from display ‘List of Objects’
- Emergency Fix Procedure
- Search functions (menu 3.2 and 3.3)
- Statistic and reports (menu 4.1): Print all objects copied into production with from-to selection
- Text field of request can be used for internal numbers, for example Change Request Tracking System (production incidence number, ad-hoc number, enhancement number), or project number.
- PF10 selection window from ‘List of Objects’ is now sorted by destination databases and libraries (defined in NPN10004)

1.2 NAT-PAD Version 3.3.e

New functions

- Close (finish) ‘F’ and re-open ‘O’ a request. To avoid losing the history information of the objects with the relevant requests is it necessary to close and not to delete a request.

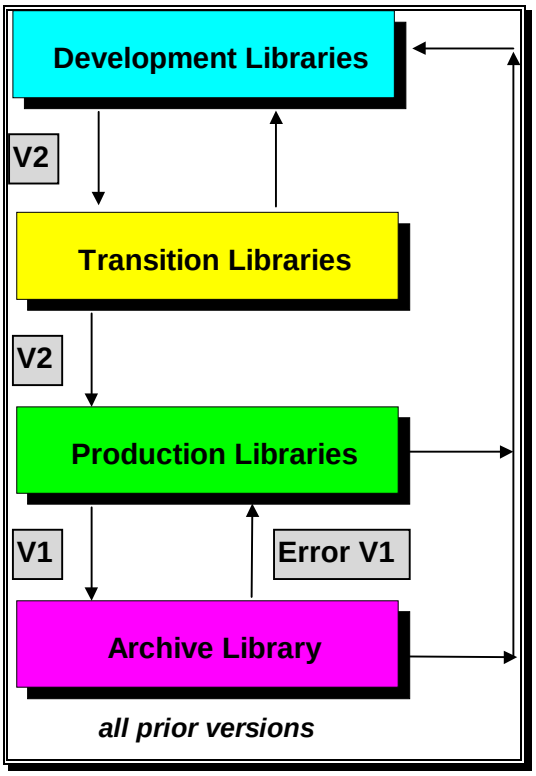
2 Introduction

Controlling the migration of NATURAL objects between environments presents numerous challenges: Tracking the current location of a program, avoiding program overwrites, verifying that program changes are made, changing all related objects, archiving and recovery, maintaining complete audit trails. Manual change management can be time-consuming which tends to lead to errors.

NAT-PAD was developed to provide cost-effective, automated change management for NATURAL objects; SYSERR messages, and PREDICT objects.

NAT-PAD provides administration and documentation by

- Maintaining an audit trail
- Providing data security
- Controlling access



NAT-PAD functionality

- Copies NATURAL source
  - from development into transition library
  - from transition into production library
  - catalogs the sources in production
- Archives the former version before moving new objects into production
- Browses in archive and copies source into development
- Browses in production and copies source into development
- Supports several search functions
- Supports several statistic reports
- Copies error messages from test into production and vice versa
- Copies PREDICT objects from test into production and vice versa
- Performs validation checks of all functions against NATURAL Security or equivalent facilities
- Connects to MVS job entry systems (JESx)
- Uses Entire System Server (if available)
- Uses NATURAL user exits eliminating problems with new release changes
- NAT-PAD is Year 2000 compliant

Operating system and prerequisites

- MVS and OS/390
- ADABAS 5.2 / 5.3 / 6.2 and NATURAL 2.2 / 2.3
- NATURAL SECURITY and PREDICT optional

2.1 General

2.1.1 Transition Library

Tasks of NAT-PAD's transition library

- Programs contained in a request are checked during the register process, for example existence in the from-library, copy codes, subroutines, etc.
- The checked programs will be copied into a library without update capability by the developers; NAT-PAD called it a transition library.
- The transition library guaranty that all populated programs have the same SAVE time stamp.
- If programs belong to special projects or cannot be copied in time, special transition libraries can be created.

Possible problems during population of one program

- Program can be changed in 'From-Lib' before being populated in all target libraries, for example:
  - New request can overlay the version into the 'From-Library' if time differences exists between copy date, see example Figure 1.

```
FromLib  ToLib    Userid   Date       Time
ICSUSAT2 NPTRANS2 ZIND9S   1999/01/21 17:26 OK
NPTRANS2 ICISCOPY ZIND9S   1999/01/21 16:10 OK
NPTRANS2 ICIS     ZIND9S   1999/01/24 19:25 OK
NPTRANS2 ICSPST   ZIND9S   1999/03/05 19:04 OK
NPTRANS2 ICSYR2K  ZIND9S   1999/03/05 20:15 OK
NPTRANS2 ICSDEV   ZIND9S   1999/03/08 19:32 OK
```

Figure 1: Problems w/o transition library and time differences

  - Program in the from-library can be overlaid by update the program. Most of the 'From-Libraries' have edit capability - see NATURAL Security

2.2 Getting started

Invoke NATURAL and then NAT-PAD system by typing NP (#NP from NATURAL SPF) at the command prompt and pressing enter. It is not necessary to log on to the library-id or application that contains the NAT-PAD source and object modules. The usual library-id or application is NATPAD, but it could be different at your site.

Module NP consists in SYSTEM and automatically supports LOGON to the right library. At the end of NAT-PAD session (PF3) logon to prior library automatically will be supported.

```
        Command ===> NP
```

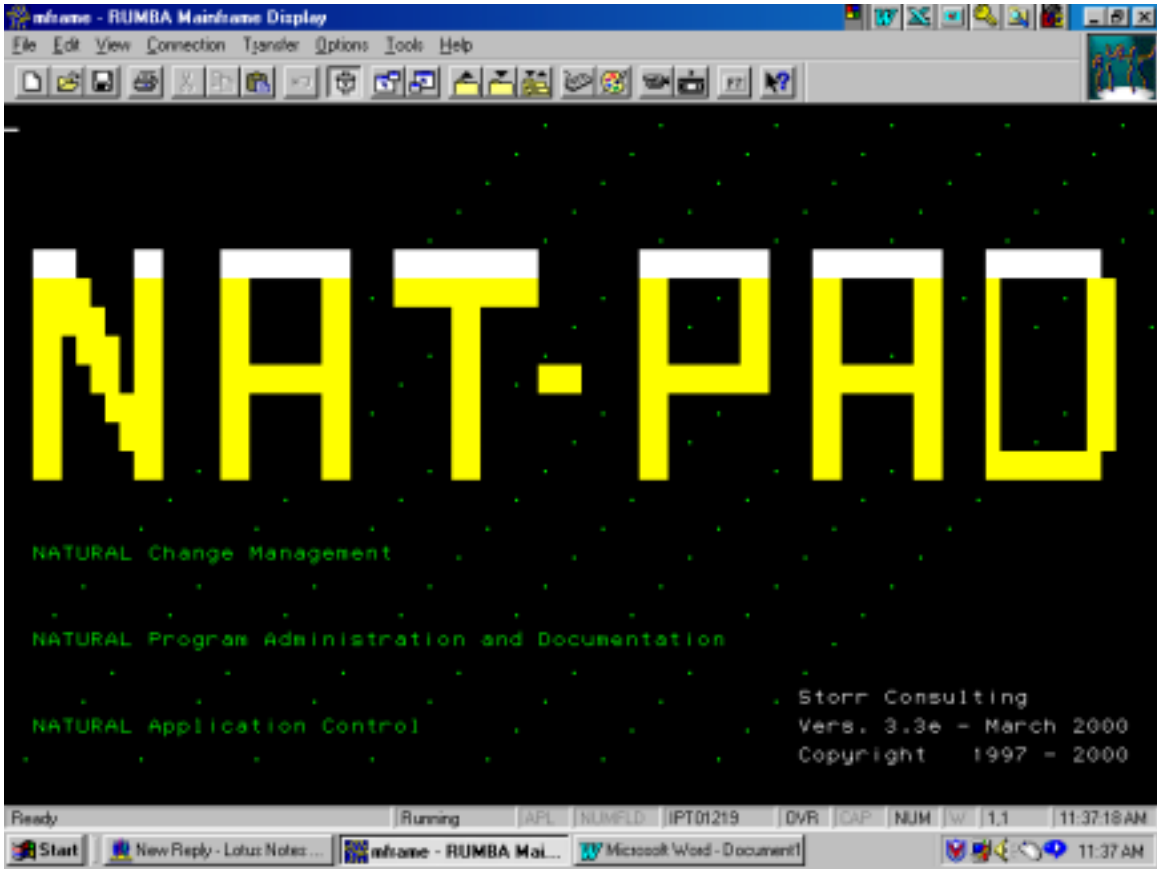


Figure 2: Start Menu or 'Hello' screen

The Start Menu screen disappears by hitting ENTER key again. It is possible to avoid this Start Menu by set parameter value - see Installation Guide and Administration Manual 'ADAPT NATURAL Source and JCL'.

2.3 Main Menu Panel

NAT-PAD main menu shows all possible selection codes (1 – 6) and their main functions. Access checks will be made against NAT-PAD's internal userid table.

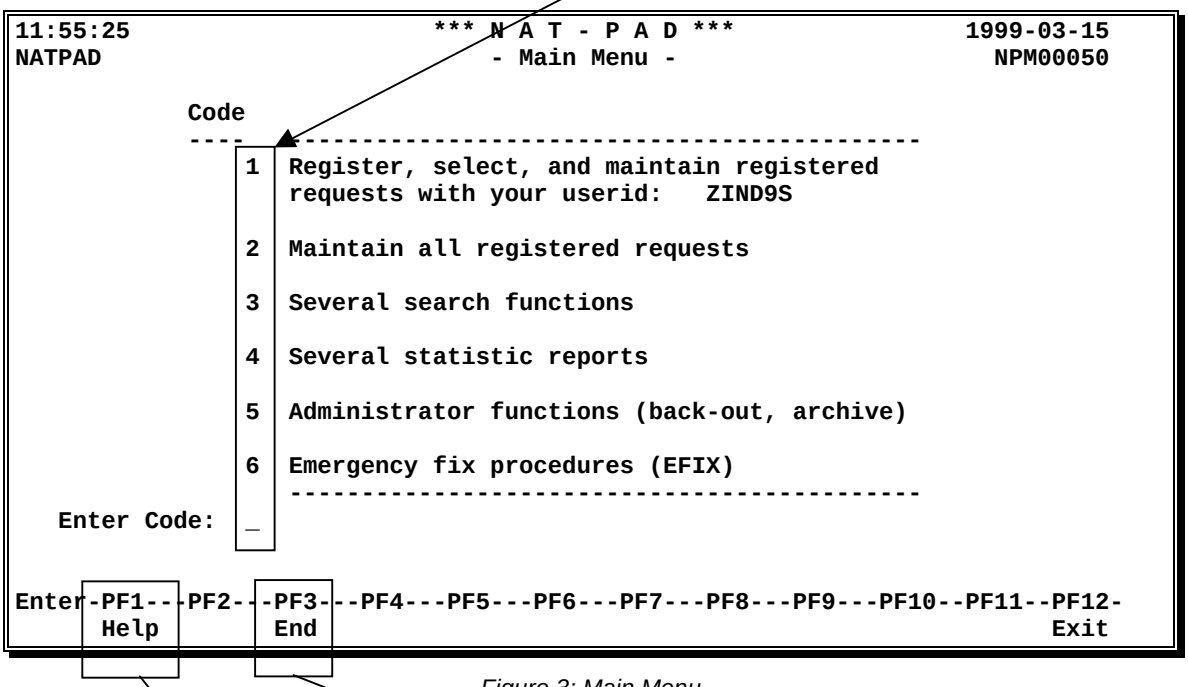


Figure 3: Main Menu

Most screens support help information by hitting PF1 key.

PF3 key automatically logs on to prior library used by user.

3 Register And Maintain Requests (Selection 1)

Register, select, and maintain registered requests with your userid. NAT-PAD Main Menu displays your registered requests. With selection codes is it possible to mark single requests in column 'S(select)' for later process.

```
13:33:17 D      F          *** N A T - P A D ***                    97-05-22
NATPAD        - Register and Maintain Requests from STORR   -       NATPAD
                                                                    NPM00100

   Start with request number:  _1
   <----------------------------- REQUESTS ----------------->  <- JOBS -->
S  No Description  From     To       Date       Time   Status   Number Stat
_   1 Project 32   STO      PROD     07-03-1997 11:53  inprod    9496 OK
_   2 XYZ          STO      PROD     15-05-1997 13:59  inproc    1269 OK
_   3              STO      PROD     15-05-1997 14:00  inproc    1622 OK
_   4              STO      PROD     21-03-1997 18:24  inprod    6834 OK
_   5              STO      PROD     26-03-1997 18:52  inprod    8908 OK
_   6              STO      PROD     27-03-1997 11:16  inprod    1944 OK
_   7              STO      PROD     03-04-1997 18:22  inprod    1605 OK
_   8              STO      PROD     02-04-1997 17:26  inprod    6337 OK
?   9              STO      PROD     02-04-1997 18:03  inprod    6471 OK
_  10              STO      PROD     09-05-1997 11:40  inprod     730 OK

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12-
      Find  ResDC End   Error DIC   JESQ  Top   Forw  Arch  Prod  Devl  Admin
```

Figure 4: Register and maintain requests

Possible selections are displayed after typing '?'
- B - Backout
- C - Copy Request
- D - Delete Request
- F - Finish Request
- N - New Request
- O - (re)Open Request
- R - Reset Status
- S - Select Request

Request Status

Blank	After register request w/o objects
Inproces	After register request with objects *display: turquoise*
Inproces	After register request *display: turquoise*
Intrans	After copy to transition library (on-line) display: *yellow*
Inprod	After copy to production (batch) – *display: red*

Job Status
- SUBMIT
- OK
- BACKOK
- ERROR

Job Number
Only with ESS available

PF keys:

PF1	Find one program (source or object) in all libraries with compare function
PF2	Restart PREDICT (only up to PRD31)
PF3	Program end
PF4	Transmit error messages
PF5	Transmit PREDICT objects
PF7	Top of displayed requests or use 'Cont' with request#
PF8	One page forward or start with request number
PF9	Display and copy prior versions in archive
PF10	Display and copy objects in production
PF11	Display and copy objects in development
PF12	Maintenance only for NAT-PAD Administrators

3.1 Using NAT-PAD in Batch With CATALL

A move/copy request describes the life cycle of a program – from development via test into production.

Depends on parameter settings some functions are not available, for example COPY and MOVE or only COPY.

Register Requests

- Start from menu 'NAT-PAD - Register Requests' - see Figure 4
- Enter 'N' in column 'S(elect)' field to create a new request. Each user can maintain up to 999,999 requests.
- Type in name of development library (DEVL) 'library from' in pop-up window and select the pre-defined transition library (TEST) and target library in production (PROD) - see Figure 5
- Determine objects to move/copy in second 'Request Screen' and describe request in 'request text' field, for example program name.
  - Enter 'N' and type in name of object or
  - Enter 'N' and overwrite existing name partly or entirely (copy) or
  - Hit PF4 key to select object from pop-up window (also generic search *) - see Figure 6 or
  - Hit PF5 key to select object (also generic search *) from pop-up window by object name and date or
  - Hit PF6 key to select all objects in 'from library'
- Request status will be set to ‚inproces' – color = turquoise

Move/Copy objects from development to transition library (TEST)

- Select request with ‚S' from main menu 'NAT-PAD - Register Requests' (see Figure 4) or continue after register request.
- Maintain ‚N(ew)' or ‚D(elete)' objects from menu ‚NAT-PAD - List of Objects' (see Figure 7).
- Transmit (move or copy) selected objects from development into transition environment by hitting PF9 key (see Figure 7). This step is mandatory and necessary before transmit objects into production. Objects in transition libraries should not be changed. Changes should be done in development. Objects are copied/moved with SYSMAIN function on-line.
- Confirm transition with PF4 key (copy), PF5 key (move), or cancel transition with PF3 key.
- Request status will be set to ‚intrans' – color = yellow

Copy from transition/test to test

- Select request with ‚S' from main menu 'NAT-PAD - Register Requests' (see Figure 4) or continue after copy/move to transition library.
- Hit PF10 key to start copy/move from transition to other test environments (see Figure 7).
- Select (any mark) from pop-up window your target library – in this case test library.
- Confirm transition with PF4 key (copy), PF5 key (move), or cancel transition with PF3 key. Source will be copied and cataloged via batch SYSMAIN function. The job-name will be created by user-id and @, for example ZXX123@.
- Job status will be set to 'SUBMIT'
- If job ends successful, job status will be set to 'OK'. Otherwise, job status contains 'ERROR'
- Request status keeps 'intrans' – color = yellow

Move/Copy from test (transition) to production

- Select request with ‚S' from main menu 'NAT-PAD - Register Requests' (see Figure 4) or continue after copy/move to transition library.
- Hit PF10 key to start copy/move from transition to production library (see Figure 7).
- Select (any mark) from pop-up window your target library – in this case production library. Automatically, the older version from production will be archived.
- Confirm transition with PF4 key (copy), PF5 key (move), or cancel transition with PF3 key. Source will be copied and cataloged via batch SYSMAIN function. The job-name will be created by user-id and @, for example ZXX123@.
- Job status will be set to 'SUBMIT'
- If job ends successful, job status will be set to 'OK'. Otherwise, job status contains 'ERROR'
- If job ends successful, request status changes from 'intrans' to 'inprod' – color = red

The following steps are included in pre-defined job:

- Step EVENT creates control statements for unload and load NATURAL and PREDICT from transition into production (eight NATURAL work files).
- Several jobsteps to delete and allocate OS data sets to unload NATURAL and PREDICT objects.
- Several steps to unload NATURAL and PREDICT objects from transition and target library (test or production environment).
- Archive prior NATURAL objects if production is target.
- Load new NATURAL and PREDICT objects to test or production.
- Catalog NATURAL objects in production. Job will interrupt with RC 55 for any error code during catalog process and back-out all module of this request.
- Set internal status OK - will shown in menu 'Register Requests'

- Purge NATURAL Buffer Pool with copied/moved objects.
- Delete objects in transition library if move was wanted.
- Checking out errors and recover prior objects.
- Delete OS data sets.

3.2 Using COPY On-line in Development and Test Without Catalog

This function will be used to copy only NATURAL source

- From development lib to development lib
- From development lib to test lib without CATALL
- From test lib to development lib

Automatically, a request will be created

Getting started

- LOGON NATPAD and hit ENTER key
- Hit PF11 (Devl) key to receive menu ‘Browse and Copy Objects of Development’
- Enter ‘From Lib’ and ‘To Lib’
- Decide to replace (YES) the objects in target lib or not (NO)
- Decide to copy with XREF (YES) or without XREF (NO) data
- Enter object name, generic search is possible, for example XYZ0*
- Mark objects to copy with ‘C’ – depends on parameter settings move is not possible
- If the selected source exists in other libraries a pop-up window appears to inform about duplicate source in libraries
- Successful copied sources are marked with OK
- Failed copies are marked with NOT (for example, with no replace option)

```
13:52:23 D 100 F 010      *** N A T - P A D ***                  98-05-18
ZIND9S                    - Register Requests -                   NATPAD

 Continue With Request Number:          1

    ________    From Library         NPM00110
    000001      Request Number

    TransLib  DB Fnr   TargetLib DB Fnr
    NPTRANS1 100 010   ICIS     200 010
    NPTRANS1 100 010   ICSTREET 200 010
    NPTRANS1 100 010   COMBATCH 200 010
    NPTRANS1 100 010   ICSDST   200 010
    NPTRANS1 100 010   ICSFIX   200 010
    NPTRANS1 100 010   JCLLIB   200 010
    NPTRANS1 100 010   NATPAD   200 010
    NPTRANS2 100 010   ICIS     200 010
    NPTRANS3 100 010   ICSTREET 200 010
    NPTRANS2 100 010   JCLLIB   200 010


    PF3-Cancel
```

Figure 5: Describe new request - from development library via transition library to target library

```
14:13:08 D 100 F 010 * N A T -                                        8
ZIND9S                 - Request
                                          Select objects

 Cont. with:    ________ Translib       S Object  Cont' with:  NPJ00100
                         Request
N/S/D (New/Status/Delete)                  _ NATPAD     PGM
_ NPJ00700 TXT  _ ________                 _ NP         PGM
                                           _ NP-ADMIN   PGM
                                           _ NPASUBMT   PDA
                                           _ NPA00010   PDA
                                           _ NPA10000   PDA
                                           _ NPA10001   PDA
                                           _ NPA10002   PDA
                                           _ NPA10003   PDA
                                           _ NPA10004   PDA
                                           _ NPA10005   PDA
                                           _ NPH00620   HLP
                                           _ NPH00620   HLP
                                           _ NPH00720   HLP
                                           _ NPJ00100   TXT

                                         PF3=End

Enter-PF1---PF2---PF3---PF4---PF
           Info  End   Sel   Se
No other date available
```

Figure 6: Select and mark objects to transmit - PF4 key

```
18:34:08 D 196 F 008 * N A T - P A D - List of O b j e c t s *      2000-03-01
NATPAD-P             - Request No 1    From Library ZIND9S   -        NPM00200
 Cont' with: ________  TransLib: NPTRANS1  TargLib: NATPAD    Status: inproces
 Req Text:                      Close/Open: C    UserId:          ZIND9S
 Test #1_____________           Date: 2000-02-16 Time:  11:05    Acc: ZIND9S
------------------------------------------------------------ No. Modules:   1
_ NPJ00620 TXT _ NPJ00700 TXT _ NPJ00780 TXT _ NPJ00950 TXT _ NPMERROR  MAP
_ NPMH0100 MAP _ NPMH0200 MAP _ NPMH0620 MAP _ NPMH0630 MAP _ NPMH0720  MAP
_ NPM00010 MAP _ NPM00100 MAP _ NPM00101 MAP _ NPM00110 MAP _ NPM00120  MAP
_ NPM00130 MAP _ NPM00140 MAP _ NPM00200 MAP _ NPM00210 MAP _ NPM00220  MAP
_ NPM00221 MAP _ NPM00300 MAP _ NPM00310 MAP _ NPM00311 MAP _ NPM00600 MAP
_ NPM00620 MAP _ NPM00630 MAP _ NPM00640 MAP _ NPM00720 MAP _ NPM00721  MAP
_ NPM00900 MAP _ NPM00901 MAP _ NPNOBNAM SPG _ NPNSECU1 SPG _ NPNSECU2  SPG
_ NPNSUBMT SPG _ NPNSUBRJ SPG _ NPNYEARP SPG _ NPNYEARS SPG _ NPN00010  SPG
_ NPN00020 SPG _ NPN00030 SPG _ NPN00100 SPG _ NPN00101 SPG _ NPN00102  SPG
_ NPN00103 SPG _ NPN00105 SPG _ NPN00200 SPG _ NPN00201 SPG _ NPN00210  SPG
_ NPN00220 SPG _ NPN00225 SPG _ NPN00301 SPG _ NPN00302 SPG _ NPN00760  SPG
_ NPN00770 SPG _ NPN00781 SPG _ NPN00782 SPG _ NPN00950 SPG _ NPN10000  SPG
_ NPN10001 SPG _ NPN10002 SPG _ NPN10003 SPG _ NPN10004 SPG _ NPN10005  SPG
_ NPPBUFFE PGM _ NPPERROR PGM _ NPP00010 PGM _ NPP00100 PGM _ NPP00200  PGM
_

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--
           Info  End   Sel   SelDt SelAl Top   Forw  Trans Subm  Delet
```

Figure 7: List of objects to move/copy to transmission or production library

? – This pop-up window
D – Delete marked object
S – Display status of one object
N – Register new module

PF2:	Info window to store additional description for a request
PF3:	Back to previous menu
PF4:	Select objects from a window
PF5:	Select objects by date
PF6:	Select all objects from the library
PF7:	Scroll back to top page
PF8:	Page forward one page
PF9:	Move/Copy NATURAL objects from development library to transition library
PF10:	Move/Copy NATURAL objects from transition library to test/production library
PF11:	Delete all objects in 'From-Library'

```
15:58:49                *** N A T - P A D ***                        2000-03-07
ZIND9S                Status of Copied Modules                       NATPAD-P
------------------------ Request Header ----------------------------   NPM00230
Request No  1    From User  ZIND9S      Date: 2000/03/07  Time: 13:15
Text: Test #1           StartL:  ZIND9S   TargetL: NATPAD   TransL:     NPTRANS1
-------------------- Module NP       Type PGM   -------------------------------
Request    UserID   UserID   From     To       UserID   Copy       Copy  Copy
Date       Initiat. Acceptor Library  Library  Copied   Date       Time  Stat.
1999/10/20                   NPTRANS1 ICSTRNG1 ZIND9S   1999/10/20 17:11 SUB
1999/10/20                   NPTRANS1 ICSTRNG1 ZIND9S   1999/10/20 17:26 OK
1999/10/20                   ICSTRNG1 deleted  ZIND9S   1999/10/20 17:46 OK
1999/10/22                   ZIND9S   NPTRANS1 ZIND9S   1999/10/22 18:11 OK
1999/10/22                   NPTRANS1 ICIS     ZIND9S   1999/10/22 18:12 OK
1999/10/22                   NPTRANS1 ICIS     ZIND9S   1999/10/22 18:23 OK
2000/01/07                   NPTRANS1 ICIS     ZIND9S   2000/01/07 14:44 OK
2000/01/07                   NPTRANS1 ICIS     ZIND9S   2000/01/07 14:57 OK
2000/01/07                   NPTRANS1 ICSSCH   ZIND9S   2000/01/07 14:58 OK
2000/01/07                   NPTRANS1 ICSUSAT2 ZIND9S   2000/01/07 14:59 ERROR
2000/01/07                   NPTRANS1 ICSSCR   ZIND9S   2000/01/07 15:00 OK
2000/01/07                   NPTRANS1 ICSPRLL  ZIND9S   2000/01/07 15:01 OK
2000/01/07                   NPTRANS1 ICSPRD   ZIND9S   2000/01/07 15:02 OK
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
+                 End                      --    +
```

Figure 8: Display status of one object

UserID Initiator and UserID Acceptor are fields for future usage.
Fields are blank in this version of NAT-PAD

Copy status will be automatically refreshed by hitting the ENTR key

SUB = Job was submitted
OK = Job ended with RC 0
ERROR = Job ended with RC > 0

Note: See NATURAL user exits to determine the right RC. Otherwise, RC is set to zero even if module was not found, for example MAINEX08

Move / Copy objects to transition library

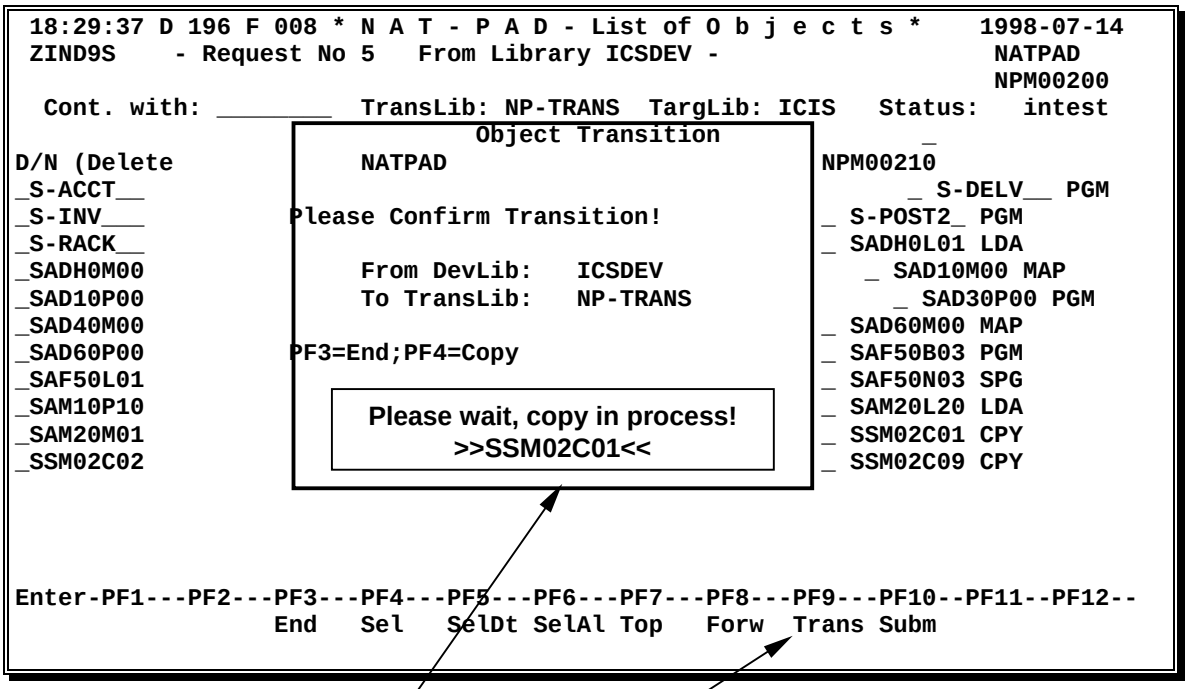


Figure 9: Move / copy objects from development to transition library

After hitting PF9 key (see also Figure 7) a pop-up window appears to confirm move / copy from development to the transition library.

Additional pop-up window informs the user about progress of the work.

Internally, in the background SYSMAIN will be invoked to move / copy on-line from the development to the transition library without catalog function.

Move / Copy objects from transition library to the target production or others

```
18:29:37 D 196 F 008 * N A T - P A D - List of O b j e c t s *    1998-07-14
NATPAD-P     - Request No 1       From Library ZIND9S   -          NPM00200
                 Please mark one or more target libraries!
 NATPAD-P                      From: NPTRANS1                    NPM00221
 Group    S Libs     S Libs     S Libs     S Libs     S Libs     S Libs
 -------- - -------- - -------- - -------- - -------- - -------- - --------
 PROD     _ ICIS     _ ICSTREET _ JCLLIB   _ I3AADHOC _ I4AADHOC _ ICSDST
 USAT1    _ ICSSCH   _ ICSYR2K  _ JCLUAT1
 USAT2    _ ICSUSAT2 _ JCLUAT2
 USAT3    _ ICSSCR   _ JCLPRLL
 USAT4    _ ICSPRLL  _ ICSTIE   _ JCLPRLL
 USAT5      ICSUSAT5   JCLUSAT5
 USAT6    _ ICSPRD   _ ICSACPT5 _ JCLUSAT
 TEST     _ ICSDEV   _ ICSTOOLS _ JCLTEST  _ ICSARCH
 TRNG1    _ ICSTRNG1 _ JCLTRNG1
 TRNG2    _ ICSTRNG2 _ JCLTRNG2
 TRNG3    _ ICSTRNG3 _ JCLTRNG3


                  PF3=exit    mark+ENTER=select
```

Figure 10: Move / copy objects from transition library to target production or others

After hitting PF10 key (see also Figure 7) a pop-up window appears with all possible target libraries to select.

The move / copy function submits a batch job to catalog objects in the target environment.

Basically, objects with the target of a production library will be archived.

Additionally, a pop-up window appears to confirm the transition

```
Please Confirm Transition!

From DevLib:   ICSDEV
To TransLib:   NP-TRANS

PF3=End;PF4=Copy
```

3.3 Transmit PREDICT objects (PF5)

Hit PF5 key from main menu 'NAT-PAD - Register Requests' (see Figure 4) leads to menu 'NAT-PAD - Transmit PREDICT Objects' (see Figure 11).

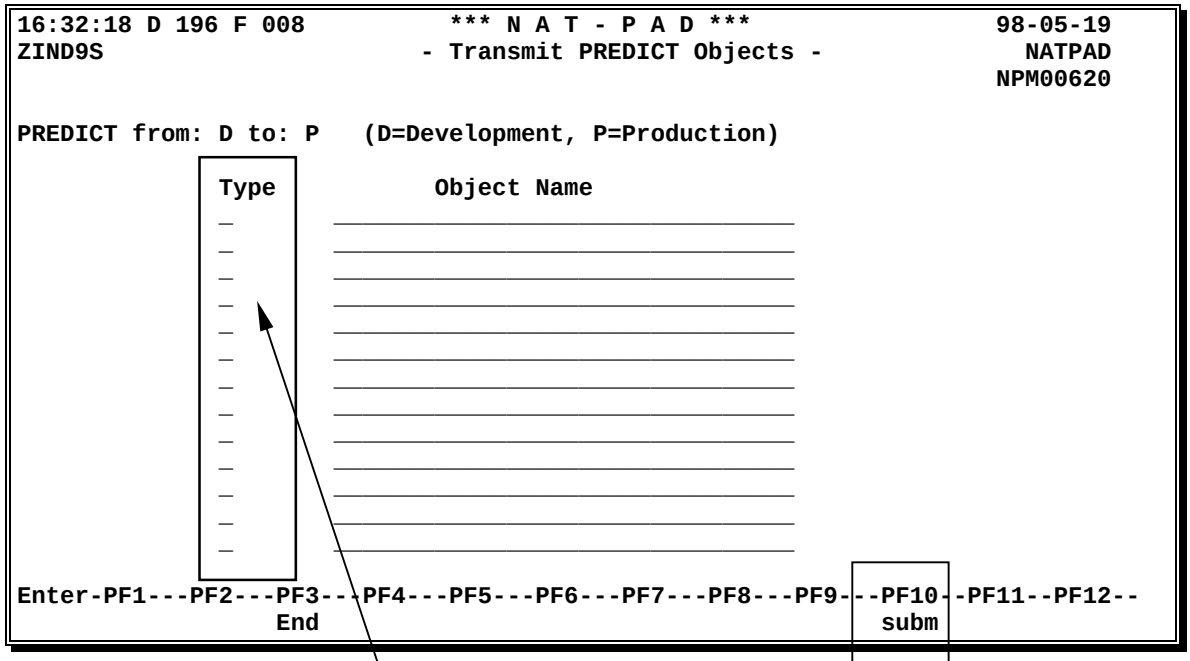


Figure 11: Transmit PREDICT objects

Possible selections are displayed after typing '?'
M - Map
P - Program
S - System
V - Verification

D - DDM (under development - DBA task)

PF10 key submits a batch job to transmit PREDICT objects from test to production

3.4 Restart PREDICT - only up to version 3.1 (PF2)

If a load function fails due to an abnormal termination, run it a second time with the same parameters to produce a consistent data dictionary. If old file descriptions were being replaced, some file descriptions may have been set in a locked status. In batch mode - depending on the type of abnormal termination - it may be necessary to run RESTART before the job can be re-executed.

Hit PF2 key from main menu 'NAT-PAD - Register Requests' (see Figure 4) to restarts PREDICT load operation that terminated abnormally.

3.5 Transmit error messages (PF4)

Hit PF4 key from the main menu 'NAT-PAD - Register Requests' (see Figure 4) to transmit the error messages from the test to the production. Batch job will be submitted (see Figure 12).

```
17:01:44 D 196 F 008          *** N A T - P A D ***                  98-05-1998
ZIND9S                     - Transmit Error Messages -                  NATPAD
                                                                      NPM00600

From Lib _________  DBID  196  FNR  8__    To Lib _________ DBID 196  FNR 8__


From Number              To Number
_____              -     _____
_____              -     _____
_____              -     _____
_____              -     _____
_____              -     _____









Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--
doit              End
```

Figure 12: Transmit Error Messages

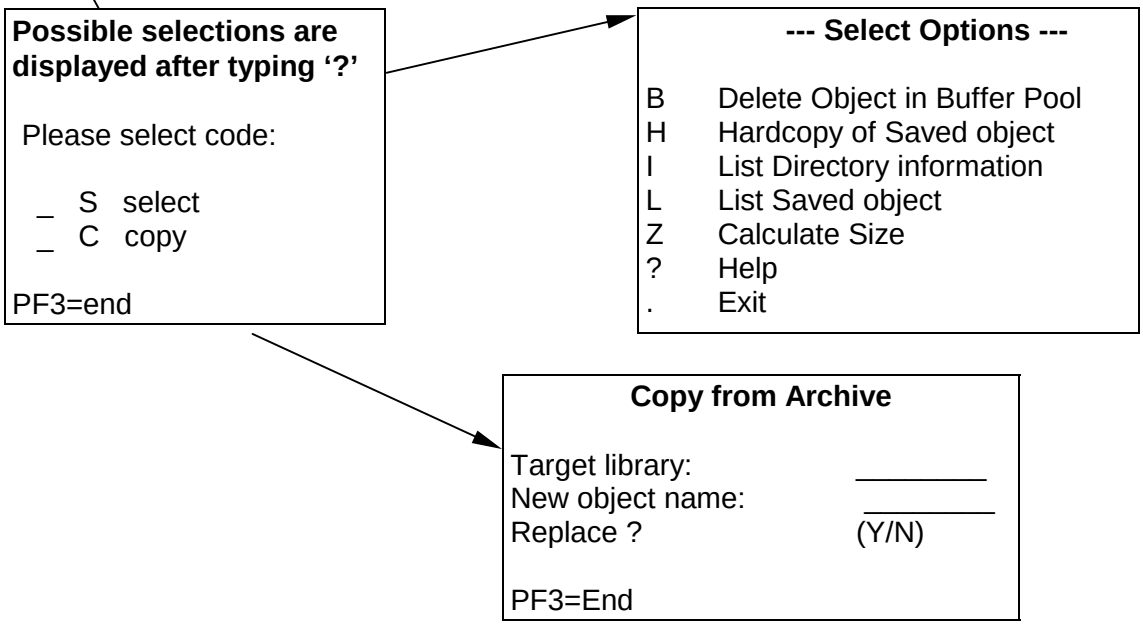
3.6 Display all versions in archive (PF9)

Hit PF9 key from main menu 'NAT-PAD - Register Requests' (see Figure 4) to display prior versions in archive (see Figure 13).

```
17:33:25 D 196 F 008      *** N A T - P A D ***                  98-05-19
NATPAD              - Display Prior Versions of Archive -        NPM00720

Continue with: NPH00720 18051998 1818528
         <---- Information about archived program versions ----->
 S  Object   Date       Time       User     From Lib Refname    Type
 _  NATPAD   18-05-1998 18:18:48,5 ZIND9SN1 NP-PROD  A0000002   PGM
 _  NP       19-05-1998 16:01:11,0 ZIND9SN1 NP-PROD  A0000175   PGM
 _  NP       18-05-1998 18:18:51,2 ZIND9SN1 NP-PROD  A0000003   PGM
 _  NP       18-05-1998 18:13:14,3 ZIND9SN1 NP-PROD  A0000001   PGM
 _  NP-ADMIN 18-05-1998 18:18:51,3 ZIND9SN1 NP-PROD  A0000004   PGM
 _  NPASUBMT 18-05-1998 18:18:51,4 ZIND9SN1 NP-PROD  A0000005   PDA
 _  NPA00010 18-05-1998 18:18:51,5 ZIND9SN1 NP-PROD  A0000006   PDA
 _  NPA10000 18-05-1998 18:18:51,6 ZIND9SN1 NP-PROD  A0000007   PDA
 _  NPA10001 18-05-1998 18:18:51,8 ZIND9SN1 NP-PROD  A0000008   PDA
 _  NPA10002 18-05-1998 18:18:51,9 ZIND9SN1 NP-PROD  A0000009   PDA
 _  NPA10003 18-05-1998 18:18:52,0 ZIND9SN1 NP-PROD  A0000010   PDA
 _  NPA10004 18-05-1998 18:18:52,1 ZIND9SN1 NP-PROD  A0000011   PDA
 _  NPA10005 18-05-1998 18:18:52,2 ZIND9SN1 NP-PROD  A0000012   PDA
 _  NPH00620 18-05-1998 18:18:52,5 ZIND9SN1 NP-PROD  A0000013   HLP
 _  NPH00630 18-05-1998 18:18:52,7 ZIND9SN1 NP-PROD  A0000014   HLP
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--
                    End
```

Figure 13: Display prior versions in archive



3.7 Copy from production into test/development (PF10)

If your operating system allows online access to production, then you can use NAT-PAD's **ON-LINE** function to copy NATURAL sources from production into test or development environment.

Otherwise, NAT-PAD's **BATCH** function will be automatically called.

The NAT-PAD module NPN10003 with parameter #PRODEV-ONL is responsible for this setting, see NAT-PAD Installation Guide and Administration Manual for MVS and OS/390.

Possible selections are displayed after typing '?'

Please select code:
_ S select
_ C copy
PF3=end

ON-LINE

Hit PF10 key from main menu 'NAT-PAD - Register Requests' (see Figure 4) to display latest version in production. Selection codes "S" (select) and "C" (copy) are possible.

```
18:01:47 D 196 F 008       *** N A T - P A D ***  19.05.98
ZIND9S                - Display Latest Objects in Production -        NATPAD
                                                                    NPM00640
Continue with: NPJ00620  in library: NP-PROD_ D  196  F  008
 S Object   Date       Time         Type
 _ NATPAD   18-05-1998 18:19:23,1   PGM
 _ NP       19-05-1998 16:01:26,3   PGM
 _ NP-ADMIN 18-05-1998 18:19:23,5   PGM
 _ NPASUBMT 18-05-1998 18:19:18,8   PDA
 _ NPA00010 18-05-1998 18:19:18,9   PDA
 _ NPA10000 18-05-1998 18:19:19,1   PDA
 _ NPA10001 18-05-1998 18:19:19,3   PDA
 _ NPA10002 18-05-1998 18:19:19,5   PDA
 _ NPA10003 18-05-1998 18:19:19,6   PDA
 _ NPA10004 18-05-1998 18:19:19,8   PDA
 _ NPA10005 18-05-1998 18:19:20,0   PDA
 _ NPH00620 18-05-1998 18:19:23,8   HLP
 _ NPH00630 18-05-1998 18:19:23,9   HLP
 _ NPH00720 18-05-1998 18:19:24,1   HLP
 _ NPJ00100 13-05-1998 19:27:23,0   TXT

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--
                  End
```

Figure 14: Display latest version in production – copy procedure on-line

Copy from Production

Target library: _____
New object name: _____
Replace ? N (Y/N)

--- Select Options ---

B Delete Object in Buffer Pool
H Hardcopy of Saved object
I List Directory information
L List Saved object
Z Calculate Size
? Help
. Exit

BATCH

Hit PF10 key from main menu 'NAT-PAD - Register Requests' (see Figure 4) to start batch copy procedure for production, see Figure 15.

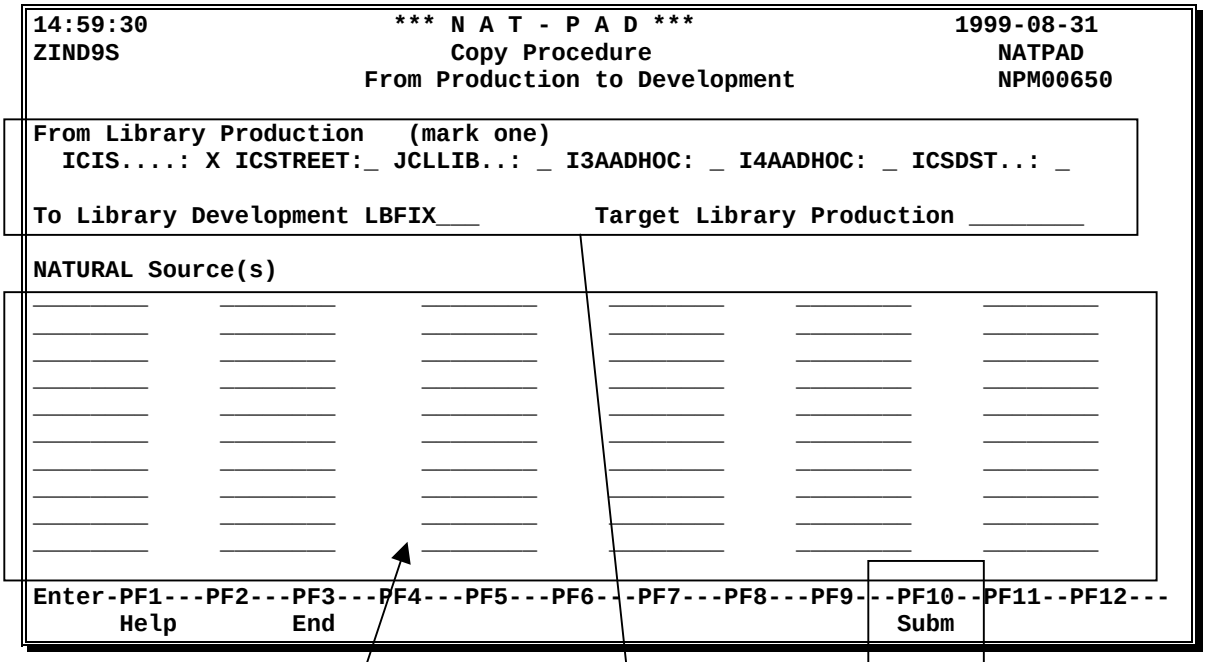


Figure 15: Copy procedure - Batch - from production to development

Type in requested NATURAL objects to be copied in batch and hit enter key. Asterisk notation is still not yet possible, for example ABC*. The internal NATURLA SORT for CATALL will be difficult or impossible if two asterisk notations are used, DEF* and GHI*

Fill in name of from-lib and to-lib and later lib in production.

Submit batch job by hitting PF10 key. Automatically, NAT-PAD request will be generated and request number will be displayed. Make a note for future references

3.8 Browse and copy objects in development (PF11)

Hit PF11 key from main menu 'NAT-PAD - Register Requests' (see Figure 4) to display menu 'Browse and Copy Objects of Development'.

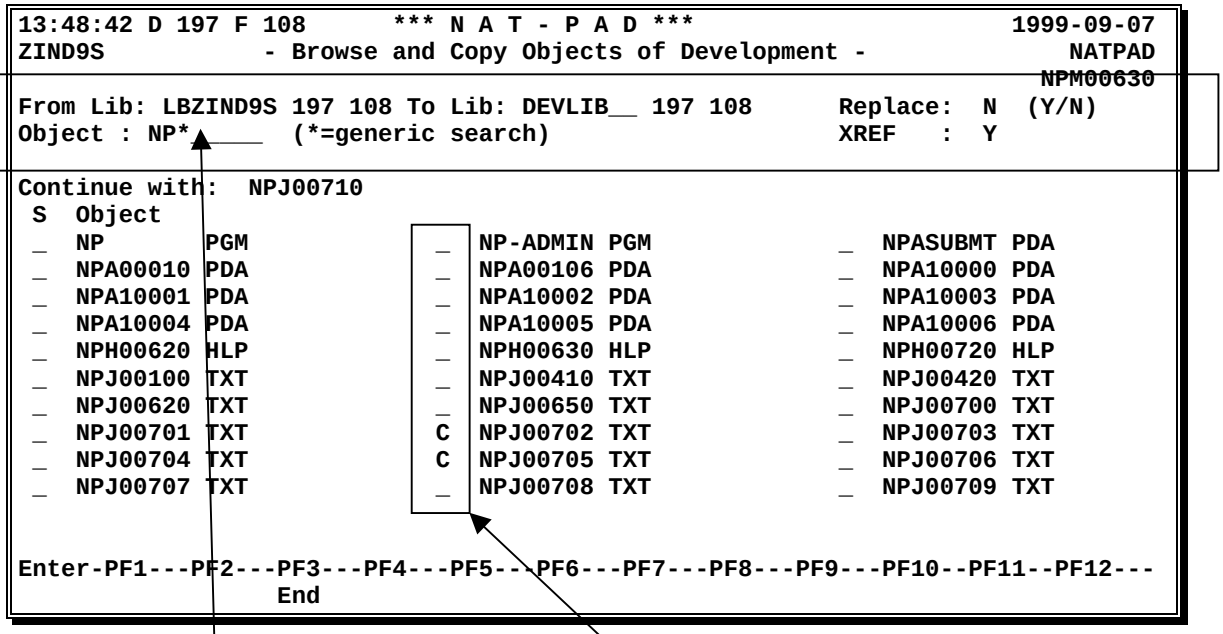


Figure 16: Browse and copy objects in development

Type in the possible object names or part of them to be copied, for example NP*.

Then, the requested objects will be displayed.

Mark the objects to be copied with 'C' or 'S'elect one or more to display.

4 Maintain All Requests (Selection Code 2)

Select and maintain **all** registered requests. NAT-PAD's menu displays all registered requests. With selection codes it is possible to mark single requests in column 'S(select)' for later process. The function 'Register New Requests' is only possible with selection code 1.

```
12:41:52 D 197  F 108     *** N A T - P A D ***                    2000-03-07
ZIND9S                 - Maintain All Requests -                   NATPAD-P
                                                                   NPM00150
 1    ZIIRPR    <== Continue With Request Number And Userid
   <---------------------------- Request ------------------------> <-- Job --->
S Number UserId   Description  From/To  Date       Time  Status    No   Status
_      1 $IIRPR   EFIX Procedu LBFIX    1999-02-10 14:36 inproces       OK
_      1 $IND9S   EFIX Procedu LBFIX    1999-02-17 16:20 inprod         ERROR
_      1 ZIIBKR   Test         ICISHD   1998-10-08 07:05
_      1 ZIIC9S   EFIX Procedu LBFIX    1999-04-22 13:37 intrans        OK
_      1 ZIIDAP   ISM33*       LBDDS    1999-02-17 13:44 intrans        OK
_      1 ZIID9L   eFIX Procedu LBFIX    1999-11-12 16:28 inprod         OK
_      1 ZIIF9P   EFIX Procedu LBFIX    1999-07-14 00:50 inprod         OK
_      1 ZIIGLB   EFIX Procedu LBFIX    1999-05-27 09:22 inprod         OK
_      1 ZIIG9C   EFIX Procedu LBFIX    1999-05-03 16:22 inprod         OK
?      1 ZIIIAT   Copy Procedu LBSTREET 1999-08-09 22:17 inproces       OK
_      1 ZIIJXL   EFIX Procedu LBFIX    1999-10-06 15:14 inprod         OK
_      1 ZIIN9M   EFIX Procedu LBFIX    1999-08-03 11:48 inprod         OK
_      1 ZIIPLB   EFIX Procedu LBFIX    1999-08-05 00:36 inprod         OK
_      1 ZIIRPR   EFIX Procedu LBFIX    1999-05-16 22:08 inprod         OK

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Find        End                    --    +     Arch  Prod  Dvmt
```

Figure 17: Maintain all requests

Possible selections are displayed after typing '?'

S - Select Request .....
F - Finish(close) Request
O - Re(open) Request.....

Request Status

Blank	After register request w/o objects
Inproces	After register request with objects *display: turquoise*
Intrans	After copy to transition library (on-line) display: *yellow*
Inprod	After copy to production (batch) – *display: red*

Close Status = entire request displays: white

PF keys:

PF1	Find one program (source or object) in all libraries with compare function
PF3	Program end
PF7	Top of displayed requests or use 'Cont' with request#
PF8	One page forward or start with request number and userid
PF9	Display archive and copy prior versions from archive to library
PF10	Display and copy objects in production
PF11	Display and copy objects in development

Job Status
- SUBMIT
- OK
- BACKOK
- ERROR

Job Number
Only with ESS available

4.1 Differences

to selection code 1

With selection code 1 of the main menu the requests under your userid can be registered and maintained.

With selection code 2 of the main menu all requests can be

- Selected to maintain (S)
- Finished (closed) to avoid version control checks (F). The function code ‘C‘ is occupied by the copy function.
- Re-opened for further maintenance (O)

To register a new request is not possible with function 2.

5 Several Search Functions (Selection Code 3)

```
15:04:13                  *** N A T - P A D ***                2000-03-07
NATPAD-P                     - Search Menu -                   NPM00060

               Code
               ----    ------------------------------------------
               1       Search saved or cataloged objects in all
                       libraries in TEST environment (VC-function)

               2       Search one object in all requests and
                       display requests.
                       Type in object name:    ________

               3       Search one object in all requests and
                       display entire copy status (from/to lib)
                       Type in object name:    ________

               4       Search and display all open requests
                       Option: Change request status to C(lose)
                       ------------------------------------------
        Enter Code:    _

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        End                                                  Exit
```

Figure 18: Search menu (selection code 3)

5.1 Search one object in all libraries (VC function)

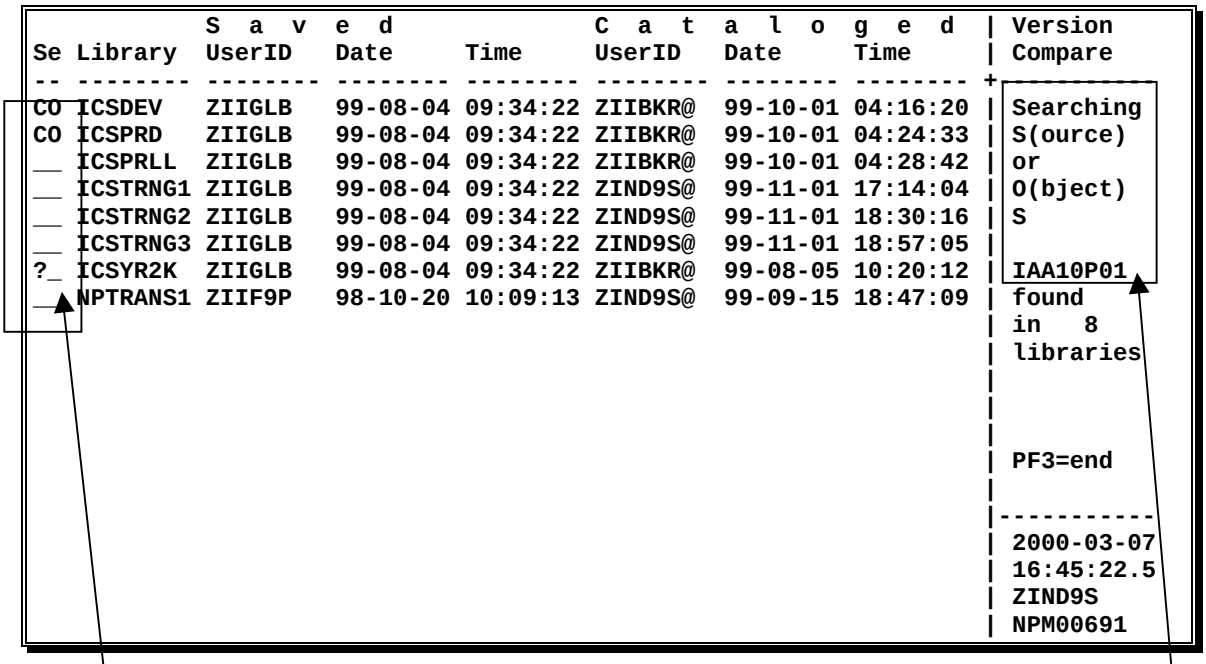


Figure 19: Search one object in all libraries

Search object IAA10P01
And determine whether is it
S(ource) or O(bject)

Selection Codes:
? - This help window
CO - Compare (mark two)
LD - List full directory
PR - Print Source

More information about the compare function (CO) see SUPERC utility - TSO/ISPF - 3.12 - PF1
or
mark to libraries with CO and then hit PF1 key for help

```
ZIND9S          NAT-PAD        NATPAD-P
                                NPMH0692
NATURAL Source Comparison in Batch

 X Library 1: ICSDEV     Module:  IAA10P01
   Library 2: ICSPRD     Module: IAA10P01
 Please mark old library

 --------------------------------

Batch Comparison Program SuperC
   CHNGL  = List differences + 10 lines
   DELTAL = List differences + OVSUML
X  LONGL  = List new data set + DELTAL
   OVSUML = Only overall summary list

Please mark one list type

-----------------------------------
PF1=Help       PF3=End      ENTR=Submit
```

5.2 Search one object in all requests and display requests

```
17:27:55                *** N A T - P A D ***                        2000-03-07
ZIND9S           Display All Requests Of One Object                   NATPAD-P
                                                                       NPM00108
 IAA10P01 / PGM <== NATURAL Object / Type

  <-------------------Request------------------------------>  <----Copy---->
S Number UserId   Description     FromLib  Date       Status    Stat  UserId
_      4 ZIIBKR                  ICSYR2K  1998/09/15 intrans
_     93 ZIND9S   IAA10P01/IAA12P ICSYR2K  1998/09/16 intrans
_    155 ZIIBKR                  ICSYR2K  1998/11/09 intrans
_    278 ZIND9S   MSVC Impl#8 IAA ICSPRD   1998/12/16 inprod
_    574 ZIIBKR                  LBZIIGLB 1999/10/01 inprod    OK    ZIIBKR
_    709 ZIND9S   TRNG Migration  ICSTRNG  1999/10/28 inproces  ERROR ZIND9S




Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
Find  Help        End                     --    +
Bottom of data
```

Figure 20: Search one object in all requests and display requests.

5.3 Search one object in all requests and display entire copy status

```
17:34:40                *** N A T - P A D ***                        2000-03-07
ZIND9S                Display Status of One Module                   NATPAD-P
                                                                       NPM00107
 IAA10P01 Type  PGM <== NATURAL Object ---------------------------------------

   Copy       Copy    From     To             Request          Copy
 S Date       Time    Library  Library        Number UserId     Status UserID
 _                    ICSYR2K  ICIS                4 ZIIBKR     ERROR  ZIIBKR
 _ 1998/09/16 18:50   ICSYR2K  ICIS               93 ZIND9S     OK     ZIND9S
 _ 1998/11/09 10:24   ICSYR2K  ICIS              155 ZIIBKR     OK     ZIIBKR
 _ 1998/12/30 18:53   ICSPRD   ICIS              278 ZIND9S     OK     ZIND9S
 _ 1999/08/05 10:16   LBZIIGLB NPTRANS1          574 ZIIBKR     OK     ZIIBKR
 _ 1999/08/05 10:20   NPTRANS1 ICSYR2K           574 ZIIBKR     OK     ZIIBKR
 _ 1999/10/01 04:16   NPTRANS1 ICSDEV            574 ZIIBKR     OK     ZIIBKR
 _ 1999/10/01 04:19   NPTRANS1 ICSPST            574 ZIIBKR     OK     ZIIBKR
 _ 1999/10/01 04:24   NPTRANS1 ICSPRD            574 ZIIBKR     OK     ZIIBKR
 _ 1999/10/01 04:28   NPTRANS1 ICSPRLL           574 ZIIBKR     OK     ZIIBKR
 _ 1999/10/01 04:34   NPTRANS1 ICIS              574 ZIIBKR     OK     ZIIBKR
 _ 1999/10/26 16:12   ICSTRNG  NPTRANS1          709 ZIND9S     OK     ZIND9S
 _ 1999/10/26 19:35   NPTRANS1 ICSTRNG1          709 ZIND9S     ERROR  ZIND9S
 _ 1999/10/26 21:19   NPTRANS1 ICSTRNG2          709 ZIND9S     ERROR  ZIND9S
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
Find  Help        End                     --    +
Top of data
```

Figure 21: Search one object in all requests and display entire copy status

5.4 Search and display all open requests – with finish option

```
17:53:37                *** N A T - P A D ***                2000-03-07
NATPAD-P              Display All Open Requests                NPM00111

  Request-Key     Request  Request    Request          Request  Job    Close
S Number UserId   FromLib  Date       Text             Status   Status Status
- -------------- -------- ---------- ---------------- -------- ------ ------
_      1 $IIRPR   LBFIX    1999/02/10 EFIX Procedure   inproces OK
_      1 $IND9S   LBFIX    1999/02/17 EFIX Procedure   inprod   ERROR
_      1 ZIIBKR   ICISHD   1998/10/08 Test
_      1 ZIIC9S   LBFIX    1999/04/22 EFIX Procedure   intrans  OK
_      1 ZIIDAP   LBDDS    1999/02/17 ISM33*           intrans  OK
_      1 ZIID9L   LBFIX    1999/11/12 eFIX Procedure   inprod   OK
_      1 ZIIF9P   LBFIX    1999/07/14 EFIX Procedure   inprod   OK
_      1 ZIIGLB   LBFIX    1999/05/27 EFIX Procedure   inprod   OK
_      1 ZIIG9C   LBFIX    1999/05/03 EFIX Procedure   inprod   OK
_      1 ZIIIAT   LBSTREET 1999/08/09 Copy Procedure   inproces OK
_      1 ZIIJXL   LBFIX    1999/10/06 EFIX Procedure   inprod   OK
_      1 ZIIN9M   LBFIX    1999/08/03 EFIX Procedure   inprod   OK
_      1 ZIIPLB   LBFIX    1999/08/05 EFIX Procedure   inprod   OK
_      1 ZIIRPR   LBFIX    1999/05/16 EFIX Procedure   inprod   OK
_      1 ZIIRXL   LBFIX    1999/05/04 EFIX Procedure   inprod   OK
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
SelRe Help        End                        --    +                FinRe
```

Figure 22: Search and display all open requests – with finish option

Select Opitons:

? – This window
F – Finish single request (close)
S – Select single request (display)

To finish (close) more than one request hit PF11 key.
See Figure 23 and chapter 5.4.1

Next pop-up window:

Do you really want to change this request?

UserID of acceptor: _____

Yes or No = N

5.4.1 Finish (close) more than one request

```
18:14:27                  *** N A T - P A D ***                  2000-03-07
NATPAD-P                Finish / Close Requests                    NPM00112



     Select requests from-date:    20000306   (YYYYMMDD)
                       to-date:    20000307   (YYYYMMDD)

     Select userID of requests:    ZIND9S__   (blank = all requests)


     UserId of acceptor ......:    ________   (mandatory)

     Close status ............:    C
     Close userid ............:    ZIND9S
     Close date ..............:    2000-03-07
     Close time ..............:    18:14,275




Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
Start             Back
```

Figure 23: Finish/close requests from/to and with userid

6 Several Statistic Reports

6.1 List NATURAL programs copied into production

```
 18:51:17                    *** N A T - P A D ***                    2000-03-07
 ZIND9S                        - Batch Report -                        NATPAD-P
                                                                       NPM00810



 Start NATURAL batch job to list modules copied into production.


      From date ......: 20000300      (yyyymmdd)

      To date ........: 20000307      (yyyymmdd)

        Module name ....: ________      (leave blank to get all modules)




Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        End                                          Subm
```

Figure 24: List NATURAL programs copied into production - Menu

```
2000-03-07 18:55:08              N A T - P A D                        Page      1
NATPAD                 -- Program Copies Into Production --           NPP00810
                                    Module List
                              From 2000-02-29 To 2000-03-07
-------------------------------------------------------------------------------
Module   Request UserID    CRTS/Proj   To Lib    Copy Date   Copy Time
-------- ------- --------  ----------  --------  ----------  ----------
ICI35*        66 ZINKWN    EFIX Proce  ICSFIX    2000-02-29  05:24:50.7
IRR20B20       3 ZIIN9M    EFIX Proce  ICSFIX    2000-03-07  10:47:25.8
IRR20B20       3 ZIIN9M    EFIX Proce  ICIS      2000-03-07  11:15:19.0
SPA05L00    1098 ZIIBKR    IB96-010    ICSTREET  2000-03-06  07:29:52.7
SPA05P00    1098 ZIIBKR    IB96-010    ICSTREET  2000-03-06  07:29:52.7
SSH10P00    1099 ZIIBKR    I3317       ICSTREET  2000-03-06  07:36:02.4



2000-03-07 18:55:32              N A T - P A D                        Page      1
NATPAD                 -- Program Copies Into Production --           NPP00810
                                   Summary Report
                              From 2000-02-29 To 2000-03-07
-------------------------------------------------------------------------------
Number of NATURAL objects read ..............:       28987
Number of NATURAL objects copied to production:           6
******************************** BOTTOM OF DATA ********************************
```

Figure 25: List NATURAL programs copied into production - Report

6.2 Compare two libraries and print mis-matched objects

At this time, the function is only in batch available (no RJE function).

7 Administrator Functions (Selection Code 5)

7.1 Maintenance (online)

Hitting PF12 key on main menu 'NAT-PAD - Register Requests' will leads you to two online functions, only available for NAT-PAD administrators.

- Archive entire library
- Backout request

```
13:57:21 D 196 F 008       *** N A T - P A D ***                    98-05-19
ZIND9S                      - Administration -                      NATPAD
                                                                    NPM00900

      Code
      ---- ------------------------------------------------------
           1    Archive entire library               Archive DBID  File
                (Library will not deleted!)                 196   122
                ________  Library (DBID and File, see NATURAL batch)

                Restart? _ (Y/N)         Y = still existing versions are
                                             not archived again


           2    Backout request
                __        Request Number  Status  Job#  Job Status
           ________  UserId
         ----    ------------------------------------------------------

Enter Code: _

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--
                 End                                        subm
```

Figure 26: NAT-PAD administration menue

7.2 Unload archive and related reference records (batch - ARCHSAV)

```
000001 //$$$$ARCS JOB 6256A,'PNAME',
000002 //            MSGLEVEL=(1,1),
000003 //            NOTIFY=&SYSUID,
000004 //            MSGCLASS=X,
000005 //            CLASS=K
000006 //*
000007 //* UNLOAD ARCHIVE AND RELATED REFERENCE RECORDS
000008 //*
000009 //*
000010 //* --------------------- CREATE WKF01 WITH PROTOCOL RECORDS FOR SAVE
000011 //*                              WKF02 WITH UNLOAD COMMANDS
000012 //PROTO   EXEC NATBAT
000013 //CMPRT01 DD SYSOUT=*
000014 //*
000015 //CMWKF01 DD DSN=$$$$$.ARCREF.SAVE.DASD,
000016 //           UNIT=SYSDA,VOL=SER=$$$$$$,
000017 //           DISP=(NEW,CATLG,DELETE),
000018 //           SPACE=(CYL,(1,1),RLSE),
000019 //           DCB=(RECFM=FB,LRECL=200,BLKSIZE=4000)
000020 //*
000021 //CMWKF02 DD UNIT=SYSDA,
000020 //*
000021 //CMWKF02 DD UNIT=SYSDA,
000022 //           DSN=&&SAVCMD,
000023 //           DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200),
000024 //           SPACE=(CYL,(1,1),RLSE),
000025 //           DISP=(NEW,PASS)
000026 //*
000027 //* ---------------- PARAMETER FOR NPP00910:
000028 //*                  1. UNLOAD OBJECTS OLDER THAN NUMBER OF DAYS
000029 //*                  2. UNLOAD OBJECTS NUMBER IN ARCHIVE GREATER THAN
000030 //CMSYNIN DD *
000031 LOGON NATPAD
000032 NPP00910 90 10
000033 FIN
000034 /*
000035 //* ---------------- UNLOAD OBJECTS FROM ARCHIVE FILE
000036 //*
000037 //ENTLARC    EXEC NATBAT,COND=(0,NE),
000038 // PARM.NATBAT='FUSER=($$,$$)'          <------   ARCHIVE DBID,FNR
000039 //*
000040 //CMWKF01 DD DSN=$$$$$.ARCHIV.SAVE.DASD,
000041 //           UNIT=SYSDA,VOL=SER=$$$$$$,
000042 //           SPACE=(CYL,(30,5),RLSE),
000043 //           DISP=(NEW,CATLG,DELETE),
000044 //           DCB=(RECFM=VB,LRECL=4624,BLKSIZE=4628)
000045 //*
000046 //CMSYNIN DD *
000047 LOGON NATPAD
000048 NATUNLD
000049 //        DD DSN=&&SAVCMD,DISP=(OLD,DELETE)
000050 /*
```

Figure 27: Unload archive and related reference records (batch ARCHSAV) - part 1 of 2

```
000051 //* ----------------- NOW DELETE ARCHIVE AND PROTOCOL RECORDS
000052 //*
000053 //*
000054 //DELARC     EXEC NATBAT,COND=(0,NE)
000055 //CMWKF01 DD DISP=OLD,DSN=$$$$$.ARCREF.SAVE.DASD
000056 //CMPRT01 DD SYSOUT=*
000057 //* ------------------ PARAMETER FOR NPP00920:
000058 //*                    N = NO, DON'T DELETE, ONLY TEST RUN
000059 //*                    Y = YES, DELETE
000060 //CMSYNIN DD *
000061 LOGON NATPAD
000062 NPP00920 N
000063 FIN
000064 /*
000065 //* ------------------- COPY PROTOCOL RECORDS INTO MOD DATA SET
000066 //*                     NECCESSARY TO GET BACK OBJECTS
000067 //*                     SEE JOB ARCHGMBR
000068 //*
000069 //PMOD    EXEC PGM=IEBGENER,COND=(0,NE)
000070 //SYSUT1   DD  DISP=OLD,DSN=$$$$$.ARCREF.SAVE.DASD
000071 //SYSUT2   DD  DISP=MOD,DSN=$$$$$.ARCREF.SAVE.MOD
000072 //SYSPRINT DD  SYSOUT=*
000073 //SYSIN    DD  *
000074 /*
000075 //* -------------------- COPY PROTOCOL RECORDS TO TAPE FOR 10 YEARS
000076 //*
000077 //ATAPE1 EXEC PGM=IEBGENER,COND=(0,NE)
000078 //*
000079 //SYSUT1   DD  DSN=$$$$$.ARCREF.SAVE.DASD,DISP=SHR
000080 //*
000081 //SYSUT2   DD  DSN=$$$$$.ARCREF.SAVE,DISP=(,KEEP),UNIT=TAPE,
000082 //             LABEL=(1,SL),VOL=(,RETAIN)
000083 //*
000084 //SYSPRINT  DD SYSOUT=*
000085 //SYSIN     DD DUMMY
000086 /*
000087 //* -------------------- COPY ARCHIVE RECORDS TO TAPE FOR 10 YEARS
000088 //*
000089 //ATAPE2 EXEC PGM=IEBGENER,COND=(0,NE)
000090 //*
000091 //SYSUT1   DD  DSN=$$$$$.ARCHIV.SAVE.DASD,DISP=SHR
000092 //*
000093 //SYSUT2   DD  DSN=$$$$$.ARCHIV.SAVE,DISP=(,KEEP),UNIT=TAPE,
000094 //             LABEL=(2,SL),VOL=(,RETAIN,,REF=*.ATAPE1.SYSUT2)
000095 //*
000096 //SYSPRINT  DD SYSOUT=*
000097 //SYSIN     DD DUMMY
000098 /*
000099 //* -------------------- DELETE DASD DATA SETS
000100 //*
000101 //LOESCH EXEC PGM=IEFBR14,COND=(0,NE)
000102 //*
000103 //DDNAM1  DD  DSN=$$$$$.ARCREF.SAVE.DASD,
000104 //            DISP=(SHR,DELETE,DELETE)
000106 //DDNAM2  DD  DSN=$$$$$.ARCHIV.SAVE.DASD,
000107 //            DISP=(SHR,DELETE,DELETE)
000108 /*
```

Figure 28: Unload archive and related reference records (batch ARCHSAV) - part 2 of 2

7.3 Searching for NATURAL objects in archive (ARCHGMBR)

```
000001 //$$$$GMBR JOB 6202A,PNAME,MSGLEVEL=(1,1),NOTIFY=$$$$,
000002 //        CLASS=K,MSGCLASS=X
000003 //*
000004 //*    SEARCHING FOR OBJECT IN MOD PROTOCOL DATA SET
000005 //*
000006 //GARCMBR    EXEC NATBAT
000007 //CMWKF01 DD DSN=$$$$$.ARCREF.SAVE.MOD,DISP=SHR
000008 //SYSUT1  DD SYSOUT=*
000009 //SORTWK01  DD UNIT=SYSDA,SPACE=(CYL,2)
000010 //SORTWK02  DD UNIT=SYSDA,SPACE=(CYL,2)
000011 //SORTWK03  DD UNIT=SYSDA,SPACE=(CYL,2)
000012 //SORTWK04  DD UNIT=SYSDA,SPACE=(CYL,2)
000013 //CMPRT01   DD SYSOUT=*
000014 //* ---------------- PLEASE REPLACE 'OBJNAME' IN NPP00930
000015 //* ---------------- WITH OBJECT NAME YOU SEARCH FOR
000016 //CMSYNIN DD *
000017 LOGON NATPAD
000018 NPP00930 OBJNAME
000019 FIN
000020 /*
```

Figure 29: Searching for NATURAL objects in archive (ARCHGMBR)

8 Efix

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