

# Introduction - Natural Advanced Facilities

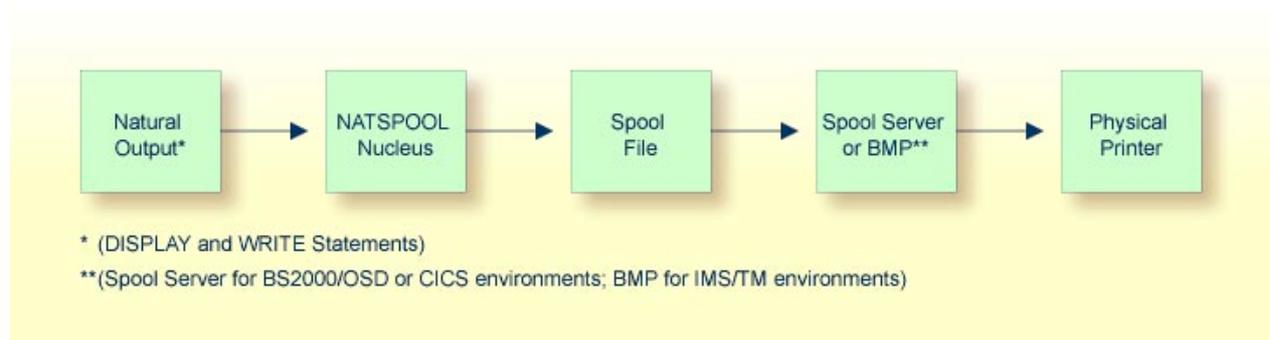
This section covers the following topics about Natural Advanced Facilities (NAF):

- General Information
  - Terminology
  - NATSPOOL Objects
  - Starting NATSPOOL
  - Invoking a NATSPOOL Function
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## General Information

Natural Advanced Facilities Version 4.1 can be used with Natural Version 4.1.

Natural Advanced Facilities consists of NATSPOOL, the spooling and report management system. NATSPOOL manages Natural program output, thus enabling the output (that is, a report) to be directed to a physical printer. NATSPOOL also supports the Natural hardcopy facility.



All reports are stored in the spool file. A report may be directed to the physical printer in one of the following ways:

- automatically at the end of the program which generated the report; or
- by using the corresponding NATSPOOL functions.

In BS2000/OSD and IMS/TM environments, the spool file must be an Adabas file. In CICS environments, it may be an Adabas file or a VSAM file (Natural for VSAM must be installed in this case).

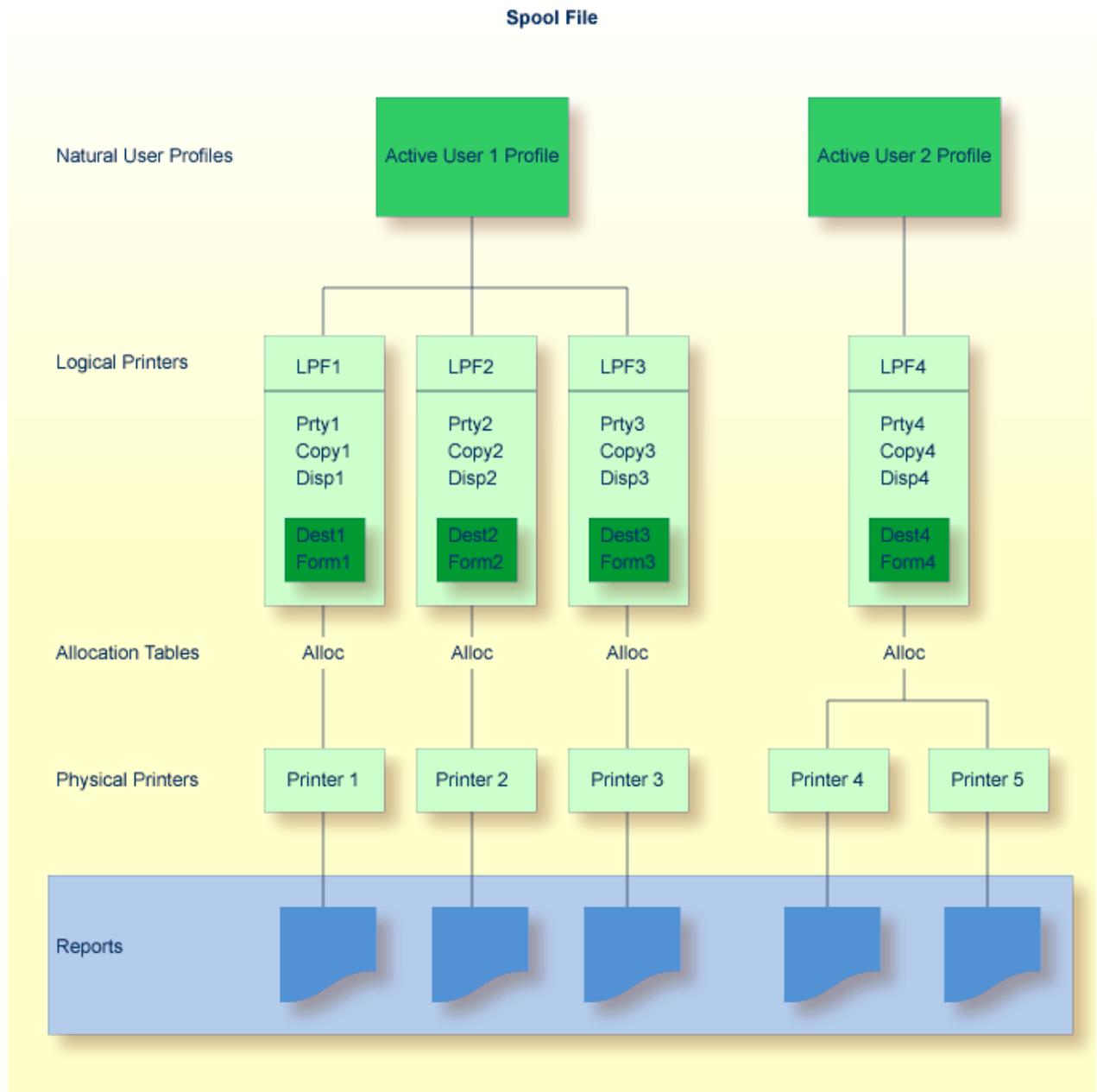
## Terminology

This section explains the most important terms used in this documentation.

Allocation Table	Describes an output destination and a form which can be assigned to a logical printer. The allocation table specifies the allocated physical printer(s) and optional parameters which are used to spool reports.
Application	Describes a library which can be used from the NATSPOOL application.
Calendar	Defines non-working and working days of a year. The calendar is used to compute the retention date for reports. A calendar can be assigned to logical printers.
Cluster	A group of logical printers.
Header Page	A user-designed page which can be assigned to an allocation. The reports spooled for this allocation will start with this page.
Logical Printer	Describes the characteristics of reports. The logical printer is referenced as ( <i>rep</i> ) in a WRITE or DISPLAY statement contained in a Natural program. <i>rep</i> can be a value from 1 to 31.
Message Header	Specific control sequences which are inserted at the beginning of each data block sent to a physical printer in a BS2000/OSD environment (for example, to invoke a hardcopy function for printers connected to a terminal).
NTCC Table	Describes the replacements for user-defined and standard attributes. The replacements are used to rework report data for printer-dependent spool output.
Physical Printer	The alphanumeric name of a printer and the technical information which is used to build up a connection and to spool the reports. In a BS2000/OSD environment, this is the station name defined in the network (PDN, TCP/IP) or the name of an RSO device. In a CICS environment, this is the TCT name. In an IMS/TM environment, this is the LTERM name.
Queue	All reports created for the same allocation (Destination/Form).
Report	Natural program output identified by a job number.
Spool File	The physical file for all reports and objects. The database ID and file number must be specified either in the NATPARM system parameter module or dynamically, using the FSPOOL parameter.
User Profile	A set of logical printers to be used during a Natural session. A user profile may be specified either in the NATPARM system parameter module or dynamically, using the NAFUPF parameter. If Natural Security is installed, the user profile can be specified for a library or user entry.

# NATSPPOOL Objects

The following illustration shows the logical connections between NATSPPOOL objects.



A maximum of 31 logical printers and one logical printer for hardcopy may be defined for one user.

A maximum of 16 physical printers may be allocated to **each** logical printer. In the above diagram, a total of 48 printers may be allocated to User 1, and a total of 16 printers to User 2.

Each logical printer requires 2 KB of storage, which is allocated at Natural initialization. Natural executes a 2 KB GETMAIN (REQM) command for each printer (*n*) where

```
NTPRINT (1-n), AM=NAF
```

If the thread size (CICS), the roll-slot size (IMS/TM) or the MAXSIZE (UTM) is not large enough, a Natural error message is issued and Natural is not initialized.

The BUS (buffer usage statistics) command can be used to obtain information on the sizes of the buffers allocated by Natural Advanced Facilities. The following information is provided:

```
PRINTnn
```

which contains the buffer for printer *nn*.

**Example - Active User 1:**

A WRITE (1) statement issued by User 1 causes the report to be printed on Printer 1, a WRITE (2) statement causes the report to be printed on Printer 2, and a WRITE (3) statement causes the report to be printed on Printer 3.

**Example - Active User 2:**

A WRITE (1) statement issued by User 2 causes the report to be printed on either Printer 4 or Printer 5, depending on which printer is in FREE status. If both printers are in FREE status, the first printer in the allocation table is used (for example, Printer 4 in the above diagram).

## Starting NATSPOOL

You start NATSPOOL in one of the following ways:

- first enter the LOGON SYSPPOOL command and then the MENU command, or
- enter the SYSPPOOL command.

In both cases, the NATSPOOL menu appears with the cursor positioned in the command line.

```

Time 11:25:12          *** Natural Spool Administration ***      Date 2002-10-22
User SAG                M e n u                               File 7/411

      Administration                                Information

      10 Reports/Queues                             20 Cross-Reference
      11 Devices                                    21 Statistics
      12 Abstracts                                  22 Look at Spool File
      13 Applications                               23 CALLNAT Handling
      14 Change Spool File

      Maintenance                                    Control Functions

      30 Spool File Properties                       40 Check Spool File
      31 Objects                                    41 Logging Data
      32 Mass Update                                42 Create Test Reports
      33 Hardcopy Allocations                       43 Delete Reports by Date
      34 Transfer Objects

Enter function, mark with cursor, or press a PF-key.
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help          Exit  Repor Devic Flip  Abstr Appli Cross Stati Look  Canc

```

The individual NATSPOOL functions are described in detail in individual sections of this documentation.

## Invoking a NATSPOOL Function

▶ **To invoke a function, proceed in any of the following ways**

- Enter a command (and object type) in the command line.  
Or enter a number in the command line.  
Or select a function with the cursor.  
Or press the PF key assigned to a function.

### Command Line

#### Command and Object Type

To invoke a function, enter a command (and object type) in the command line.

For example, to display the device status (Function 11), enter DISPLAY DEVICE in the command line.

To display a list of available commands, enter an asterisk (\*) or a question mark (?) in the command line. To display a list of all available object types for a specific command, mark this command in the list with any character.

#### Number

On a selection screen or window, each function is prefixed by a number.

To invoke a function, enter the number of this function in the command line. For example, to invoke the function Layout of Spool File, enter 30 in the command line. The Layout of Spool File window will then appear.

In the Layout of Spool File window, each function is prefixed by a number and can also be invoked by entering the corresponding number. For example, to invoke the function Display Last Modification, enter 8 in the command line of this window.

If you know the number of a function which is listed in a window, you can also directly invoke this function. To do so, concatenate the individual numbers with a period in between. For example, to invoke the above mentioned function Display Last Modification directly, enter 30.8 in the command line.

### Cursor Selection

To select a function with the cursor, place the cursor on the number of a function and press ENTER.

## PF Keys

Most functions are assigned to PF keys.

The PF-key lines at the bottom of the screen indicate which function is assigned to which PF key. To invoke a function, simply press the PF key assigned to this function.

For example, on the NATSPOOL menu, the function Reports/Queues is assigned to PF4.

The following PF-key assignments apply for most NATSPOOL screens:

Key	Name	Function
PF1	Help	Invoke the online help facility.
PF2	Menu	Invoke the NATSPOOL menu.
PF3	Exit	Leave the current function and apply all modifications made.
PF6	Flip	Switch to display of keys PF13 to PF24 and back.
PF12	Cancel	Leave the NATSPOOL application.
PF13	%H	Hardcopy function.