

# Invoking and Operating SYSBPM

The functions of the SYSBPM utility always refer to Natural objects currently loaded in the Natural buffer pool and/or BP cache. Note that the buffer pool or BP cache only contains executed Natural objects that have been stowed or cataloged. Objects executed with the RUN command are not loaded into the buffer pool or BP cache.

You can choose a function code or a PF key from a SYSBPM menu to execute a SYSBPM function. Alternatively, you can use a SYSBPM direct command as described in the relevant section.

This section describes how to invoke the SYSBPM utility, obtain online help text and select functions by using the SYSBPM **Main Menu**. The functions are described in detail in the relevant sections of the SYSBPM documentation.

In addition, information is provided on using SYSBPM in a z/OS Parallel Sysplex environment.

This section covers the following topics:

- Invoking SYSBPM
  - Online Help
  - SYSBPM Main Menu - Fields, Functions and Commands
  - SYSBPM in a z/OS Parallel Sysplex Environment
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## Invoking SYSBPM

### To invoke the SYSBPM utility

- Enter the following Natural system command:

```
SYSBPM
```

A SYSBPM **Main Menu** similar to the example below appears:

```

16:12:23          ***** NATURAL SYSBPM UTILITY *****          2002-08-27
BPNAME QA41GBP          - Main Menu -          Type Global Nat
BPPROP OFF          Loc DAEF QA41
          Preload QA41GBPL

          Object Functions          Object Pool Statistics

          L List Objects          A Buffer Pool
          D Delete Object          C BP Cache
          I Directory Information
          H Hexadecimal Display          Other Functions
          W Write to work file
          X Display sorted extract          S Select Buffer Pool
          ? Help          B Blacklist Maintenance
          . Exit          P Preload List Maintenance

Code .. _   Library ... *_____
Object .... *_____
DBID ..... 0_____ FNR .. 0_____ Object Pool ... B (B,C,*)

Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit Last      Flip      Canc

```

- In the SYSBPM **Main Menu**, specify the executed object(s) loaded in the buffer pool or BP cache by choosing either of the following options:
  - Complete the input fields as described in *SYSBPM Main Menu - Fields, Functions and Commands*.

Or:

- In the Command line, enter a SYSBPM direct command as described in *SYSBPM Direct Commands*.

## Online Help

The online help function of SYSBPM provides information on SYSBPM direct commands (see the relevant section) or valid input values for fields that appear on SYSBPM screens.

### ▶ To invoke the online help function for SYSBPM direct commands

- On any SYSBPM screen, position the cursor in the Command line and press PF1 or enter a question mark (?).

The **Help** window appears with a list of all SYSBPM direct commands available.

### ▶ To invoke the online help function for a SYSBPM input field

- On any SYSBPM screen, position the cursor in any input field and press PF1 or enter a question mark (?).

The **Help** window appears for the relevant field with a list of all valid input values.

## SYSBPM Main Menu - Fields, Functions and Commands

This section covers the following topics:

- Fields
- Functions
- PF Keys and Direct Commands

### Fields

The fields contained in the SYSBPM **Main Menu** are described in the following table:

Fields	Explanation
<b>BPNAME</b>	The name of the global buffer pool as specified with the profile parameter BPNAME. For a local buffer pool, no name but a blank field is displayed for BPNAME.  See also <i>BPNAME - Name of Natural Global Buffer Pool</i> in the <i>Parameter Reference</i> documentation.
<b>BPPROP</b>	The setting of the profile parameter BPPROP to control the propagation of changes to an object in a buffer pool.  See also <i>BPPROP - Global Buffer Pool Propagation</i> in the <i>Parameter Reference</i> documentation.
<b>Type</b>	The type of buffer pool, such as Global Nat, Local Nat, Global Sort or Global DL/I.
<b>Loc</b>	The location. Displays the host ID (in the example screen above: DAEF) and the subsystem ID (in the example screen above: QA41).
<b>Preload</b>	The name of a preload list if loaded.  See also <i>Preload List Maintenance</i> .
<b>Library</b>	The name of the library where the executed object is stored. You can specify a name or use asterisk (*) notation.  The default asterisk (*) selects all libraries.
<b>Object</b>	The name of the executed object loaded in the buffer pool. You can specify a name or use asterisk (*) notation.  The default asterisk (*) selects all objects.
<b>DBID</b>	The database ID (DBID) of the system file FNAT or FUSER where the executed object is stored and from where it is loaded.  If you specify 0 (zero; this is the default) as DBID, the specified object(s) will be selected regardless of their DBID. Any value other than 0 represents a particular DBID specification.

Fields	Explanation
<b>FNR</b>	<p>The file number (FNR) of the system file FNAT or FUSER where the executed object is stored and from where it is loaded.</p> <p>If you specify 0 (zero; this is the default) as FNR, the specified object(s) will be selected regardless of their FNR. Any value other than 0 represents a particular FNR specification.</p>
<b>Object Pool</b>	<p>Applies to the functions <b>List Objects</b>, <b>Directory Information</b>, <b>Write to Work File</b> and <b>Display Sorted Extract</b> described in the following section.</p> <p>Selects the type of object pool(s) to be used for these functions:</p> <p>B            Buffer pool.</p> <p>C            BP cache.</p> <p>*            Both buffer pool and BP cache. This is the default.</p> <p>The function <b>List Objects</b> generates a list of all objects that are loaded either in the buffer pool or in the BP cache. Objects loaded in the buffer pool are displayed first, and then objects in the BP cache.</p> <p>The type of object pool entered determines the point at which the list starts. For example, if you enter a C the list starts with objects loaded in the BP cache. Scrolling up the list, you can display the objects loaded in the buffer pool. If no object is found in the BP cache, the list contains the objects of the buffer pool.</p>

## Functions

The functions provided in the SYSBPM **Main Menu** are organized in three sections:

- The **Object Functions** section contains functions for displaying or manipulating objects in the buffer pool or BP cache.
- The **Object Pool Statistics** section contains functions for obtaining object-independent statistical data on the buffer pool or BP cache including hash tables. Object-independent data do not include any individual information on the object such as object name, size or addresses.
- The **Other Functions** section contains functions for selecting a buffer pool and for specifying the objects to be loaded into the buffer pool or BP cache.

The individual functions are listed below. You invoke a function by entering the one-letter code that corresponds to the function required in the **Code** field, for example, L for **List Objects**.

Code	Function	Explanation
L	<b>List Objects</b>	Displays information on the objects loaded in the buffer pool and/or the BP cache (if used). Each list item can be accessed individually and various functions can be performed for each object.
D	<b>Delete Objects</b>	Deletes one or more objects from the buffer pool and the BP cache.
I	<b>Directory Information</b>	Displays the full directory information of a specified object loaded in the buffer pool or the BP cache.
H	<b>Hexadecimal Display</b>	Displays in hexadecimal format a specified object loaded in the buffer pool.
W	<b>Write to Work File</b>	Writes to a local file or a PC text file the object directory information located in the buffer pool and/or BP cache.
X	<b>Display Sorted Extract</b>	Displays a sorted list of 50 object directories located in the buffer pool or BP cache. The list items can be arranged by using any of the sort criteria provided.
A	<b>Buffer Pool</b>	Invokes the <b>Buffer Pool Statistics</b> menu. From this menu, you can invoke object-independent statistics functions for the buffer pool including hash table statistics.
C	<b>BP Cache</b>	BP cache required.  Invokes the <b>BP Cache Statistics</b> menu. From this menu, you can invoke object-independent statistics functions for the BP cache including hash table statistics.
S	<b>Select Buffer Pool</b>	Displays a selection list of all available buffer pools.
B	<b>Blacklist Maintenance</b>	Invokes the <b>Blacklist Maintenance</b> menu which is used to maintain a blacklist of objects, which are <i>not</i> to be executed.
P	<b>Preload List Maintenance</b>	Invokes the <b>Preload List Maintenance</b> menu. In a preload list, you can specify the names of objects, which are to be loaded into the buffer pool when the buffer pool is initialized.

## PF Keys and Direct Commands

In the SYSBPM **Main Menu**, you can use the PF keys or SYSBPM direct commands listed in the table below. An underlined portion of a command represents its minimum abbreviation. For further commands, see *SYSBPM Direct Commands*.

PF Key	Command	Function
PF1		Provides SYSBPM help information: see also <i>Online Help</i> .
PF3	<u>EXIT</u>	Leaves the current function/screen and displays the previous screen.
PF4	LAST	Displays the SYSBPM direct command entered most recently.
PF6	FLIP	Switches the PF-key line: toggles between the display of PF1 to PF12 and PF13 to PF24.
PF12	<u>CANCEL</u>	Same as EXIT.
PF15	MENU	Invokes the SYSBPM <b>Main Menu</b> .

## SYSBPM in a z/OS Parallel Sysplex Environment

Whenever Natural switches to another operating system image (host), Natural also switches buffer pools. A switch of buffer pools is indicated by a different host ID, which is displayed in the **Loc** field of a SYSBPM screen.

Switching can take place after each terminal I/O, that is, after choosing any function key or by choosing ENTER. After switching buffer pools, browsing and positioning commands will not be executed (TOP, BOTTOM, +, -, LEFT, RIGHT). Instead, the list starts from the top of the new buffer pool.

If the BPPROP profile parameter (see *BPPROP - Global Buffer Pool Propagation* in the *Parameter Reference* documentation) is set to PLEX or to GPLEX, SYSBPM commands that manipulate blacklists, delete objects or initialize the buffer pool are first executed as usual, and then propagated to other buffer pools available on the same subsystem. If a BP switch caused a function to be aborted or propagated, an appropriate message appears. An appropriate message also appears if Natural has successfully switched to another host and changed buffer pools.