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## Identification

Process Directories  
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## Purpose

The process directory for a process provides a repository in the File System Hierarchy for segments closely associated with the process. It does not contain every segment in the address space of the process, but typically contains two classes of segments:

- a) per-process segments, such as those placed in the directory when the process is created (see BJ.2.00) and the event channel table (part of the interprocess communication facility - see BQ.6.00);
- b) temporary segments created for the duration of the process - for example, the linkage section for a procedure contains per-process data (pointers with segment numbers) and therefore each process makes its own copy of the linkage sections for procedures which it executes. These copies are kept in the process directory.

It follows that any process A which knows the pathname of the process directory of process B can communicate information to B by means of data segments (assuming A has access) in B's directory. Further, all segments which have meaning only during A's existence are contained in A's process directory and can all be found immediately and deleted when A is destroyed. Segments whose meaning is not strictly limited to the duration of A's existence should be in the working directory (see BX.8.12) rather than in the process directory, as the working directory is not destroyed with the process.

## Discussion

Each process directory resides in the process directory directory and has as its name the standard character-string representation (see BY.15.01) of the process id. Hence the pathname of a process directory might be

```
>process_dir_dir>!fggxxbzqcdgbbb
```

Any process wishing to communicate with another process, and knowing the process id of the other process, can easily construct the pathname of its process directory using the algorithm presented in BY.15.01.

### Access Control

A summary of access control modes for directories can be found in BQ.4.00 and may be a useful reference in the following discussion.

The process directory directory resides in the hard core ring and can be read or modified only by hard core ring procedures, such as the process creation module (see BJ.2.00).

The process directory of a process in a process-group A is accessible for reading and writing (read, execute, write and append modes) to all processes in process-group A, from all rings. (Note that this does not allow an outer ring procedure to modify the directory entry for inner ring segments.) Further, the directory is accessible to all users for searching (execute attribute) in the hard core ring. This allows processes in other process groups to communicate with the process, but only through a hard core ring intermediary which first validates the communication attempt.