Identification

Locking and Blocking in the Basic File System
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Purpose

Most of the file system procedures rely on shared data bases.
In order to avoid confusion, a procedure must be able to use
a stable (i.e., one that no other process is currently modi-
fying) copy of the data base. Since only one copy of a
common data base exists, it is necessary that one process be
able to prohibit all other processes from using the data base
(i.e., lock the base) when this process is modifying it. It
is also necessary that a process which wishes to read a stable
copy can be sure that no other process is currently modifying
the base. The method and details of the locking and checking
procedures are discussed in section BG.16.02.

When a process finds that it is unable to use a data base in
the manner that it desires, it normally wants to go blocked
and wait until the data base is free. The freeing of the
data base is called the _event_ for which the process is waiting.
When such an event occurs, the process that knows of it must
initiate a procedure that will notify all the processes
waiting for the event and cause them to be re-scheduled. The
waiting and notifying procedures are described in BG.16.01.