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SUBJ: Proposal for FIB Implementation

When the user wishes to initiate a FIB job, he types:

FIB filnam time

where 'filnam' is a file with secondary name BCD which is a list of the commands he wishes to execute (see CC-238 for an example of this type of file) and 'time' is the running time limit (in minutes) that he wishes. If the user does not specify 'time', FIB will set a time limit. No FIB job will be allowed to exceed n minutes, where n probably will be 5.

'Filnam', 'time', and the user's problem number and programmer number will be appended by the supervisor to a file of waiting FIB jobs.

When a FIB job can be run, the FIB monitor will be called by the supervisor to initiate one FIB job. The FIB monitor will take the first job in the waiting FIB file and call LOGIN with this job. If the user who initiated that FIB job is not logged in, LOGIN will log in the FIB job. If the user is logged in, LOGIN will return to the FIB monitor with an error return. In this case, the FIB monitor will return to LOGIN with the next waiting FIB job, and so forth until a job is initiated or the waiting FIB job list is exhausted.

Any FIB job which is rejected by LOGIN, because the person who initiated the job is logged in, will be returned to the waiting list in the same relative position that the job had before the attempt to log it in (first, second, etc.).

After a FIB job has been successfully logged in, the FIB monitor will set the command buffers to a macro command to run the user's BCD file of commands designated by 'filnam', and then call CHNCSM.

The FIB job will then run exactly as a foreground job except that:

1. It has lower priority than foreground, but higher priority than regular background.
2. Calls to WRFLX cause writing into an output file.
3. A call to RDFLX, DORMNT, DEAD, or COMFIL causes the job to be saved, then logged out.
4. If the job is running at a scheduled automatic logout time, it will be run to completion or until it exceeds n minutes.
5. If the job exceeds n minutes it will be saved, then logged out.

When the FIB job is logged out for any reason, LOGOUT will call the FIB monitor to initiate the next waiting FIB job. Unless there are no waiting FIB jobs, there will always be one FIB job active.

If a user attempts to login while his FIB job is active, he will receive a message warning him that his FIB job will be logged out if he logs in. If the user logs in and causes his FIB job to be logged out, any temporary files will be lost.

A user may delete a waiting FIB job by typing
DELFIB filnam

Programming Changes and Additions

1. LOGIN

- a. must bypass certain functions for FIB jobs (such as checking PASSWORD, turning off data phones, etc.).
- b. must return to FIB monitor if user who initiated FIB job is logged in.
- c. must return to FIB monitor after logging in a FIB job.
- d. must warn user logging in if his FIB is running.

2. **LOGOUT**

must call FIB monitor after logging out a FIB job.

3. **Scheduling algorithm**

- a. must run FIB at a priority higher than background, but lower than foreground.
- b. must handle FIB time-accounting.
- c. must check against estimated time and log out FIB job if it exceeds estimated time.

4. **WRFLX**

Must write into an output file for FIB users. This output file will be in the user's file directory and will be given a special name such as \$\$\$FIB OUTPUT. The user should be discouraged from using WRFLX since it will be very wasteful. Because there are no buffers available for writing \$\$\$FIB OUTPUT, the file must be opened and closed on each call to WRFLX; and each message, therefore, may take one track.

5. **RDFIX, DORMNT, DEAD, COMFIL**

must call LOGOUT if called by a FIB job.

6. **SAVE and RESUME**

must be changed as specified in CC-238.

7. **The FIB monitor**

must initiate FIB jobs.

8. **The FIB and DELFIB commands**

must append to the waiting FIB file and delete from the FIB file.