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ABSTRACT and CONTENTS

This document describes the actions taken by the Utility

System to identify a user calling the system and to connect

him to a specified process.   The phase I version of ENTER

will be for a single group, single account system.

Enter:

BCC will supply several standard programs for conducting the user ENTER dialog. The only differences between these will be certain options which will not be used in the simpler ones. We now discuss the comprehensive version of ENTER, noting those parts which are optional.

As described in "Basic Resource Control," the system creates a new process for the group when a teletype line becomes active. The basic system subprocess creates the group's utility subprocess, and allocates sufficient resources to it to complete ENTER. It then passes control to the group subprocess. Note that no characters have yet been input or output.

The standard ENTER algorithm is given below. Optional steps are marked with *.

1. Initialize; including setting a timer to expire after one minute, clearing an error count, answering the phone, and typing the system version. Note: the device type must be determined at this point.

2.* Send a WRU and receive the message from the answer-

   back drum without echo.   This message is remembered.

3. Type "ACCOUNT NUMBER AND USER NAME ?¢"; read an input

   line.

4.* Get the first string of non-blank characters and look

   it up in the group's account directory.   Go to step 12

   if not found.   Otherwise select the appropriate user

   directory.   (If there is only one account for this

   group, there is only a common user directory and this

   step is not performed.)

5. Get the next string of non-blank characters and look

   it up in the selected user directory.   Go to step 12

   if not found. Otherwise save the user number.

6.* If step 2 was executed, verify that this user has a

   valid answer-back message.   If there is a discrepancy,

   log a message and abort.

7. Now read the user's required resources.   Check these

   against the unallocated account and group resources.

   Go to step 11 if either set is insufficient.   Go to

   step 9 if the user has no password.

8. Type "PASSWORD?¢" and read an input line without echo. Encode the line and compare it with the password. Go to step 10 if they are not equal. Type "OK".

9. We have now identified the user and verified that he has access to the system. The completion of ENTER will be described after the error logic is discussed.

10. [Password error] Log this error on a group log file including the tenative user name. Type "INVALID PASSWORD¢." Increment the error count and go to step 8 if it is less than three; otherwise go to step 13. (This will be abbreviated "go to step X unless too many errors.")

11. [Insufficient resources] Type an appropriate "RESOURCE EXCEEDED" message and abort.

12. [Bad account or user name] Type "INVALID ACCOUNT NAME¢" or "INVALID USER NAME¢." Log the erroneous input. Go to step 3 unless too many errors.

13. [Too many errors] Type "TOO MANY ERRORS ABOVE¢" and log out.

14. [Timer] This step is executed if the timer expires

before step 9 is executed. Type "YOUR TIME IS UP¢";

log the error and log out.

Assuming we complete step 9 of the above correctly, we have

now identified the user and can check his user profile to

determine the services he desires and is allowed. We

complete the ENTER processing as follows.

1. Read the user's profile to determine which service

(BCC/GE) is desired. Go to step 8 if GE service.

2. Read the user's profile to find out whether to ask

him which process to select or to select a process by

default. Go to step 7 if he wishes to select the

process.

3. Read the user's MIB to find the names of his processes.

a. Go to step 5 if no process exists.

b. If a single process exists, select it.

c. If process "MAIN" exists, select it.

d. Go to step 7 (cannot identify the process to select).

4. Awaken the selected process if it is dormant.

5. Create a process called "MAIN". Select it.

6. Connect the terminal to the selected process and send it an escape interrupt. Charge the user for the use of the ENTER process. The ENTER process is now free.

7. Type "WHICH PROCESS?" and collect the name. Select the named process (or create it) and go to step 6.

8. [GE service - at most one process.] Select the existing process or create "MAIN". Go to step 6.

At this point the process which conducted the ENTER dialog is free to answer another call. If the user selected an existing process, he is now connected to it. If a new process was created, it will copy parts of the user profile to the context block and check for 'mail' before proceeding. The user profile may contain an 'ENTER command' entry. If it does, the value of the entry is executed as a command immediately after entering. This allows a principal to build a subsidiary service with a small overhead.