

June 11, 1964

FROM: Robert R. Fenichel

SUBJECT: Inter-Console Communication - Preliminary Specification.

Facilities for inter-console communication will be implemented late this summer. It is already possible to slave one console to another, for purposes of demonstration or consultation. The present software will be supplemented, however, in order to provide a start toward generalized possibilities of conference calls, class supervision, gaming programming, and the like.

I. A framework for inter-console communication.

Let P and P_1 be programmer numbers; let C and C_1 be console numbers and let α be an arbitrary text.

A.) Console to Console

It is already possible for two consoles of the same type (i.e., two 1050's or two teletypes) to be connected via the PBX lines (See CC-230).

B.) Console to Program (P logged in at C ; C_1 dialed in)

i) P should be able to do the following.

- a) Send α to C_1
- b) Read a line from C_1
- c) Be interrupted if a line is typed at C_1 , and then be able to read that line.
- d) Cause all (input, output, both) at C to be duplicated at C_1 .
- e) Undo d).
- f) Ring up C_1 (with the coming of the ADU).

ii) P_1 at C_1 should be able to disable P 's spying, so that P_1 may log in.

C.) Program to Program (P logged in at C ; P_1 logged in at C_1)

i) Problems

- a) One should have security from superfluous output or interruption. For example, a beautiful ditto should not be interrupted by an announcement concerning the Center's Ten Swinging Softballers.

- b) One should have security in the usual sense of privacy. It should not be possible for P to spy on C₁ without the approval of P₁.
- ii) P should be able to do the following:
 - a) Allow messages broadcast from C₁ via b) to be appended to a temporary file called FROM. C₁; allow their receipt to interrupt the execution of P.
 - b) If P₁ has announced his permission via a), cause (all input from C, all output for C, both, the message a) to be appended to P₁'s FROM. C file, and to cause interruption of the execution of P₁.
 - c) Discontinue sending (Input, Output, both) to C₁ via b).
 - d) Undo a).

II. Priority of Work

Bia, Bib, Bii
Bid, Bie
Bic
Ciia, Ciib, Ciic, Ciid
Bif.

III. Notes on the above

- A. It is said that the 1050's will soon be modified to connect themselves as the teletypes do. 2.
- B. Bic is designed to allow hang-free polling, approximately simulating channel E.
- C. Bid is similar in intent to the present attach facility (see R.Cree).
- D. Bii may be accomplished by allowing C₁'s quit signal to cause a 30-second sleep at C.
- E. The message files of Cii) might be A-core buffers, but then programs could not engage in high-speed high-volume interchange of data. They might be supervisor files, but then the problems of security would be more complicated.

Note that one could use Ciia) and Ciib) to send a record of one's console activity to oneself; this might be useful for demonstration printouts.