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Remote File Inquiry [RFI] System

The problem:

There existed a need for the accessing of data files from remote terminals.

The solution:

A remote file inquiry (RFI) system was designed for interrogating and maintaining user-definable data files from remote terminals, using an English-like, free-form query language easily learned by persons not proficient in computer programing.

How it's done:

The RFI system operates in an asynchronous mode, allowing any number of inquiries within the limitation of the available core to be active concurrently. The file structures supported by the system include variable-length text records as well as repeated fields.

For online information retrieval using RFI, an inquiry sentence is composed of five functional parts: (1) the function name or file identification, (2) an optional title phrase used to provide report titles, (3) the verb phrase, (4) the object or qualifier phrase, and (5) an optional sort phrase giving the capability of sorting the selected data in ascending or descending order. Two verbs are available for data retrieval: LIST, which prints out the contents of a specified field in all records that meet the selection criteria, and TALLY, which totals a specified numeric field or simply counts the number of qualified records if no field is specified.

Three additional verbs are available for the online updating of records within a file: ADD will add a complete record, including the specific values for all fields listed. DEL (delete) will remove any record or subrecord meeting the criteria listed. CHG (change) will change the contents of the fields listed to the values included in the command statement. The qualifier phrase for record selection allows both logical and arithmetic operators. Field values may be examined for equal, not equal, greater than, less than, and combination conditions (e.g., not less than). Both AND and OR connectives are available for compounding conditions.

RFI provides security control for all files loaded on the system. A five-position code, which can be changed easily by the operator, is used to control access to each file. Separate codes can be provided for reading and updating, if required.

The RFI system is designed for the IBM 360 (Model 40 or above) operating under OS/MFT (Operating System/Multiprograming With a Fixed Number of Tasks), and it assumes the availability of at least two IBM 2314 (or equivalent) disk drives and one IBM 2401 tape drive. The minimum core storage required totals 120K for two OS/MFT partitions: approximately 40K for the Message Control Program and a minimum of 80K for the Inquiry Partition. This is expanded automatically if more core is made available to allow for the simultaneous operation of more requests. The system is designed to service multiple teletype or teletype-compatible terminals in its present form. However, any type of terminal using a page format may be accommodated by redesigning the Message Control Program.

(continued overleaf)

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Notes:

1. This program was written in Assembler for the IBM 360/370 OS/MFT computer using TTY-compatible terminals.
2. Inquiries concerning this program should be directed to:

   COSMIC
   112 Barrow Hall
   University of Georgia
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   Reference: KSC-10837

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