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Identification

Addendum to BE.5.06: Changes to GEBUG
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Purpose

Over the past year a number of changes have been made in GEBUG. These changes have been informally documented in the file GEBUG MAIL in T234 CMFLO1, and further changes will also be documented there. The present section brings the formal GEBUG documentation up to date.

Minor Changes

1. GEBUG SAVED is located in T234 CMFLO1.
2. The /xecom request has been removed.

The Abbreviation Scheme

In addition to the abbreviations already provided in GEBUG, a standard abbreviation scheme provides a 2 - or 3 - letter abbreviation for every request-name and format-name over three letters long.

The abbreviation for any word is arrived at by concatenating:

- the first letter
- the next consonant
- the last consonant

where "y" is arbitrarily taken to be a consonant wherever it occurs.

Examples:

/segment	/sgt
ascii	asc
/read	/rd

The /trace and /call requests

The request

/trace

causes a trace of the call-stack to be printed. This can give a fair clue to "what happened" in a program which stopped suddenly.

The /trace request uses 3 items in the stack frame, stored there by the standard call and save sequences:

The return location in sp|20

Next sp in sp|18

The values of lp and lb in sp|4 and sp|5

The request starts at the bottom of the stack segment and chains its way up following the next sp's. For each stack frame it prints the message

call from <seq1>|loc1 to <seq2>|loc2

where the seq's are segment names and the loc's are octal locations. The "from" location is simply the location given in sp|20. The "to" location is harder to get: it involves looking at the transfer instruction and tracking through linkage. Even at that it is not always possible, and when the "to" location cannot be determined, a red question-mark is printed instead of "<seq2>|loc2".

The request

/call

prints a single line like those that /trace prints. This line describes the call which caused the current stack frame to come into existence. (That is, the procedure which kept its automatic storage in the current stack frame is named in the "to" address.)

The /fault and /rcu requests

The returned dump file includes the "control unit status", a block of six words giving the complete status of the machine at the time of the last fault. This conglomeration of bits can be interpreted by the request

/fault

which prints in a readable format the relevant information about the fault.

To interpret the fault information stored by an scu instruction, the request

/rcu loc

makes the "control unit status" equal to the 6-word block starting at loc (loc is interpreted the same way as the loc's in the "peek" request). Then the /fault request can be used to interpret that information.

Miscellaneous Requests

The request

/depage seg file

causes a CTSS file named "file runnam" to be written giving the contents of segment seg. If file is omitted, a name is manufactured from the segment name. If seg is also omitted, the current segment is depaged.

The request

/exit

causes a clean return to CTSS.