

May 28, 1959

MEMO TO: Dr. W. Buchholz
SUBJECT: Unit Check Operation

Unit check interruptions can occur in two distinct modes.

- I. When a data error is observed the transmission is continued until normal end of operation. Then the EOP and Unit Check bits are set for interrupt action.
- II. When a "mechanical" error is indicated a "cancel" operation is indicated. The following procedure is followed.
 - (1) Data Transmission is suspended.
 - (2) Control Word modification is suspended.
 - (3) The unit proceeds to the physical end of record, where this is defined and possible.
 - (4) Unit Check is sent to the Exchange and interruption is effected at the end of block.

One of the original assumptions behind agreement for these two procedures was that incorrect ECC bits would be associated with the words containing erroneous bytes. These words would then be detected during transmission for usage. It appears that this is not the case. Another assumption was that this might, in some sense make re-operation, possibly with an entire control word chain, easier to perform. A memo by Miss E. McDonough, dated May 14, 1958, indicates that this is not so.

It is proposed that a standard Unit Check procedure be adopted acting as outlined in the "Cancel" condition.

Namely:

- (1) Suspend Data Transmission immediately
- (2) Suspend further control word modification
- (3) Suspend physical motion of the unit record at the next end of current block.
- (4) Unit Check signal cause interruption at end of the current block.

General discussions with people programming have indicated the assumption of the procedure of 3. Pinpointing of errors in tape processing and card handling appears to be possible under the procedure of 3 and questionable using the present operations.

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