TO: MSPM Distribution
FROM: D. E. Joel
DATE: 09/7/66

Change in BE.6.01

The following changes in function have occurred

    1. BSA has been removed

    2. Specification of BFS permanent file has been added.

    3. Ability to call for segments from a Segment library
        at 645 execution time has been added

Identification

64.5 Driver
D. E. Joel

Purpose

This program is an alternative to the command MRGEDT in
the CTSS system. It is a card driven program which produces
a jobstream on magnetic tape.

Operation

Two card decks are required as the input for this job.
The first is a program deck which is standard, and the
second is the data deck wherein the user describes his
requirements.

Additionally, it is required to use the tape library which
has been set up specifically for running 6.36 and 64.5
jobs.

The Program Deck

```
$       SNUMB       XXXXX

$       IDENT       XX,64.5,DRIVER,INPUT RUN FOR THE
                    64.5 SYSTEM.
$       CONVERT

$       READ        IN,A1R

$       INPUT       MIXED

$       DISC        OT,A1S,20L

$       LIBRARY     LB

$       OPTION      NOMAP

$       USE         .DJ645

$       ENTRY       .DJ645

$       EXECUTE

$       LIMITS      40,25000,,500
```

The Program Deck (Continued)

```
$     DISC      IN,A1R,20L

$     DISC      6B,A2R,20L

$     DISC      F8,A3R,20L

$     DISC      F1,A4R,20L

$     DISC      F2,A5R,20L

$     DISC      F3,A6R,20L

$     DISC      F4,A7R,20L

$     DISC      F5,A8R,20L

$     DISC      F6,A9R,20L

$     DISC      F7,A10R,20L

$     DISC      F9,A11R,20L

$     DISC      FA,A12R,20L

$     DISC      FB,A13R,20L

$     TAPE      OT,A1D,,,,SCRATCH

$     TAPE      LB,A2S,,,,645.LIBRARY

$     COMMENT AFTER END JOB USE *SCRATCH* AS GECOS INPUT TAPE.

$     ENDJOB

***EOF
```

The Data Deck

The data deck contains control cards and 'data' cards.
The control cards inform the 64.5 Driver of the functions
to be perform. (A control card has $645 in columns 1-4,
type starting in column 8, and parameters, if any, starting
in colum 16). Control cards are:

(A) Identification Card

```
$645            RUN                      Runname,programmer-ID
```

This card is the first card recognized in the data deck.

Runname and programmer-ID are restricted to maximum of 6 characters each.

(B) EPLBSA Assembly Card

$645   EPLBSA   System-name, Segment-name,options

This card precedes the source deck which is to be assembled.

'System-name' is a 6 or less character name which is used within the system to reference this segment and its associated parts.

'Segment-name' is a 31 or less character name which defines the segment uniquely.

The options available are:

    NDECK   - No deck required

    NOLOAD   - Not to be loaded for simulation

In the absence of option specification, a binary deck is produced and execution (via the simulator) is attempted.

The source deck to be assembled may be in either of two formats:

    (a) BCD cards with conventions described in BE.6.00

    (b) Column binary 7 punch cards from CTSS of a file
        produced by EDA.

(C) Object Card

        $645   OBJECT

This card precedes object text and link decks - as many as required. An attempt at simulation is implied.

(D) Library Card

        $645   LIB   Segment-name

This card results in a request to the 645 loader to load the named Segment (prior to execution of the 645 process) from the 645 Segment Library.

'Segment-name' is a 31 or less character name which uniquely defines the called segment. The name is restricted to alphabetics (considered lower case), numerics, and the underline.

(E) Permanent File Card

$645   PERM

This card specifies that the user requires the permanent file capability of EFS (BE.1.01) at 645 execution time.

(F) Descriptor Word Setting Card

$645   OPTION   parameters

Parameters which may be specified are:

MNEMONIC	MEANING
FO	Directed Fault O
F1	Directed Fault 1
.	
.	
.	
F7	Directed Fault 7
DATA	
SLVPRAC	Slave Procedure
MASPRC	Master Procedure
EXONLY	Execute Only
SLVACC	Slave Access
WPERMT	Write Permit

If no OPTION card is present, standard settings are used:

SLVPRC, SLVACC, WPERMT

The settings specified in an OPTION card remain in effect until another OPTION card is encountered.

If no parameters are specified in an OPTION card, standard settings are reverted to.

(I)   Pagesize Setter

$645   RSPGSZ   Size

Page sizes are:

0   -   Unpaged

64   -   64 word pages

1024 -   1024 word pages

The settings specified in an RSPGSZ card remain in effect until another RSPGSZ card is encountered.

(J)   GE635 Subprogram Inclusion

$645   SYSTEM   Activity-name

The activity names (within the 64.5 system) are:

INITIAL -   Initializer

EBSASS   -   EPLBSA Assembler

BSAPRE   -   BSA preprocessor

BSAPST   -   BSA post processor

PACKER   -   Packer

FILEMK   -   Filemarker

LODSIM   -   645 Loader/Simulator

DUMPER   -   Dumper

GE635 object decks, including octal corrections, which follow a SYSTEM card are included during the execution of the named 64.5 activity.

(K)   Entry Card

$645   ENTRY   Segment,symbol

This card defines the location at which simulation is to be commenced. Segment and Symbol are restricted to 31 characters each.

Default entry parameters (segment main, symbol start)
are used if no ENTRY card is encountered.

(L) Foundation Cards

		Default	Meaning
$645	DSPGSZ	64	Descriptor Segment Page Size
$645	NTPGSZ	64	Name Table Page Size
$645	LSPGSZ	64	Page Size of Linkage Segments
$645	STPGSZ	64	Stack Segment Page Size
$645	PBLKSZ	64	Block Size of Page Tables and Other Unpaged Segments
$645	DSGBND	1	Highest Block Number Permitted in Descriptor Segment
$645	NMTBND	2	Highest Block Number Permitted in Name Table Segment
$645	FLTBAS	256	Base of Fault Vector in 636
$645	LODORG	FLTBAS+384	Loading of Origin
$645	TIME	1000	Thousands of 636 Memory Cycles Permitted.

These cards are used to set loading parameter which do
not change during loading. As indicated, default values
are set for all of these parameters, so that a typical
user deck might not include any of these cards.

(M) Foreign File Card

$645   FILE   Name

Name is a 31 or less character file name.

This card precedes the deck which contains a data file
for the user's program. The data deck may be in one of
two formats:

a) BCD card image with convention described in BE.6.00.

    When explicit line feed control is not defined as the last entry on a card, a newline character is added to the end of the data stream. A fill character (octal 000) is used to complete a partially filled word at the end of the information from each card.

b) Column binary 7-punch which is produced by CTSS (e.g., from an EDA file).

The data deck is terminated by an end-of-file card (***EOF in columns 1-6).