

Multics Staff Bulletin - 40

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Date: April 12, 1972

SUBJECT: Revisions to the New Standard Object Format

Several modifications to the new standard object segment format have been made; this document lists the changes as they apply to MSB-27.

A new document, incorporating these changes into the full format description, will be forthcoming.

In this document, the section numbers refer to those of MSB-27.

2.1.1 The Entry Sequence (NEW)

The standard entry sequence will not, as in MSB-27, necessarily include a standard save sequence.

2.1.2 The Gate Procedure Entry Vector (NEW)

add: The combination of a gate entry transferring to an entry sequence of the form described in section 2.1.1 is also considered to be a standard entry sequence.

2.4.1 The Object Map (NEW)

The revised declaration for the object map structure is given below. The items marked with "*" are new and are explained here.

```

declare 1 object_map based(p),
        2 decl_vers fixed bin,
        2 identifier char(8) aligned,
        2 text_offset bit(18) unaligned,
        2 text_length bit(18) unaligned,
        2 definition_offset bit(18) unaligned,
        2 definition_length bit(18) unaligned,
        2 linkage_offset bit(18) unaligned,
        2 linkage_length bit(18) unaligned,
        2 symbol_offset bit(18) unaligned,
        2 symbol_length bit(18) unaligned,
        *2 break_map_offset bit(18) unaligned,
        *2 break_map_length bit(18) unaligned,

```

2 format aligned,
3 bound bit(1) unaligned
3 relocatable bit(1) unaligned,
3 procedure bit(1) unaligned,
* 3 standard bit(1) unaligned,
3 unused bit(14) unaligned;

break_map_offset - offset (relative to the base of the object
segment) of the break map

break_map_length - analogous to text_length

standard - the segment is in standard object format

The break map is thus considered to be a separate section instead of occupying a special symbol block as specified in MSB-27.

The item map_ptr has been removed from the object map, thus eliminating **the restriction** that the object map be located at the end of the segment. It may be located anywhere before or after some other section. However, the last word in the segment must still contain a relative pointer to the object map.

Two other items, first_block and number_of_blocks, have also been omitted from the object map. Instead, the beginning of the symbol section must contain a valid symbol block header (see section 2.4.2). The number of blocks can be determined by tracing the block threads, terminating when **next_block_thread = "0"b**.

The restriction that the symbol blocks be threaded in reverse chronological order has been dropped; however, the creator of the object segment must be indicated in the first block.

2.4.7 The Binder's Symbol Block

append to the declaration of the bindmap structure:

```
3 number_of_blocks bit(18) unaligned
```

number_of_blocks - (fixed binary(17)) number of symbol blocks for this component; they start at symb_start and must be threaded contiguously