

TO: MSPM Distribution
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The routines get_level and set_level have been renamed level\$get and level\$set, respectively.

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Identification

Validation-level utility routines
level\$get, level\$set
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Purpose

In the context of the Multics protection mechanism, the "validation level" is a number which represents either the ring number of the caller in the last inter-ring call in the process at hand or a number higher than that ring number. (If the latter, the assumption is that the validation level was raised by the caller because it was operating in behalf of a caller of its own which resides in an outer ring relative to it.) See BD.9.00 for general considerations regarding possible uses of the validation level, and BD.9.03 for an important specific application. The present (assembly-language) procedures are provided in order to facilitate the reading and writing of the fixed location for the validation level from compiler languages, which do not in general allow for easy direct reference to the base of the call-save-return Stack, where the validation level is stored (at sb|3).

Usage

The calling sequence is

```
call level$get(n);
```

or

```
call level$set(n);
```

with declaration

```
dcl n fixed bin (17);
```

where

n is the value read from sb|3 in the level\$get case,
and is the value to be written into sb|3 in the
level\$set case.

Comment

The Gatekeeper (see BD.9.01) will not pass a validation level lower than the calling-ring's number during an inter-ring call.

Implementation

Entry level\$get returns the contents of sb|3 in its argument. Procedure level\$set writes its argument into sb|3.