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Identification

Traffic Controller Data Block
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Purpose

The Traffic Controller requires for its use that certain items be kept in a per-system data base. The data base is in segment tc_data, and the items in the data base are described in this document.

Discussion

The declaration for the Traffic Controller Data Base is shown at the end of this section. In the following discussion, each of the items is described in the same order as it appears in the declaration.

It is known that certain changes will be made in this section when the initial scheduler is replaced by the second scheduler (see BJ.4.03). For example, the addition of a facility for preemption will require a running list, which will live in this data base.

1. Global lock. This interlock is set when any process is executing in the traffic controller.

2. Wakeup Enable Switch. During Multics initialization, calls to wakeup are to be handled in a special way (see BL.5.04). Wakeup interrogates this switch, and does its normal processing only if the switch is non-zero.

3. Block Enable Switch. This switch does for block what the previous item does for wakeup. It is also described in BL.5.04.

4. Time Limit. The initial scheduler (see BJ.4.03) assigns each process a fixed amount of time on each scheduling, ignoring all considerations of other processes or system loading. This item is the time limit to be used, in the format required by the 645 opcode ldt (load timer). It is set at system initialization time from swpt$time_limit (see BL.3.04).

5. APT Table Size. This item contains the number of entries in the APT. It is set at system initialization time from swpt$apt_size (see BL.3.04) before tc_init is called.

6. APT Hash-table Size. This item contains the number of entries in the APT hash table. It is set at system initialization time from swpt$apt_hash_size before calling apt_hash$init to initialize the hash table. See BJ.7.02 and BL.3.04.

7. Hard Core Ring Number. This is the ring number of the hard core ring. Although in Initial Multics it will be zero, references to the number of the hard core ring should be through this item in the event that the number needs to be changed in the future.

Declarations

```
dcl (                                   /* Traffic Controller Data Base */

tc_data$global_lock bit(36),            /* traffic controller global
                                           interlock */

tc_data$wakeup_enable bit(1),           /* if on we can wakeup */
tc_data$block_enable bit(1),            /* if on we can block */

tc_data$time_limit bit(36),             /* execution time per scheduling */

tc_data$apt_table_size fixed,           /* number of entries in APT */

tc_data$apt_hash_table_size
fixed,                                  /* size of hash table */

tc_data$hardcore_ring_no
fixed                                   /* ring number of hardcore ring */

   ) external;
```