Ident

Dedicated Device I/O Traffic Metering

THVan Vleck

Purpose

This section describes the method for metering the GIOC cycles used for input and output on dedicated devices.

Method

The call

 call meter_io (cycles);

is issued by the GIM whenever
a process uses the GIM to do
input-output on a dedicated device.
"meter_io" performs the following
steps:

1. Obtain the process Id of the
   calling process from "whoami"

2. Lock the segment "io_meters"
   (this is a "block-lock")

3. Search for an entry for the calling process in "io_meters". If none exists, create one.

4. Add "cycles" to the count in the entry.

5. Unlock the segment and return.

The declaration of "io_meters" is as follows:

```
dcl 1 io_meters ctl (p),
    2 lock bit (72),
    2 entries fixed bin(17),
    2 nused fixed bin(17),
    2 table (p-> io_meters, entries),
    3 vs bit(1),
    3 ds bit (1),
    3 processid bit(72),
    3 count fixed bin (35);
```

A standard hash-table mechanism is used to manage the segment.

When "get_meters" (B0.1.08) is called to read the meters, it reads and deletes the entry in "io_meters".