Identification

Obtain, modify bit-counts in segment branch
get_count, set_count
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Purpose

Get_count and set_count are library procedures which obtain
or modify the bit-count information of a branch in the
segment hierarchy. They allow the user to obtain or provide
this information in terms of bits, characters, or (machine)
words.

Usage and Implementation

$$\text{call get\_count } \$ \left\{ \begin{array}{c} \text{bits} \\ \text{chars} \\ \text{words} \end{array} \right\} \quad (\text{dir\_name, ent\_name, n\_items});$$

dcl (dir_name, ent_name) char (*) varying,
    n_items fixed bin (17);

At each entry, get_count sets a local variable to the
number of bits which represent the item named by the entry,
i.e. bits, characters, or words.

The number of bits per item is:

entry name	item size
bits	1
chars	9
words	36

Get_count then calls the status primitive in Directory
Control with arguments of dir_name and entry_name and
extracts the bit-count from the returned structure (see
BG.8.02). The execute or read attribute must be on for
dir_name.

Error returns from the call to status are handled as described
in BY.2.01.

If the bit-count obtained is not a multiple of the item
size, an error is signalled in the standard fashion (see
BY.11.00 - BY.11.04). If control returns from the SIGNAL,
the excess bits are ignored.

The value obtained from status is then divided by the
item size, and this result is assigned to the variable
n_items.

$$\text{call set\_count \$} \quad \begin{Bmatrix} \text{bits} \\ \text{chars} \\ \text{words} \end{Bmatrix} \quad \text{(dir\_name, ent\_name, n\_items);}$$

(Same declarations as for get_count).

At each entry, set_count multiplies the item count, n_items,
by the item size (as for get_count), to generate the bit
count.

If the bit count is negative or is greater than $36*2^{18}$,
an error is signalled; upon return the absolute value
of the bit-count is used.

The Directory Control primitive setbc is called with dir_name,
ent_name, and the calculated bit count. The execute attribute
must be on for dir_name and the write attribute must be
on for ent_name.

Error returns from setbc are handled as described in BY.2.01.