Identification

Read or set access attributes
mode
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Purpose

Mode provides the facility to read or set the access attributes
associated with a user name for a segment in the file
system hierarchy.

Usage

        mode$get (path, entry, acname, mode);

        mode$set (path, entry, acname, mode);

        dcl (path, entry, acname) char (*) or char(*) var,
            mode bit (5),

mode$read returns in the bit string mode the mode associated
with acname for the segment path>entry. mode$set sets
the mode associated with acname for the segment path>entry
to the mode specified by the bit string mode. If acname
is not on the access control list, it is added with the
mode specified.

The five bits of the argument mode correspond to the attributes
Trap, Read, Execute, Write and Append respectively. (See
BX.8.00 for the meaning of these attributes.) If entry
is null the common access control list of path is read
or set. If acname is null the caller's name is assumed.
The argument acname may be either of two forms. It may
be a 50-character string with no periods to separate the
three components of the name. Alternatively, it may be
an adjustable character string with periods separating
the three components. If only two components of the name
are present the third component is assumed to be "*".
An acname of "*" is interpreted as "*.*.*".

Comments

The user calling mode$set must have the read and write
attributes on for path>entry. The read attribute is required
for mode$get.

Implementation

Mode expects a valid pathname. A valid pathname is one that is relative to the root directory and does not contain the character "<". readacl is called to obtain the acl for the segment path>entry. The names on the acl returned by readacl are scanned for a name with a first component equal to the first component of acname. All names with that first component are compared with acname for a match in second and third components. Acname = "*" is interpreted to be the name "*.*.*". (See BX.8.00 for full discussion of access control names.)

If acname is not on the acl in a call to the $get entry, an error is signalled as described below. If signal returns, control is returned to the caller with mode set to "00000"b. Otherwise the appropriate action is taken as indicated by the entry to mode that was called. If acname is not on the acl in a call to the $set entry, mode computes the weight of acname and inserts it in the appropriate place in the acl.

Errors

Four errors are recognized by mode. Mode calls seterr (BY.11.01) with the following error codes and error information. Mode then signals the condition mode_err, and if signal returns, returns to the caller.

Two errors are reflected from the file system:

moderr   User has incorrect access to the segment. [i.e., could not read the acl.]

noentry   Could not find the entry

The other two are defined by mode:

nvalacnm   Invalid access control name.

noacnm   Access control name not on acl. [only for the $get entry]