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To: Distribution

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Subject: Initial Access Control List Manipulation Entries.

The entries in the gate "hcs_" for Initial ACLs are similar to the 18-0 ACL entries except that one more argument, "ring", is added just preceding the last argument "code." Two Initial ACLs exist for each ring, one for new segments and the other for new directories.

Initial ACL Primitives

Generic arguments:

1. `dir` is the superior directory containing the directory whose Initial ACL is being referenced. (Input)
2. `entry` is the name of the directory whose Initial ACL is being referenced. (Input)
3. `area_ptr` points to an area into which ACL data is to be allocated. (Input)
4. `area_ret_ptr` points to the returned ACL which was allocated in the above area. (Output)
5. `acl_ptr` points to one of the ACL structures described below. (Input)
6. `acl_count` is the number of entries in the ACL structure pointed to by `acl_ptr` if `acl_ptr` is not null. (Input) Otherwise it is set to the number of ACL entries in the structure pointed to by `area_ret_ptr`. (Output)
7. `daemon_switch` if this argument is "0", a *. Sysdaemon.* rw or sma entry will be added to the newly created Initial ACL. (Input)
8. `ring` is the validation number of the ring to which the Initial ACL entries apply.
9. `code` is a standard status code. (Output)

Generic structures:

```
dcl 1 segment_acl (acl_count) aligned based (acl_ptr),
    2 access_name char(32),
    2 modes bit (36),
    2 zero_pad bit (36),
    2 status_code fixed bin (35);
```

This structure is accepted by the entries `hcs_$add_inacl_entries` and `hcs_$replace_inacl` and is returned by the entry `hcs_$list_inacl_entries`.

1. access_name is the name which identifies the processes to which this Initial ACL entry applies.
2. modes contain the modes for this access name. The first three bits correspond to the modes read, execute, and write. The remaining bits must be zero.
3. zero_pad must contain zero. (This field for use with extended access.)
4. status_code is a standard status code for this Initial ACL entry only.

```
dcl 1 dir_acl (acl_count) aligned based (acl_ptr),
    2 access_name char(32),
    2 dir_modes bit (36),
    2 status_code fixed bin (35);
```

This structure is accepted by the entries hcs_\$add_dir_inacl_entries and hcs_\$replace_dir_inacl and is returned by the entry hcs_\$list_dir_inacl.

1. access_name as above
2. dir_modes contains the directory modes for this access name. The first three bits correspond to the modes status, modify, and append. The remaining bits must be zero.
3. status_code as above.

```
dcl 1 delete_acl (acl_count) aligned based (acl_ptr),
    2 access_name char(32),
    2 status_code fixed bin (35);
```

This structure is accepted by the entries hcs_\$delete_inacl_entries and hcs_\$delete_dir_inacl_entries.

Primitives:

```
hcs_$add_inacl_entries (dir, entry, acl_ptr, acl_count, ring, code.);
```

```
hcs_$add_dir_inacl_entries (dir, entry acl_ptr, acl_count, ring, code.);
```

The above primitives add (replace if an entry with the same access name already exists) Initial ACL entries specified in the ACL structure pointed by `acl_ptr` to the Initial ACL in the specified directory.

```
hcs_$replace_inacl (dir, entry, acl_ptr, acl_count, daemon_switch,  
ring, code. );
```

```
hcs_$replace_dir_inacl (dir, entry, acl_ptr, acl_count, daemon_  
switch, code.);
```

The above primitives replace the Initial ACL in the specified directory with the ACL specified in the structure pointed to by `acl_ptr`.

```
hcs_$list_inacl (dir, entry, area_ptr, area_ret_ptr, acl_ptr,  
acl_count, ring, code.);
```

```
hcs_$list_dir_inacl, dir, entry, area_ptr, area_ret_ptr,  
acl_ptr, acl_count, ring, code.);
```

The above primitives return the contents of the Initial ACL of the specified directory. The information is allocated in the area pointed to by `area_ptr` and `area_ret_ptr` is set to point to the ACL structure. If `area_ptr` is null then `acl_ptr` is assumed to point to an ACL structure into which mode information is to be placed for the access names specified.

```
hcs_$delete_inacl_entries (dir, entry, acl_ptr, acl_count,  
ring, code.);
```

```
hcs_$delete_dir_inacl_entries (dir, entry, acl_ptr, acl_count,  
ring, code.);
```

The above primitives will cause the ACL entries specified in the structure pointed to be `acl_ptr` to be deleted from the Initial ACL in the specified directory.

In order to modify an Initial ACL, one must have modify access to the directory, and `ring` must be greater than or equal to the process's validation level. In order to list an Initial ACL one must have status permission to the directory.