

Vance

PORTRAIT OF A SUBPROCESS DESCRIPTOR

including:

privileged subprocesses

naming conventions

subprocess, map, and clist specification

## PRIVILEGED SUBPROCESSES

A privileged subprocess consists of a directory containing an entry by the name of CODEFILE which is the capability for a file containing a subprocess descriptor. Names with LOCAL in their second part [see explanation of names in subprocess descriptors] make sense only in a privileged subprocess. LOCAL refers to the directory in which the subprocess descriptor was found. A directory may be made into a privileged subprocess descriptor by using the command MAKESUBPD in Services in the Command Processor. MAKESUBPD has the syntax of MCAP except the first parameter must be a capability for a directory.

## NAMES IN SUBPROCESS DESCRIPTORS

Names in subprocess descriptors are two display code left justified words. The first word is a name to look up and the second name refers to where the first name may be found. The second name is interpreted by the following table.

name2	where to look up name1
LOCAL	* use the directory which contains the privileged subprocess descriptor; use the null access key
SPECIAL	* the command processor uses a special list of objects which it maintains. see table describing SPECIAL.
PUBLIC or S	* use the directory ROOT:PUBLIC with the <sup>public</sup> access key.
OPERATE	* use the directory ROOT:OPERATE with the public access key
CLASS	* use the directory ROOT:CLASS with the public access key
O or temp- directory of this proc	* use the temporary directory with the null key. If not found there, check the permanent directory with the user's own access key. If this gets an error or does not find the object, a file is created with that name [name1] in the temporary directory.
anything else	* presumed to be the temporary directory of another logged on user. name1 is looked up with the current user's access key.

## PRIVILEGED SUBPROCESSES

## NAME1 Meanings with SPECIAL

NAME1	Capability associated with the name
SPDIR	* directory which contained the privileged subprocess. null if not a privileged subprocess
THISPROC	* capability for this process with only the send interrupt option bit turned on
SCRATCH	* disk file capability for the subprocess scratch file
CODE	* disk file capability for the file which the subprocess descriptor is on (very helpful for map entries ).
TTYFILE	* this process' teletype file buffer
TTYREQ	* this process' teletype request event channel response
TTYRESP	* this process' teletype event channel

## MAP ENTRIES

The first two words of a map entry descriptor specify an ECS or disk file to be put in the map. The next words give the file address and core address. The length can be given as a number or may be computed: if the high order bit is set, the lower 18 bits specify the end address + one; otherwise the lower 18 bits are interpreted as the length. All blocks to be mapped in must already exist. The last word is the read/write flag, zero for read/write and nonzero for read only.

In addition the name 0,0 in a map entry descriptor is the scratch file (ie., SCRATCH,SPECIAL ). If the resulting entry is a dynamic name tag, it is opened to get the object out and return the capability, but the name tag is closed to restore the open count.

## SUBPROCESS DESCRIPTOR: CLIST

The upper 30 bits of word 0 give the number of clist slots which are reserved for a block capability parameter. after the block capability there are 13 predefined slots followed by the capabilities given in the clist descriptor. The clist descriptor is simply a sequence of two-part names specifying capabilities.

RELATIVE INDEX	CAPABILITY
0	allocation block with reduced bits to protect system
1	operation to make bead type calls
2	operation to call self
3	DF:READ
4	DF:WRIT
5	EC:SEV
6	EC:GEVH
7	bead ghost class code
8	null
9	null
10	capability for this clist
11	null
12	disk file capability for scratch file
13	this subprocess' class code (new one every time it is called)

# Subprocess Descriptor

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

0	PARM #	0
1	FIXED ECS	SWAPPED ECS
2	IGNORED	
3	IGNORED	
4	# OF LOGICAL MAP ENTRIES	
5	COMPILED MAP BUFFER SIZE	
6	FIELD LENGTH	
7	ENTRY POINT	
8	CLIST SIZE	
9	SCRATCH FILE SIZE	
	MAP DESCRIPTORS	
	- 1	
	CLIST DESCRIPTOR	
	0	

## MAP ENTRY DESCRIPTOR

FNAME
UNAME
FILE ADDRESS
CORE ADDRESS
LENGTH or END+1 (if high bit set)
1 = READ ONLY 0 = READ/WRITE

## CLIST ENTRY DESCRIPTOR

NAME
UNAME