

## ALOCSEG (a)

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### NAME

alocseg — create a segment

### SYNOPSIS

(alocseg = 0)

**alocseg (segnum, size, partition, 0)**

**alocseg (segnum, size, partition, name)**

**int segnum;**

**int size;**

**int partition;**

**int name[2];**

### DESCRIPTION

If *name* is zero, a segment id and *size* (words) of swap space are allocated. If *name* is non-zero and matches an existing segment name, the segment user count is incremented. If *name* is non-zero but does not match an existing name, an ID is allocated and set in the blocked state to permit initialization. The ID is returned in the process segment table indexed by *segnum*. The new segment will not be added to the process address space and thus is not brought into memory. When read into memory, the segment will be loaded into the memory partition specified by *partition*. In C, the return code is:

- 1) -1 Swap space saturated or out of segment ID's
- 2) 0 Segment created, must be initialized and then unblocked
- 3) 1 Segment is already loaded.

From assembly language, r0 points to a four word block containing *segnum*, *size*, *partition*, and *name* (the address of a double word name). If the request is successful, the c-bit is clear and r0 contains the new segment id. If the request is partially successful, the c-bit is set and r0 contains the status of the request:

- 1) r0 = -1 Swap space is saturated
- 2) r0 = 0 Segment is blocked and the process has been put to sleep on the segment id (named segments only).
- 3) r0 = ID Segment has been created and must be initialized (named segments only).

A typical sequence to create a named segment is:

- 1) allocate a named segment id
- 2) setmap to define virtual address
- 3) addseg to bring the segment into the process address space
- 4) read data into the segment
- 5) unblock the segment

### ALSO SEE

addseg(a), setmap(a), sleep(a), unblkseg(a)

### DIAGNOSTICS

C returns -1 if system is out of swap space or segment ID's. A return of zero if a named segment has been created in the blocked state (eg is being initialized by another process). Fault return with fault code 10 if segment table entry is non-zero or *segnum* is greater than 47.