

7/9/70

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LOW LEVEL DISK SYSTEM ACTIONS

1. Create File

IP1 D: Accounting Block No.
IP2 BD: Shape Numbers

OP1 D: Unique name/disk address word
OP2 C: ECS Incarnation

Remarks: File is created open with no blocks

2. Destroy File

DISK FILE
IP1 C: ~~ECS Incarnation~~

RETURN
Remarks: File must exist and be opened only by this process. Blocks may exist and be attached. Block in map causes Error.

3. Open File read-only

IP1 C: ~~Closed~~ disk file
OP1 C: ECS Incarnation

Remarks: Cap for ECS Incarnation has write, destroy, etc option bits off.

4. Open File read/write

IP1 C: ~~Closed~~ disk file
OP1 C: ECS Incarnation

Remarks: Cap for ECS Incarnation has write, option bit on.

5. Close File

DISK FILE
IP1 C: ~~ECS Incarnation~~

Remarks: Blocks may be attached. Block in map causes Error.

6. Read File

IP1 C: ECS Incarnation
IP2 D: File address
IP3 D: CM address
IP4 D: Word count

7. Write File

IP1 C: ECS Incarnation
 IP2 D: File address
 IP3 D: CM address
 IP4 D: Word count

Remarks: ECS incarnation capability must have
 write option bit on

8. Move Block

IP1 C: ECS Incarnation (Source)
 IP2 D: File address (Source)
 IP3 C: ECS Incarnation (Sink)
 IP4 D: File address (Sink)

Remarks: Block exists in sink or does not
 exist in source causes Error.

9. Attach Block(s)

IP1 C: ECS Incarnation
 IP2 D: File address
 IP3 D: Word count

Remarks: Does user-attach of all indicated blocks
 or up to 1st non-existent block (Freturn).
X6 ← 1st File ad not attach (always)

10. Detach Block(s)

IP1 C: ECS Incarnation
 IP2 D: File address
 IP3 D: Word count

Remarks: Does user-detach of all indicated blocks
 or up to 1st non user-attached block (Error).

11. Make Map Entry(read-only)

IP1 C: Subprocess (class-code)
 IP2 D: Index in logical map
 IP3 C: ECS Incarnation
 IP4 D: File address
 IP5 D: CM address
 IP6 D: Word count

Remarks: Clears map entry (see Zero Map Entry) and
 does map-attach of all indicated blocks or
 up to non-existent block. Constructs read-only
 map entry containing initial existing blocks.

Freturn on non-exist blk

change map entry (read only/read write)

*IP1 C: subproc
 IP2 D: index
 IP3 C: old ECS incarn
 IP4 C: new ECS incarn
 IP5 D: file addr*

*IP6 D: cm addr
 IP7 D: word count*

11A

12. Make Map Entry (read/write)

IP1 C: Subprocess (class-code)
 IP2 D: Index in logical map
 IP3 C: ECS Incarnation
 IP4 D: File address
 IP5 D: CM address
 IP6 D: Word count

Remarks: Same as read-only except that
 a) ECS Incarn cap must have write option bit
 b) Constructed map entry is read/write

13. Zero Map Entry

IP1 C: Subprocess (class-code)
 IP2 D: Index in logical map
 IP3 C: ECS Incarn - existing map entry

Remarks: If file involved is an ECS Incarnation
 then all indicated blocks are map-detached.
 Map entry is then zeroed.

14. Create Block(s)

IP1 C: ECS Incarnation
 IP2 D: File address
 IP3 D: Word count

Remarks: Creates all indicated blocks or up to 1st
 existing block (Error). Blocks are created
 attached.

15. Destroy Block(s)

IP1 C: ECS Incarnation
 IP2 D: File address
 IP3 D: Word count

Remarks: Destroys all blocks or up to 1st block which:
 a) Is attached by another process (Freturn)
 b) Doesn't exist (Freturn) *ERROR*
 c) Is in a map (Error)

16. Freeze File

IP1 C: ECS Incarnation
~~IP2 D: Accounting block number~~ (*Byd Lang*)

17. Thaw File

IP1 C: ECS Incarnation

18. Make Shared Claim on File

IP1 C: ECS Incarnation

19. Make Exclusive Claim on File

IP1 C: ECS Incarnation

20. Release Claim on File

IP1 C: ECS Incarnation

F. returns