3/12/70

4 is the one

new ecs facility

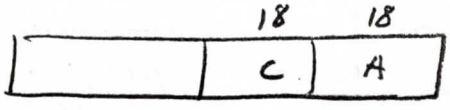
return authorization + Block data transfer during call

will permit the return of at most 1 block of data & 1 group of objects

I) format of original call

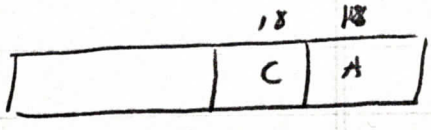
The 2 words immediately preceding the IPlist control the return authorization.

A) 1st word preceding IPlist controls data return



up to c words can be returned starting at address A.
[If C=0 no words can be returned, Hence a zero word refuses authorization]

B) 2nd word preceding IPlist controls object return

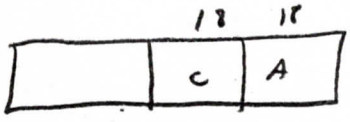


up to c objects can be returned starting at Clist index A
[as above, C=0 for no authorization]

2) new versions of return & F return

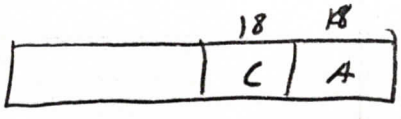
IP 1 & IP2 will control data and object return
we will also retain old versions of return & F return?

A) IP1 controls data return



up to C words will be returned starting at address A

B) IP2 controls object return



up to C objects will be returned starting at C.I.T. index A

3) Implementation of new forms of return & F return

If both counts are zero, no action

If either count is nonzero, check for errors [c-list length and ~~[illegible]~~ field length errors]

if no errors, copy data and c-list entries to a buffer in ECS.

perform swap back to calling subprocess.

check its return control data, reducing counts to the minimum of called and caller, now check for c-list length & field length errors, if none, copy data and clist entries to proper location.

Now look for interrupt signals!

4) variation on original call

change form of XJ to:

30	18	12
XJ + I0 list address	A	S

S will be skip field if no F return [most code now uses 0 or 1]

A address of a 2 word return control information

	18	18
A: →	C1	A1
0	C2	A2

A1, C1 address & count of data return authorization

A2, C2 address & count of object return authorization

If A=0, no authorization, if (A)=0 no data authorization

otherwise (A+1)=0 no object authorization

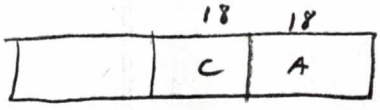
addition

The ecs buffer can also be used to implement block data transfer during a call.

need

1) new kind of parameter specification: "data block of length n"

2) The IPL.st entry will be a word as follows:



If C>n, error
else transfer C words from A to the parameter area in called subprocess (via ecs buffer, of course)

3) The next data word in parameter area of called subprocess will, of course, be n words beyond beginning of this block.