1 Feb '71

Questions on which you are invited to expressopinions in the next few days:

1) Should external interrupts do a tree search similar to internal interrupts? That is, if the target subprocess of an interrupt has interrupt disarmed, should the interrupt be sent to its nearest ancestor with interrupts armed?

2) Should error numbers (or input parameters) be relocated to avoid the current conflict on subprocess calls?

3) Should the order of parameters be inverted when doing a subprocess call from a high level of a multi-level operation? That is, if we are processing the third order of an operation, the parameters of order 3 would be put in subprocess core first, followed by the parameters of order 2 and order 1.

4) Should facility for ECS actions to return parameters be provided?

5) Should the number of error classes be increased (from 32?) or made variable?

6) Does anyone have any thoughts on stack full errors? (Like the disk folks.)

The 6,1,0 error that can occur during disk loading or recovery is caused by the disk not destroying an empty file before it tries to bring it in.

ARCHIVE PROPOSAL

On the first of each month, a system tape and a disk dump tape will be made and put in the vault. The three most recent dump tapes will be kept; only the most recent system tape will be kept.

ECS modification list

Appended is a list of ECS modifications from last year with the completed stuff indicated and the stuff that seems to be no longer important also indicated (but with a different mark!). Comments are appropriate.

V   means done
I.P.   "   in progress
NCD   "   not completely designed
NS   "   not scheduled
+   "   a partial solution/code is done
?   "   ?
US   "   no ser

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Map error logic

I. <u>Separation of change unique name count from compaction count.</u> It
has been suggested that two counts be kept on the compiled maps.
The compaction count acts the same way the current count does, i.e.
if the count isn't as large as the current number of compactions,
the map is recompiled.

The new count, which might be called the "map invalidation count",
or somesuch descriptive name, would be compared against a count
which is maintianed by the system and incremented by one each time
the unique name of a file which has a block in a map is changed.
Whenever the map code finds the local count on a map to be behind
the global count, it checks the logical map to see if all the files
still exist. If so, it resets the local count to the global count.
If not, it recompiles the map and flags the subprocess for a map
error.

II. <u>Handling of the map error.</u> Because swapout of a subprocess may
occur asynchronously with respect to execution of the subprocess,
it is deemed unsuitable to signal the error to the process at the
time that it is discovered. Rather, the error is remembered and
not signaled until the subprocess in question becomes part of the
full map again. (This means right away if it is becoming part of
the full path when the error is detected of course.)

RECONSTITUTED LIST OF THINGS TO BE DONE ON THE ECS LEVEL OF CAL TSS

Stuff needed for operation for of the "Septmeber System"

- ✓1) Allocator-compactifier   (Vance, endof June)
- ✓2) Implementati n of block parameters and return parameters   (Bruce, BNG*
- ✓3) Indirect C-list stuff   (Bruce, done and tested)
- ✓4) Set temporary part of class code   (easy)- *Bruce*
- ✓5) Return capability of specified type

I.P. ✗✗ 6) Change map compiler to do error instead of DISASTER in case of missing map block   (Paul, ?)

- ✓7) Get option bits into the operations (Vance, easy)
- ✓8) Implement the error return operation (Bruce, BNG)
- ✓9) Date and real time (Keith, ?)
- ✓10) Find descendent of subprocess (Dave, written but not in)
- ✓11) *Fix n'th parameter of an operation (Paul)*
- ✓12) *Dirty bit stuff (Paul, written but not debugged)*

Stuff needed for the "Real System"

- **NCD** 1) DAE entry stuff   (just won't be available in Sept)
- **NS** 2) Operation to turn on/off map entries for a subprocess   (no subprocess descriptors in the Sept directory system)
- ✓3) Change to change unique name oper vis-a-vis option bits   (NA in Sept)
- **IP** 4) Move system code out to ECS (Vance, in progress)
- **NS** 5) Message channels

Other stuff

- **⚡** 1) Make PUTACT and PUTECS check the lenght of ACTIONL
- **IP** 2) Accounting of CPU time
- **?,NS** 3) Operation to reset end of path to self
- **NS** 4) Fast actions
- ✓5) Fix to CCCLOA   (this is easy and a lot of code will be affected by it, so I'll get it done)
- **NS** 6) General destroy operation
- **?** 7) Send interrupt to pseudo-process (written, but not in)
- ✓8) M ove CLASSCNT to ECS
- **IP** 9) Check GARBCNT at point of doing DAE when establishing subprocess environment
- **⚡** 10) Fix error returns from OPINTR
- **US** 11) F-return when subprocess to be deleted isn't a leaf (Bruce, ?◊)
- **⚡** 12) Display process descriptor and subprocess descriptor operations
- **IP** 13) In process and subprocess creation, test for lower limit of entry point correctly
- **NS** 14) Incremental map compliation (Paul, ?)
- **NS** 15) Move object (Allocation block) from one allocation block to another

*BNG = before national guard

✗✗ *was this going to be postponed until NEWUN is released?*