# Memo

wht-naomi-64

To: ABG

From: RMM

CC:

Date: 18 February 2003

Re: DRAMA interface for NAOMI: ideas and queries

Hi Bruce,

looking at the possibility of trying to interface something like the proposed ELECTRA-1 architecture to the rest of the WHT services via DRAMA (with the NAOMI-side acting as server and/or client), should we first try separating the communications layer interface problem from that of the format and semantics of the packets used on either side of the divide. Am I right in assuming that the former problem consists of one side talking DTM and the other DITS, whilst the latter consists of the DRAMA side talking a WHT-specific convention implemented in SDS whilst the AO-side might be talking an expanded version of the ELECTRA command/status set?

Assuming this decomposition of the problem is valid, lets look first at the comms layer problem. The SEQ interfaces to the rest of the ELECTRA architecture currently look something like this:
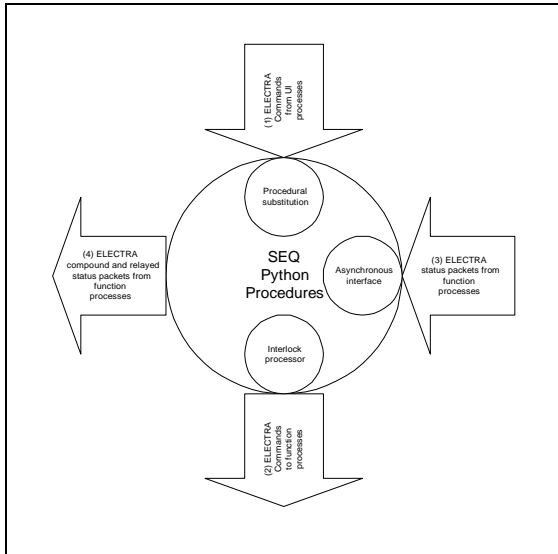
As SEQ would have to be able to act in both a client and server role with respect to the WHT DRAMA processes, it seems to follow that the SEQ process would have to accept DRAMA input (however formatted) via (1) and (3) and also be able to produce it on (2) and (4).

It may be, of course, that this could actually be done by executing selects on the two protocols at (1) and (3). However this looks tricky to me, even just looking at the DTM side where there is a critical requirement to keep (3) live. Failure to do this will produce virtually system-wide livelock.

Can we solve this by adding four interface processes (or perhaps, better still *threads*) which just add extra sources at (1) and (3) (already heavily fanned-in) and sinks at (2) and (4) (already heavily fanned-out):
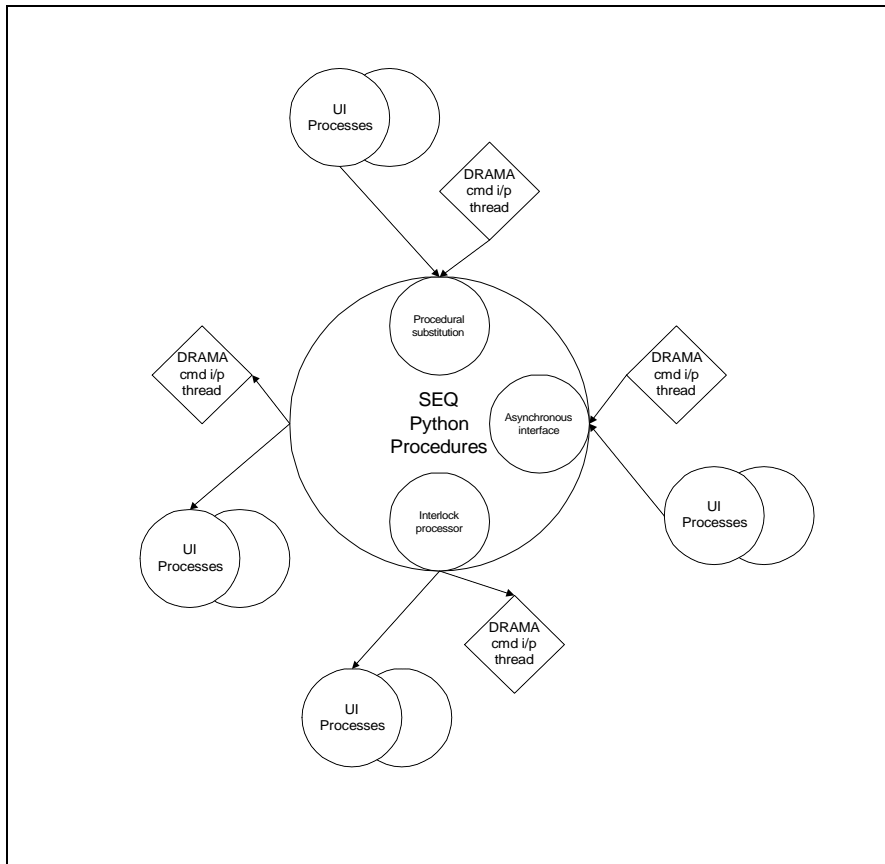
Each of the new threads would be then either a DTM-in/DITS-out or DITS-in/DTM-out convertor.

Even if we solved the DITS/DTM problem by relayering the entire ELECTRA/NAOMI system over DITS we should still have the problem of the differing information formats. Is this still true if the SDS layer were adopted for all of NAOMI; is there still some WHT-specificity in the interpreation of commands and status as I assumed above? Assuming this is right then something like the above could still work. Remember all the DRAMA interface *threads* could still communicate as they share memory. This would mean that if the DRAMA-side required a superset of the CMDSET info (and vice-versa) to survive across transactions, the threads could set up housekeeping structures to assure this.

PLEASE LET ME KNOW A) IF THIS MAKES ANY SENSE, B) IF SO, WHAT YOU THINK, C) IF IT *MIGHT* BE OK SHOULD WE CONSIDER BUILDING A LIMITED PROTOTYPE?

Cheers

Richard