File 20111026.2316: Notes from a telecon organised by Stephen J. Dill, 26th October 2011 at 1400 MDT, on 'Follow-up to area 1 of the Cross Domain BAA':

Link to BAA 10 09 RIKA: `https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=4dbc19aa21025e5a76fca78857af669b&_cview=0`.

On the call were Stephen J. Dill, Chris Geer, Mike Temple from TMAN, Joe Loughry from Radiant Mercury, James Buzbee, John Morrison (author of the white paper), Carl Weir, and Garet Moravec from the Skunk Works. There was a Live Meeting showing slides written by John Morrison on 'Heuristic-Based Trust Mechanisms'.

The objectives are to transfer data rapidly across security boundaries, using heuristic solutions when exhaustive search is impractical. The problem today is that humans are used to do that work, and humans are inconsistent, and the volume of information is growing. Improvements needed are (1) speed, (2) to capture how humans do it and teach a computer to do it, and (3) to use cognitive systems to predict which products are worthy of being passed on.

An important consideration is resistance to malicious actors attempting to misuse the system.

John Morrison started out by suggesting that there are some very stressing use cases: an aircraft mission cockpit, a drone controller, a forward air controller, or a facility bomb threat. All four scenarios involve someone with extremely pressing needs for specific information, out of a flood of available information, with both push and pull information transfer needed. Their hands are busy, they need fast responses, instant decisions, and it is life or death. (The organizers really want to demonstrate this in an aircraft cockpit, probably a mock-up provided by Skunk Works.)

Garet said this aligns with some work they did for Britain. It was done in Herndon by Doug (?) who is not with us anymore. The same group did some automatic exploitation generation work [classified project]. ATL was also part of it. Garet thinks he has some pieces that can be used. Stephen J. Dill asked Garet what are the cross domain issues in the F-35 cockpit, but Garet said it's classified and could not be discussed on this line.

They want to implement components called SEEKme, FINDme, KNOWme, and REVEALme. These will take in and filter information from multiple security domains, issuing queries when necessary, making rapid decisions using heuristic algorithms, routing exceptional cases to humans for review, working off templates for a particular mission type but learning from experiences in previous missions that went differently, and finally cueing the pilot audibly with important information, like for example, 'update: your target area has insurgents with guns in it now'.

The presidential helicopter is one of the cockpits they are most interested in.

Stephen J. Dill asked for inputs. I offered my quarterly and annual progress reports from Prob. Redaction as examples of work products that AFRL has responded positively to. The participants were also interested in perhaps using components of Prob. Redaction.

Next step is for John Morrison to put together a 3–5 page white paper.

References