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SUBJECT: A Different SDIO Organization

The present structure of SDIO does not appear to be conducive to the accomplishment of its mission. In part, this seems to be because its objectives and functional structure are organized in the "synthesis" mode: the problems and issues are identified and addressed methodically in a predominantly serial mode in a way that minimizes risk; when all the results are in, the pieces are assembled into a program designed to achieve the ultimate objective. The risk is least, the funds spent are minimal and the elapsed time is likely longest. This attitude is evident not only in the organization structure but also in the SDIO budget package.

A different and more focussed set of priorities together with a modified structure could be very useful in propelling SDIO into a technology-limited pace. This memorandum outlines that different structure without much elaboration.

Taken as axiomatic are the following conditions:

1. SDIO is renamed to Defense Initiatives Organization (DIO).
2. DIO personnel report eventually to the DIO Director. For military personnel, the Director or a delegated subordinate writes fitness reports.
3. DIO handles its own procurements using streamlined procedures.
4. DIO funding from the Congress does not come via the military services.

It is useful to ask, "what is the business of DIO?" We assume it is the research and development in and feasibility testing of methods for defending the US and its allies against foreign adversaries. This activity has two principal thrusts:

1. Using high-leverage technology, determine whether it is feasible to provide a satisfactory defense against nuclear-armed ICBMs (SDI).
2. Using high-leverage technology, determine the feasibility of countering the present major Soviet advantage in conventional forces (Conventional Force Modernization, CFM)
The priorities for SDI are summarized as:

1. Boost Phase intercept has greatest emphasis.
2. Feasibility to be demonstrated in 3 - 5 years for critical concepts, components and technologies.
3. Multi-dimensioned, tiered defense must meet conditions of
   o Survivability
   o d$off/d$def > 1
4. Strong investment in R & D base.
5. Allied partnership very desirable.

The priorities in CFM are:

1. High leverage, low cost technology.
2. Feasibility demonstrations ASAP.
3. Allied partnership essential.
4. Strong investment in relevant R & D base.

In passing, it is useful to point out that the juxtapositioning of SDI and CFM has advantages. It seems that our allies are uneasy with SDI and the eventual removal of the "nuclear umbrella" because

   it protects the US, not Europe;
   it increases the likelihood that Europe will be torn up once again;
   it leaves them with little to offset the Soviet conventional advantage.

Arguably, CFM appeals more to their self-interests and, as an entry point, may be a smoother way to obtain their involvement. Either way, we will probably pay a good part of the bill.

The organization is blocked out in Figures 1 and 2. Figure 1 calls for a Director and Deputy Director, but no "Scientific Advisor"; it is presumed that the technical strength is in the technical staff with oversight provided by the Advisory Panel. Innovative Technology, a technology base that should be pervasive in its supporting role to the entire DIO, is handled at the Director's staff level. Since Technology Transfer is key to allied involvement, a Working Group -- with representation from appropriate agencies -- is appropriate at this level. The Liaison staff provides for a single point of contact in the indicated areas and a focal point for planning and action when needed. The Administrative staff handles travel, accounting, reports, briefing support, visual aids, etc. Not shown is a Steering Committee composed of the Director/Deputy, selected staff, and the Program leaders from SDI and CFM (7 plus CFM).
Referring to Figure 2, the heart of DIO is in the SDI and CFM programs; only SDI is shown here. The essential point is that the organization and its work is focused on its objectives -- the feasibility demonstrations -- rather than on the R & D activities that may eventually contribute to those objectives. There are 5 main-line and 3 supporting programs. In order of decreasing priority, these programs are Boost Phase Intercept (with about 4 or 5 feasibility demonstrations at present), Midcourse Intercept with 2 feasibility demonstrations, SATKA and Battle Management, each with 1 major demonstration, and Terminal Intercept, with no demonstrations. "Post-boost" Intercept is lumped in with BPI or MCI, as appropriate. It is assumed that each demonstration experiment has its dedicated leader and champion. The Technology Base supports R & D that addresses the technical issues and problems for BPI and MCI (mainly). Systems Architecture supports all concepts and is strongly dependent on the outcome of the feasibility experiments, as is the scope of the Battle Management task. Finally, the survivability and lethality (S/L/TH) program takes on a supporting role also and addresses concerns brought up by the other programs.