Executive Summary
Navy S&T in FORCENet

The NRAC FORCEnet Study Panel, which consisted of the members shown in Appendix A, reviewed the Architectural Vision document released 18 July 2003, and found that the report provides a strong overall vision. The Panel also reviewed the Campaign Plan released 3 June 2003 which identifies responsible naval organizations and the documents they are to prepare to provide the detail and implementation of the FORCEnet concepts. In April of 2004, a key document, containing FORCEnet implementation details will be released.

In evaluating the progress achieved, however, the Panel determined that the Campaign Plan documents released to date fail to translate Architecture visionary statements into a decisive fully funded plan for the implementation of FORCEnet accompanied by a strategic S&T roadmap. It also found that while many Navy activities and organizations are participating in the development of FORCEnet concepts, clear lines of accountability have not been established, and management roles for FORCEnet-related efforts remain ambiguous. An overarching System Engineering structure with authority to ensure properly phased integration of all FORCEnet related programs is needed. Most significant, the Navy thus far has not sought adequate funding for the S&T efforts that will be necessary, endangering prospects for success as well as credibility with the Office of the Secretary of Defense (OSD) and the other services.

The Navy and Marine Corps systems that provide FORCEnet capabilities must be compatible with the Department of Defense (DoD) Global Information Grid (GIG). The Panel thus urges the Navy to take a proactive role in the development of the GIG framework in order to ensure that the core networking standards and capabilities of the GIG satisfy the Navy FORCEnet implementation requirements.

In the area of the required technical infrastructure for FORCEnet, the Panel found that potentially critical details of FORCEnet architecture design and standards, as well as the processes needed for the transition of legacy systems, remain undefined. Current FORCEnet documents fail to address in enough detail the requirements for reliable and affordable connectivity among Navy and Marine Corps components. The FORCEnet effort also does not adequately address information assurance, security needs, intelligence, surveillance and reconnaissance (ISR), data fusion, and sensor management technology requirements. The Navy also has not provided sufficient investment in knowledge management and decision-aid technology needed to ensure real-time, echelon-appropriate decision support for FORCEnet. More generally, the Panel found insufficient investment in modeling and the analyses of scenarios and decision contexts. Information from such modeling and analysis efforts could serve to provide initial and

ongoing guidance relative to the opportunities and challenges associated with alternate FORCEnet designs.

The Panel makes a number of specific recommendations to readdress these deficiencies. It also supports development of a FORCEnet Integration, Modeling and Simulation (M&S) Testbed, and new efforts to address requirements for network communications and security, knowledge management tools, and interfaces for legacy systems.In addition, the Panel found that beyond the current focus on large scale networking infrastructure and connectivity, FORCEnet S&T should probe architectures, protocols, and methods that support local, peer-to-peer networking, including mechanisms for discovery of components and services, ad hoc network configuration and maintenance, and robust sensor networks.