



## OFFICE OF THE DEPUTY ASSISTANT SECRETARY OF DEFENSE SYSTEMS ENGINEERING

### System of Systems Engineering Collaborators Information Exchange (SoSECIE)

Tuesday, September 25, 2012  
11:00 a.m. to Noon EDT

#### Establishing an Operational Context for Early System-of-Systems Engineering Activities

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#### **Abstract**

Investigation of the engineering trade-space associated with complex capabilities and system-of-systems (SoS) solutions is often pursued outside the purview of an over-arching Major Defense Acquisition Program. As a result, many of the mandates associated with the United States Department of Defense (DoD) acquisition process may not be applicable. However, since establishing an operational context for system or capability development remains a systems engineering best practice, the requirement for a Concept of Operations (CONOPS) document should be given favorable consideration. Unfortunately, the myriad variants of CONOPS in the DoD (and the organizational pedigree associated with each) can generate misunderstanding and disagreement over content, authorship, ownership, approval authority, and the intended purpose of the document. This paper compares guidance on the development of operational concept documents (including CONOPS variants) from industry, DoD and U.S. military services and compares them with related documents that are sometimes confused with (or inappropriately substituted for) CONOPS. A new method for establishing an operational context for SoS-based capability development is presented as a superior alternative to the aforementioned documents.

#### **Biography**

Mr. Bryan Herdlick is a member of the senior professional staff at the Johns Hopkins University Applied Physics Laboratory. He assists the Naval Aviation Systems Command with the development of advanced capabilities and complex systems. Bryan is an INCOSE Certified Systems Engineering Professional with additional certification in U.S. Department of Defense Acquisition policy and processes (CSEP-Acq.). Bryan's academic background includes a BS in Electrical Engineering from the University of Dayton and a MS in Applied Physics from the Naval Postgraduate School. He is also a graduate of the U.S. Navy Test Pilot School and a distinguished graduate of the Naval War College. He is currently a Ph.D. candidate at George Washington University in the Engineering Management and Systems Engineering curriculum. His collateral activities include supporting ABET on accreditation visits as a program evaluator volunteer and teaching Systems Engineering courses for the Johns Hopkins University Whiting School of Engineering.