

# Defining a System of Systems Engineering and Integration Approach to Address the Navy's Information Technology Technical Authority

*Warren Vaneman (Naval Postgraduate School) - [wvaneman@nps.edu](mailto:wvaneman@nps.edu)*

*Richard Budka (Customer Inspired Solutions, LLC) - [rbudka@customerinspiredsolutions.com](mailto:rbudka@customerinspiredsolutions.com)*

*Copyright © 2013 by Vaneman, Budka. Published and used by INCOSE with permission*

**Abstract.** The United States Navy's focus on Information Dominance as a warfare enabler requires an integrated and coordinated System of Systems (SoS) for mission success. The Space and Naval Warfare Systems Command (SPAWAR) has been designated the Information Technology Technical Authority (IT TA) to address the challenges posed by this unprecedented interoperability among Navy systems. To address these engineering and planning challenges, SPAWAR has adopted a System of Systems Engineering and Integration (SoSE&I) methodology. SoSE&I is the planning, analyzing, and integrating constituent systems into an SoS capability greater than the sum of those systems. This paper defines the SoSE&I \_Vee\_ process model, and discusses how it is used to engineer the SoS throughout its life-cycle, and how it can be used by decision-makers to increase systems integration and interoperability to directly impact the operational effectiveness of the Navy's networks and weapons.