EVALUATION OF SENSE AND RESPOND COMBAT SUPPORT OPTIONS

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ABSTRACT

To facilitate speed of deployment, Air and Space Expeditionary Force (AEF) operational units deploy with lean supplies and little back shop maintenance capabilities. Deployed units rely on responsive and agile combat support supply chains to meet their needs for reparable components, such as engines, or avionics, and consumable items, such as munitions. While progress has been made to develop agile combat support processes to meet the needs of the AEF, much remains to be accomplished in this area. The Sense and Respond Logistics (S&RL) concept, more broadly sense and respond combat support calls for adaptive and responsive demand and supply processes that can support dynamic operation goals. Advancements in communication and information systems technology, as well as improvements in combat support processes and combat support command and control processes, appear to provide the necessary foundations for refining and enhancing S&RL concepts and implementing them within the Air Force to meet the needs of the AEF.

This paper will describe the current baseline processes, technologies, and command and control nodes and evaluate current supply chains, and examine process and technology advances that offer promise for transforming the linear supply chains that operate in hierarchical C2 structures to new nonlinear, effects-based supply networks that can support dynamic, distributed operations. A set of TO-BE supply and demand network options will be presented with such metrics as cost, speed, and effectiveness. This work has drawn from network theory, supply chain management, management information systems and complex adaptive systems.