Mission Engineering Panel

The Role of Digital Engineering Environments (DEE) in Delivering Multi-Domain Operations (MDO)-enabling System of Systems

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Mission Engineering Implementation – Impacts & Challenges

NDIA

Panelists

- Steven Geary, Chief Engineer, Integrated Defense Solutions, BAE Systems

- Donavan Taylor, Solutions Architect, BAE Systems

- Dr. John Braswell, CSEP, President/CEO, Crossflow Technologies

- Dr. Eric Sholes, ESEP, Systems Engineer, Crossflow Technologies

Questions

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How do <u>Mission Engineering, Systems Engineering and Digital Engineering</u> relate to each other? How does a composite Digital Mission Engineering Capability enable pursuit of National Defense Strategy objectives?

What are the <u>functions or components of a DEE</u>?

What are the objectives and requirements for a DEE that can effectively <u>enable MDO</u> which meet the demands of the National Defense Strategy?

What are the <u>organizational challenges</u> that inhibit the multi-stakeholder collaboration and technical integration that inhibit Mission Engineering Objectives?

There has been a lot of talk about developing <u>human capital</u> for ME, SE, MBSE, etc. How have you been working in this area? What is the best practice for when/how to define an SoS? How much does reactive SoS composition impact programmatic elements (cost, schedule, risk, performance). Can our legacy approaches to SoS composition support the NDS goals?

What are the objectives of a program that is <u>born digital</u> (ie digitally native)? Conversely, how should legacy programs related to Digital Mission Engineering initiatives?

Questions

NDIA

What is the <u>role of modeling and analysis in enabling ME</u>? How does the support change through the system life cycle?

What is the '<u>state of modeling and analysis</u>' in terms of readiness to meet this need?

What does it really mean to transact in <u>digital artifacts</u>? How do you mature models and tools through the lifecycle to support design reviews and other data needs?

What are the options to allow <u>Digital Systems Modeling (ie MBSE + Sim) connectivity</u>?

As DE mature from nascent stages, the question will/should change from "What is DE and how do we do it' to 'What is good DE and how do we measure/verify we are delivering it'? What are the ways to <u>define sound DEE-enabled DME</u> and how do we measure/verify?

Borrowing a very good question from the ME panel Tuesday, '<u>what are the big wins for Mission Engineering</u>' and what is the role of DEE in enabling those?

What is the <u>biggest unmet need </u>in enabling Digital Mission Engineering? Some DE concepts have arguably become over-emphasized or over-hyped. What DE opportunity, concept, or tool is underappreciated or unheralded – what is the <u>biggest unmet need or under-appreciated area</u>?