Systems and Software Engineering SISAIG SSE Update

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AT&L Guiding Principles

- Deliver effective, affordable tools for the joint war-fighter
  - Proactively engage all stakeholders and drive decisions that deliver resilient, joint, strategic capability at the lowest possible cost
  - Play a key balancing role in rationalizing requirements to lower cost
- Lead the enterprise and drive business success
  - Invest the nations capital efficiently and effectively
  - Establish leadership breakthrough goals – improving our processes and measuring results
  - Invest each tax dollar as if it were our own tax dollar
  - Optimize the investments of all defense business units
- Operate as a neighborhood to strengthen the community
  - Take responsibility for growth and enhancement of our neighborhood
  - Use new personnel tools to measure and recognize motivated performance and results

Current SSE Functions (primary)

- Program Support Reviews
- Systems Engineering Policy, Guidance & Best Practices
- System Engineering Plan Review
- Test and Evaluation Master Plan Review
- Program Protection Plan Review
- Defense Acquisition University Career Fields
- Systemic Root Cause Analysis
- "Discipline" Experts
  - Risk
  - Reliability
  - Joint Testing
  - System Assurance/Cyber Security
  - Communications and Networking
  - CMMI
  - M&S
  - Software
  - Architecture
  - Energy
  - SoS

Current SSE Major Strategic Thrust Areas

1. **Systemic Root Cause Analysis** - the collection and analysis of systemic program performance issues, determination of root causes, and development of corrective action.

2. **System Assurance** - the reduction of vulnerability to malicious intent in our systems, considering the full spectrum security of information, technology and hardware/software components.

3. **Software Engineering Competency** - the focus on software engineering as a critical element of complex systems acquisition, and strategic initiatives to ensure future Defense software demands can be met by government and industry.

4. **Systems of Systems** - augmenting acquisition and engineering practices to better plan for, manage risk of, and successfully engineer successful interdependent systems of systems.

5. **Early Systems Engineering** - the institution of technical management and engineering practices prior to program initiation (MS B) in order to enable risk informed, balanced acquisition and budgeting decisions.

6. **Integrated DT/OT** – ensuring cadre of testing personnel, leveraging of test events to identify performance risk and progress, and promoting operationally representative environments in early testing

7. **Energy** – comprehensive strategy for DoD to reduce energy consumption across our operations, to include force development, deployment, and support

8. **UARC** – establishment of a system engineering research program

ODUSD(A&T) SSE/SSA Way Forward

- Goal: Establish strategy & activity to address most top software gaps
- SSA Implementation Plan:
  1. SW Cost/Risk Estimation: ongoing SSA initiative
     - partner with DCMA, PA&E/CAIG, NII, ARA
  2. Human Capital Strategy: ongoing SSA initiative
     - partner with DAU, Components, Stevens Institute of Technology
  3. SE/SW Integration: ongoing SSA initiative
     - partner with Navy, University of Southern California SW Sustainment: SSA FY08 initiative
     - partner with Service Software Engineering and Logistics Centers
  4. SW Requirements: Leverage 6-12-18 month workshop plans
  5. SW Quality Attributes: Leverage 6-12-18 month workshop plans
  6. Outreach
  7. Knowledge Portal