

Software Assurance

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Software Assurance: Opportunity Space

Technical challenges

- Assurance for new classes of systems, highly-complex systems
- Assurance across the lifecycle and supply chain

Adoption barriers

- Many existing solutions—issues of visibility, composition
- Uncertainty of actual contribution to overall assurance
- Time lag between assurance cost and accrued benefit
 - Difficult investment justification
 - Complex allocation of resources for assurance improvement within programs, across supply chain



Software Assurance: Proposal for New Work

Enable the DoD supply chain to deliver assured systems of all complexities and classes.

Pursue new technical challenges...

Assurance in new classes of systems

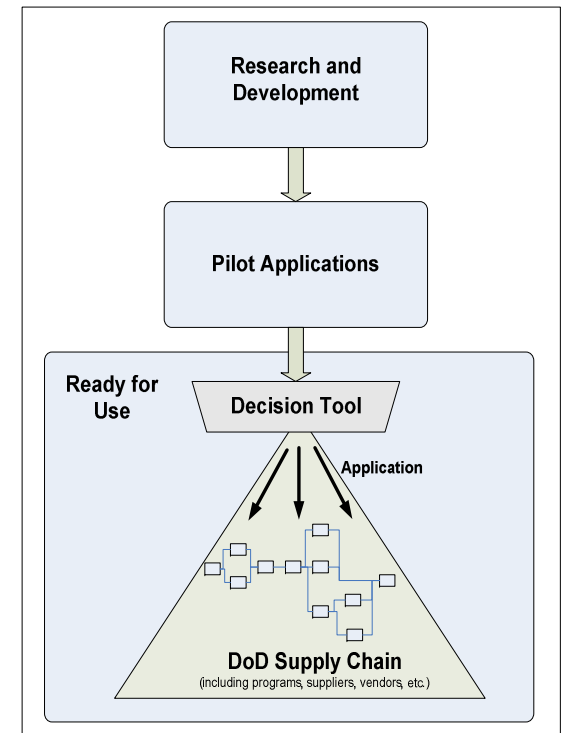
- SoS assurance definition, best practices
- Strategies, tools and methods for assurance across the lifecycle and supply chain

Assurance measurement and analysis

- Data definitions for assurance metrics across the lifecycle and supply chain
- Data collection and validation; analysis algorithms

Transition capability

- Multi-dimension taxonomy of assurance solutions
- Decision diagnostics and tools
- Assurance laboratory



Software Assurance: Plan for Existing Work

Enable the DoD supply chain to deliver assured systems of all complexities and classes.

Continue developing current portfolio of assurance solutions...for example

Assurance Cases

Model-Based System Analysis

Insider Threat/Vulnerabilities Advanced Analysis

Function Extraction

Build-Security-In

Secure Code Analysis

GIG Survivability Framework

Security Quality Requirements Engineering (SQUARE)

Mission Success in Complex Environments

Extend and apply SEI portfolio to include assurance...for example

Architecture-enabled assurance

Acquisition practices for assurance

Process management for assurance

