Acquisition & Management

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Acquisition & Management: Why It Matters

Assuring that software functions as intended throughout the lifecycle

Incentivizing innovation in industry and government

Reducing risk in the acquisition of software-reliant systems

Fielding capability faster

Beating milestones and delivering programs ahead of schedule

Achieving affordable programs; controlling lifecycle costs

- ***Government Executive Magazine***
  June 12, 2015

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Provide Software-Based Capability with Confidence

- Collaborate with government, academia, and industry experts to devise innovative solutions to real DoD challenges.
- Provide direct expertise in lifecycle program support, from acquisition through sustainment, to aid current government programs.
- Develop or mature promising ideas based on academic/commercial research and practice for use in government contexts.
- Bring observations from individual programs and trends across programs back to the research community to enhance our understanding and development of solutions.
- Leverage our extensive network of DoD, Defense Industrial Base, and Industry Programs to increase our relevance, potential impact, and transition opportunities.
- Increase our expertise and talent through our connection to and collaboration with CMU, for example in the areas of probabilistic modeling, machine learning, data mining, and experimental design.

Help DoD achieve strategic superiority.

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Research Projects

DoD and government embraces Agile but often lacks actionable Agile guidance.

Agile in Government: Validating Success Enablers & Inhibitors

Mary Ann Lapham's presentation on Agile in government focuses on the use of grounded theory, action research, and affinity analysis to address operational and acquisition challenges and bring innovations from the commercial space into government.

Technical debt results from a design or construction approach that is expedient in the short term but creates a context in which the same work will cost more to do later.

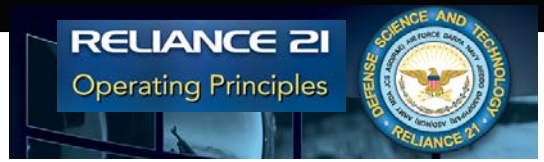
Improving Software Sustainability through Data-Driven Technical Debt Management

Ipek Ozkaya will discuss ways that DoD and industry alike are struggling to manage technical debt, and facing issues such as

- balancing short-term and long-term technical design tradeoffs
- avoiding unintentional accumulation of debt
- managing sustainment costs

Focus Areas

1. Achieve affordable programs
2. Control costs throughout the product lifecycle
3. Incentivize productivity and innovation in industry and government
4. Eliminate unproductive processes and bureaucracy
5. Promote effective competition
6. Improve tradecraft in acquisition of services
7. Improve the professionalism of the total acquisition workforce



Priority Science &Technology COIs

1. Autonomy
2. Command, Control, Communications, Computers, and Intelligence (C4I)
3. Counter Weapons of Mass Destruction
4. Cyber
5. Electronic Warfare/Protection
6. Engineered Resilient Systems
7. Human Systems

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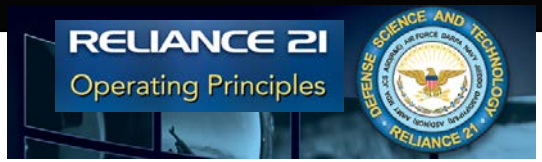

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Quantifying Uncertainty for Early Life Cycle Costs Estimation

Cost overruns in large-scale programs are common, with a $32 billion cost overrun growth in the DoD RDT&E portfolio for the past five years alone.

Studies have implicated poor cost estimation as one contributor. Bob Stoddard will focus on identifying and modeling the sources of uncertainty to inform cost estimates, capability trade-offs, and risk management strategies.

Machine Learning to Support Big Data Systems Acquisition

Acquirers need to meet the challenge from the US CIO and others to use up-to-date technologies, such as a modern technology stack, while struggling to maintain the IT competencies in government needed to do so.

John Klein will discuss the development of a knowledge base to support the acquisition of big data systems, focusing on the use of machine learning techniques to help deal with the rapid pace of technology advancement.

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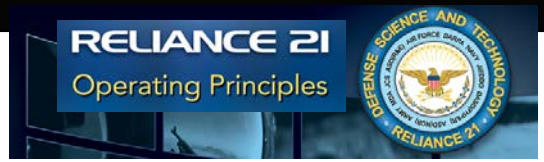

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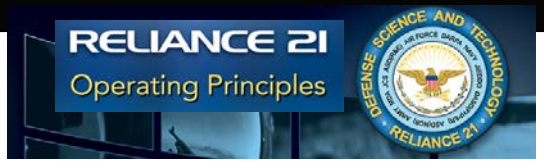

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