

# MODERNIZATION SUMMIT

Wednesday, March 21, 2018  
Hyatt Regency, Reston, VA



## **8:50am – 9:00am**      **Opening Remarks - OMG Modernization Roadmap**

*Richard Soley, PhD, Chairman OMG*

Opening Remarks - OMG Modernization Roadmap: How Architecture Driven Modernization Supports Model Driven Architecture

## **9:00am – 9:40am**      **[Keynote on IT Modernization](#)**

*Mr. John Weiler, Managing Director/CIO, Interoperability Clearinghouse (ICH) Co-Founder/Vice Chair, IT Acquisition Advisory Council (IT-AAC) (cancelled)*

Mr. Weiler will discuss the business case leading to the passage of Clinger Cohen Act, FITARA, NDAA and EO13800/IT MGT Act. Collectively these ground-breaking laws have advanced the state of policy around Federal IT management and acquisition. The first great step forward, FITARA, directed the successful adoption of Agile Acquisition Maturity Model, which built upon ICH's Acquisition Assurance Method (AAM). The GSA now offers AMM along with a suite of Micro-services designed to transform how agencies measure IT modernization mission value, risk and lifecycle cost. The new CPIC framework built around the Technology Business Management (TBM) Framework was recently embraced by the OMB for evaluating agency effectiveness for measuring the performance and maturity of the 430 departments, agencies, and sub-agencies in the federal government governmental agencies it scorecards. CPIC provides a standardized approach for managing tech investments and cost pools. The Modernizing Government Technology Act will establish Five IT MGT Act Centers of Excellence with the USDA leading the first ACE IT MGT implementations and the SECDEF's IT Modernization efforts, which include the Joint Enterprise Defense Infrastructure (JEDI) Cloud effort, which complement MilCloud 2.0, that is expected to be worth over \$4B. Mr. Weiler will explain how these groundbreaking laws are becoming policies, and how IT-AAC is engaging 24 leading industry groups and international standards activities including; IT Acquisition Advisory Council, Object Management Group, NDIA, AFCEA, BENS, TBM Council, and the Consortium for IT Software Quality (CISQ), to name a few, to collaboratively advance the state of the practice of IT governance, acquisition, cyber resilience enhancement and legacy modernization in the federal government.

## **9:40am – 10:20am**      **[The Role of Business Architecture in Business-driven, IT Transformation](#)**

*William Ulrich, President, TSG, Inc. & Co-Chair, ADM Task Force*

Large scale, technology-driven IT architecture transformation efforts can be hard to justify, harder to sustain, and result in major investments that are misaligned with business strategy. These shortcomings are largely due to the inability to align business and IT architectures and result in billions of dollars in wasted IT investments annually. This session outlines a comprehensive, business-driven, and end-to-end transformation approach that organizations can leverage regardless of size or industry sector. This collaborative transformation approach provides key stakeholders with a consistent understanding of business strategy and related impacts across business units, IT assets, and related practices and disciplines. Finally, this session discusses how to get started and position business / IT architecture investments.

## **10:20am – 10:40am**      **Refreshment Break**

**10:40am – 11:20am** [Modernizing Mission Critical Legacy Systems for Secure Cloud Computing](#)

*Philip Newcomb, Founder, Chairman and CEO the Software Revolution, Inc & Co-Chair ADM Task Force*

The ADM approach to legacy system modernization provides the best practices and standards for modernizing legacy systems and making them secure for cloud computing. By combining bottom-up reverse-engineering to models and top-down model-driven and rule-driven information system to cloud micro-services architectures, coupled with automated refactoring to remediate technical debt and improve software quality, ADM has emerged as a best practice for rigorous and disciplined approach for software modernization. Mr Newcomb draws upon a wealth of research and practical experience to address the challenges and opportunities organizations confront in achieving cyber secure systems as mission-critical legacy applications are moved to the cloud.

**11:20am – 12:00pm** [SPMS: Modernization by Lifting Your Abstractions – or, How to Build Your Own Flying Car](#)

*Jason McColm Smith, PhD, ADMTF Chair Emeritus*

Any system or solution to a problem has an inherent set of concepts and abstractions that form the backbone. Whether the domain is software design, systems architecture, business processes, or enterprise optimization, the core issue remains the same: how do you identify, express, and improve that backbone? The Structured Patterns Metamodel Standard (SPMS) is a domain-independent system for helping you achieve these goals, no matter your specific industry or need. SPMS provides a common format for defining, organizing, and referring to the concepts that you use every day, and a methodology for building highly complex systems out of simple ideas. As an OMG specification, SPMS creates a ready-made data sharing standard for tooling to collectively use, for repositories of data to use for unified access, and for practitioners to implement. As part of the family of OMG specifications, SPMS already works with the standards you know and love, such as UML, OCL, BPML, KDM, and AST, to name a few, and is the foundation for a new class of specifications centered around software quality. SPMS also defines the Pattern Instance Notation (PIN), a graphical display language for quickly working with abstractions within your existing graphical notations, in informal and formal ways. In this talk, you will be introduced to SPMS, and find out how it can be used in conjunction with your existing techniques to help you understand and modernize your systems and designs.

**12:00pm – 1:30pm** **Plenary lunch**

**1:30pm – 2:00 pm** [Afternoon Keynote: The U.S. is Moving Backwards Within an IT Energized Globe](#)

*Dr. Marv Langston, Principal Langston Associates, LLC (presented remotely)*

Modern ICT is largely founded upon synergistic technologies previously created through universities, commercial labs, and government labs, funded by Federal and commercial R&D funding. This early leading-edge ICT propelled the U.S. Military's dominance and the growth of ICT dominated commercial businesses that has now created greater cyber threat vulnerabilities on our shores. The current well accepted myth about information technology (IT) systems is that they cannot be defended against well-funded, determined hackers. Because such myths are never questioned, the cyber security workforce takes it as a given that even highly secured IT systems will be compromised at some point. This discussion describes available technology that transforms cyber security from one of today's major government, financial, and consumer challenges, into a future where all but the most invasive insider cyber intrusion has become impossible!

**2:00pm – 2:45pm** [Winning the Cyber War with Structured Software Assurance](#)

*Robert Martin, Senior Principal Engineer, MITRE*

What things can go wrong and how can we win the cyber security war? Weakness are mistake or flaw condition in ICT architecture, design, code, or process that, if left unaddressed, could under the proper conditions contribute to a cyber-

enabled capability being vulnerable to exploitation. Vulnerability are mistake in software that can be directly used by a hacker to gain access to a system or network. Exposure are configuration issue of a mistake in logic that allows unauthorized access or exploitation. Exploits are weakness (or multiple weaknesses) to achieve a negative technical impact. Attack approaches from the set of known exploits are used in the Common Attack Pattern Enumeration and Classification. This talk discusses Security issues relating to Reliability, Performance, and Maintainability. Prioritizing Security Issues in Software, Security Scoring systems, Metrics & Measures, Patterns and Communicating what you have done to assure issues are addressed using Assurance Cases and Certification Processes.

**2:45pm – 3:30pm**    [Putting an End to Technical Debt](#)

*Dr. Bill Curtis, SVP & Chief Scientist CAST, Executive Director, CISQ*

OMG has just approved a standard developed by the Consortium for IT Software Quality (CISQ) for automating the measurement of Technical Debt. It is based on CISQ's four previously approved structural quality standards for the automated measurement of Reliability, Security, Performance Efficiency, and Maintainability. This talk will explain the full technical debt metaphor and how its various components can be measured. It will also present a process model for managing and controlling technical debt to reduce business risk and corrective maintenance costs.

**3:30pm – 3:45pm**    **Refreshment Break**

**3:45pm – 4:30pm**    [Knowledge Discovery for Cyber Assurance](#)

*Nick Mansourov, PhD, CTO, KDM Analytics*

Cybersecurity is trust in a system's ability to execute trusted behavior and to prevent malicious attacks with the objective of protecting information, assets, and services against compromise. Dr. Mansourov will explain how to identify, analyze, classify and understand cybersecurity threats and related risks in software. He will discuss cyber risk standards and the interrelationships between assurance, engineering and risk used to assess the truthworthiness of a system.

**4:30pm – 5:00 pm**    **Speaker Panel Session**

**6:00pm – 8:00pm**    **OMG Networking Cocktail Reception**

**Continue the conversation over drinks and hors d'oeuvres at OMG's networking cocktail reception**

*Updated March 22 Agenda and speakers subject to change with or without notice.*