US/UK/AUS Trilateral Software Intensive Systems Acquisition Improvement Group (SISAIG)

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Mission

- The SISAIG provides a focus for working common issues within a joint forum to enrich and amplify the US/UK/AUS national software acquisition improvement efforts. The collaboration will leverage products generated from national and joint programmes to reduce risks associated with performance, cost and schedule in Software Intensive Systems (SIS) projects.
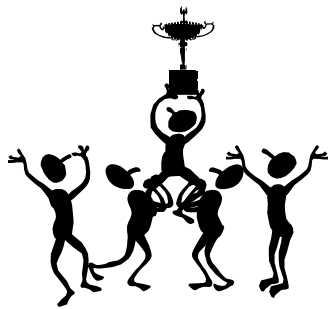
  - An environment for open and responsive dialogue
  - Sharing and disseminating 'Lessons Learned'
  - Leveraging resources from National programmes
  - Pursuing innovation and research

Background

- UK/US Bilateral Meeting 15 April 2002
  - Mr. Mike Wynne and Sir Robert Walmsley agreed on a number of actions, including: "How to measure the progress of software development."
- National Leads
  - Mr. Claude Bolton, Assistant Secretary of the Army (Acquisition, Logistics and Technology)
  - Mr. Charles Draper, Director General Smart Acquisition, MOD
- Refine the question and develop a plan of action

More Background

- **Sep 02**
  - Formed US/UK Software Acquisition Working Group
    - US Army, OSD, and UK MOD PFG personnel
    - Australian and German observers
  - Identified list of "Hot Topics"
  - Developed an understanding that software acquisition problem areas are common across US and UK acquisition programs
- **May 03**
  - National Leads approved SISAIG Terms of Reference
- **Oct 03**
  - Trilateral SISAIG established with Australia joining
  - Agreed on a framework and an action plan for collaboration
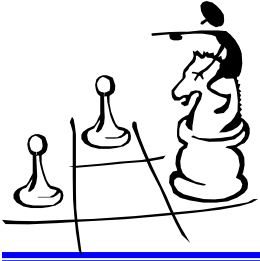
SISAIG National Leads

- US: Mr. Claude Bolton, Assistant Secretary of the Army (Acquisition, Logistics and Technology), DoD

- UK: Mr. David Gould, Deputy Chief Executive, Defence Procurement Agency, MOD

- AUS: Ms. Shireane McKinnie, Head Electronic Systems Division, DMO

SISAIG Key Personnel

- **US**
  - Dr. Jim Linnehan, OASA(ALT) (US Lead)
  - Ms. Kristen Baldwin, OUSD(AT&L)/SIS
  - Dr. Rich Turner, OUSD(AT&L)/SIS
  - Mr. Joe Jarzombek, ASD(NII)/IA
- **UK**
  - Mr. Terry Proffitt, PFG CF Team Leader (UK Lead)
  - Mr. Nick Pearse, PFG Group Leader
  - Mr. Chris Whittaker, PFG CF Software
  - Mr. Julian Burridge, PFG Chair of UK Points Of Contact
  - Ms. Shonnag Allison, PFG Engineering Support
- **AUS**
  - Mr. Matt Ashford, DMO (AUS Lead)
  - Ms. Jennifer Murray, Director Software Engineering

Terms of Reference

■ **Objective:** To oversee and manage a programme to inform the acquisition of Software Intensive Systems within the US DoD, UK MOD and AUS DoD by contributing to the delivery of systems on time, on cost and meeting the specified requirements.

■ **Members:**   US – ASA(ALT), USD(AT&L)/DS/SIS, ASD(NII)/IA
UK – MoD DPA, PFG
AUS – DoD, DMO

■ **Secretariat:** The host Nation will chair the meeting and provide the secretariat.

■ **Meetings:** Held as required but at least annually

■ **Records:** Minutes will be agreed to by US, UK, and AUS leads and records of all activities and documents will be stored in a collaborative workspace

■ **Resources:** Nations commit to fund administration activities to support the SISAIG.

Intent is to leverage ongoing programs at little additional cost

■ **TOR Review:** Six months after initiation and then annually

Leverage Key Initiatives

- **US**
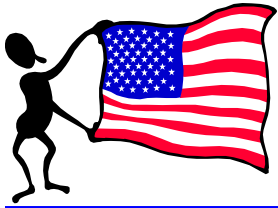 - Army Strategic Software Improvement Program (ASSIP)
- **UK**
  - DPA Stocktake Initiative + work strands and contributors from UK Points Of Contact meetings (DPA, DLO, DSTL, MoD Centre)
- **AUS**
  - Software Materiel Reform Program
 - Materiel Acquisition and Sustainment Framework (MASF)
- **Leverage other SIS initiatives when identified**
 - OSD, Service initiatives, others …

US – ASSIP

- Partnership between ASA(ALT), PEO/PMs and the Software Engineering Institute (SEI) to dramatically improve the acquisition of software intensive systems

- A long-term commitment to institutionalize innovation and improvement (FY03-FY09)

- Focused on people, programs, production and sustainment, and continuous process and product improvement across the Army enterprise
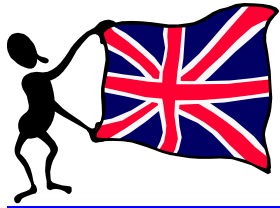
UK – DPA Stocktake Initiative

- Improve the ability to manage projects on a whole life basis

- Facilitate effective trade-offs

- Create a better, more open relationship with industry

- Embed the concept of incremental acquisition

- Improve our approach to project approvals

- Increase early investment to de-risk projects
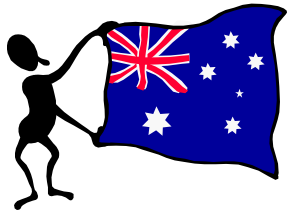
AUS – Software Materiel Reform Program & MASF

- Software Materiel Reform Program
  - Improve the value for money delivered under defence contracts
  - Increase the capability of both defence and industry
  - Improve the sustainability, interoperability and performance of software intensive systems (SIS)
  - Equip DMO staff with the appropriate skills and knowledge to manage SIS
  - Provide policy, procedures, guidance and training to DMO staff in all aspects of acquiring and sustaining SIS
- Materiel Acquisition and Sustainment Framework (MASF)
  - Provides overarching framework housing all DMO policies and processes that support DMO's core business

Key Issue List

- Policy and procedures
- Requirement determination and documentation
- Evolutionary Acquisition and Spiral Development
- Testing and Integration leading to successful IOT&E
- Software performance measures
  - Metrics for management/oversight
- Process Maturity and Improvement (SW CMM/CMMI)
- Contracts
  - Intellectual property rights
  - Incentives
  - Past performance criteria

- Information Assurance (IA)
- Software Cost Estimating
- Collecting, disseminating and using Best Practices
- Software skills of acquisition workforce; shortage of SW engineers
- Strengthening and stabilizing the technology base
- Industry participation and forum
- Software TRLs/software product maturity and software risk assessment
- Architecture
- Independent Expert Program Reviews and Assessments
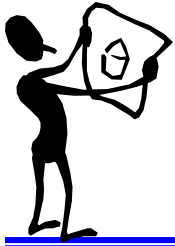
Collaborative Work Strands

- Key Questions for Decision Reviews
- Common software acquisition training and guidance
- Software Technology Readiness Level (TRL), software product maturity/profile, and risk assessment
- Process for requirements elicitation and management
- Process improvement methodologies for the acquisition of software intensive systems
- Trilateral framework document and registry proformas

Work Strand: Key Questions for Decision Reviews

- Workshop held to focus Milestone/Gate Decisions on issues critical to the acquisition of SIS

- Intend to provide support and guidance for Decision Authorities, oversight/scrutineer staffs, and program office staffs

- Draft document identifies 3-tiers of information
  - <u>Goals</u>: e.g. Ability to deliver
  - <u>Critical Success Factors</u>: e.g. estimate of effort is based on valid data; assumptions documented and believable
  - <u>Indicators/Measures</u> (or evidence): e.g. comparison with best industry standard... : e.g. Productivity

> **i** Dr. Barry Boehm will be providing more details on this work strand in his keynote address tomorrow

Work Strand: Training and Guidance

- US is developing a 2 day PEO/PM Course and a ½ day Executive Leadership Course

- UK is developing a new 1 day course with the aim of ensuring that Senior Managers and IPT leaders are aware of the differing issues to be considered when acquiring Software Intensive Systems

- Australia has developed and delivered courses with broadly similar aims
  - All DMO senior management (i.e. 1« and above) have received 1-day SIS acquisition training

Work Stand: Technology Readiness Levels

- Workshop held on Software Product Maturity

- Intent is to identify a set of characteristics and indicators useful for evaluating software product maturity

- Provide guidance during the source selection process
  - RFP/RFQ language
  - Gathering data from independent sources
  - Evaluation criteria and weighting strategies

> **i** Dr. Rich Turner will be providing more details on this work strand in his presentation tomorrow

Work Strand: Requirements Elicitation and Management

- Recognize that common problems exist
- Working together to understand each country's approach to developing requirements for Software Intensive Systems
  - Compare representative documents to identify differences and understand their impact
- Potential issues to address:
  - Capability-based requirements
  - Level of understanding/visibility of software requirements at different points in the lifecycle
  - Impact of different acquisition strategies

Way Ahead

- Obtain leadership approval of Trilateral Framework and Registry Proformas

- Document SIS acquisition management improvement activities and share products from National Programs
  - Collaborative workspace established under "Acquisition Community Connection" CoP

- Continue Collaborative Work Strands
  - Produce Guidelines for Milestone Decision Reviews for SIS acquisition programs

- Provide an entry point and review process for new activities and identify gaps in common knowledge

Thank you for listening