

Architecture Committee Report

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Bob Scheurer, Chair

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Ed Moshinsky, Co-Chair

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- **Meeting Bi-Weekly, w/Separate Sub-Committee Meetings as Req'd:**
 - Revisions to MOSA Recommendations and White Paper (Steve Thelin, et. al.)
 - MOSA Metrics (Modularity / Openness) (Charles Domercant, et. al.)
- **Currently 60 Members – Cross-Section of Industry & Govt.**
 - Incl. DoD/Services Sponsors: Philomena (Phil) Zimmerman, Monique Ofori (Proxy), Kyle Hurst, et. al.
 - About 1/4 are regularly engaged participants
- **SE Conference Abstract Submittals for Architecture Track**
- **2019 Focus Area: Modular Open Systems *Approach* (MOSA)**
 - Support to DoD/Services (Phil Zimmerman, et. al.)
 - MOSA Standardization
 - MOSA Requirements on Acquisition Programs
 - MOSWG (Modular Open Systems Working Group) Participation by Arch. Committee Members
 1. Committee is engaged as a **contributing participant of the MOSWG**
 2. Several Committee members **volunteered to be part of the Tiger Team on MOSA Standards Identification & Development**

- **Response to DoD Inquiry: “*What does Industry need from OSD to show OSD’s commitment to MOSA?*” (Ed Moshinsky Coordinating)**
- **Inquiry by Phil Zimmerman: How to make architectures and architecting more useful.**
- **Future Architecting/Architecture Topics Under Consideration:**
 - Architectures in Mission Engineering, Digital Engineering, etc.
 - Architecture Frameworks (UAF etc.)
 - Reference Architectures
 - Etc.

Architecture Committee Current Membership



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Back-Up/Reference Material

NDIA

Summary of MOSA White Paper Recommendations

(Rev.B - 201904)



1. **Develop MOSA strategy:** Explicitly state MOSA objectives, desired outcomes, and the strategy/plan for getting there at all appropriate levels.
2. **Define MOSA Implementation Approach for Each Level of Design:** Define levels of modularity and openness addressed, planned partitioning, what and how interfaces are to be controlled, and the domain in which commonality is desired.
3. **Define Interfaces in Terms of MIL-STD-881D Taxonomy Levels of Detail (2 and 3 Digit Level, i.e. Major System Levels; For example, 4-digit level would be a radar system, air frame, propulsion, power, etc.):** MIL-STD-881D is important for establishing a common language, and needs to be used consistently
4. **Apply MOSA in Software Architectures at Appropriate Levels of Abstraction and Complexity:** Develop a SW taxonomy similar to 881D to guide development of SW MOSA along with the targeted applicable SW domain
5. **Implement MOSA as part of a larger and more robust Digital Engineering strategy**
6. **Incorporate cybersecurity strategy in a MOSA application at the time of initial design, not as a later addition:** Design-in SSE up front and as part of the system architecture
7. **DOD and industry work together to define how to evaluate MOSA and certify as MOSA compliant:** Define MOSA metrics, evaluation process, certification requirements, and create library of MOSA certified systems
8. **Develop and implement factors to enable culture change required for successful widespread adoption of MOSA:** Includes OSMP, MOSA in Technical Reviews, and MOSA Strategy Defined at all levels of the system
9. **Create Library of MOSA Certified Systems and Interfaces**

Architecture Committee Near-Term Discussion Topics



- **Enterprise Architecture (EA) – Ed Moshinsky**
- **Mission Engineering, Including MIM Feeding EA – Ed Moshinsky**
- **Architecture for Standards – Tom Murphy**
- **What is the minimal set of data defining “openness”? – Phil Zimmerman via Tom Murphy**
- **Proper Segregation of Functional Design – Tom Murphy**
- **Meta Data – Tom Murphy**

Future Architecture Committee Long-Term Position Paper Topics Under Consideration



- 1. Bridging Requirements to the System Architecture/ Design via Functional Analysis**
- 2. Model Portability and MOSA (to enable rapid start-up and implementation of system architectures)**
- 3. DoDAF 2.02 – Identify Changes to Accommodate Mission Engineering, Digital Engineering, MOSA, etc.**
- 4. Architecting/SE Tools: Involvement with tool identification, implementation recommendations, etc.**
- 5. Reference Architectures: Value Proposition, Adequacy, and Use**
- 6. Architectures and Architecting Utilization in Digital Engineering, Mission Engineering, MBSE, etc.**