

The Aerospace & Defense Forum



Facilitating Business Communication, Collaboration, & Commerce

Next-generation Model-based Systems Engineering

Presenter:

Stephen M. Simi

Vice President

Program Manager of Military Aviation Programs

Tucson Embedded Systems, Inc.

Arizona Chapter

Thursday, January 24, 2019

Meeting hosted by **Spencer Fane LLP**

Networking: 5:00pm-5:30pm

Meeting: 5:30pm-7:00pm

[Click here to register.](#)

Both members and non-members must register to attend. Please register as an A&D Forum member ONLY if you have a currently active membership.

Please see logistics information and below.

Registration Fees:

Free - A&D Forum member

Free - AZTC member

\$30 - Non-member

Free - Guests (may visit for free twice)

You will receive multiple invitations, regardless of whether you have already registered. Please do not register more than once!.

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Joining the AZ Chapter mailing list to automatically receive meeting notices is always free. [Click here](#) to join the AZ Chapter mailing list.

January 24, 2018 Meeting

- Attire is business casual.
- Parking is underground. Take the elevator marked "2415" to the 6th floor.
- Parking stubs will be validated at meeting.
- Bring a business card. Everyone will be emailed a copy of all attendees' cards.
- Introductions will be minimal - your name, company, industry, and a 5 word "elevator



Next-generation Model-based Systems Engineering

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Efficient and cost effective deployment of software intensive cyber physical systems (CPS) in military aircraft remains one of most complex and challenging issues facing Government Program Managers. Current tools and methodologies are not adequate for the development and certification of CPS as they create affordability and schedule dilemmas for current and future programs. This is due to poor requirement definition and the inability to identify and document hazards created by complex hardware/software interactions.

New technologies, particularly advances in model-based engineering and tooling show great promise for correcting these challenges and improving the safety and airworthiness approvals for CPS. Unfortunately, Model Based System Engineering (MBSE) processes and tools are challenging the bounds of current Government business and acquisition practices creating a dilemma for the development and fielding of future Military Aircraft.

Stephen will present a vision with options for embracing MBSE practices; suggesting how the Government could use MB tooling

speech". We encourage you to be creative!

- You are welcome to stay around and network after the meeting.

Feel free to pass this invitation on to others you think would be interested.

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**Spencer Fane LLP
2415 E Camelback Road
Suite 600
Phoenix, AZ 85016-4288**

and process improvements to optimize cost, schedule and improve the safety of Warfighting capabilities embedded within DoD military aircraft. His presentation will suggest how to reuse these capabilities during their flight certification efforts across the Aviation fleet resulting in advanced integration schedules and improved interoperability between systems.

The presentation will discuss how these MB processes and tooling are being used today (only in parts) to support the development, verification and validation, and airworthiness certification efforts of complex software intensive CPS, as well as proposes methods for the adoption of such tools within the Government using industry best practices. The presentation will discuss how MBSE tools and processes can effectively support the management of complex airworthiness processes, and demonstrate to the Airworthiness Authority confidence of proper design implementations of the safe operations of capabilities embedded within avionic systems' components, and safe interactions of inter-dependent components within systems and subsystems typically integrated on aircraft and used throughout the battlespace. These capabilities are needed for safe and effective operations in hostile terrain and all forms of environmental conditions if we are to continue to militarily dominate the battle space of tomorrow.

Host



SpencerFane®

A&D Forum Membership

The purpose of The A&D Forum is to promote communication, collaboration, and commerce among A&D industry business leaders.

Membership includes access to the resource-rich A&D Forum website (containing recordings of all chapter presentations), free attendance at any chapter meeting, facilitated introductions to members at any chapter and the A&D Forum monthly Newsletter. Members are first in line for tours and to be invited to the Peer C-level

Presenter



Mr. Stephen Simi is the Vice President and Program Manager of Military Aviation Programs for Tucson Embedded Systems, Inc. (TES) Systems Architecture Virtual Integration (TES-SAVi).

TES-SAVi is a product and services company, developing an industry-unique Airworthy Engineering System Unified Modeling (AWESUMTM) lifecycle tool kit for use to develop and qualify complex Aircraft Systems following Systems-of-Systems MOSA principles, and providing engineering services to Aviation Programs.

TES-SAVi is also an associate member of the Future Aviation Capability Environment (FACETM) Consortium. Since 2010, we served as key resources representing the US Army Aviation at FACE. TES has several contributing authorships to the FACE Technical Standard and Reference Architecture, the FACE

Roundtables. A&D Forum members also receive the member rate for Arizona Technology Council events.

One-year individual memberships are currently \$350 (renewals before expiration date are \$300). You can become a member or renew your membership through the A&D Forum website

AerospaceDefenseForum.org

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Shared Data Model, and supporting reusable airworthy contract guidance used for FACE procurements. TES-SAVi is the Industries first sanctioned FACE Verification Authority (FACE VA).

Mr. Simi is considered an industry expert in airworthiness (MIL and RTCA's DO-178C, DO-331, AC 20-148), aviation system modeling, systems requirements, verification and validation, and aviation lifecycle support. He has supported the PEO Aviation for 16 years, with recognized performance developing common reusable software and processes for use/reuse on Army Aviation Platforms.

He is an industry leader with 30 years of experience, with 20 years of senior management and program/project/product management experience. He has co-authored 20 technical publications, 4 patents, and corresponding presentations in the field of art www.TES-SAVi.com.

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