

GSAW 2010 Tutorial A:

Test Like You Fly (TLYF)

Length: Full day

Overview:

“Test Like You Fly” is a term that has progressed from being an undefined notion to an assessment and implementation process. Although “test” is included in its title, it is more than just a test approach -- it is an acquisition and systems engineering process and a mission assurance and validation tool. This tutorial will cover the key aspects of the current implementation approach: the on-orbit failures that showed a need for formalizing and defining TLYF principles; the philosophical underpinning for TLYF which makes it distinct from other forms of testing; what you need to know to be able to effectively test “like you fly”; how to architect and design LYF tests; and how to determine and manage the risks associated with what cannot or will not test in a “like you fly” manner.

Attendees will be invited to join an on-going TLYF government and industry community of practice to participate in the continuing development of this valuable test approach for space systems.

Instructors: Julia White, Lindsay Tilney; The Aerospace Corporation

Biographies:

Julie White is currently a Senior Project Engineer in the Corporate Chief Engineering Office for the Aerospace Corporation. One facet of her work is focused on establishing an industry standard process for "test like you fly" assessments and implementation for use as a Mission Assurance / Mission Success technique. She established an Aerospace internal Community of Practice for TLYF, a government – industry TLYF CoP, and has co-chaired TLYF sessions at several industry conferences. Ms. White has been with The Aerospace Corporation for 36 years, 18 of which were spent in the Space Test Program Office helping develop six R&D spacecraft. She holds a Dual Bachelors Degree in Physics and Astronomy from the University of Maryland and a Masters in Astronomy from the University of Massachusetts.

Lindsay Tilney is currently a Senior Engineering Specialist in the Software Assurance Department for The Aerospace Corporation. She has more than 24 years of experience in the aerospace industry, including satellite software design and analysis, flight planning for payloads that fly on the Space Shuttle, ground system design, satellite onorbit testing, and system software modeling and simulation. She holds a Bachelor of Science degree in Mathematics and Computer Science from the University of California at Los Angeles. In support of the Corporate Enterprise Mission Assurance, she has been working with Ms. White in defining, codifying, and sharing the TLYF process and implementation details, allowing the process to be repeatable and effective within the US space community.

What Participants Should Expect to Learn:

- Understand the value of applying the TLYF approach in the context of systems engineering and mission assurance
- Gain awareness of the distinctions between TLYF and other test techniques (i.e. Environmental, Qual, Performance, Functional, etc.)
- Describe the space community TLYF implementation principles
- Apply the TLYF process to space development projects and know when you're done
- Use the process to influence programmatic decisions
- Know how to participate in further refinement and application of the process

Who Should Attend:

No prerequisites; background in Systems Engineering, Test and Evaluation, Verification helpful.