SEI BULLETIN

Software Engineering Institute | Carnegie Mellon University

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News: Software Solutions Conference Keynote Speakers Announced

The SEI's inaugural Software Solutions Conference has announced its slate of compelling and informative keynote addresses from distinguished experts in government and academia. The conference will be held November 16-18 in Arlington, Va.

Software Solutions Conference 2015
Software: Catalyst of Change
November 16–18, 2015
Crystal City, VA

Keynotes for the Software Solutions Conference 2015 are

- **David Duma**, Principal Deputy Director, Operational Test and Evaluation, U.S. Department of Defense
- **Arun Seraphin**, Professional Staff Member, Senate Armed Services Committee
- **Philip Koopman**, Associate Professor of Electrical and Computer Engineering, Carnegie Mellon University
- **Tim Rudolph**, Chief Technology Officer, Air Force Life Cycle Management Center
- **Kevin Fall**, Chief Technology Officer, Carnegie Mellon University Software Engineering Institute

[Learn more about these speakers and their topics, about Software Solutions Conference 2015, and about how you can participate](#).

Also in the news:

- [SEI Hosts 12th Annual ACE Workshop for Educators](#)
- [CERT Division Hosts High School Cybersecurity Competition](#)
- [SEI Contract Renewed by Department of Defense for $1.73 Billion](#)
- [SEI Hosts Crisis Simulation Exercise for Cyber Intelligence Research Consortium](#)

SEI Podcast Series: A Taxonomy of Testing Types

A surprisingly large number of different types of testing exist and are used during the development and operation of software-reliant systems. While most testers, test managers, and other testing stakeholders are quite knowledgeable about a relatively small number of testing types, many people know very little about most of them and are unaware that others even exist.

Donald Firesmith

Understanding these different types of testing is important because different types of testing tend to uncover different types of defects and multiple testing types are needed to achieve sufficiently low levels of residual defects. Whereas not all of these testing types are relevant on all projects, a complete taxonomy can be used to help discover the ones that are appropriate and ensure tha7 no relevant types of testing are accidentally overlooked. Such a taxonomy can also be useful as a way to organize and prioritize one's study of testing.

In this podcast, Donald Firesmith introduces the taxonomy of testing types he created to help testers and testing stakeholders select the appropriate types of testing for their specific needs.

Listen to the podcast.

SEI Blog: Managing Software Complexity in Models

For decades, safety-critical systems have become more software intensive in every domain--in avionics, aerospace, automobiles, and medicine. Software acquisition is now one of the biggest production costs for safety-critical systems. These systems are made up of several software and hardware components, executed on different components, and interconnected using various buses and protocols. For instance, cars are now equipped with more than 70 electronic control units (ECUs) interconnected with different buses and require about 100 million source lines of code (SLOC) to provide driver assistance, entertainment systems, and all necessary safety features.

Julien Delange

In this blog post, the SEI's Julien Delange discusses the impact of complexity in software models and presents the SEI's new tool that produces complexity metrics from software models.

Read the post.

Events: Software Solutions Conference, November 16-18, 2015

On November 16-18, 2015, the Carnegie Mellon Software Engineering Institute (SEI) will host its first Software Solutions Conference (SSC) in Crystal City, Va. The conference is designed to increase attendees' awareness of emerging technologies and technical strategies for assuring quality, timeliness, trust, and affordability in current and future software-reliant systems.

In addition to talks by leading experts in the field of software engineering, the conference will provide a forum for networking and participation outside of formal sessions and for influencing the SEI research agenda. The SEI is a federally funded
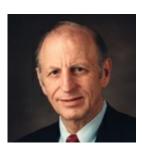
research and development center at Carnegie Mellon University dedicated to helping government and industry organizations acquire, develop, operate, and sustain software systems that are affordable, enduring, and trustworthy.

Learn more and register.

Events: Nominations Sought for 2016 IEEE/SEI Watts S. Humphrey Award

Nominations are now open for the 2016 IEEE Computer Society/SEI Watts S. Humphrey Software Process Award (SPA). Since 1994, the SEI and the Institute of Electrical and Electronics Engineers (IEEE) Computer Society have cosponsored the award, which recognizes outstanding achievements in improving an organization's ability to create and evolve high-quality software-dependent systems.

Watts Humphrey

Nominations must be submitted by October 15, 2015.

Achievements recognized by the Watts S. Humphrey Award can be the result of any type of process-improvement activity. They need not have been based on a specific framework, model, or body of software engineering principles, practices, techniques, or methods.

Read more and learn how to submit your nomination.

SEI Jobs

The SEI is a great place to pursue your passion. Headquartered in Pittsburgh, Pa., the SEI also has offices in the Washington, DC, and Los Angeles, Calif., metropolitan areas.

Interested in working for the SEI? Below are a few recent employment opportunities. For more job listings and full position descriptions, check out the SEI Careers page.

Associate Cybersecurity Researcher

Cybersecurity Engineer - Exercise Developer

Cybersecurity Engineer - Exercise Developer

More job listings...

Training

Upcoming Classes:

October 22-23, 2015 (Pittsburgh, Pa.)
Advanced Software Architecture Workshop

October 27-29, 2015 (Arlington, Va.)
Introduction to the CERT Resilience Management Model

SEI eLearning:
Big Data: Architectures and Technologies

New Course: December 1-2 (Arlington, Va.)
Measuring What Matters: Security Metrics Workshop

2016 Course Schedule
January-June course offerings

Registration Portal
SEI Training has a robust registration portal that provides simple and secure online access to course registration payments, a purchase history, confirmation letters, and receipts.

To view a video demo of the SEI Registration Portal, please visit
http://www.sei.cmu.edu/training/registration/

More SEI training opportunities...

About the SEI Bulletin
The SEI Bulletin is a biweekly newsletter designed to keep you up to date on SEI news, events, research, and other matters of interest to the SEI community. We hope you find the SEI Bulletin useful and informative.

Send Us Your Story
Do you have a story about how an SEI technology has positively affected your team or organization? If so, the SEI would like to hear about it. Send a short summary of your success to info@sei.cmu.edu and you could be featured in a future issue of the SEI Bulletin.