



June 3, 2015 |



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News: 2014 SEI Year in Review Available for Download

The [SEI Year in Review](#), an annual report of the Software Engineering Institute (SEI) at Carnegie Mellon University, spotlights projects and initiatives that demonstrate the SEI's value to its sponsors and customers in government and industry and demonstrate the ways in which the SEI is advancing the field of software engineering to meet emerging challenges.

The *2014 SEI Year in Review* highlights the institute's work in the following areas:

- A Multi-Year Collaboration with DOE on Cybersecurity Assessment
- Support for the U.S. Army's Joint Multi-Role Technology Demonstrator Effort
- Identifying Apps Vulnerable to Man-in-the-Middle Attacks
- Advancing the Practice of Cyber Intelligence
- Technical Solutions for Government and DoD Organizations
- A Collaboration with MIT Lincoln Laboratory on Critical DoD Problems
- Avoiding Pitfalls in Software Testing
- Measuring Resilience
- Understanding Sustainment Funding Decisions
- The SEI STEM Initiative
- Agile in Government and DoD Settings
- Graph Analytics and Big Data



Explore the breadth and depth of the SEI's work in fiscal 2014. [Download the 2014 SEI Year in Review.](#)

Also in the news:

- [CERT/CC Team Wins U.S. Government Information Security Leadership Award](#)
- [Rich Program Earns Praise from SATURN 2015 Conference Attendees](#)
- [Shannon Stresses Better Measurement, Better Data Access, and Coordinated National Strategies in House Subcommittee Testimony](#)

SEI Podcast Series: Introduction to the Mission Thread Workshop

In Department of Defense programs, a system of systems (SoS) is integrated to accomplish a number of missions that involve cooperation among individual systems. Understanding the activities conducted within each system and how they interoperate to accomplish the missions of the SoS is of vital importance. A mission thread is a sequence of end-to-end activities and events, given as a series of steps, that accomplish the execution of one or more capabilities that the SoS supports. However, listing the steps and describing them do not reveal all the important concerns associated with cooperation among the systems to accomplish the mission; understanding the architectural and engineering considerations associated with each mission thread is also essential. In this podcast, Michael Gagliardi introduces the Mission Thread Workshop (MTW), a facilitated, stakeholder-centric workshop whose purpose is to elicit and refine end-to-end quality attribute, capability, and engineering considerations for SoS mission threads.



Michael Gagliardi

[Listen to the podcast.](#)

SEI Blog: SPRUCE Series: Managing Operational Resilience

The SEI has undertaken an effort to offer our assessment of recommended techniques in the areas of

- modern software development methods, techniques, and tools
- systematic verification and validation of safety-critical systems
- operational risk management

To do this, the SEI built upon an existing collaborative online environment known as [SPRUCE \(Systems and Software Producibility Collaboration Environment\)](#), hosted on the Cyber Security & Information Systems Information Analysis Center (CSIAC) website. From June 2013 to June 2014, the SEI assembled guidance on a variety of topics based on relevance, maturity of the practices described, and the timeliness with respect to current events. For example, shortly after the Target security breach of late 2013, we selected Managing Operational Resilience as a topic.

Ultimately, SEI curated recommended practices on five software topics: Agile at Scale, Safety-Critical Systems, Monitoring Software-Intensive System Acquisition Programs, Managing Intellectual Property in the Acquisition of Software-Intensive Systems, and Managing Operational Resilience. In addition to a [recently published paper on SEI efforts](#) and individual posts on the SPRUCE site, these recommended practices will be published in a series of



(From top): Julia

posts on the SEI blog. This post, "Managing Operational Resilience," by Julia H. Allen, Pamela Curtis, and Nader Mehravari, presents challenges for managing operational resilience and recommended practices for helping organizations manage operational resilience.

Allen, Nader
Mehravari, and
Pamela Curtis

[Read the post.](#)

Events: CERT® Alignment with Cyber COI Challenges and Gaps, Virtual Event - June 23, 2015

On June 23, 2015, from 9:30 a.m. to 4:30 p.m. Eastern Time, Researchers from the SEI's CERT Division will discuss their current work associated with cyber community of interest (COI) technology challenges and gaps in a day-long, interactive, virtual event. Participants will learn about



- how mission-readiness can be assessed at a DoD scale
- a tool that shows whether a connection to the web is secure and what information is being transmitted
- the mutual benefits and interests between the SEI's CERT Division and the Cyber COI
- how DevOps methodologies address dynamic changes in cyberspace with the high-fidelity automation of networks, systems, and applications
- how a small subset of features from dynamic malware analysis can help to uncover possible relationships among files and to direct static reverse-engineering efforts
- undesired flows of sensitive information within and between Android apps
- mobile device security enhancements with defensive and offensive uses

Participation in this virtual event is free, but registration is required. For more information and to register, please visit the [event website](#).

Events: 12th SEI Architecture-Centric Engineering (ACE) Workshop for Educators, August 3-4, 2015, SEI Pittsburgh

The 12th SEI Architecture-Centric Engineering (ACE) Workshop for Educators will be held at the Software Engineering Institute in Pittsburgh, Pennsylvania, USA, on August 3-5, 2015. The SEI hosts this annual event to foster an ongoing exchange of ideas among educators whose curricula include the subjects of software architecture and software product lines. The event is free of charge and open to any accredited, college-level educator.



This year's event will incorporate two SEI courses. The first course, Engineering Run-Time Malware Detection, covers the principles of designing and implementing a real-time malware detection system for an existing operating system, with concrete examples for Windows 7. The second course, DevOps and Continuous Delivery: Software Architecture, Security, and Interactive Learning, is helpful if you wish to adopt DevOps practices and continuous-delivery workflows. The architecture component of the course focuses on the relationships among application software, the deployment environment, and the supporting tooling.

To learn more about ACE 2015, please visit

<http://www.sei.cmu.edu/community/edworkshops/2015/index.cfm>.

These workshops are open to any accredited college-level educator. If you are an accredited college-level educator and are interested in attending, please send email to info@sei.cmu.edu and include the words "ACE Workshop" in your subject line.

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? Visit our Careers page. Below are a few recent employment opportunities. For more job listings and full position descriptions, check out the [SEI Careers page](#).

[Project Manager](#)

[Project Manager](#)

[Cyber Operations Trainer](#)

[Cybersecurity Community Developer](#)

[Program Development Manager, Government Program Development](#)

[Cybersecurity Engineer - Exercise Developer](#)

[More job listings...](#)

Training

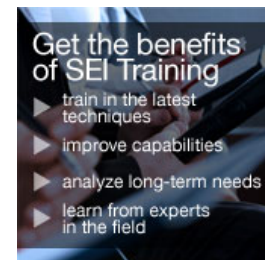
Upcoming Classes:

July 14-16, 2015 (Pittsburgh, PA):

[TSP Team Member Training](#)

August 18-21, 2015 (Arlington, VA):

[Insider Threat Program Implementation and Operation](#)



New SEI eLearning Course:

[Big Data Architectures](#)

New Registration Portal

SEI Training has recently upgraded to a robust registration portal. The new portal provides simple and secure online access to course registration payments, a purchase history, confirmation letters, and receipts.

To view a video demo of the new SEI Registration Portal, please visit

<http://www.sei.cmu.edu/training/registration/>

[More SEI training opportunities...](#)

Software Engineering Institute, Carnegie Mellon University

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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.