A Collaborative Marketplace for Continuous Software Assurance
U.S. Department of Homeland Security Science and Technology Directorate

- Software Assurance Marketplace project part of $70+ million multi-year Cyber Security Division effort to improve security of nation’s critical information infrastructure

- BAA 11-02 involves 34 awards to 29 academic, commercial and research organizations in 14 technical areas focused on *detecting, preventing* and *responding* to cyber attacks
Relationship to other DHS projects

Significant collaboration

TTA-1 Software Assurance Tools

TTA-14 Software Assurance Marketplace

Other Technical Topic Areas

Some collaboration
Software Assurance Marketplace

- Six proposals submitted
- Awarded to Morgridge Institute for Research with Indiana University, University of Illinois Urbana-Champaign, and UW–Madison as subcontractors
- Offers industry, academia and government agencies no-cost access to a secure research facility with analytical and reporting capabilities
- Will help the software assurance community improve the security of software used in the nation’s critical infrastructure
Use Cases

**Software Developers**

Upload software packages for analysis by a suite of software assurance tools and view results via dashboard.

**Software Assurance Tool Developers**

Upload SWA tools and evaluate against large corpus of SW packages and test suites with known weaknesses.

**Cybersecurity Researchers**

Review data on tool coverage and common weaknesses to improve standards, education and certification programs.
A Growing Need...

Pacemaker hacker says worm could possibly 'commit mass murder'

By Darlene Storm
October 17, 2012 5:43 PM EDT  |  10 Comments

It seems like something is very wrong with the picture when you read the news and it sounds more like a science fiction novel than a newsflash. For example, Barnaby Jack showed how an attacker with a laptop, located up to 50 feet from a victim, could remotely hack a pacemaker and deliver an 830-volt shock.

Ruxcon BreakPoint security conference in Melbourne must have been the place to be, as RiskyBiz said it kicked off with a bang featuring “mass murder, Windows exploits, hacking Apple and owning spy agencies.” Jack was just one presenter and he showed a video that he doesn’t want released to the public since the manufacturer would be named. Maybe it’s time to name and blame, cause this is some seriously scary stuff!
SOFTWARE ASSURANCE MARKETPLACE
A national cybersecurity resource offering continuous software assurance.

INPUTS
- Unvetted Software
- Software Assurance Research
- Software Assurance Tools
- Software Packages
- Identity Management
- User Training and Support
- Software Developers
- SAMATE (Software Assurance Metrics and Tool Eval.)
- U.S. Department of Homeland Security
- National Institute of Standards and Technology

OUTPUTS
- State-of-the-Art Software Assurance
- Analysis and Baseline Repository
- Assessment Reference Data Sets
- Best Practices, False Positives
- Partner Resources
- U.S. Air Force
- National Security Agency
- High Performance Computing Clusters

RESOURCES
- Enhanced Cybersecurity
- Vetted Software

PEOPLE
- Software Assurance Researchers
- Software Assurance Tool Developers
- Software Developers
- Educators & Students

User Communities
- SWA Tool Developers
- SWA Researchers
- Software Developers
- Educators & Students
- Infrastructure Operators
Software Assurance Marketplace Organization

~ 24 Team Members

Morgridge Institute for Research

Software Assurance
Marketplace Director
Miron Livny

Chief
Operations Officer
Brooklin Gore

Chief
Security Officer
Von Welch

Chief
Scientist
Barton Miller

Identity
Mgmt. Lead
Jim Basney

Software
Development

Production

User Support

Operations
Center

Security
Operations

Software
Assurance Tools
and Standards

External
Resources

Indiana Univ.
Pervasive
Technology
Institute

U. of Wisconsin
Middleware
Security and
Testing Group

U. Of Illinois
NCSA
Cybersecurity
Directorate
Major Deliverables

SWAMP Operational (Version 1.0 of CoSALab and Metronome)

Planning First SWAMP Community Meeting

V1 Stable Release of Metronome
Second SWAMP User’s Meeting

V2 of CoSALab and Metronome
Third SWAMP User’s Meeting

V3 of CoSALab and Metronome
Third SWAMP User’s Meeting

Fourth SWAMP User’s Meeting

Final Metronome Release

Date
Oct. 1, 2012
Oct. 1, 2013
Feb. 2, 2014
Sep. 30, 2015
Sep. 30, 2017
You are the key!

- **We need your input** – how do you envision using such a resource? What tools, packages, policies, topics, platforms would help you?
- **We need your involvement** – help with tools, packages, standards, technical literature, seminars, training.
- **We need your feedback** – the good, the bad, and the ugly.