Center for Control System Security

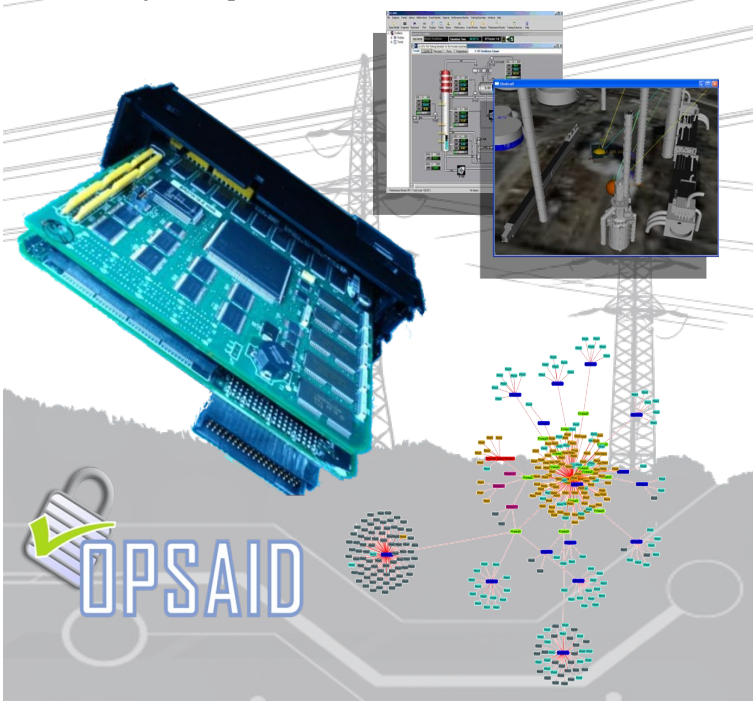
Sandia National Laboratories

Critical Infrastructure is at Risk

As America's infrastructures have become more complex and interconnected, their operation and control has become more complicated as well. Automated control systems have been widely deployed to operate these infrastructures, and coupled with the networks they use to transfer data are a security vulnerability for the infrastructures they control. The Center for Control System Security at Sandia National Laboratories works with several government agencies and the private sector in the area of cyber security to ensure the integrity and availability of the nation's critical infrastructure.

Reducing the Risk

Sandia has the tools and expertise to provide decision makers with actionable information so necessary actions can be taken to reduce the risk of attacks against our nation's critical infrastructure systems. To support this, the Center for Control System Security conducts red teaming assessments of control systems, assesses the capability and intent of known existing threats to critical infrastructure, and analyzes known vulnerabilities to better understand what their impact would be to critical infrastructure control systems should they be exploited.



Resilient Systems

Control systems have traditionally been designed and implemented with availability and reliability as top priorities, and only recently have vendors and integrators begun prioritizing security as well. The Center for Control System Security conducts research and development in support of next generation control systems that can operate through cyber attacks as well as developing ways to secure existing legacy systems that were not designed with security in mind.

Research and Development

Specialty tools and specific, customized capabilities are necessary for securing control systems due to their operational nature and existing designs. The Center for Control System Security is actively developing bump-in-the-wire security solutions, security analysis and forensics capabilities, large-scale simulation environments for vulnerability analysis, mitigation testing, and training, safe and secure assessment tools and techniques, and intrinsically secure designs for control systems.

Security and Assessment Training

Control system operators and those dependent upon critical infrastructure have identified a need for increased knowledge of assessing and securing these critical systems. The Center for Control System Security offers security and assessment training on an as-needed basis. Past training includes Control Systems Assessment courses provided to many interested parties ranging from industry to government, including the Department of Defense. A Sustainable Security course based on the "Securing Your SCADA and Industrial Control Systems" book developed by the center for the Technical Support Working Group is also offered, as well as an extension of the Control Systems Assessment course to include red-teaming using Sandia's Information Design Assurance Red Team (IDART) methodology.

For more information, contact:
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Sandia National Laboratories
U.S. DEPARTMENT OF ENERGY
National Nuclear Security Administration

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UNCLASSIFIED UNLIMITED RELEASE - SAND2012-0187P