Multi-level Security (MLS) and Its Evolution to Date

Panel Chair

G.R. "Greg" Clingan, CISSP; Impact Innovations Group, LLC

Panelists

Christian Cooke, CISSP; Impact Innovations Group LLC
Thomas Bess; Impact Innovations Group, LLC

Session abstract

This panel will discuss the evolution of MLS starting with early efforts in the middle of the last millennium, early use of mechanical ciphers to maintain levels of data security. The panel will go on to discuss MLS in a computerized age taking a look at systems developed for the government and in the private sector. Some systems discussed no longer exist but those of us in the security profession have gained enormous insight into multi-level access in the years of development. A MLS White Paper will be briefed by an engineer who developed a Commercial Off The Shelf MLS system for the US Intelligence Community. Weather developing a B1 "all or nothing" MLS system, a two level "Guard" system or a commercial E-business solution, Multi Level Security evolution will always further trusted secure computing principles in an environment.

Brief summary of panelist's topics

Gregory Clingan, CISSP –Panel Chair

Sun Microsystems Trusted Solaris. This system served the U. S. Services well not only as a multi-level security system but also as a base for the "Compartmented Mode Workstation". HPs Virtual Vault, a commercial system that uses data sensitivity and multi-level access control in a Web-based, E-Business industry environment. A brief mention will be made of "Guards" technology as a partial MLS system without the overhead inherent to full-blown MLS systems. Also while not in the realm of MLS systems, we will take a look at methods that have evolved over the years to use a single system to access multi-level networks with out contamination of data or breech of security. While these novel designs require users and workspaces to be at "system high", they can gain an organization efficiency, space conservation and reduced equipment costs.

Christian Cooke, CISSP --Panelist:

TRW's CYBERSHIELD was an Internet services platform built on Data General's DG/UX with the B2 Security Option. CYBERSHIELD integrated multi-level security into a variety of web services. It had the capability of serving HTTP in either an authenticated or unauthenticated mode. It could also proxy HTTP with or without authentication. Additionally it could operate as an FTP and SMTP proxy. Virus, active content, and keyword filtering could be applied to most services.

Thomas Bess -- Panelist

The panel discussion will culminate with a discussion of a current working MLS system used by an element of the Dept. of Defense. This system is not only MLS as it applies to the operating system but is coupled with a trusted database to give a true Multi-Level Security Database System. The design is Unclassified (Except for the "compartments" involved, which will **not** be touch upon) do to the fact that is comprised of totally COTS (Commercial Off The Shelf) products. This system has passed Certification to the B1 level -- Without waivers!

Background of audience you are trying to attract.

Information Technology or Information Security practitioners looking for information on securing data assets with varying degrees of sensitivity within a single system or enterprise.

G. R. "Greg" Clingan, CISSP

Greg Clingan has his CISSP (Certified Information Systems Security Professional) and currently practices in all security related fields. Greg's career in the security field spans 15 years and dates back to 1985, were he engaged in information and electronic warfare design. He is a member of the Federal Public Key Infrastructure Technical Working Group and supports Microsoft Corp. Technology Champions in the area of Information Security. Through out his career, Greg has supported secure network design, research and development as well as operational support for the U.S. Intelligence services. He has supported a wide variety of commercial customers in designing secure enterprises, including the third largest insurance corporation in the U. S. and the second largest processor of tobacco in the world, to name a few. Greg is currently a Director, with Impact Innovations Group, LLC, specializing in Security. His previous employers include Standard Oil, Dover Corp., Texas Instrument, Atlantic Research Corp, Allied-Signal and Unisys. Greg also has worked as an independent security consultant and adjunct instructor. Greg can be reached by e-mail at gregory.clingan@iiginc.com

Christian Cooke, CISSP

Chris Cooke is an IT security specialist for Impact Innovations Group, LLC in Columbia, MD. He is a Certified Information Systems Security Professional and an active member of the Information Systems Security Association. Mr. Cooke can be reached by e-mail at Chris.Cooke@iiginc.com.

Tom Bess

Thomas Bess has professional experience in system, network, and software engineering and administration primarily in the Department of Defense (DoD) intelligence community and

commercial publishing environments. Additionally, he has operational experience in the United States Air Force as an intelligence collector.

Mr. Bess' career has spanned a wide range of operating systems, hardware platforms, software suites, and communication architectures within the client-server computing environment. This is the result of having been frequently tasked to integrate state-of-the-art technology with legacy systems as a seamless augmentation or as a precursor to migration. While his experience is diverse, Mr. Bess has maintained a career focus on the design and implementation of open systems that retain maximum flexibility for expansion and interoperability. Mr. Bess can be reached by e-mail at tom.bess@iiginc.com.