Second Annual IFIP WG 11.10 International Conference
on Critical Infrastructure Protection
Arlington Original Building
George Mason University
3401 North Fairfax Drive
Arlington, Virginia 22201
March 16-19, 2008

March 16, 2008 (Sunday)

05:30pm – 08:30pm: Registration, Reception and Dinner

March 17, 2008 (Monday)

07:45am – 08:45am: Breakfast

08:45am – 09:00am: Welcoming Remarks and Logistics

09:00am – 09:50am: Keynote Lecture
Moving Beyond Protection to Resilience
Ruth David, President and CEO, Analytic Services Inc., Arlington, Virginia
(Former Deputy Director, Science and Technology, Central Intelligence Agency)

09:50am – 10:10am: Break

10:10am – 12:00pm: Session 1: Critical Infrastructure Protection – Themes and Issues
Chair: Eric Goetz, Institute for Information Infrastructure Protection, Dartmouth College, Hanover, New Hampshire

Emergent Risks in Critical Infrastructures
S. Dynes
Dartmouth College, Hanover, New Hampshire

Two Models of Critical Information Infrastructure Protection
D. Assaf
University of Toronto, Toronto, Canada

Cyberspace Policies and Politics for Critical Infrastructure Protection
D. Wilkin, R. Raines, P. Williams and K. Hopkinson
Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio

Standards-Driven Security for Network-Enabled Critical Infrastructure Components
A. Miller and K. Moleyar
University of Missouri – Rolla, Rolla, Missouri

12:00pm – 01:30pm: Lunch

01:30pm – 03:10pm: Session 2: Infrastructure Security
Chair: Eric Luiijf, TNO Defence, Security and Safety, The Hague, The Netherlands

Game Theoretic Modeling and Analysis of Insider Threats
D. Liu, X. Wang and J. Camp
Indiana University, Bloomington, Indiana

Operational Risks, Critical Infrastructure Metrics and Financial Institutions
T. Macaulay
Bell Canada, Ottawa, Canada

Security Analysis of RSVP-TE Signaling in MPLS Networks
M. Spainhower, J. Butts, D. Guernsey and S. Shenoi
University of Tulsa, Tulsa, Oklahoma

March 17, 2008 (Monday) (continued)

Cyber Security Assessment of a Power Plant
I. Fovino, M. Masera and R. Leszczyna
Joint Research Center of the European Commission, Ispra, Italy

03:10pm – 03:40pm: Break

03:40pm – 04:30pm: Session 3: Control Systems Security I
Chair: Ann Miller, University of Missouri – Rolla, Rolla, Missouri

Physical Attacks on Energy Sector Control Systems
R. Mullen
Special Technologies Laboratory, San Diego, California

Accident Mitigation in SCADA Systems Used for Remote Operations of Oil and Gas Fields
S. Johnsen
SINTEF, Trondheim, Norway

04:30pm – 06:00pm: Panel: Process Control and SCADA Systems Security – Challenges and Solutions
Chair: Bryan Singer, Vice President of Security Services, Wurldtech Security Technologies, Vancouver, Canada
Marcus Sachs, Executive Director, Government Affairs and National Security Policy, Verizon, Washington, DC
Sean McGurk, Director, Control Systems Security Program, Department of Homeland Security, Arlington, Virginia
Zachary Tudor, Program Director, SRI International, Arlington, Virginia

06:30pm – 08:45pm: Dinner and Keynote Lecture
Know Your Enemy
Victor Sheymov, CEO, Invicta Networks, Vienna, Virginia

March 18, 2008 (Tuesday)

07:45am – 08:45am: Breakfast

08:45am – 09:30am: Keynote Lecture
Cyber Espionage – A Wake Up Call
Paul Kurtz, Partner and Chief Operating Officer, Good Harbor Consulting LLC, Arlington, Virginia
(Former Special Assistant to the President and Senior Director, Critical Infrastructure Protection, Homeland Security Council,
The White House)

09:30am – 10:20am: Session 4: Attacks on Control Systems
Chair: Richard Raines, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio

Attack Taxonomies for the Modbus Serial and TCP Protocols
P. Huitsing, R. Chandia, M. Papa and S. Shenoi
University of Tulsa, Tulsa, Oklahoma

Towards a Taxonomy of Attacks on Energy Control Systems
T. Fleury, H. Khurana and V. Welch
University of Illinois at Urbana-Champaign, Urbana, Illinois

10:20am – 10:40am: Break

10:40am – 12:00pm: Session 5: Critical Infrastructure Interdependencies
Chair: Stephen Wolthusen, Royal Holloway, University of London, London, United Kingdom

Quantifying Critical Infrastructure Interdependencies
E. Casalicchio and E. Galli
University of Rome – Tor Vergata, Rome, Italy

Analyzing Critical Infrastructure Dependencies
A. Nieuwenhuijs, E. Luiijf and M. Klaver
TNO Defence, Security and Safety, The Hague, The Netherlands

An Integrated Approach for Simulating Critical Infrastructure Interdependencies
R. Setola, S. Bologna, E. Casalicchio and V. Masucci
University Campus Biomedica, Rome, Italy
Italian National Agency for New Technologies, Energy and the Environment (ENEA), Rome, Italy
University of Rome – Tor Vergata, Rome, Italy
Research Consortium for Information and Industrial Automation (CRIAI), Naples, Italy

12:00pm – 01:30pm: Lunch

01:30pm – 02:45pm: Session 6: Control Systems Security II
Chair: Mauricio Papa, University of Tulsa, Tulsa, Oklahoma

Application of Trusted Network Technology to Industrial Control Networks
H. Okhravi and D. Nicol
University of Illinois at Urbana-Champaign, Urbana, Illinois

Microkernel-Based Security-Hardened Field Devices for Distributed Control Systems
J. Hieb and J. Graham
University of Louisville, Louisville, Kentucky

Detecting Attacks on Nuclear Plant Control Systems Using Stochastic Activity Networks
J. Rrushi and R. Campbell
University of Milan, Milan, Italy
University of Illinois at Urbana-Champaign, Urbana, Illinois

02:45pm – 03:15pm: Break

March 18, 2008 (Tuesday) (continued)

03:15pm – 04:30pm: Session 7: Infrastructure Modeling and Simulation
Chair: Sebastian Hess, German Air Force, Reston, Virginia

Modeling and Detection of Anomalies in Critical Infrastructure Networks
N. Svendsen and S. Wolthusen
Gjovik University College, Gjovik, Norway
Royal Holloway, University of London, London, United Kingdom

Securing Critical Infrastructures via Geometric Modeling and Discrete Simulation
P. Assogna, G. Bertocchi, A. Paoluzzi, G. Scorzelli, M. Vincentino and R. Zollo
Theorematica Spa, Rome, Italy
University La Sapienza, Rome, Italy
University of Rome III, Rome, Italy
Technology and Research for Security, Rome, Italy

Integrated Modeling and Simulation of Critical Infrastructures
W. Tolone, S. Lee, W. Xiang, J. Blackwell, C. Yeager, A. Schumpert and E. Johnson
University of North Carolina at Charlotte, Charlotte, North Carolina
IntePoint LLC, Charlotte, North Carolina

04:30pm – 05:00pm: Break

05:00pm – 06:40pm: Panel: Novel Strategies for Critical Infrastructure Protection
Chair: Seymour Goodman, Georgia Institute of Technology, Atlanta, Georgia

Some Domestic and International Defenses
Seymour Goodman, Professor of International Affairs and Computing, Georgia Institute of Technology, Atlanta, Georgia
Recent Chair, National Research Council Committee on Improving Cyber Security Research in the United States

Limiting Connectivity to Protect Critical Infrastructures Against Cyber Attack
Stephen Lukasik, Former Director, DARPA and Chief Scientist, Federal Communications Commission, Washington, DC

Network Trust: Challenges and Solutions
Anthony Rutkowski, Vice President for Government and Regulatory Affairs, VeriSign, Arlington, Virginia
Former Senior Staff Member, Federal Communications Commission and International Telecommunication Union

Challenges for Trust in Critical Information Infrastructure Protection
Michael Corcoran, UK Defense Advisor, DSTL, Malvern, United Kingdom

06:40pm – 08:45pm: Dinner

March 19, 2008 (Wednesday)

07:45am – 08:45am: Breakfast

08:45am – 10:30am: Session 8: Control Systems Security III
Chair: Stig Johnsen, SINTEF, Trondheim, Norway

Attribution of Cyber Attacks on Process Control Systems
J. Hunker and R. Hutchinson
Carnegie Mellon University, Pittsburgh, Pennsylvania
Sandia National Laboratories, Albuquerque, New Mexico

Modeling Advanced Train Control System Networks
P. Craven and P. Oman
Simpson College, Indianola, Iowa
University of Idaho, Moscow, Idaho

Enforcing Logical Boundaries on Potentially Hostile Data to Defend Against Memory Corruption Attacks
C. Bellettini and J. Rrushi
University of Milan, Milan, Italy
University of Illinois at Urbana-Champaign, Urbana, Illinois

Assessing the Integrity of Field Devices in Modbus-Based Pipeline Control Networks
R. Shayto, B. Porter, R. Chandia, M. Papa and S. Shenoi
University of Tulsa, Tulsa, Oklahoma

10:30am – 10:50am: Break

10:50am – 11:40am: Session 9: Infrastructure Protection Strategies
Chair: Scott Dynes, Dartmouth College, Hanover, New Hampshire

A Collaborative Access Control Framework for Critical Infrastructures
A. Baina, A. El Kalam, Y. Deswarte and M. Kaaniche
University of Toulouse, Toulouse, France

Automated Assessment of Critical Infrastructures for Compliance to Best Practices
Z. Anwar, R. Shankesi and R. Campbell
University of Illinois at Urbana-Champaign, Urbana, Illinois

11:40am – 12:40pm: Lunch