

Cybersecurity: How much is enough

Michael H. Firstenberg*

Waterfall Security Solutions, Marlton, NJ, USA

(*Email: michaelf@waterfall-security.com and Phone: 609-304-5715)

SUBMISSION TYPE

30 minute presentation

KEYWORDS

Cybersecurity, Security, IDS, Risk, Threat, Vulnerability, Matrix

ABSTRACT

Advice on costs and benefits of cyber security program is confusing and contradictory. For example, experts on a recent panel were heard to observe all of: "Security is pure cost," "there has to be an ROI for every one of our security investments, so we use a risk-based approach, but none of the risk calculations are quantitative," and "it all depends on the risk appetite of your board and executive." Even more confusing to business leaders: it is always possible to be more secure, or less secure. We know that all for every security defense, there is an offense that will succeed. How then, to evaluate cyber security funding requests? How can anyone ever know how much is enough? We explore the question "how much is enough" and draw some simple conclusions. We discuss how classic "natural disaster" risk models and other IT-centric security risk models that attempt to quantify the likelihood of attacks are poor fits to physical or cyber security problems. A good understanding of the characteristics of control system networks, industrial processes, safety systems, protection systems, security systems and attack capabilities are all prerequisites to an effective risk assessment. Assembling all this knowledge and these costs into a simple matrix for business leaders to understand and evaluate is very much possible. Join us to review approaches to risks, calculations, costs, and understand how to communicate these to business decision-makers.

ABOUT THE AUTHORS

Mike Firstenberg is the Director of Industrial Security for Waterfall Security. Mike brings almost two decades of experience in Control System Security, specializing in Control System Cyber Security. With a

proven track record as a hands-on engineer - researching, designing, and implementing strategic security solutions, Mike has an established background working with governmental institutions, regulatory authorities, and industrial utilities. The former chair of the American Water SCADA Council, Mike studied Computer Science, Chemical Engineering, and Mathematics at the University of Pennsylvania, and has served as a speaker and panelist at numerous conferences and events. Mike participates actively in ISA SP99 WG1, and served on the committees that drafted the AWWA Cybersecurity Guidance and the Roadmap to Cybersecurity in the Water Sector. Contact: michaelf@waterfall-security.com