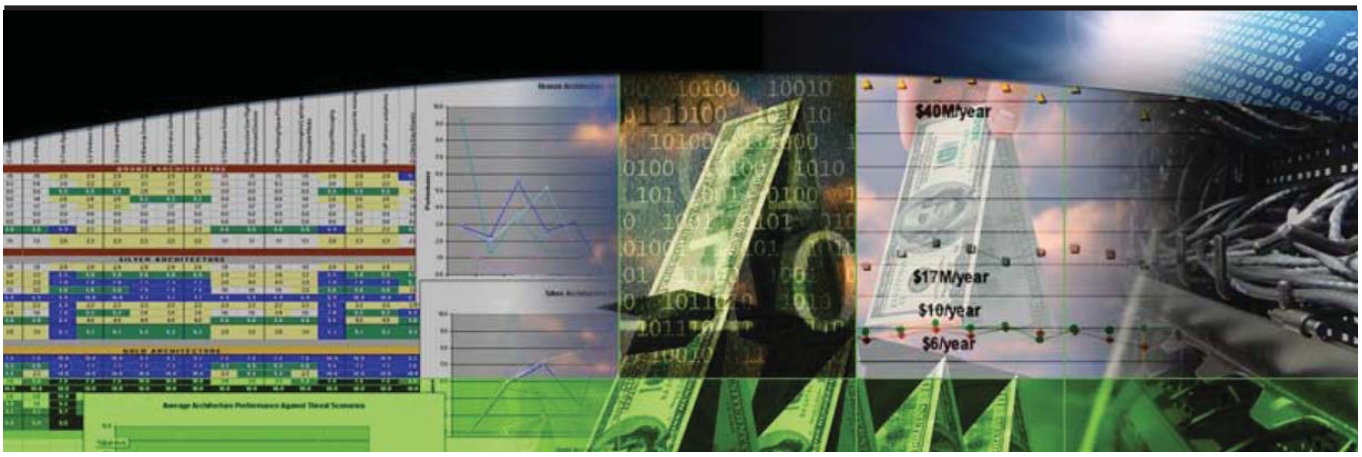
NORTHROP GRUMMAN

Cybersecurity Value Model

Quantifying the Cost and Effectiveness of Cybersecurity



What is the cost of a cyber attack? What is data worth? Can organizations perform without networks? These questions are troubling, but hard to quantify. As a result they tend to linger as anxiety rather than being taken for action. What is the improvement in mission availability for each dollar of cybersecurity investment? If we need to cut the IT budget by ten percent, in what areas can we safely cut? We need mechanisms to quantify the value and cost of cybersecurity against the cost of attack. As the likelihood of various specific attacks rise and fall, we need a way to pick the risk threshold we can afford.

Northrop Grumman's Cybersecurity Value Model evaluates the results of a complex calculation – the cost and performance of a defensive cyber architecture against multiple threat scenarios, based on the SANS Institute Top Twenty cyber vulnerabilities.

The model yields quantitative results, rating the cost and effectiveness of cyber-security services against each specific cyber threat.

By substantiating the effectiveness of services against specific threats, and quantifying the costs of these services, the Cybersecurity Value Model identifies "the biggest bang for the buck" solutions. The model helps decision-makers choose where to invest already-stretched budgets for maximum security. The tool is transparent. Assumptions and calculations are completely visible to the user. The model is easy to understand and keep up to date, even in dynamic cyberspace. Its input data and assumptions are well documented. New threat scenarios and new defenses can be easily added as they emerge monthly.

This tool is being validated in Northrop Grumman's Cyber Test Range, a large scale, high fidelity emulation of the internet in a closed environment, and the Virginia Information Technologies Agency, where the company is responsible for total operations.

Benefits

- ✓ Provides metrics to help decision makers invest wisely
- ✓ Measures cybersecurity effectiveness against many threat scenarios
- ✓ Compares cost and performance of client-configured architectures
- ✓ Updates quickly and easily; transparent logic

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