The Role of Security Research in Improving Cyber Security

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Why is research so important?

"Research is to see what everybody else has seen, and to think what nobody else has thought"

Albert Szent-Gyorgyi (Hungarian Biochemist, 1937 Nobel Prize for Medicine, 1893-1986)

- Cyber security is a technological and intellectual arms race

- Research drives innovation in cyber security

- The mantra I always follow is:

"Everything is possible – it may be extremely difficult, but there is always a way"

What should we be researching?

- How do we decide where to focus the research?

- Very easy to follow the obvious trends

  - Cloud computing

  - Virtualisation

  - Mobile security

- We must not overlook the less obvious, but equally important research targets

Competitors and collaborators

Can competing security researchers effectively work together?

- The world of security research is extremely competitive

- Forums such as the CPNI [1]SRIE bring competitors together

    - Provide best practice advice

    - Latest intelligence about vulnerabilities and malware

    - A pool of experts available to perform targeted research

[1] http://www.cpni.gov.uk/about/Who-we-work-with/Information-exchanges/

Research partnerships

Partnerships are important, certainly in times when budgets are being squeezed

- Government – resource availability

- Product Vendors (software and hardware) – access to developers

- Service providers – access to technology

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The future of security research

- The trading of vulnerability information has become a booming market

  - Zero Day Initiative – TippingPoint

  - Vulnerability Contributor Program – iDefense Labs

- Security research has dramatically increased in the last 10 years

- We must ensure that important research isn't "lost in the noise"

  - Around 75 international security research/hacker conferences in 2010

  - The number of product vulnerabilities publicly posted continues to rise

A final thought about research...

"There is nothing like looking, if you want to find something. You certainly usually find something, if you look, but it is not always quite the something you were after."

J.R.R. Tolkien (English Writer and Author of The Lord of the Rings, 1892-1973)

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