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SEC.2 : The real costs of cybersecurity

Panel Opening Points

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Background

• I work with Incident Management, Incident Handling and Incident Response at CERT.br for 10 years

• Work daily with organizations and individuals affected by Internet Security Incidents and Cyber Crime
The Real Cost

• People losing trust in the Internet
• Are getting afraid to go online and use
  – e-government
  – e-commerce
  – and other important services
Next Generation of Threats

• The threats are coming from cyber crime

• They will continue to come from cyber crime
Criminals are exploiting

• Software weaknesses

• A huge base of unpatched and vulnerable software, specially in developing countries

• People's trust and lack of knowledge
  – people don't understand the technology itself – the technology is too complex for general users
  – then, in turn, it is hard to understand how to remain secure
Where to invest

• More important than how much, is **where to invest**

• Morris Worm, 20 years ago, led to the creation of the 1\(^{st}\) CERT

• Today, bots and other malware are exploiting software with vulnerabilities similar to the ones exploited 20 years ago
Where to Apply Resources

• If we don't change the way
  – universities teach
  – and software companies develop software
I don't think we will be any better in 20 years

• The improvement will not come from the adoption of security tools

• It will come with software development maturity ("Secure Software Engineering")
Where to Apply Resources (2)

- Software developers are coming unprepared to the market

- Security need to be a key concept in all disciplines
  - need to be integrated in all phases of the software development life cycle

- The same apply to groups that define standards
  - security needs to be addressed from the start
  - but we can't forget that if the implementation is poorly done, it will be vulnerable