SysSec: A European Network of Excellence in Managing Threats and Vulnerabilities in the Future Internet:

Focus on Social Networks

Evangelos Markatos
FORTH-ICS
Security and Privacy in Social Networks
Why is it important?

- Social Networks use existing **channels of trust**
  - people have lots of friends - they want to **connect** with them
  - people tend to trust their friends – they **share information** with them

- People store lots of **personal data** in SNs
  - photos, friends, videos, chat, gossip, interests, relation status
  - Groups, preferences, personal relations, medical info
  - Personal data tend to **accumulate over time**

- Attackers exploit this trust by
  - impersonating people, stealing identities
  - compromising accounts

- Gaining access to these data can be useful to attackers to:
  - send personalized SPAM, fraud, blackmail, etc.
Social Networks: Privacy issues

- Attackers may gain lots of information from SNs
  - Write an application which reads data from them disk
    - e.g. “Color-process and enhance your old photographs”
      - the application may read all photographs from the directory in the local disk
  - Harvest email addresses
    - If you know one email address (e.g. john.smith@domain.com)
    - You may find more like this such as john.smith @GMAIL @HOTMAIL, etc.
  - Automated user profiling
    - e.g. tell the SN that you want to become friends with john.smith@domain.com
    - Most SNs reply with a lot more info about this email address
      - Such as name, age, possibly friends, etc.
    - This information can be used to make profiles and make targeted SPAM/fraud campaigns
Social Networks: Security issues

- Applications in social networks may be malicious
  - e.g. “attack a third site” while you play
    - “Anti-social networks”
- Channels for malware distribution
  - e.g. “check this cool URL” says a friend
  - or “download this cool game” says another
    - 1,000,000 people liked it
- What’s next?
  - Work with Social Network stakeholders
    - Understand the security/privacy issues
    - Discover emerging threats in Social Networks
    - Develop novel privacy mechanisms
    - Deploy novel solutions on a pilot basis