Electronic Industrial Espionage:
A Report From Ground Zero

Ira S. Winkler
National Computer Security Association
10 South Courthouse Avenue
Carlisle, Pennsylvania 17013
(717) 258-1816
(717) 243-8642 (fax)
winkler@ncsa.com

Agenda

- What is Electronic Industrial Espionage?
- Who would do it?
- Methods
- Case Study of an Industrial Espionage
- How can it be prevented?

What is Industrial Espionage?

- Compromising trade secrets through any means possible for economic, or possibly military, gain
  - Legal and illicit
- Referred to as Economic Espionage when performed by a foreign government
- *They will take information in any form*
- *They will attack you where you are weakest*

Electronic Industrial Espionage

- The use of technical means to obtain trade secrets
- May be combined with non-technical methods to enhance results of either
- Significantly reduced risk
  - Less exposure and direct contact
  - Less likely to be caught and pursued

Who Would Do It?

- **Primarily Outsiders**
  - –Competitors
  - –Legal rivals
  - –Freelancers
  - –Organized Crime
  - –Hackers
  - –Private Detectives
  - –Information Brokers

Who Else?

- Foreign Intelligence Services
  - Economic Espionage
  - Every company has potential military relations
- They will use more sophisticated methods
  - Combine with insider activities
  - Much better funded and organized

Methods

- Insiders do "Insider Things"
- Insiders are generally motivated by greed and will not ask for outsider help . Also they risk exposure if they ask for help
- Outsiders do not want to risk exposure by soliciting insider support
- Takes a little longer

Surprise

- Almost all methods are easily prevented or detected
- The work is not that of a James Bond or Super Genius; it is that of Kevin Mitnick
- A monkey can do it

Methods

- Technical hacking
  - Compromise of very known vulnerabilities
  - Use attacks straight off the Internet
  - Two bit criminals to intelligence agencies use these almost primarily
  - Few "groups" have the capability to develop their own capabilities
- Telephone taps
  - Either pay people off (MoD, Mitnick) or hack the phone companies yourself
  - Foreign intelligence capability is widely known

Methods

- Network sniffing
  - Tools widely available
- TEMPEST radiation
  - Conversion of a television set
  - Kits available from $800
- PBX Hacking
  - Same as technical hacking
  - Gives access to voice mail

Methods

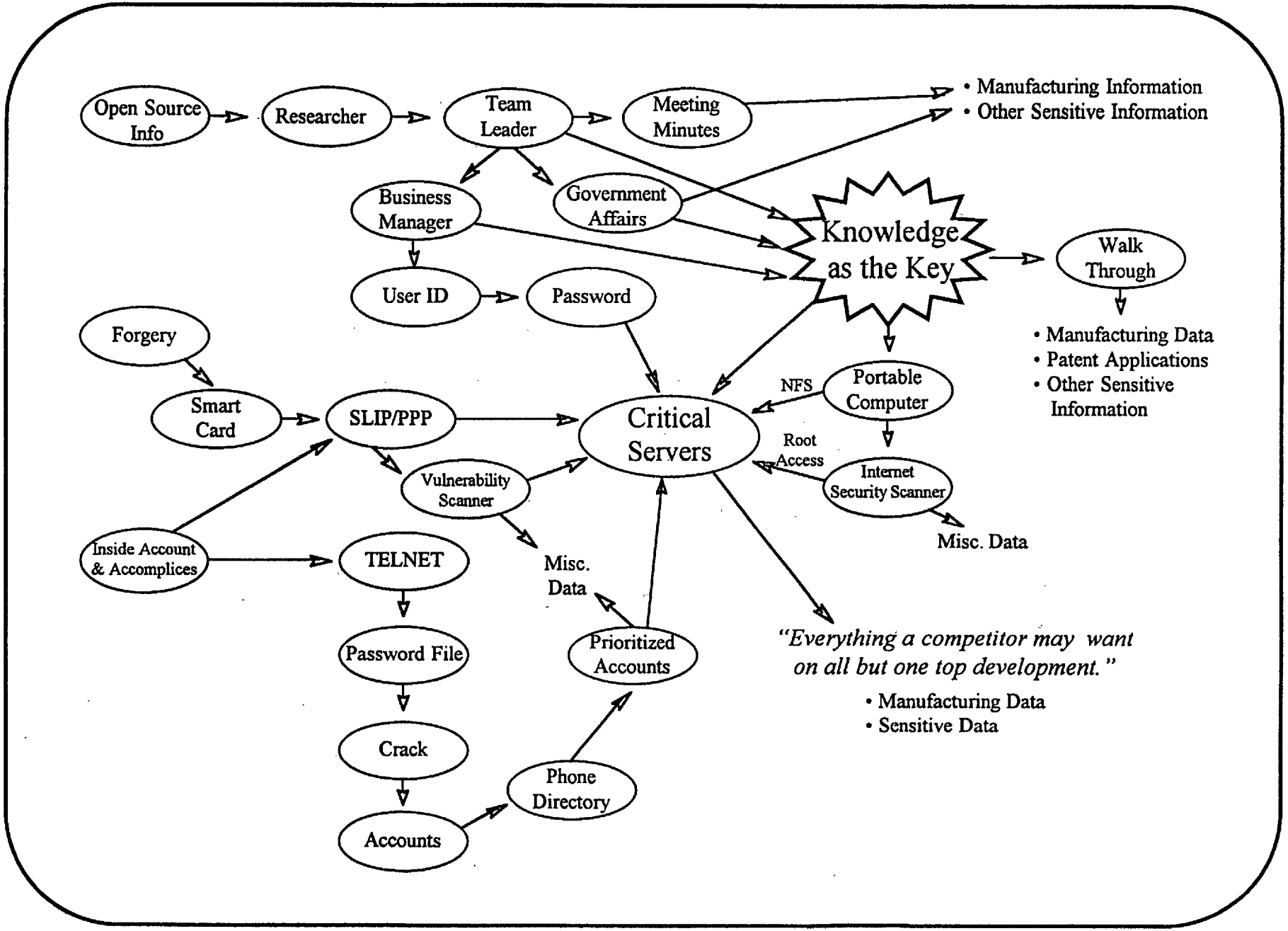
- **Bugging**
  - **Bugs are inexpensive**
  - **15 - 33% of companies, that are tested, find bugs**

Case Study

- Placement of a person as a temporary employee in a high tech firm
- Full scale industrial espionage simulation
- No holds barred attack
- Multi-faceted attack
  - Open source research
  - Misrepresentation
  - Walk through facilities
  - Internal hacking
  - Internal coordination of external accomplices

Background

- Company has many emerging developments
- Developments valued in excess of $10 Billion by Wall Street analysts
- Company has experienced several cases of industrial espionage
- Research mentality of openness causes an operational security nightmare
- Security manager is very well aware of the threat
  - Secures what he can


Open Source Info
Researcher
Team Leader
Meeting Minutes
• Manufacturing Information
• Other Sensitive Information
Business Manager
Government Affairs
Knowledge as the Key
Walk Through
• Manufacturing Data
• Patent Applications
• Other Sensitive Information
User ID
Password
Forgery
Smart Card
SLIP/PPP
Critical Servers
NFS
Portable Computer
Root Access
Internet Security Scanner
Misc. Data
Vulnerability Scanner
Misc. Data
Inside Account & Accomplices
TELNET
Password File
Prioritized Accounts
"Everything a competitor may want on all but one top development."
• Manufacturing Data
• Sensitive Data
Crack
Phone Directory
Accounts

Results

- All but one emerging development was seriously compromised
- Information valued in the billions of dollars
- Pending litigation posture compromised
- Patent applications compromised
- What else is there to say

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Believe it or Not

- *Critical compromises accomplished within one and a half days*
- *No reports of any activities*
- They have much better than average security
  - Technical Security
  - Physical Security

Preventing Espionage

- Good, basic System Administration
  - Doing simple things that should be done anyway
  - Update systems as vulnerabilities are announced
  - CERT, CIAC, IS/Recon type services
- Use available mechanisms
  - Most systems have security features that are not turned on
- Use Operations Security procedures
  - Use Intelligence principles to not talk about things over the telephone

Preventing Espionage

- Perform Bug Sweeps
  - Yeah, maybe they won't turn up anything, but...
- Every so often examine network resources

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Conclusion

- You will be a victim
- An idiot can do a good job getting into your company
- Good procedures can stop it

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Information Security is *Information* Security

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