

F-SECURE



Everyday Security Problems

- Viruses
- Unauthorised access
- Sniffing
- Password cracking

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Why do security problems appear?

- People, the weakest link
- Security holes in mainstream products
 - Word
 - Excel
 - Outlook
 - Windows
 - Sendmail
 - Apache
- Insecure networking
- Insecure storage
- Inefficient authentication of users

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Unencrypted data

- If you can touch a computer, you can steal the data on it
- Stealing laptops becoming more and more common
- Windows NT offers no protection



Passwords

- Password is like a toothbrush
 - Exchange regularly
 - Do not share with others
- A good password...
 - is over 13 characters long
 - contains special characters
 - can't be found from any dictionary
 - easy to remember
 - use a passphrase
 - "stupid&boringJob!", "My_Boss_Smells_Bad..."

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Social Engineering

- "Here's the IT Manager from the New York department. What the heck is wrong in your systems! I can't access our order database and clients are waiting in the meeting room!"

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Kevin Mitnick damages 1993-1994



NBC News

- Sun, USA; Solaris source code: **\$80M**
- NEC, Japan; Mobile phone sources: **\$1.75M**
- Nokia, Suomi; HD760 project: **FIM 2.5M**
- Nokia, UK; "Mobile software": **\$135M**
- Novell, USA; Netware sources: **\$75M**
- Fujitsu, USA; PCX phone sources: **\$2.1M**

Source: <http://www.hackernews.com/orig/letters.html>

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Kevin Mitnick sentence

- Sentence issued on August 9th, 1999
- Total damage: \$296,000,000
- Mitnick ordered to pay: \$4,125
- And to serve 46 months in prison
- Will be released around January 2000



Number of viruses (9/1999)

• PC:	Over 43,000
– Windows 3.x:	15
– Windows 95:	210
– Windows NT:	50
• Word:	~4100
• Excel:	~700
• Powerpoint	5
• Macintosh:	50
• Linux:	5

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Costs of viruses

- "Businesses worldwide have lost a total of US\$7.6 billion in the first two quarters of 1999 because of viruses"
- Wired, Computer Economics Inc.

<http://www.wired.com/news/news/technology/story/20297.html>

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Why are viruses written?

- Anarchy
- Curiosity
- Challenge
- Fame
- Power



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What do virus writers look like?



David L. Smith, 30, USA



Christopher Pile, 27, UK



Lin Hsi-Ming / AFP

Chen Ing-Hau, 24, Taiwan

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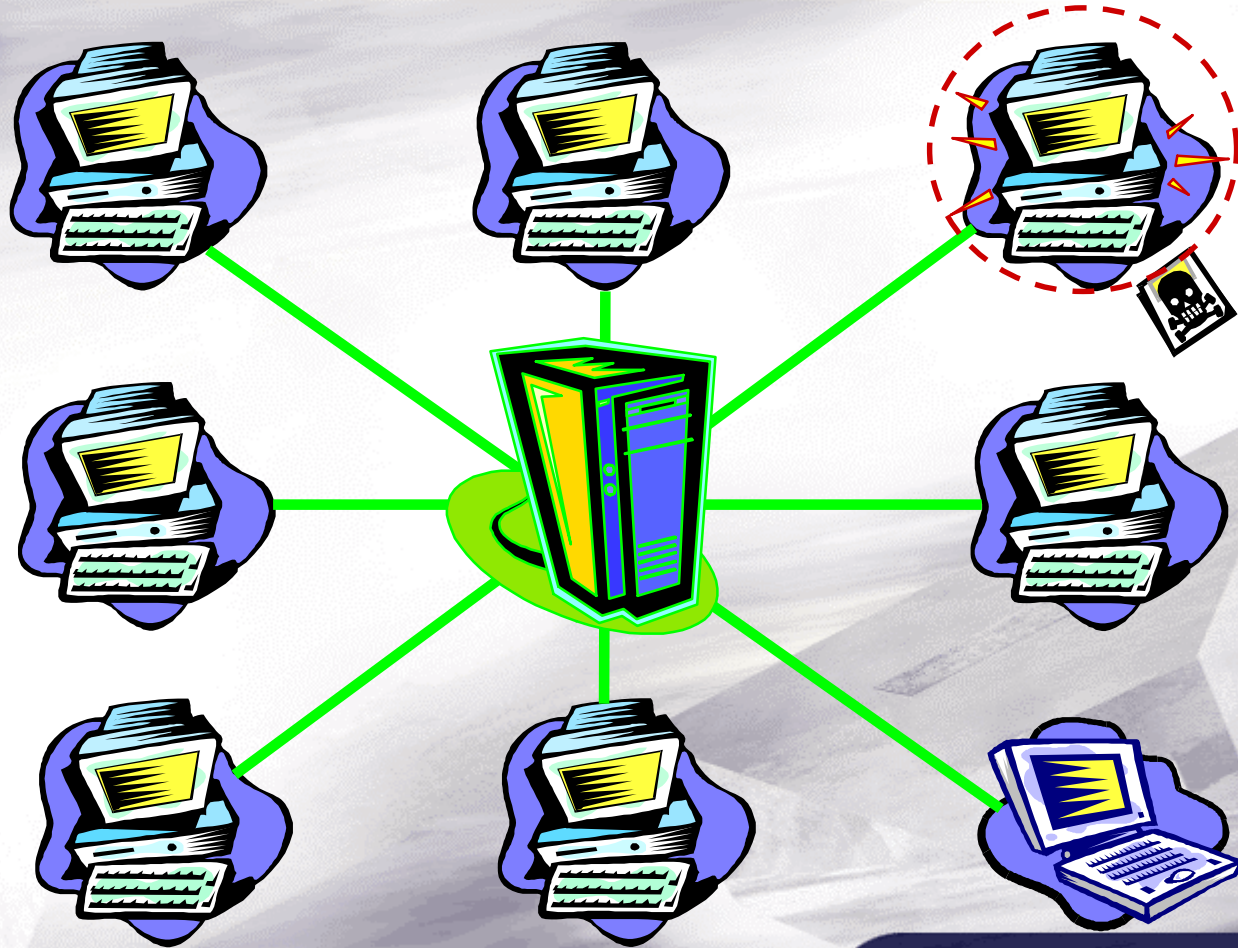
Demos...

- Word macro viruses
- Excel macro viruses
- Cracking passwords
- Sniffing

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NT-aware virus



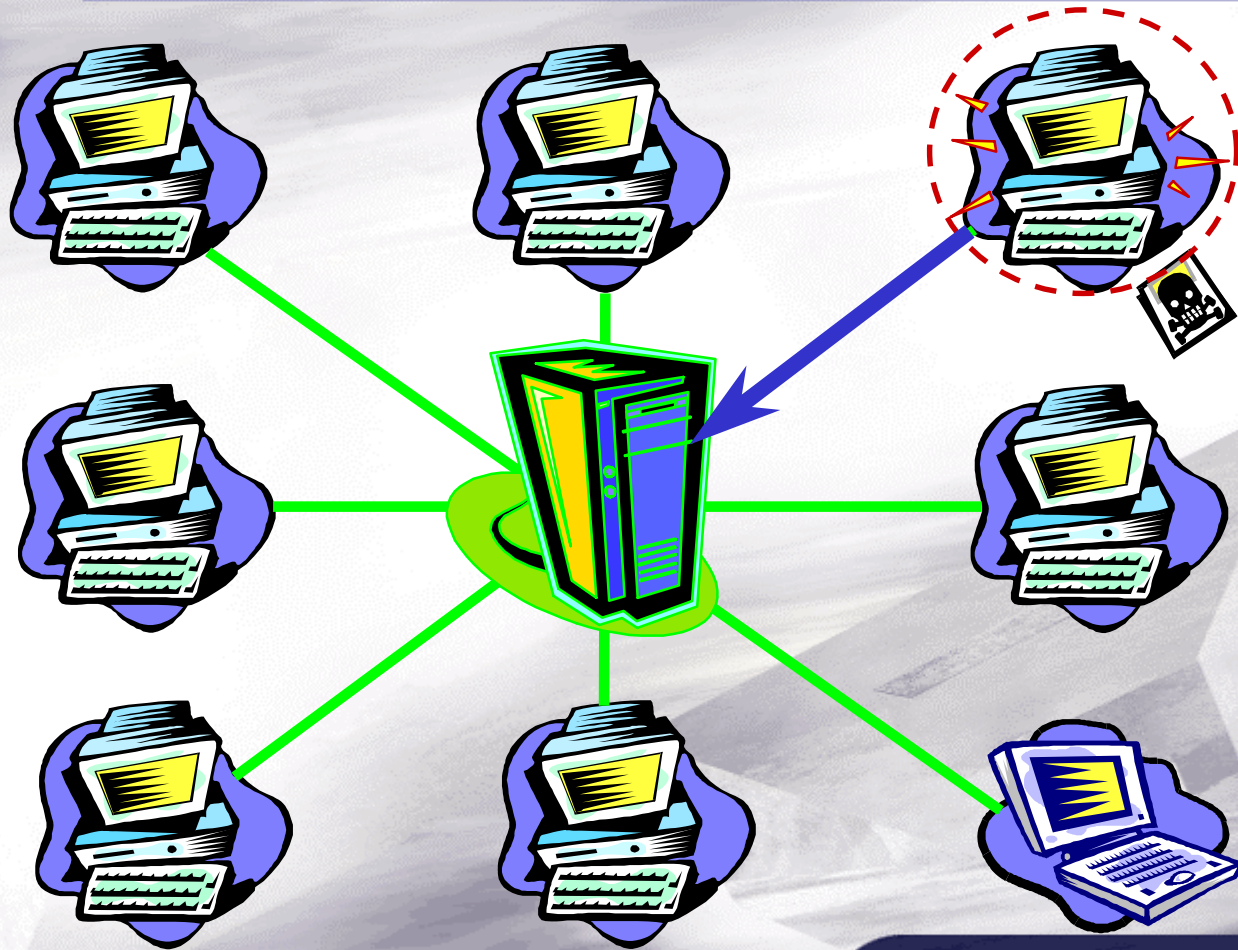
The virus infects a single NT machine

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NT-aware virus

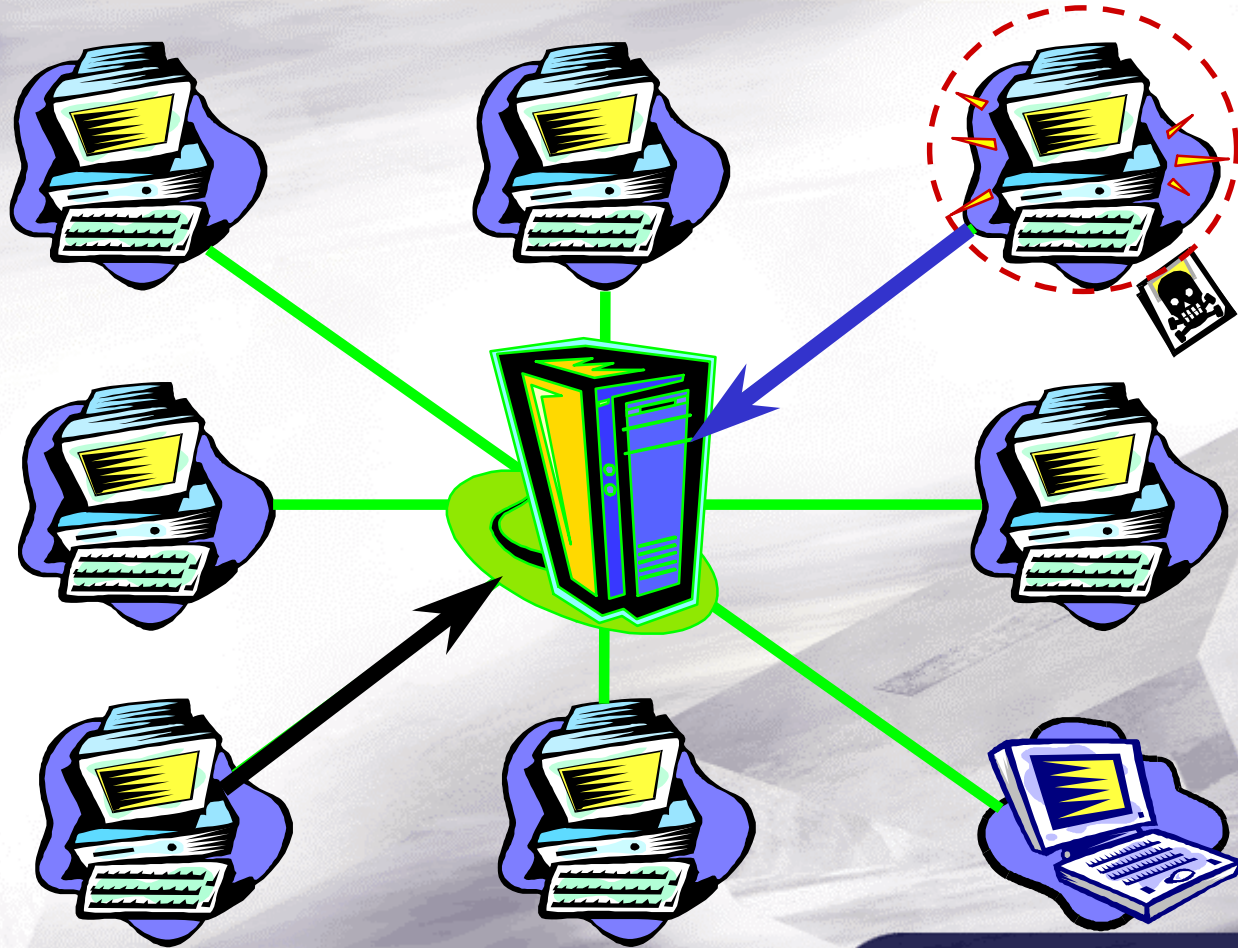


Virus starts to sniff network traffic

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NT-aware virus



Admin

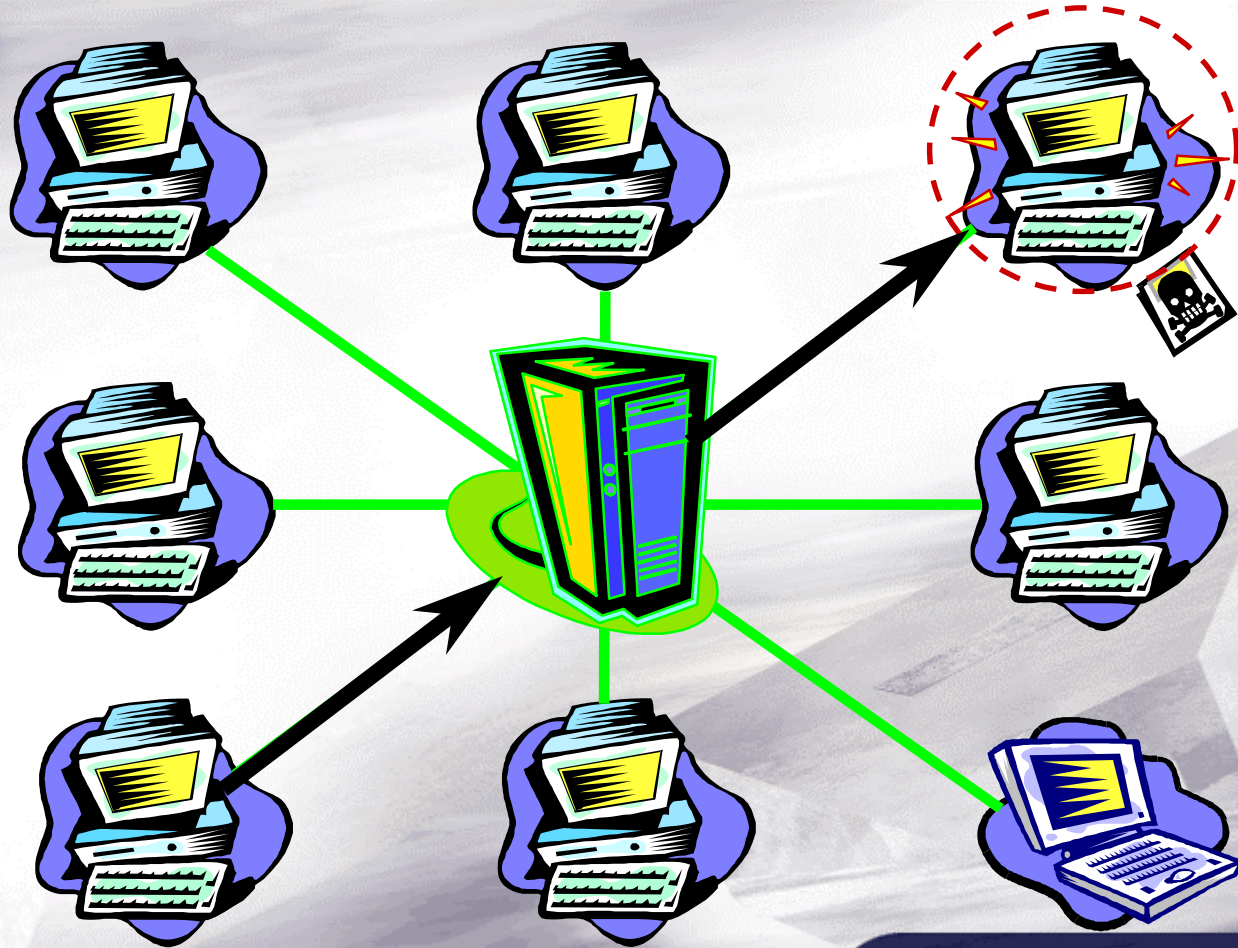
Virus waits until domain admin logs on

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NT-aware virus

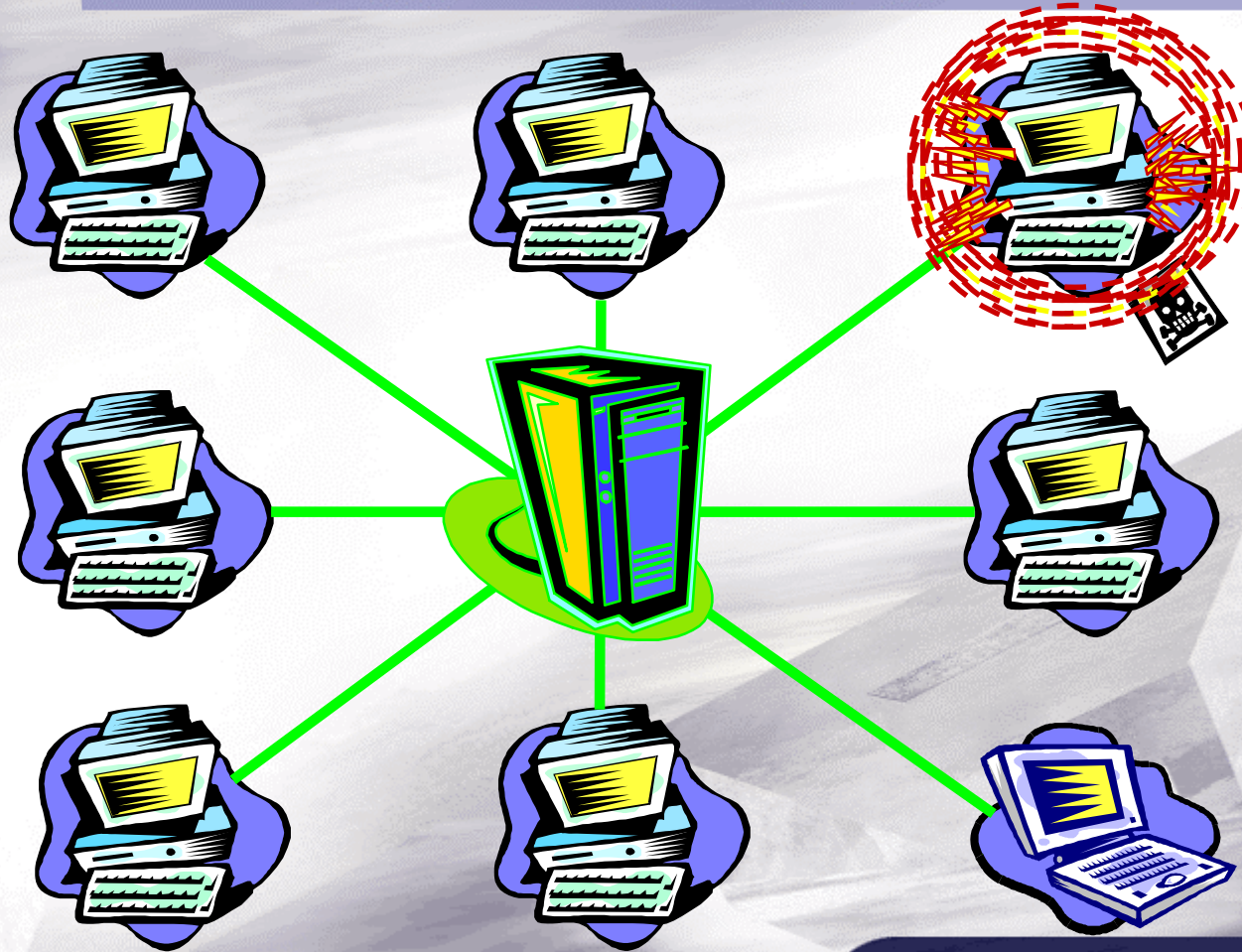


And collects the admin password hash

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NT-aware virus



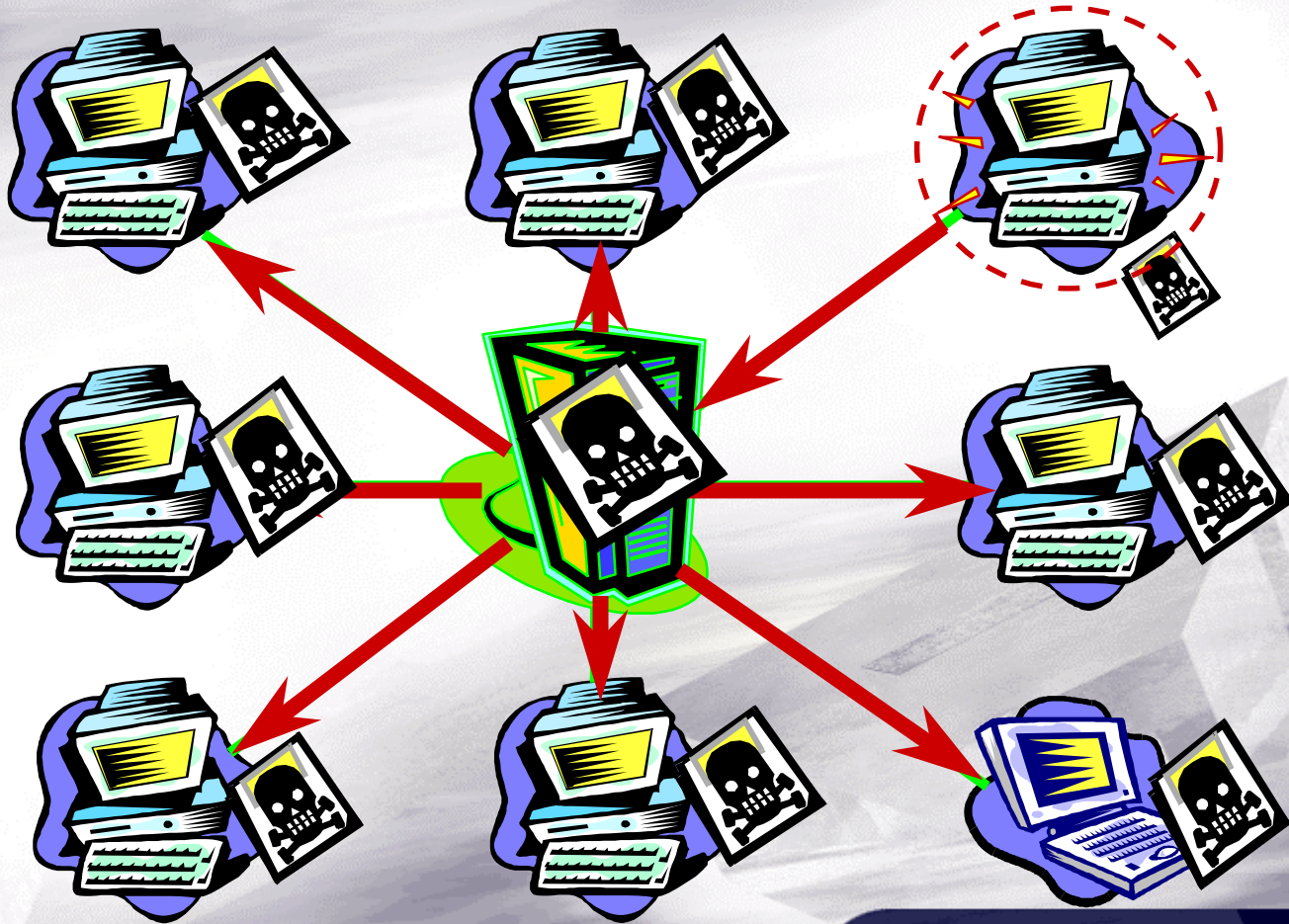
Virus starts to crack the password

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NT-aware virus



Password is cracked: Game Over

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What if...

- If all stored information is strongly encrypted...
- If all information in the network is strongly encrypted
- If viruses are stopped at every level...



- You have solved 99% of your security problems
 - Firewalls and intrusion detection products become secondary priorities



Security Drivers

**Increasing
Workforce
Mobility**

**Growth of
EDI / EC /
Extranets**

**Need for
Global
Access
to Info**

**Outsourcing
Trend for IT
Services**

Confidential information is increasingly created and stored outside corporate LANs and is accessible over public non-secure networks

Corporate information needs to be protected everywhere, all the time

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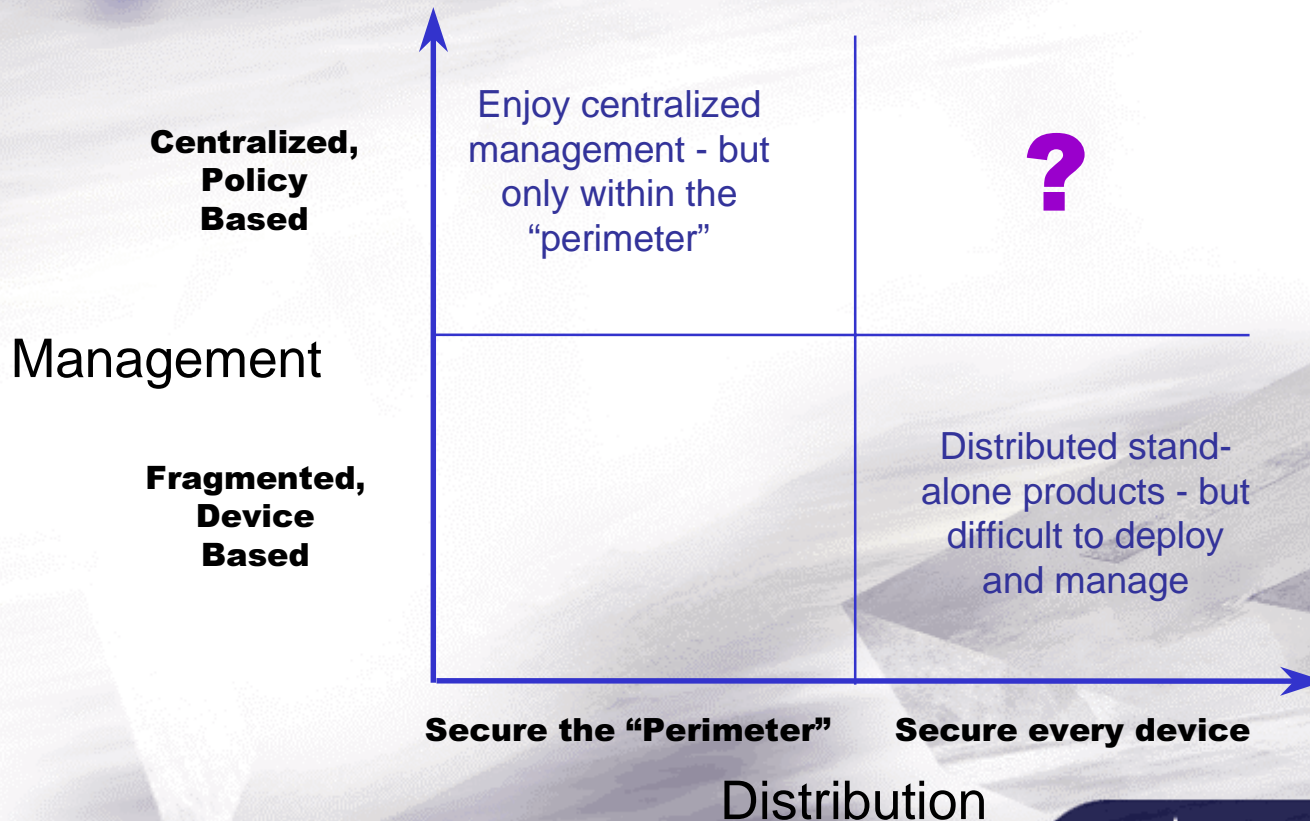


Critical Problem

How can a corporation ensure that corporate information, the lifeblood of the organization, is protected every minute of every day, everywhere around the world, when the workforce is increasingly mobile and the methods of communication are inherently insecure?



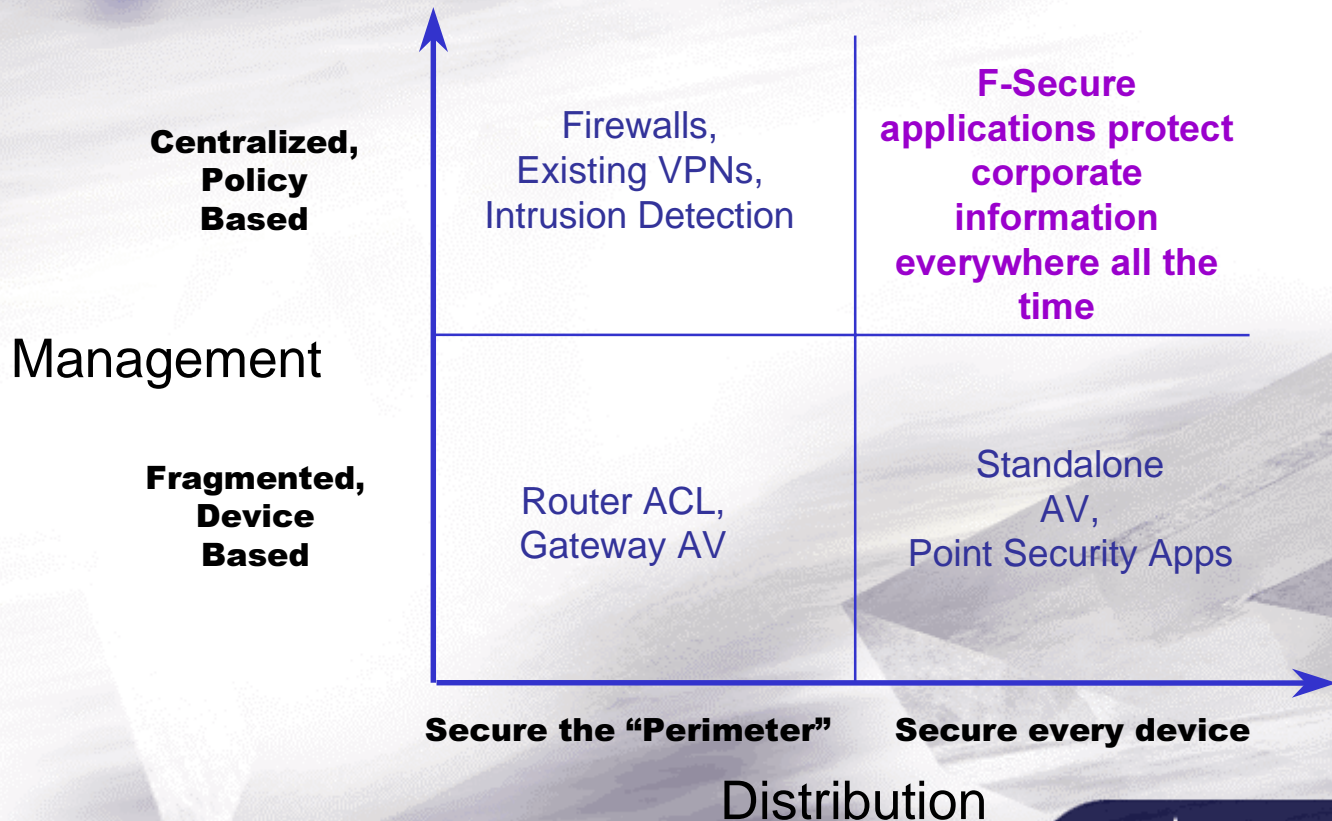
Existing Solutions - Management vs. Distribution



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The F-Secure Solution - Management and Distribution



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Security Solution Alternatives

<p>Centralized, Policy Based</p> <p>Management</p>	<ul style="list-style-type: none">• doesn't protect against inside intruders• no way to efficiently secure mobile users• FW are becoming less efficient due to HTTP• doesn't happen where information is created and processed• no broadband outside the LAN	<ul style="list-style-type: none">• increased security (coverage)• protects from inside attacks• faster reaction to new security threats• enables mobility (people and devices)• enables the truly distributed organization• enables the use of broadband• enables Security as a Service™ — both external and internal
<p>Fragmented, Device Based</p>	<ul style="list-style-type: none">• doesn't provide granularity• hard to enforce extensive security• hard to manage• security settings become static• no way to secure mobile users• doesn't protect against inside intruders	<ul style="list-style-type: none">• complexity of deployment, updates and management• complexity can lead to security holes• hard and expensive to manage• security settings become static• impossible to enforce• no way to efficiently secure mobile users
<p>Secure the "Perimeter"</p>		<p>Secure every device</p>

Distribution

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Current Approach

- Choose one: management or distribution
- Management
 - Enjoy centralized management – but only of the systems within the “perimeter”
- Distribution
 - Buy standalone point products, but live with the burden of separately maintaining each system, forget all about unobtrusiveness, allow the end-users to uninstall the applications etc. etc.

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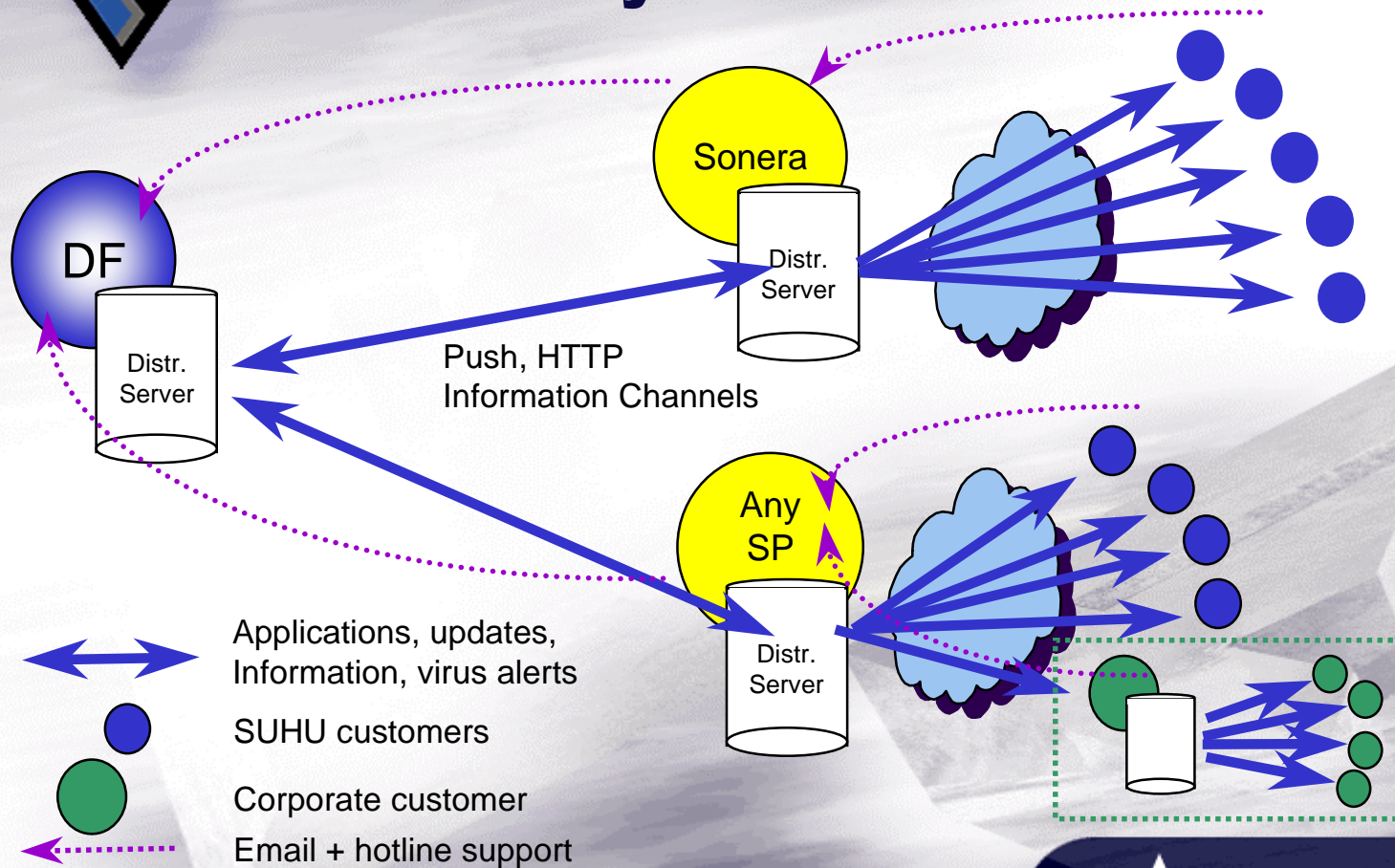
F-Secure Applications Enable Security Everywhere All the Time

- F-Secure applications enable the provision of Security as a Service™ by:
 - Making security invisible, automatic and non-intrusive to end-users
 - Enabling the administrator to simply push a button to define, install, control and manage security
- This service can be provided by:
 - internal IT departments
 - third-party service providers
 - ISPs for SOHO customers
 - Facility Management companies and Application Service Providers for corporate customers

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Security as a Service™



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Centrally Managed Security – Without Boundaries

- Data Fellows brings security that is
 - **Widely distributed**
 - Automatic installation on hundreds of thousands of systems
 - Automatic updating of virus and security information, corporate policies
 - **Centrally managed**
 - Centralized, hierarchical policy management
 - Common management interface for all products
 - Centralized alarms and alerts
 - **Transparent to end users**
 - Users don't need to do anything
 - No danger of users removing or bypassing security

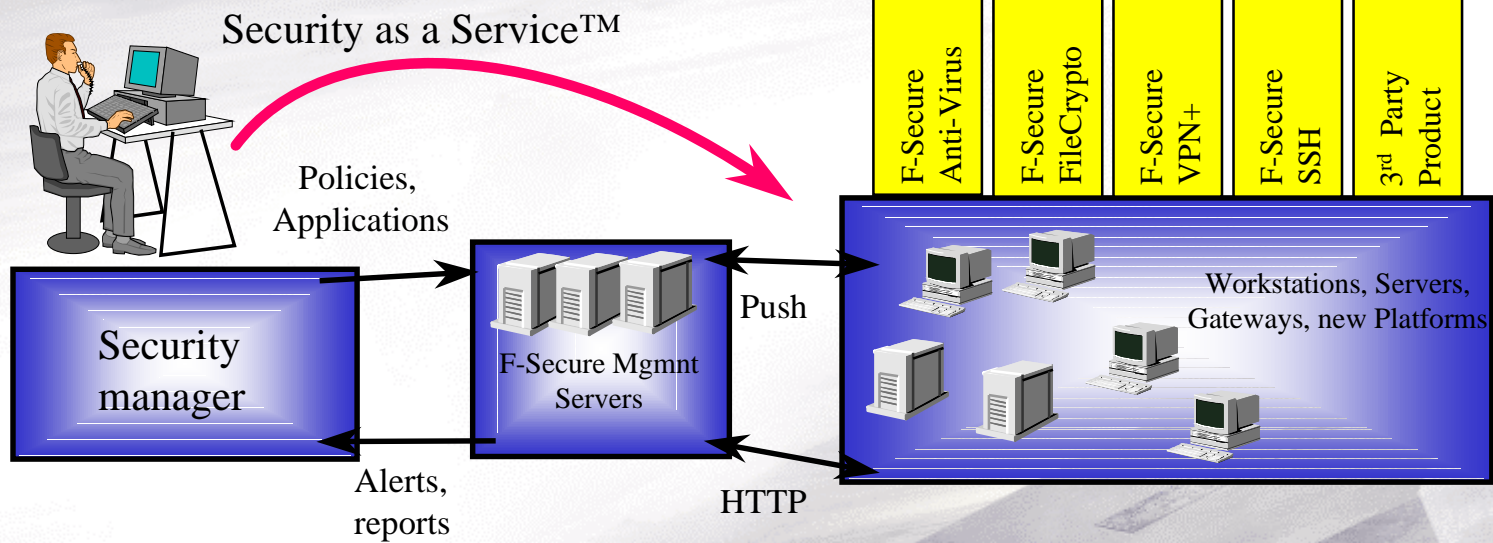
ANYTHING ELSE IS JUST A COMPROMISE!

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F-Secure Applications and Framework

An Extensible, Highly Integrated Solution



Control

Scalability

Execution

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Data Fellows' Solution

Policy based management:
F-Secure Framework

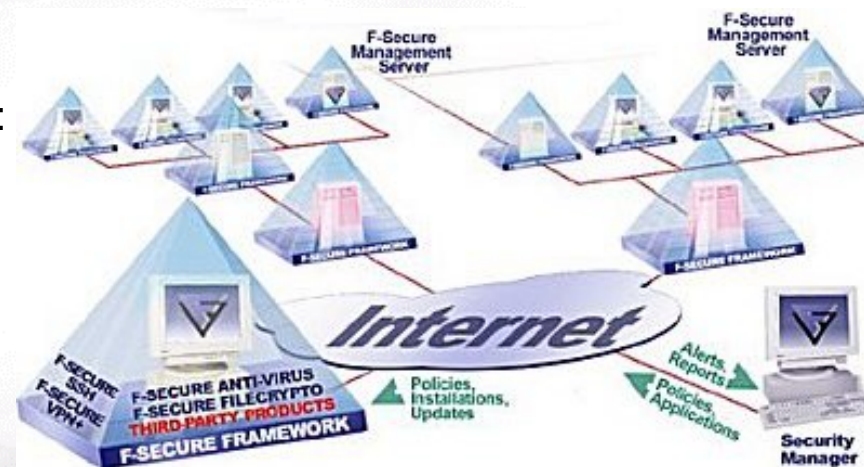
Malicious code protection:
F-Secure Anti-Virus

Network encryption:
F-Secure VPN+

File encryption:
F-Secure FileCrypto

Secure remote management:
F-Secure SSH

New F-Secure products



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DATA FELLOWS™

Leading global provider of centrally-managed,
widely distributed solutions for enterprise security
— enabling the provision of security as a service

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History of Data Fellows

**Anti-
Virus
company**

1988 Founded by R. Siilasmaa & Co

1990 Focus on Anti-Virus products

**Best-of
breed
data
security
products**

1996 Entered into encryption, F-Secure SSH launched

1997 Data Fellows Inc. established in Silicon Valley
F-Secure VPN+ launched, Hot Product of the
Year (Data Communications Magazine)

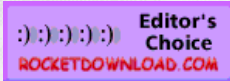
1998 Global expansion: regional sales offices
established in US, UK, Germany, France and
Canada;
F-Secure Framework project
F-Prot brand name changed to F-Secure

**Security
as a
Service**

1999 Regional sales offices opened in
Japan and Greater China
F-Secure Framework launched

Best-of-Breed Applications

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- F-Secure Workstation Suite 4.0 5/5 “Components are seamlessly integrated, centralized control of the network, 5/5 overall rating” (Secure Computing - July 1999)
- F-Secure VPN+ “the fastest software-based IPSec-compliant VPN” (Sonera - April 1999)
- F-Secure Anti-Virus “The Editor’s Choice” (PC Professionell magazine -July 1999)
- “F-Secure Anti-Virus detected more viruses “in the wild” than any other product, superior in macro virus detection” (Virus Test Center - March 1999)
- “The best product to detect known viruses” (Virus Bulletin - January 1999)



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Global Distribution Network



-  Headquarters
-  North-American sales offices
-  Existing Country Manager's offices
-  National Business Partners
-  US Channel Partners

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Authorized Reference Customers

Government

DoD, French Army, IRS, NASA Headquarters, Naval Air Warfare Center, U.S. Army Medical

- **Leading universities**

Harvard University, University of California Berkeley

- **Research**

Cogema, Lawrence Livermore National Lab, Los Alamos National Lab, Oak Ridge National Lab, San Diego Supercomputer Center, Sandia National Lab

- **Banking**

Charles Schwab, Credit Agricole, Daiwa Bank, DresdnerBank, E*TRADE, Fuji Bank, Merita-Nordbanken, Sumitomo Bank

- **Information Technology**

Andersen Consulting, EDS, First Data Corp, Fujitsu, IBM, Siemens, Unisys

- **Telecommunication manufacturing**

Cisco, Ericsson, Motorola, Nokia

- **Internet**

Amazon.com, Digital Island, eBay, Entrypoint (Pointcast), Yahoo

- **Telecommunications**

AT&T Wireless, British Telecom, Cegetel, Concert, Deutsche Telekom, GTE, NTT, Sonera, Telecom Italia, Telia, US West

- **Other**

BMW, Boeing, DaimlerChrysler, Volkswagen

HARVARD UNIVERSITY

