
# Digital War in e-Business

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# Trend in Internet Commerce Market

- More Internet Commerce Market
  - Increase in Business to Commerce Services
  - Increase in Business to Business Services
  - Increase in e-CRM, e-SCM, ERP
  - Increase in e-Banking
- More Financial transactions on Internet

# Growth in Security Investment

- No of companies spending more than US$1 million a year has doubled from 1999 to 2000;
- Increment in Security Budget;
- Increase revenue for Security vendors;
- More jobs in computer security market.


# Most popular security products

- Prevention Tools
  - Firewall
  - VPN
  - Intrusion Detection Systems
  - Virus Scanner
  - Biometrics tools
- Infrastructure
  - PKI
  - Smart card
- Services
  - Security Consultancy

# Results: More Hacking

- More than half of the Small and Medium-sized enterprises (SMEs) will be hacked from now to 2003
- More than 80% of companies in Asian region will be attacked from now to 2003.
- According to Gartner Group report

# Hacking Events

- Around 10 - 20 web sites have been defaced daily
- Computer Fraud reported in HK increased from 38 (1999) - 207 (2000)
- More online banks were hacked
  - UK bank Barclays
  - Powergen
  - Bank One Online
- HSBC (UK) web site have been defaced
  - (http://www.attrition.org/mirror/attrition/2000/09/19/www.banking.hsbc.co.uk/mirror.html)
- Microsoft was being hacked (not once but twice)

Powergen's lax security condemned - Netscape

CNET.com - News - E-Business - Security group alleges breach in bank's Web site - Netscape

File Edit View Go Communicator Help

http://www.mingpaonews.com/20001108/__cca1h.htm - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail

Address http://www.mingpaonews.com/20001108/__cca1h.htm Go Links

2000年11月8日 星期三

明報新聞網

要聞 港聞 社評 論壇 中國 國際 經濟 體育 影視 馬經 副刊 英文



中國

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---- 中國 ----

友善列印

## 黑客擊潰湖北銀行電腦

### 竊取資料潛逃 上海落網

【明報專訊】湖北省公安廳日前在上海警方的配合下，偵破八月三日中國銀行湖北利川市支行電腦信息系統資源遭黑客破壞而完全癱瘓的案件，上海警

今日相關新聞

- 黑客擊潰湖北銀行電腦
- 黑客技術一流

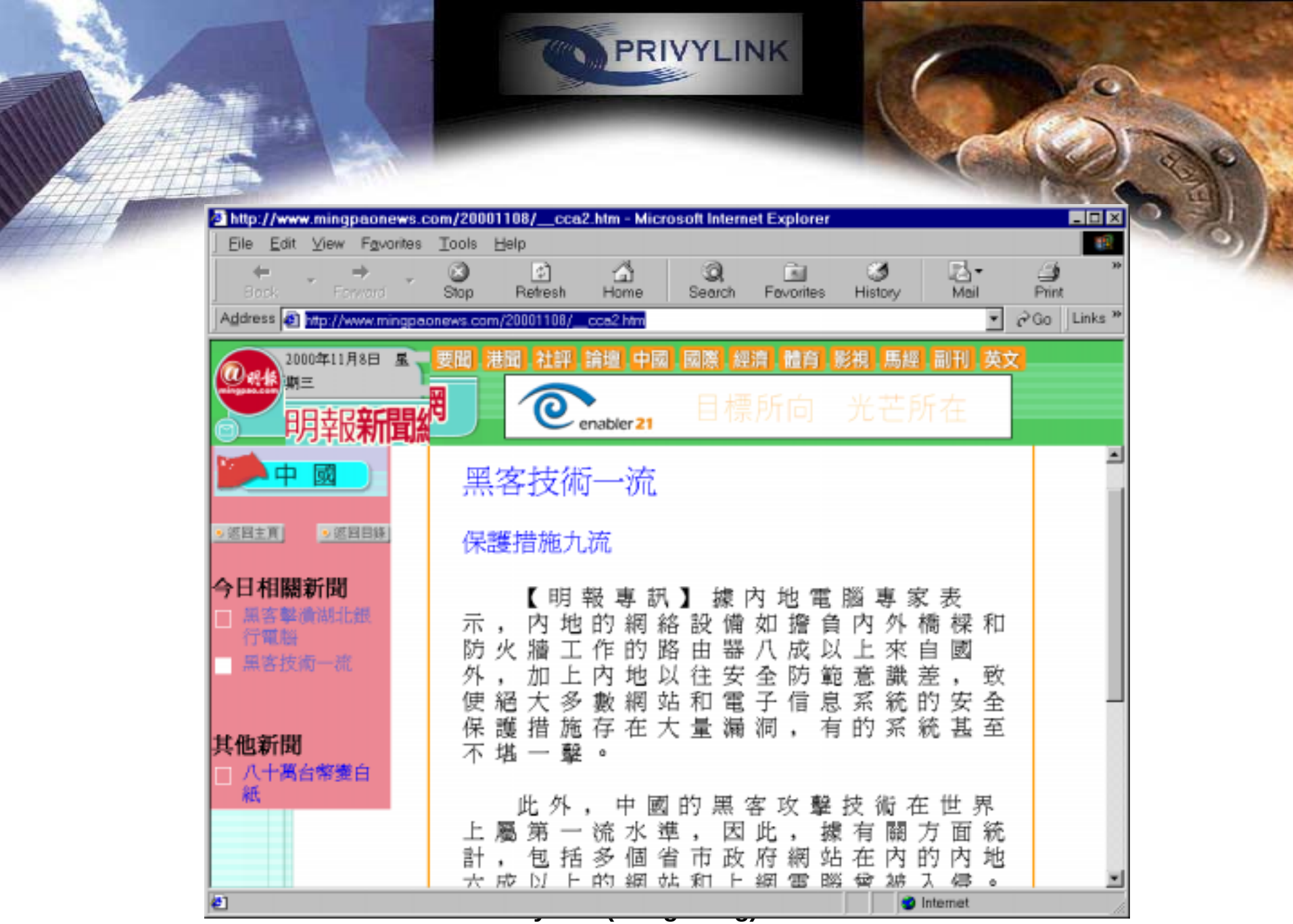
其他新聞

http://www.mingpaonews.com/20001108/_jaindex.htm Internet

"Because the cookie file is saved on your local

# Why more hacking?

- More targets
- More hackers especially teenage hackers
- More hacking news reported
- Increase in Internet Market
- No enough investment in security
- Improper implementations of security products. Spending more for computer security alone won't protect the network from hackers and cybersaboteurs.


PRIVYLINK
http://www.mingpaonews.com/20001108/__cca2.htm - Microsoft Internet Explorer
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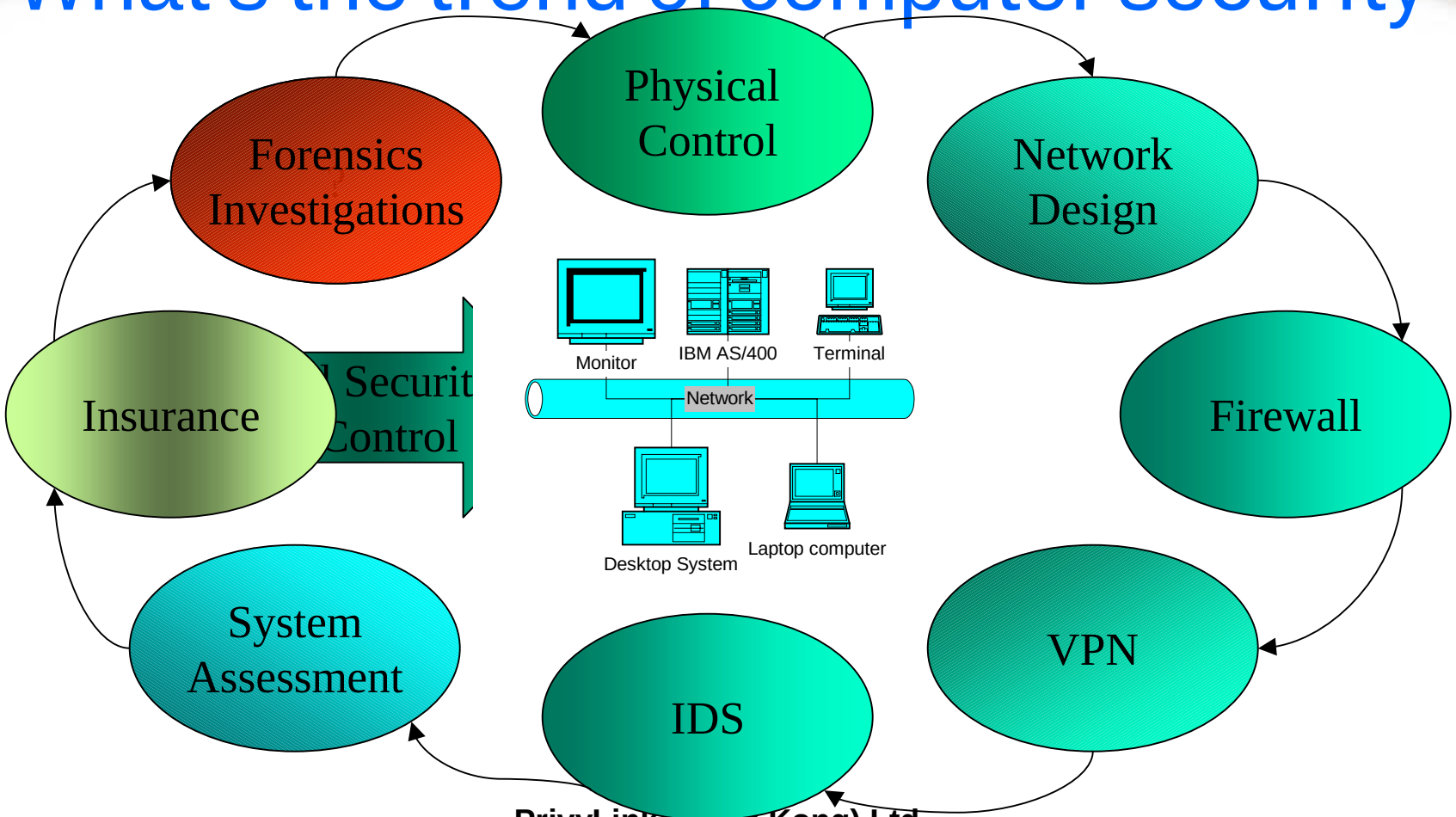
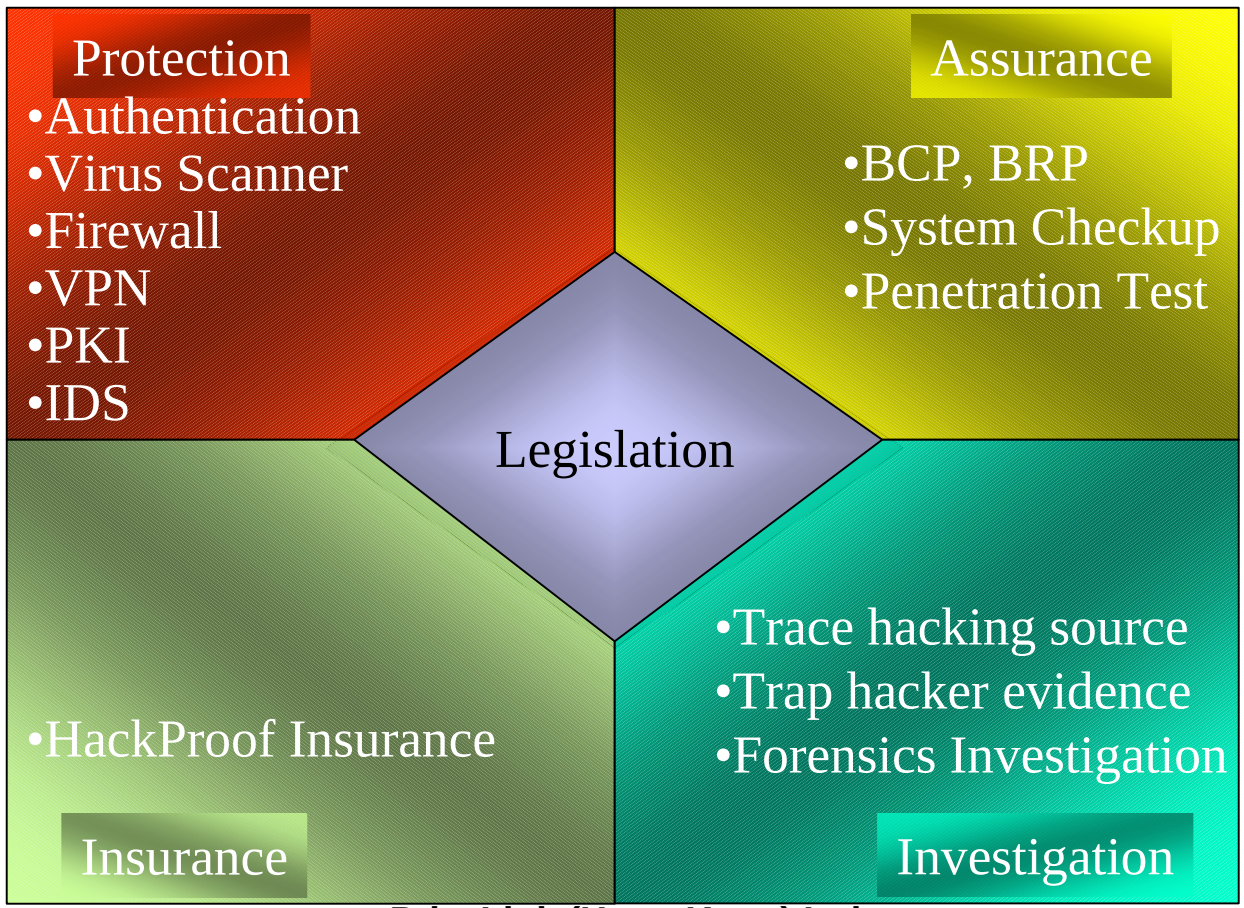
今日相關新聞
黑客擊潰湖北銀行電腦
黑客技術一流
其他新聞
八十萬台幣變白紙
黑客技術一流
保護措施九流
【明報專訊】據內地電腦專家表示，內地的網絡設備如擔負內外橋樑和防火牆工作的路由器八成以上來自國外，加上內地以往安全防範意識差，致使絕大多數網站和電子信息系統的安全保護措施存在大量漏洞，有的系統甚至不堪一擊。
此外，中國的黑客攻擊技術在世界上屬第一流水準，因此，據有關方面統計，包括多個省市政府網站在內的內地
Internet

# What's the trend of computer security



# Future picture in security?




# Solution to security problems

- Firewall Configurations
- Boundary Services
- Consolidate and centralized remote access
- Installation of Intrusion Detection Systems
- Assurance Test
- Installation of evidence preserving tools

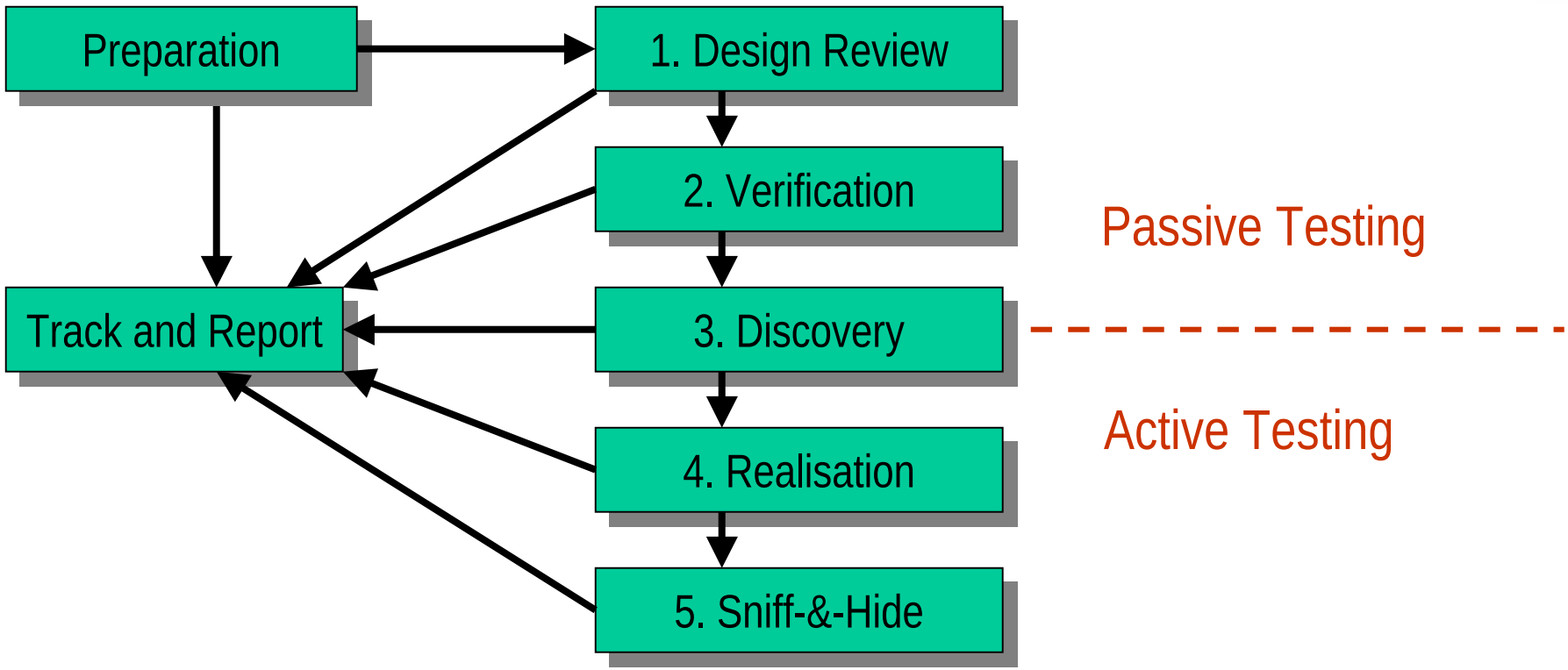
# Risk Assessment Strategies

- Systems inventory and definition
- Vulnerability and threat assessment
- Evaluation controls
- Decision
- Communication and monitoring

# Assurance Test

- System Checkup
  - Firewall configuration check
  - OS System Check
  - Network Configuration Check
- Penetration Test
  - Internal Pen Test
  - External Pen Test

# White-Box Approach



# System Checkup

- Evaluate the each machine on:
  - System Configurations
  - Password file protections
  - Firewall, Router Setting
  - Ethernet Switch Setting
  - Database Setting

# Penetration Test

- Penetration Test
  - Internal
    - Attack from internal network
    - Attack at machine console
  - External
    - Determine OS type
    - Confirm Patches Version
    - Determine possible vulnerabilities
    - Perform system attack

PRIVYLINK

Module Configuration Dialog

# CyberCop Scanner Results

*Report Sorted By Host*

network ASSOCIATES

CYBERCOP Scanner

**192.168.1.10** 4 Vulnerabilities

**192.168.1.10**

**OS Type:** *unknown*

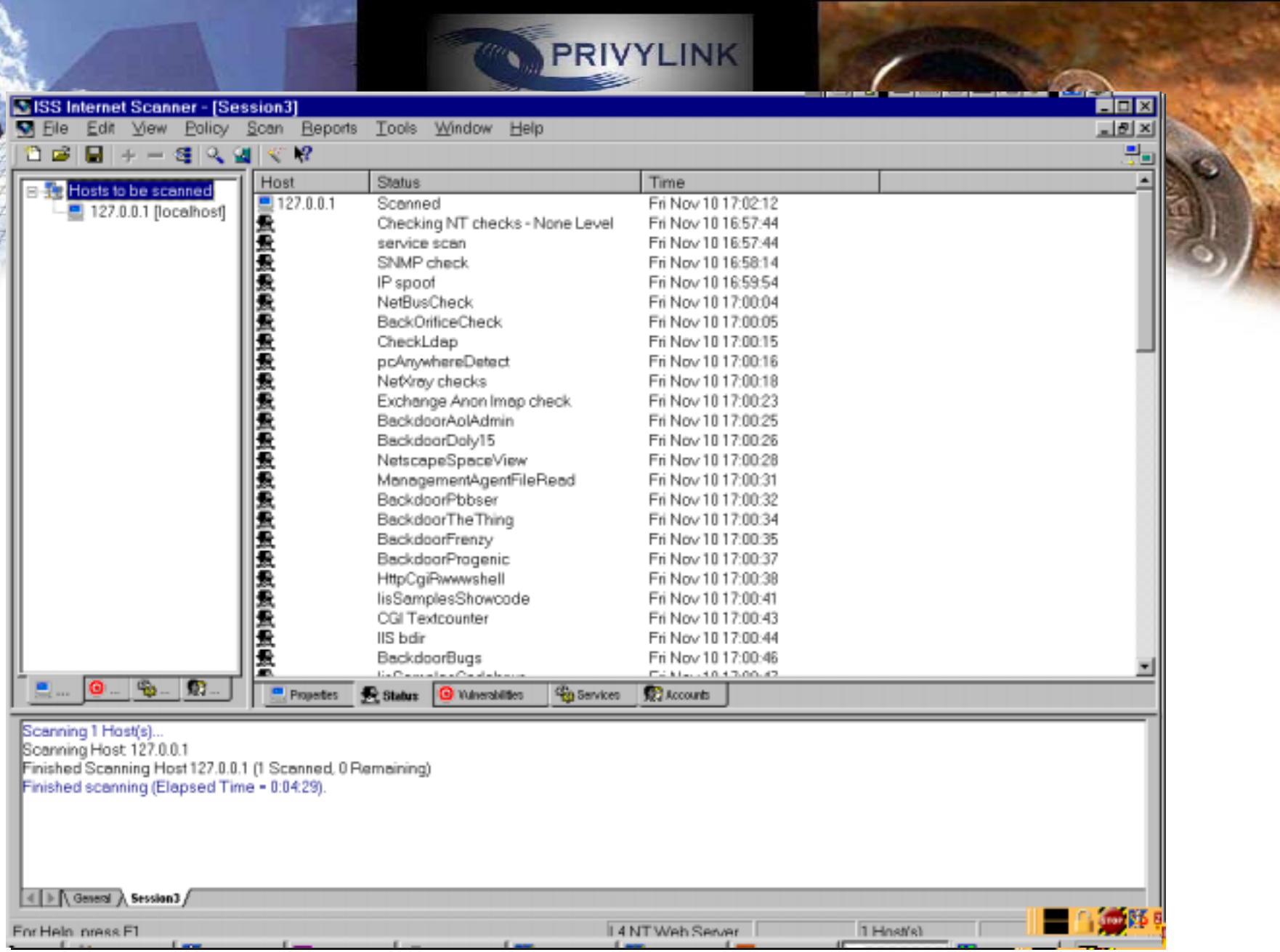
**Scan Performed on** **05-Oct-2000 6:51:39PM**

**Vulnerability Group** **1000** **Information Gathering and Recon**

**1032** *ICMP timestamp obtained* **05-Oct-2000 6:51:39PM**

**Risk Factor:** Low
**Complexity:** Medium
**Popularity:** Obscure
**Impact:** Intelligence
**Root Cause:** Insecure Design

Some versions of wu-ftp contained a backdoor. When the string 'NULL' was used as a username the intruder gained root access to the ftp server.




**PrivyLink (Hong Kong) Ltd.**


Report Preview

1 of 1+ | 90% | Total:230 | 100% | 230 of 230

Preview

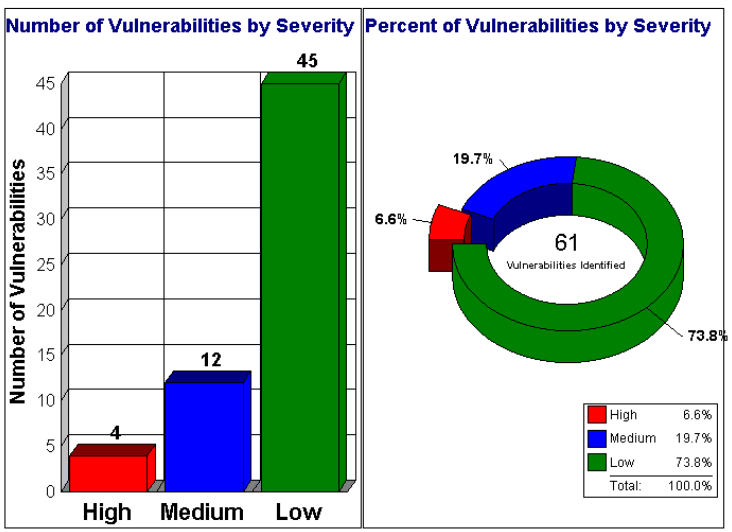
## Network Vulnerability Assessment Summary

**Date:** June 23, 1998

### Report Description:

This report summarizes the organization's susceptibility to attack in relation to its policy and vulnerability conditions. Specifically, the summary graphics describe percent of vulnerabilities by severity and number of vulnerabilities by severity. Vulnerabilities are classified as high, medium or low. High risk vulnerabilities are those which provide unauthorized access to the host, and possibly, the network. Medium risk vulnerabilities are those that provide access to sensitive network data that may lead to the exploration of higher risk vulnerabilities. Low risk vulnerabilities are those which provide access to sensitive, yet non-lethal, network data. It is recommended that all high risk vulnerabilities be corrected as soon as possible.

| | | | |
|---|---|---|---|
| **Session Name:** | Session1 | **Session ID:** | 4 |
| **Template:** | Heavy Scan | **Termination Status** | Finished |
| **File Name** | Session1_980623 | | |
| **Scan Summary** | **Information** | | |
| **Hosts Scanned:** | 1 | **Scan Start:** | 1998/06/23 16:49:06 |
| **Hosts Active:** | 1 | **Scan End:** | 1998/06/23 16:55:04 |
| **Hosts InActive** | 0 | **Elapsed:** | 00:05:58 |




Report Preview

1 of 1+ | 100% | Total:61 | 100% | 61 of 61

Preview

## Network Vulnerability Assessment Report

**Sorted by Vulnerability Severity and Name**

June 23, 1998

### Report Description:

This report displays the organization's susceptibility to attack in relation to its policy and vulnerability conditions. Specifically, this report identifies network vulnerabilities and suggested corrective action. Vulnerabilities are classified as high, medium and low. High risk vulnerabilities are those which provide authorized access to the host, and possibly, the network. Medium risk vulnerabilities are those that provide access to sensitive network data that may lead to the exploitation of higher risk vulnerabilities. Low risk vulnerabilities are those which provide access to sensitive, yet non-lethal, network data. It is recommended that all high risk vulnerabilities be corrected as soon as possible.

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**Vulnerability Name:** Getadmin Patch not applied — **Severity:** High

**Description:**
An unpatched version of Windows NT has been found. It is possible for a local user to obtain administrator privileges by running getadmin. See Microsoft Knowledge base article Q146965 for details.

**Fix:**
Apply the post-SP3 getadmin patch, or SP4 when available. For the patch and the Knowledge Base article, see ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt40/hotfixes-postSP3/getadmin-fix/ .

| IP Address | DNS Name | Additional Info | Session ID |
|---|---|---|---|
| 127.0.0.1 | localhost | | 4 |

**Vulnerability Name:** Modified teardrop attack blue screens Windows systems. — **Severity:** High

**Description:**
This issue is a modified version of an attack that appeared on the Internet a few months ago called "teardrop." This new issue is caused by a problem with the way the Microsoft TCP/IP stack handles certain exceptions caused by misformedUDP header information. This situation does not occur in properly formed TCP/IP packets and must be generated by a program with malicious intent.

**Fix:**
Obtain patch: ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/NT40/hotfixes-postSP3/teardrop2-fix/ for Windows NT 4.0 and ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/NT351/hotfixes-postSP5/teardrop2-fix/ for Windows NT 3.5.1

| IP Address | DNS Name | Additional Info | Session ID |
|---|---|---|---|
| 127.0.0.1 | localhost | | 4 |

# Insurance Services

- Computer Security Insurance
- Hack proof Insurance
- Market players include
  - ICSA Security Services

# Prepare to be hacked?

- No hack proof system
- Setup Honey pot
- Setup Intrusion Detection System
- Setup proper audit logging system

# Investigation

- Search for evidence from hacked system
- Preserve as much evidence as possible
- Identify hacking source location
- Collect audit logs and trail from all relevant machines

# Legislation

- In Hong Kong
  - No Computer Crime Ordinance
  - Based on
    - Crimes Ordinance, Cap 200
    - Theft Ordinance, Cap 210
    - Electronic Transactions Ordinance, Cap 553
    - Criminal Jurisdiction Ordinance, Cap 461
- No cross boundary law
- Legal entities have to learn more on security technology trend

# What individual can do?

- Learn to preserve evidence according to industry best practices
- Protect the systems based on security standards
- Conduct Security Awareness Training
- Establish connections with Security Organization Entity
- Perform regular checkup

# What participants should do?

- No Security at all
- Any machines can be hacked any time
- Can Minimize hacking damage
- Track hacking evidence and identify hacking
- Corporate with Law enforcement entity and HK CERT

# Thank You


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