

# Decision Computer Group

## E-Detective System (Wireless)

*Moving forward with the security of networking and computer forensics*

**E-DETECTIVE®**



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# Agenda

- ❖ **Introduction of Wireless E-Detective System**
- ❖ **Wireless E-Detective system application**
- ❖ **Scanning AP and STA**
- ❖ **Sniffing Specific Target**
- ❖ **Decryption of WEP and WPA key**
- ❖ **Operation or Function of Wireless E-Detective**
  - **Emails, IM, FTP, P2P, Telnet, Web Browsing Log, Online Game**
  - **IP/ PC Names**
  - **Powerful Search Record and Data Mining**
  - **Data Backup**
- ❖ **GPS Orientation**
- ❖ **Wireless E-Detective system models**
- ❖ **Some Reference Sites**
- ❖ **Frequently Asked Questions**
- ❖ **Q&A**





# (Wireless Local Area Network) WLAN Surveillance/ Forensics/ Legal Intercept System

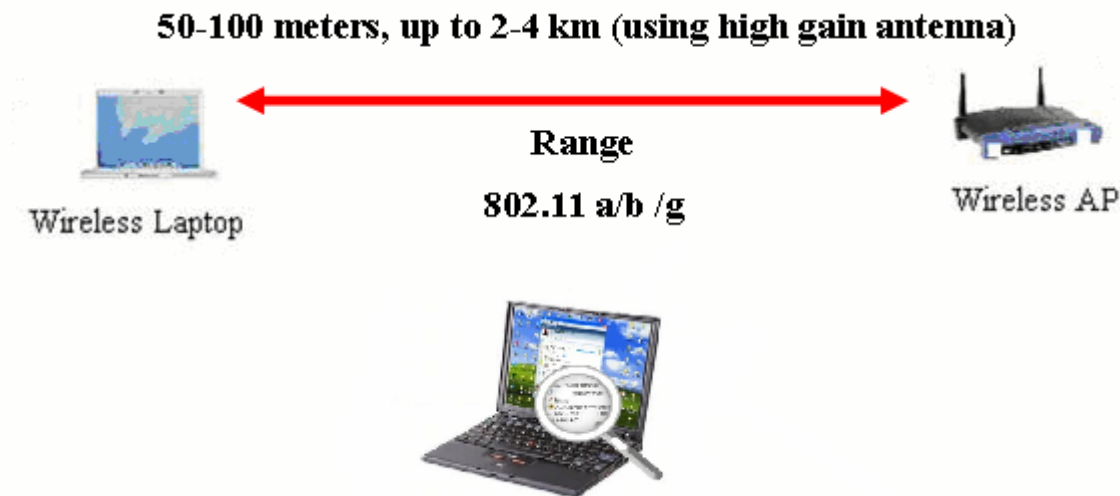


**E-DETECTIVE®**

**Instrument for Business, Police, Military,  
Forensics, Legal Interception and Information  
Investigation Agency/ Department**



**Wireless Surveillance System captures  
wireless packets transmitted over the air  
Ranging up to 100 Meters or more  
(possibly up to 2 – 4 KM using High Gain  
Antenna).**





# Scanning APs and Stations

Hard Disk Information : - 55G / Used - 2.5G / Available - 49G / Available (%) - 95%

Capture Import Wepkey History Work Log Ids

MODE : ☐ AP ☒ STA

Capture Size : 280 K In Time Condition Dump Filter Condition Save List Refresh: 7 s. START STOP

STA	SCAN	MANUAL DUMP	AUTO DUMP	CLIENT MAC	STR.	PACKETS	BSSID	WEPKEY	CH.	ESSID
1	<input type="radio"/>	START	START	# ip 00:0C:F1:23:8D:AD	75	1177	00:17:9A:C2:F1:5A	OPN	6	SMC
2	<input type="radio"/>			# ip 00:17:9A:C2:F1:5A	5	5971	00:13:F7:31:BA:59		-1	

Count : 2 , Total : 1 , In page 1 | Rows per page : 20 Submit

**Scanned Access points' Info.**

**Scanned Stations' Info.**

STA	SCAN	MANUAL DUMP	AUTO DUMP	CLIENT MAC	STR.	PACKETS	BSSID	WEPKEY	CH.	ESSID
1	<input type="radio"/>	START	START	# ip 00:0C:F1:23:8D:AD	75	1177	00:17:9A:C2:F1:5A	OPN	6	SMC
2	<input type="radio"/>			# ip 00:17:9A:C2:F1:5A	5	5971	00:13:F7:31:BA:59		-1	

Count : 2 , Total : 1 , In page 1 | Rows per page : 20 Submit

DPI : 1024x768

Data Mining ▲



# Sniffing from Specific Target

https://192.168.1.60/wireless/condition\_dump.php - Microsoft Internet Explorer

**Dump Filter Condition Setup**

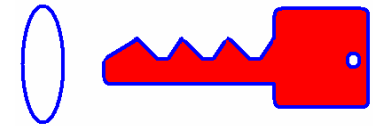
Condition Item Set			Condition List
IP :	192.168.1.12	>>	<div></div> <div>Delete</div>
MAC :	00:13:F7:31:BA:59	>>	
NETWORK :		>>	
<div>Submit</div>			

**Sniff Specific Targets**

完成 網際網路



# Decryption of WEP and WPA KEY



WEP and WPA decryption can be done by Wireless E-Detective System.

## 1) WEP key decryption:--

**Proactive Crack** and **Passive Crack**

**Proactive Crack** – Crack WEP key automatically by the system

**Passive Crack** – Crack WEP key manually

**64-bit key – 10 HEX:** (approx. 40,000 packets)

**128-bit key – 26 HEX:** (approx. 200,000 packets)

## 2) WPA key decryption:--

WPA, WPA-PSK can be cracked. (Customizable Option)

The time taken to decrypt the WEP key depends on network condition: Active or Inactive. More packet captures can give higher chances of WEP to be decrypted.





# Decryption of WEP Key

Hard Disk Information : - 55G / Used - 2.5G / Available - 49G / Available (%) - 95%

Capture Import Wepkey History Work Log Ids

Please Choose Rawdata Source

RAWDATA SOURCE : DETACH PATH : /datas/openraw

☐ CD-ROM ☐ USB ☐ HD ☒ DETACH

WIRELESS\_00:17:9A:C2:F1:5A\_raw.1178113696--264K

Manual Wireless Packet Analysis

Crack Time : 1 m. Crypt : 128 Bit

Finish !

AP	PARSER	CRACK	BSSID	CH.	MB/S	WEPKEY	BEACONS	PACKETS	ESSID
1			00:13:F7:31:BA:59	-1	-1		0	0	
2	<input type="radio"/>		00:17:9A:C2:F1:5A	6	54	OPN	774	119	SMC

STA	PARSER	CRACK	CLIENT MAC	PACKETS	BSSID	CH.	WEPKEY	ESSID
1	<input type="radio"/>	<input checked="" type="radio"/>	00:0C:F1:23:8D:AD	51	00:17:9A:C2:F1:5A	6	OPN	SMC
2			00:17:9A:C2:F1:5A	1635	00:13:F7:31:BA:59	-1		
3			00:90:4B:B5:A6:86	1	FF:FF:FF:FF:FF:FF			
4			00:A0:C5:B6:DD:9E	1	FF:FF:FF:FF:FF:FF			

DPI : 1024x768

Data Mining

**Auto-decrypt WEP Key**



# Decoding of raw data ... and such protocols

Wireless E-Detective captures wireless network packets, decode raw data, and rearrange it into real and readable format as it has been sent or received.



- **Emails (POP3, SMTP, IMP4, Web mails)**
- **FTP (upload and download)**
- **P2P log (Bittorrent, eDonkey etc.)**
- **Instant Messages (MSN, ICQ, AOL, YAHOO, QQ)**
- **VOIP (YAHOO & MSN)**
- **Web Cam (YAHOO & MSN)**
- **TELNET**
- **URL Browsing (HTTP)**
- **Online Game log (Ragnarok, World of Warcraft etc.)**
- **SSL/HTTPS (another set of equipment)**

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# POP3/SMTP/Web Mail/Hot Mail Log

The screenshot displays the E-Detective System interface. On the left, a 'Module' list includes POP3 (8), SMTP (4), FTP (24), MSN (11), ICQ (19), YAHOO (14), VOIP (0), HTTP (1130), HTTP (Dynamic) (219), WebMail (29), WebMail (Sender) (4), Telnet (9), QQ (4), Search, Alarm, Export, Manage, and Logout. The 'POP3 (8)' module is selected, and a red circle highlights the '192.168.1.236 (8)' entry. A red arrow points from this entry to the first row of the log table.

The log table, titled 'Conditions : POP3 - 192.168.1.236 / ~ /', has columns: No., Date / Time, Sender, Receiver, C.C., Subject, Account, and Password. It contains 8 rows of data. The first row is highlighted.

No.	Date / Time	Sender	Receiver	C.C.	Subject	Account	Password
1.	2006-04-01 12:34:39	neoyuxxx@hotmail.com	neoyuxxx@decision.com.tw	NONE	Best of the era? Try Rivera	neoyuxxx	0608yu
2.	2006-04-01 11:54:36	neoyuxxx@hotmail.com	neoyuxxx@decision.com.tw	NONE	801.11 - Exemption for national defe...	neoyuxxx	0608yu
3.	2006-04-01 12:01:45	j188068@msn.com	neoyuxxx@hotmail.com	NONE	Sun, Jan 15 Wireless ToolKit	neoyuxxx	0608yu
4.	2006-04-01 12:00:38	j188068@msn.com	neoyuxxx@hotmail.com	NONE		neoyuxxx	8yu
5.	2006-04-01 11:59:46	j188068@msn.com	neoyuxxx@hotmail.com	NONE		neoyuxxx	8yu
6.	2006-04-01 11:57:42	j188068@msn.com	neoyuxxx@hotmail.com	NONE		neoyuxxx	8yu
7.	2006-04-01 11:54:36	j188068@msn.com	neoyuxxx@hotmail.com	NONE		neoyuxxx	8yu
8.	2006-04-01 11:54:36	j188068@msn.com	neoyuxxx@hotmail.com	NONE		neoyuxxx	8yu

A red circle highlights the 'WebMail (Sender) (4)' module in the left sidebar. A red arrow points from this module to the email preview window.

The email preview window, titled 'https://192.168.1.230/mime/eml/2/index.html - Microsoft Internet Explorer', shows the following details:

Field	Value
Subject	Best of the era? Try Rivera
From	neoyuxxx@hotmail.com
To	ceeduema@decision.com.tw
CC	
BCC	
Date	2006-04-01 12:35:05.0
Source	POP3: ABtA3H.eml.txt
Attachment	Cyclone Glenda hits Australia.doc
IP	192.168.1.236
DATETIME	2006-04-01 12:34:39.0

The email body text is as follows:

Dear Casper,

We will process the payment. You should be getting it early next week. We do hope you can ship some product brochure together..

Looking forward for more business with you in future. Thanks.

Best regards,

David  
Manager Director

The system status bar at the bottom shows 'Data Mining' and 'Done'.



# IM-MSN/ICQ/Yahoo/AOL/QQ Log

E-Detective System - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Reload Home Search Favorites

Address: https://192.168.1.230/main.php

Module

- POP3 (16)
- SMTP (8)
- FTP (54)
- MSN (11)
  - 192.168.1.18 (1)
  - 192.168.1.19 (3)
  - 192.168.1.39 (5)
  - 192.168.1.45 (2)
- ICQ (19)
- YAHOO (14)
- VOIP (0)
- HTTP (2260)
- HTTP (Dynamic) (43)
- WebMail (58)
- WebMail (Sender) (0)
- Telnet (9)
- QQ (9)
- Search
- Alarm
- Export
- Manage
- Logout

Version : 00000-00:0

Data Mining

Done

start

Conditions : MSN - 192.168.1.39 / ~ /

No.	Date / Time	User Handle	Participants	Conversation	Count
1.	2006-04-01 13:25:05	diesis@ms62.hinet.net	www0706@hotmail.com	Conversation	2
2.	2006-04-01 13:07:22	diesis@ms62.hinet.net	postman0106@hotmail.com	Conversation	3
3.	2006-04-01 12:55:55	diesis@ms62.hinet.net	sunny824@pchome.com.tw	Conversation	18

https://192.168.1.230 - MSN | IP: | Date / Time: 2006-04-01 12:51:56 - Microsoft Internet Explorer

Date / Time: 2006-04-01 12:51:56 | User Handle : diesis@ms62.hinet.net | Participants : test3@decision.com.tw

Date / Time	Sender	File Name	Size	Message
2006-04-01 13:26:26	test3@decision.com.tw			Joining the session...
2006-04-01 13:26:26	diesis@ms62.hinet.net			Joining the session...
2006-04-01 13:26:27	test3@decision.com.tw			In the video, Carroll discusses her release with a man who may be one of her captors. She says that the mujahedeen has treated her well, kept her safe and was able to elude the U.S. military because its members are "very smart."
2006-04-01 13:26:30	test3@decision.com.tw			good news
2006-04-01 13:27:01	diesis@ms62.hinet.net			u copy my message
2006-04-01 13:27:08	test3@decision.com.tw			She also calls the war "illegal" and says President George Bush needs to stop it.
2006-04-01 13:27:17	test3@decision.com.tw			?
2006-04-01 13:27:20	diesis@ms62.hinet.net			don't use that
2006-04-01 13:27:30	test3@decision.com.tw			not copy u message
2006-04-01 13:27:41	test3@decision.com.tw			She also calls the war "illegal" and says President George Bush needs to stop it.
2006-04-01 13:27:43	diesis@ms62.hinet.net			KOROLYOV, Russia - A Soyuz capsule docked with the international space station on Friday, bringing Brazil's first astronaut, a new Russian-American crew and a fresh load of supplies, equipment and experiments.
2006-04-01 13:28:43	diesis@ms62.hinet.net			Leaving the session...
2006-04-01	test3@decision.com.tw			Joining the session...

Done

Internet



# FTP Log

The screenshot shows the E-Detective System interface within a Microsoft Internet Explorer window. The address bar displays `https://192.168.1.230/main.php`. The left sidebar lists various modules, with 'FTP (39)' highlighted by a red circle. The main content area displays an FTP log for the conditions 'FTP - 192.168.1.236 / ~ /'. The log table includes columns for sequence number, date, time, user, action, IP, and filename. A 'File Download' dialog box is open, asking 'Do you want to open or save this file?'. The dialog shows a file icon, the name 'FTP\_FILE\_uUyDT6.jpg', the type 'JPEG Image, 467 KB', and the source 'From: 192.168.1.230'. Below the dialog, a security warning states: 'While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. [What's the risk?](#)'.

Sequence	Date	Time	User	Action	IP	Filename
5.	2006-04-01	14:49:37	anonymous	Download	192.168.1.249	YamQQ2003II.exe
6.	2006-04-01	14:49:35	anonymous	Download	192.168.1.249	Erika_Sawajiri003.jpg
7.	2006-04-01	14:49:35	anonymous	Download	192.168.1.249	icqpro2003b.exe
8.	2006-04-01	14:49:34				
9.	2006-04-01	14:49:34				
10.	2006-04-01	14:49:33				
11.	2006-04-01	14:49:33				
12.	2006-04-01	14:49:32				
13.	2006-04-01	14:49:32				
14.	2006-04-01	14:49:32				
15.	2006-04-01	14:49:32				
16.	2006-04-01	14:49:32				
17.	2006-04-01	14:49:32				
18.	2006-04-01	14:49:32				
19.	2006-04-01	14:49:32				
20.	2006-04-01	14:49:32	anonymous	Download	192.168.1.249	007.jpg



# Telnet Log

The screenshot displays the E-Detective System interface. On the left, a sidebar lists various modules, with 'Telnet (6)' circled in red and a red arrow pointing to it. The main area shows 'HardDisk Information' and a table of Telnet logs. A modal window titled 'https://192.168.1.98 - Telnet | IP: 192.168.1.4 | Date / Time: 2006-03-24 14:22:52 - Microsoft...' is open, showing a Telnet session transcript. The transcript includes the following text:

```
last Server
login:
Login incorrect
login: fran
Password:
Last login: Fri Mar 24 14:14:04 on ttys/49
;[[f
```

At the bottom of the modal window, there are buttons for 'Play', 'Fast', 'Copy', and 'Clean'. The status bar at the bottom of the modal window indicates 'Applet TelnetPlayerApplet started'.

No.	Date / Time	User	Password	Servers	File Name
1.	2006-03-25 12:40:19			140.135.11.30	Conversation
2.	2006-03-24 21:04:31			192.168.1.236	Conversation
3.	2006-03-24 21:04:31			192.168.1.236	Conversation
4.	2006-03-24 21:04:31			192.168.1.236	Conversation
5.	2006-03-24 21:04:31			192.168.1.236	Conversation
6.	2006-03-24 21:04:31			192.168.1.236	Conversation

Version : 00000-00:0  
DPI : 1024x768

Done

start

E-Detective Sy

下午 03:36  
星期六  
2006/4/1

Play Fast Copy Clean

Applet TelnetPlayerApplet started

網際網路



# URL Borrowing Log

The screenshot displays the E-Detective System interface. On the left, a tree view lists modules: POP3 (8), SMTP (4), FTP (24), MSN (11), ICQ (19), YAHOO (14), VOIP (0), and HTTP (1130). The HTTP module is expanded, showing a list of IP addresses. A red circle highlights the IP address 192.168.1.35 (60), with a red arrow pointing to it from the log table.

The main window shows a log table with the following data:

No.	Date / Time↑	URL
1.	2006-04-01 14:13:52	pa.yahoo.com
2.	2006-04-01 14:13:49	row.bc.yahoo.com
3.	2006-04-01 13:55:41	row.bc.yahoo.com
4.	2006-04-01 13:55:38	row.bc.yahoo.com
5.	2006-04-01 13:55:38	row.bc.yahoo.com
6.	2006-04-01 13:55:26	row.bc.yahoo.com
7.	2006-04-01 13:55:24	row.bc.yahoo.com
8.	2006-04-01 13:55:22	row.bc.yahoo.com
9.	2006-04-01 13:55:21	row.bc.yahoo.com
10.	2006-04-01 13:55:21	row.bc.yahoo.com
11.	2006-04-01 13:55:20	row.bc.yahoo.com
12.	2006-04-01 13:55:20	row.bc.yahoo.com
13.	2006-04-01 13:55:19	row.bc.yahoo.com
14.	2006-04-01 13:55:18	row.bc.yahoo.com
15.	2006-04-01 13:55:18	row.bc.yahoo.com
16.	2006-04-01 13:55:18	row.bc.yahoo.com
17.	2006-04-01 13:55:18	row.bc.yahoo.com
18.	2006-04-01 13:55:18	row.bc.yahoo.com
19.	2006-04-01 13:54:39	row.bc.yahoo.com
20.	2006-04-01 13:54:38	row.bc.yahoo.com

Below the log table, there is a section for 'Data Mining' and a 'start' button. To the right, a Yahoo! browser window is open, displaying the Yahoo! homepage with the search bar and various links.



# P2P Communications Log

**CONDITION : P2P - 192.168.1.26 / ~ /**

No.	DATE/TIME↑	PORT	P-IP	P-PORT	TOOL	FILENAME	ACTION	HASH
1.	2007-04-04 09:20:50	1471	210.201.1.122	7484	Foxy 1.9.0.0	MTV 金在元-韓劇-情敵(完整版).asf	UPLOAD	I6GQGZXYIX
2.	2007-04-04 09:15:17	1397	10.201.1.122	7484	Foxy 1.9.0.0	MTV 金在元-韓劇-情敵(完整版).asf	UPLOAD	I6GQGZXYIX
3.	2007-03-29 15:32:04	496	20.229.223.97	5807	Foxy 1.9.0.0	Foxy v1.9.0.OKAV Traditional Chinese Setup.exe	UPLOAD	F2E3ODXYTM
4.	2007-03-29 11:43:44	328	20.229.223.97	5807	Foxy 1.9.0.0	Foxy v1.9.0.OKAV Traditional Chinese Setup.exe	UPLOAD	F2E3ODXYTM
5.	2007-03-29 11:25:13	955	22.229.223.97	5807	Foxy 1.9.0.0	Foxy v1.9.0.OKAV Traditional Chinese Setup.exe	UPLOAD	F2E3ODXYTM

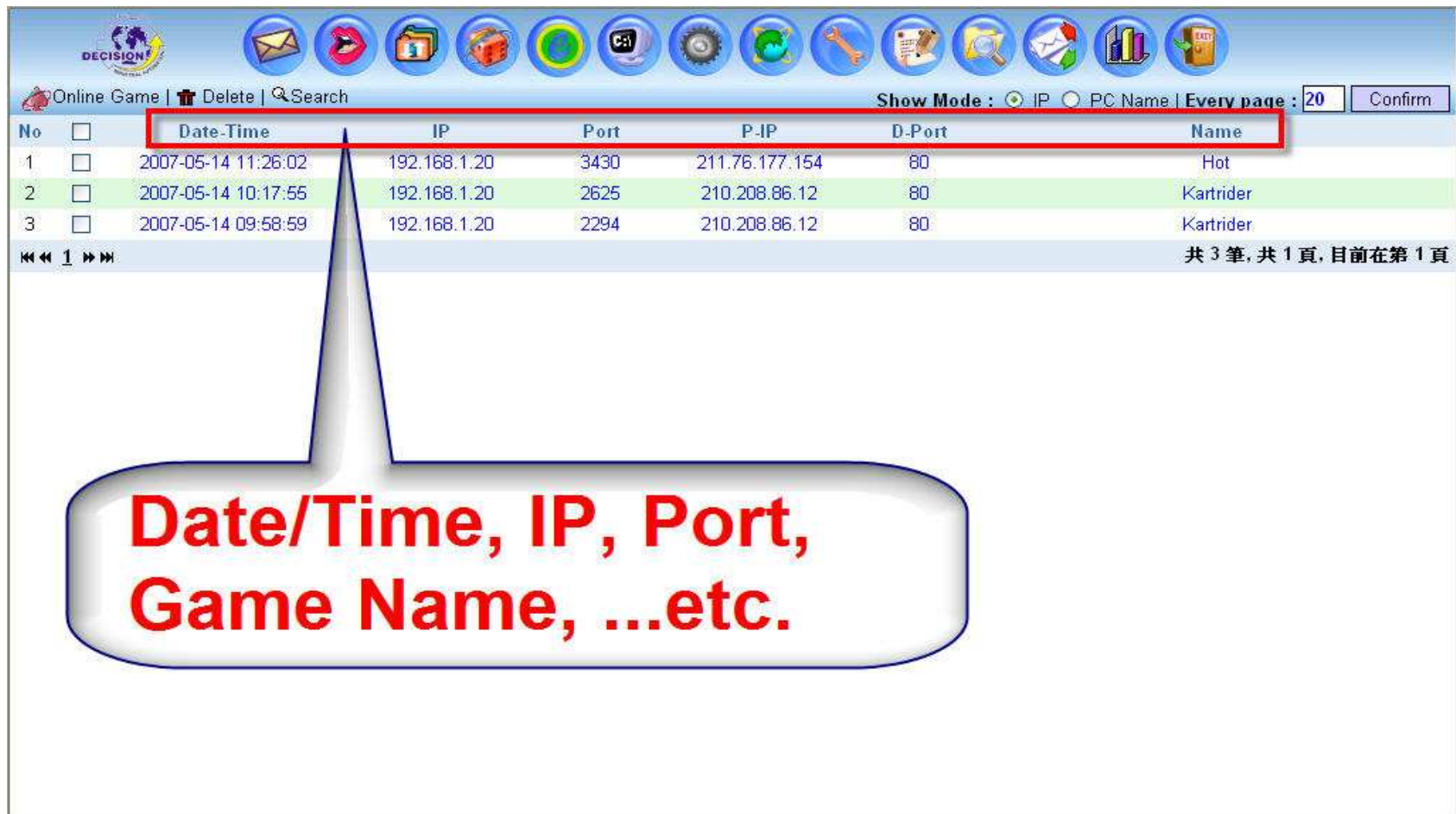
Count : 5, Total : 1, In page 1 | Rows per page : 20 Submit

**Date/Time, IP, Port, Transfer Tool, Transferred File Name,...etc.**

**Data Mining**



# Online Game Log



Online Game | Delete | Search

Show Mode : ☒ IP ☐ PC Name | Every page : 20 Confirm

No	<input type="checkbox"/>	Date-Time	IP	Port	P-IP	D-Port	Name
1	<input type="checkbox"/>	2007-05-14 11:26:02	192.168.1.20	3430	211.76.177.154	80	Hot
2	<input type="checkbox"/>	2007-05-14 10:17:55	192.168.1.20	2625	210.208.86.12	80	Kartrider
3	<input type="checkbox"/>	2007-05-14 09:58:59	192.168.1.20	2294	210.208.86.12	80	Kartrider

共 3 筆, 共 1 頁, 目前在第 1 頁

« 1 »

**Date/Time, IP, Port,  
Game Name, ...etc.**





# VOIP and Web Cam Log

VOIP (5)

- 10.0.0.3 (1)
- 192.168.1.17 (1)
- 192.168.1.53 (2)
- 192.168.1.57 (1)
- HTTP (25592)
- HTTP (DYNAMIC) (4818)

CONDITION : VOIP - 192.168.1.53 / ~ /

NO.	START TIME↑	END TIME	PARTICIPANTS	CONVERSATION	APPLICATION
1.	2006-10-20 20:02:46	2006-10-20 20:04:31	192.168.1.57		
2.	2006-10-20 19:04:03	2006-10-20 19:04:43	192.168.1.17		

Count : 2 , Total : 1 , In page 1 | Rows per page : 20 Submit

click icons to view/hear video/audio.

192.168.88.148 (1)

- HTTP (1675)
- HTTP (DYNAMIC) (33)
- WEBMAIL (12)
- WEBMAIL (SENDER)
- TELNET (0)
- QQ (0)
- P2P (0)
- GAME (0)
- SEARCH
- ALARM
- EXPORT
- PARSER RAWDATA
- MANAGE
  - BACKUP
  - SYSTEM
  - NETWORK USER
  - AUTHORITY SETU
  - DELETE DATA
  - EDIT PASSWORD
  - POWER ON/OFF
  - QQ INFO SETUP
  - WEBCAM VOICE**
  - MAIL SETUP

Hard Disk Information : - 90G / Used - 264M / Available - 85G / Available (%) - 99%

### WEBCAM VOICE SETUP

Ed Msn Account :	wedetective@hotmail.com
Ed Msn Password :	12345678
Viewer Msn Account :	wedetective1@hotmail.com

Submit

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# Search and Data Mining

https://192.168.1.230 - Search - Microsoft Internet Explorer

**Search Conditions**

Search the condition		Apply Mode
Date :	2006-03-01 ~ 2006-04-01	All
Time :	02 : 02 ~ 23 : 59	
Source IP :	192.168.1.36	<input type="checkbox"/> Sender <input checked="" type="checkbox"/> Receiver <input checked="" type="checkbox"/> C.C <input checked="" type="checkbox"/> BCC
Email Address :	diesis@yahoo.com.tw	
Subject :		
WebMail Server :		<input type="checkbox"/> <input type="checkbox"/>
FTP Server :		
FTP User :		
MSN Account :	1. 2. <input type="checkbox"/> User Handle <input type="checkbox"/> Participants	
ICQ Account :	1. 2. <input type="checkbox"/> User Handle <input type="checkbox"/> Participants	
YAHOO Account :	1. 2. <input type="checkbox"/> User Handle <input type="checkbox"/> Participants	
QQ Account :	1. 2. <input type="checkbox"/> User Handle <input type="checkbox"/> Participants	
URL :		

https://192.168.1.220 - Data Mining - Microsoft Internet Explorer

**decision**

The information area for E-Survey has been updated. Please check the information area for E-Survey. If you have any question, please contact the system manager. If you have any question, please contact the system manager.

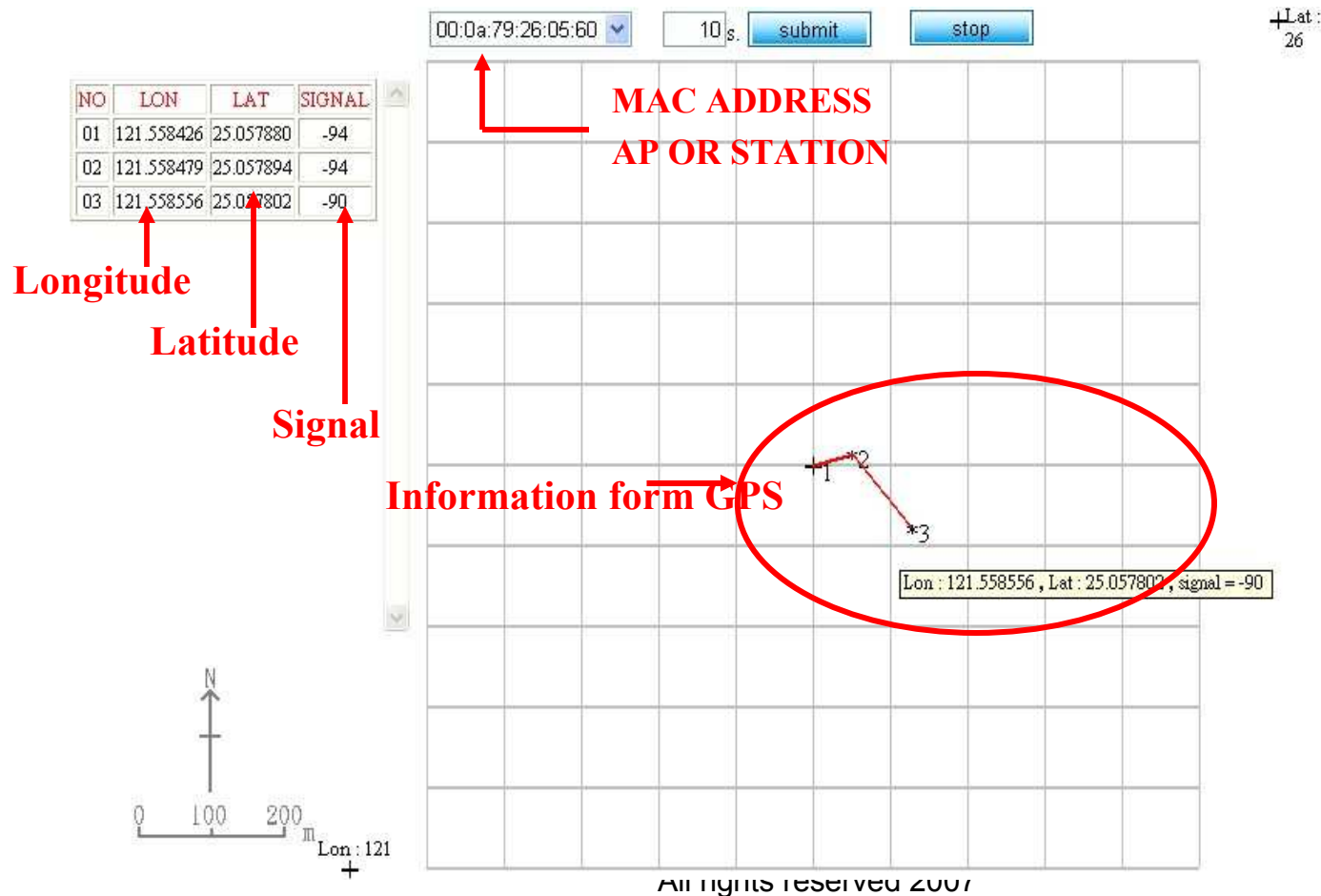
3210	1448	30	368	0	0
------	------	----	-----	---	---

Done Internet



# GPS Orientation

E-Detective may work with a GPS (Global Positioning System) kit to locate the geographic longitude and latitude, and measure the signal of APs or STAs.





# Information of detectable Wireless LAN AP includes

- BSSID of AP (MAC address)
- Channel
- Number of STAs
- Encrypted packets and status
- Data packets
- Additional information of AP  
(Example, manufacturer of AP, AP IC)
- Noise level and signal level
- SSID or ESSID
- Type of Wireless LAN: Probe Ad-hoc or Infra
- Amount of transferring Wireless LAN packets
- ...Etc





## **Information of detectable Wireless Station (STA) includes**

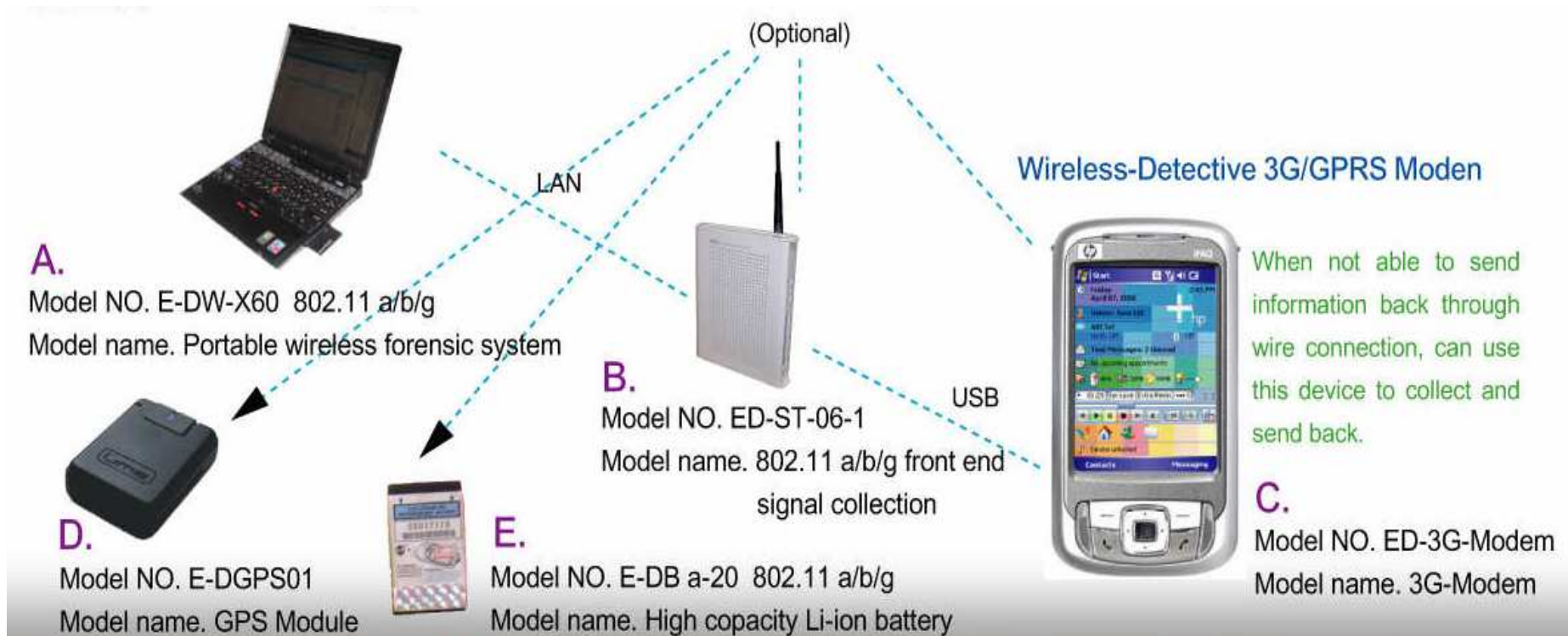
- **Number of encrypted packets through STA**
- **Non-encrypted packets through STA**
- **IP Address and MAC address of STA**
- **Manufacturer of each STA (the one has been authenticated)**
- **The highest transferring rate of STA**
- **Noise level and signal level of STA**
- **Type of STA (Established, To-DS or From-DS)**
- **...Etc.**





# Wireless E-Detective Models

We offer various models and options to meet different operational requirements



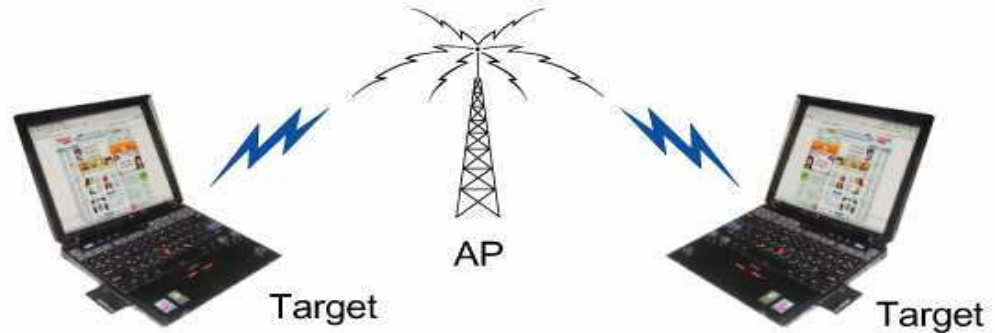


# Wireless E-Detective Models Application

## A. Single Device Operation



Wireless-Detective



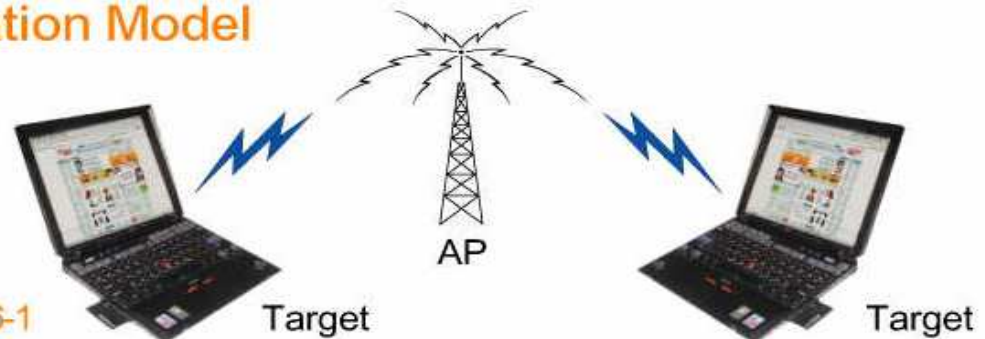
## B. Front and Back and Operation Model



LAN



Wireless-Detective ED-ST-06-1



## C. Remote site Detecting Model



INTERNET



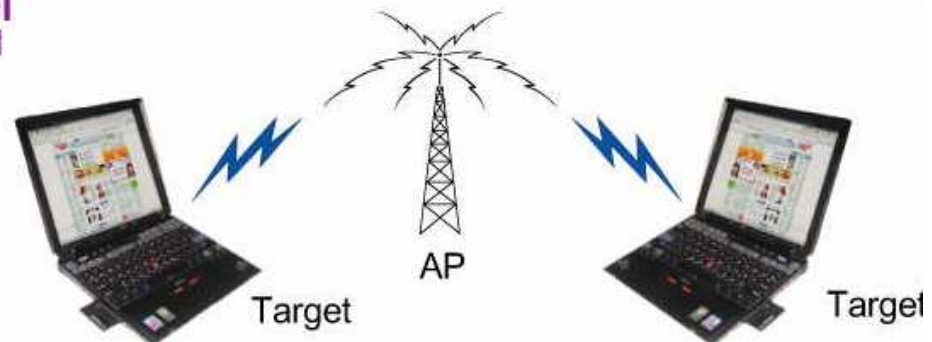
E-DW-X60 802.11 a/b/g



ED3G-Modem



ED-ST-06-1







# Application Sample

## Taiwan Police used Wireless E-Detective to crack down network fraud

- The Network Auction Fraud in Taiwan converted to a wireless pattern since 2003, and network fraud has not been easy to be cracked by police, until the XX Police Bureau, for the first time in Taiwanese Police Authority's history, to adopt a brand new technique innovated by Decision-Computer International Co., Ltd., to successfully arrest the suspect.
- The 3X years old suspect with last name called Chen lived in XX city who used wireless Internet accesses to avoid the police from tracing him, was a typical cheater of cyber auction. He thought he could hide himself behind the curtain of wireless network, but he never imagined that Decision Computer Co., had invented a high technology weapon call "Wireless Detective".
- If you like to know details of this news, please refer to the report of United Daily News of Taiwan on 18th, July, 2006, by reporter Miss Yee Shaen Lu. Instance illustration demonstration





# Frequently Asked Questions (1)

## 1. **What is Wireless E-Detective system?**

Wireless E-Detective is an Internet Surveillance and Wireless LAN forensic device which sniff wireless packets (802.11a/b/g) standard from the air and construct a real time decoding or reconstruction of the packets to original data or content.

## 2. **Who need Wireless E-Detective system?**

Legal Interception bodies, Government, Police, Military, Private Investigation etc. Event ISP which deploy WLAN can use this tool as a WLAN vulnerability accessment tool.

## 3. **Is Wireless E-Detective system a software or an appliance?**

Wireless E-Detective system is an appliance (Software loaded into customized IBM notebook).

## 4. **What Operating System E-Detective system used?**

Wireless E-Detective system uses customized Debian (Linux OS).





# Frequently Asked Questions (2)

**5. What is the coverage range that Wireless E-Detective can sniff and capture the wireless packets?**

Wireless E-Detective sniffs and captures effective wireless packets within the range of 0-20 meters for indoor (due to walls, furniture etc blockage), 0-100 meters for outdoor (with line of sight). However, if a high gain directional antenna is used, Wireless E-Detective can cover a wider area.

**6. Can Wireless E-Detective system determines the direction of the targeted user (STA) or AP?**

Yes, with the use of an external directional antenna, Wireless E-Detective can be used to estimate the direction of the targeted user (STA) or AP. With the use of external directional antenna, the direction with the strongest signal strength can be approximated as the directional of targeted STA or AP.

**7. Can Wireless E-Detective system determines the location of the targeted user (STA) or AP?**

External directional antenna can approximate the direction of the STA/AP with certain degree of error. The error can be reduced with more Wireless E-Detective systems use in different location to determine the direction of the targeted STA/AP. By utilizing the signal strength methodology, Wireless E-Detective system can be used to estimate how far the targeted STA/AP is from it. Therefore, combining these two parameters, it will be possible to estimate the location of the STA/AP but with certain degree of error.





## Frequently Asked Questions (3)

8. How many wireless networks can be captured by Wireless E-Detective system?

Wireless E-Detective can capture wireless packets from AP or from Wireless STA. Wireless E-Detective can identify a specific AP or STA in order to start the capturing process. However, Wireless E-Detective can also capture all Wireless AP/STA from a single channel. For instant, Wireless E-Detective can capture all Wireless AP/STA utilizing channel 1 at one time. For capturing of more than 1 channel at one time, more Wireless E-Detective system will be needed.

9. Why there is nothing appeared on the menu although packet capturing has already been started and the number of bytes captured is accumulating?

Ensure that Tomcat and Openraw services have been started. Besides, make sure that the signal strength of the targeted (captured) AP or STA is more than 20. If the signal strength value is lower than that, the possibility of missing/loss wireless packets is high. With not completed packet, Wireless E-Detective will not be able to reconstruct the full contents.





# Frequently Asked Questions (4)

## 10. How long does Wireless E-Detective takes to crack WEP key?

Capturing of Wireless packets depends on the wireless network activity (active or non-active). Cracking of WEP key depends on the number of effective packets (IVs) captured.

For **64-bit WEP key**, Wireless E-Detective normally takes 30-45 minutes (for active network) to capture enough packets (40,000) and decrypt it in less than 5 minutes.

For **128-bit WEP key**, Wireless E-Detective normally takes 1.5-2.0 hours (for active network) to capture enough packets (200,000) and decrypt in less than 5 minutes.

*Note: The times to capture and decrypt can vary based on Wireless network condition.*

## 11. Can Wireless E-Detective crack WPA key?

This is a customizable option by our R&D team based on customer requirement and commitment. WPA has been created due to the lack of security for WEP. Therefore, the challenge to crack WPA key is very high. Currently, the only method for WPA key decryption is brute force (dictionary attack/password list attack) method where the successfully rate is very low.

## 12. Can Wireless E-Detective be customized to meet customer requirement?

Yes, our R&D team can study the requirement by users and customize base on user's requirement. The customizable options include add in additional functions and features, interfaces etc.





# Frequently Asked Questions (5)

## 13. **Can E-Detective system filter MAC and IP address?**

Yes, Wireless E-Detective comes with the filtering function: In Time Condition Filtering and Dump Filter Condition. It can set the condition to capture MAC, IP addresses predefined. For more details, please refer to Wireless E-Detective user manual.

## 14. **Why is Wireless E-Detective system is superior than other freeware or software products?**

Wireless E-Detective system consists of software and hardware (appliance in term of IBM laptop) which is small in size and light to carry. Wireless E-Detective comes with complete equipment (with additional PCMCIA Wireless Card and USB GPS receiver) for Wireless LAN forensic usage and the GUI is user friendly. The Wireless E-Detective system is a total WLAN forensic solutions that is capable to do capturing/sniffing of wireless packets (802.11a/b/g), decrypting of encrypted wireless network (WEP), decoding/reconstructing of wireless packet raw data into exact format (according to protocols) and content, management functions etc. On the other hand, freeware products only can do certain functionality without full features, and likely not user friendly (user need to have some knowledge of the software system for installation and configuration). Other paid software products also are not user friendly (need user to have some knowledge of the system for installation and configuration) and come with uncomplete features. Furthermore, there are already many Government and Forensic Departments that have used Wireless E-Detective in their operation.



# Thank You

## E-DETECTIVE®



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