

# **PROTECT YOUR PRIVACY FROM WEBSITE PIRACY**



- **PART 1: INTRODUCTION**
- **PART 2: COOKIES**

- **PART 3: WEB BUGS**

- **PART 4: SNIFFERS**

# **PART 1**

## **■ INTRODUCTION**

# INTRODUCTION

**Generally, three technological mechanisms are used in order to track your surfing activities:**

- **Cookies**
- **Web bugs**
- **Web tracking**

# PART 2

- COOKIES

# COOKIES

*...But what is a cookie?*

A cookie is a short piece of data, no code, which is sent from a web server to a web browser when that browser visits the server's site. It is used to maintain information



# *Types of cookies:*

- **Temporary**

Temporary cookies, also called session cookies, are stored temporarily in your browser's memory and are deleted as soon as you end the session by closing the browser.



## ■ Permanent

Permanent cookies are stored permanently on your computer's hard drive and, if deleted, will be recreated the next time you visit the sites that placed them there.

## ***Where did the term cookies come from?***

- According to an article written by Paul Bonner for Builder.Com on 11/18/1997:

**"Lou Montulli, currently the protocols manager in Netscape's client product division, wrote the cookies specification for Navigator 1.0, the first browser to use the technology.**

# STATISTICS:

## ***MOST FAMOUS COOKIES***

Cookie Name	% of sites
ASPSESSIONID*	41.1%
PHPSESSID	10.9%
JSESSIONID	4.1%
SITESERVER	3.7%
CFTOKEN	3.6%
CFID	3.6%
ASP.NET_SessionId	2.7%
cookietest	2.6%
permcookietest	2.6%
CookieStatus	2.6%
nuid	2.2%

# How a cookie file looks

Counter\_Cookie 7  
www.yourplace.com/Java/ 0  
2650889984 28260821 234549904  
29177426 \*

# How it works (1)

***Cookies are based on a two stage procedure:***

***1<sup>st</sup> Stage:***

- ***The cookie is stored***

## How it works (2)

- *Web server creates a specific cookie*
- *Web browser stores the cookie in the cookie list*

## How it works (3)

### **2nd Stage:**

- **At the second stage the cookie is automatically transferred from the user's machine to a web server, containing essential information.**

# What kind of information can a server get from a browser (1)

- IP address
- Type of browser being used



## What kind of information can a server get from a browser (2)

- Favorite websites
- Surfing activities

# What kind of information can a server get from a browser (3)

- Types of operational systems

# USES OF COOKIES (1)

- ***Cookies and shopping sites:***

Whenever you visit a shopping website a cookie is used for tracking your shopping activities. When you buy a product this product is added to a shopping cart, but this shopping cart is the cookie's ID name.

# USES OF COOKIES (2)

- ***Cookies and homepages:***

Cookies are used to create customized home pages. When you ask for a home page the cookies are also sent in order to tell to the server which items to display.

# USES OF COOKIES (3)

- ***Cookies and buying activity:***

One of the most common and annoying uses of cookies is when they become tracking devices. This device tracks the browsing and buying activity of an individual user.

# PREVENTING THEM (1)

**This is the most secure way to prevent them:**

## ***In Internet Explorer***

- Choose View
- Click the Internet Options command

# PREVENTING THEM (2)

- Click the Advanced tab
- Click the Disable All Cookie Use option

# PREVENTING THEM (3)

## **In Netscape :**

- choose the Edit Options command
- click on Advanced
- click the Disable Cookies option



# PREVENTING THEM (4)

- After that, no cookies will be stored on your system.
- You will need to turn cookies back on if you want to use any online services that require them.

# PREVENTING THEM (5)

- You can also choose the option to prompt you before accepting a cookie, but with many sites you will be continually closing the warning dialog box.

# BLOCKING SOFTWARE (1)

Install software packages that work with your web browser to control who can send you a cookie.

In these packages, you choose which sites can send you a cookie and which can not.

# BLOCKING SOFTWARE (2)

If you want to use cookies in some instances and not in others, some of these packages may be very helpful.

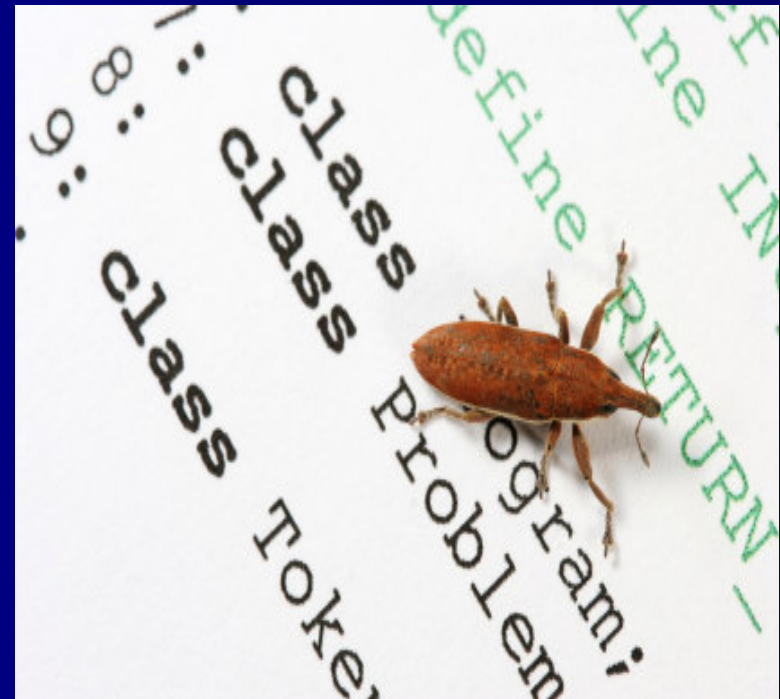
# PART 3

- **WEB BUGS**

# WEB BUGS (1)

***Do you know what a web bug is?***

A Web Bug is a graphic on a Web page or in an Email message that is designed to monitor who is reading the Web page or Email message.



## WEB BUGS (2)

- Web Bugs are often invisible because they are typically only 1-by-1 pixel in size. They are represented as HTML IMG tags.

## WEB BUGS (3)

*For example:*

```

```



## WEB BUGS (4)

```
<IMG WIDTH=1 HEIGHT=1 border=0  
SRC="http://media.preferences.com/pi  
ng?ML_SD=IntuitTE_Intuit_1x1_RunO  
fSite_Any &db_afcr=4B31-C2FB-  
10E2C&event=reghome&group=regist  
er& time=1999.10.27.20.5 6.37">
```

# Other names that web bugs are known by

- Clear "GIF"
- Invisible "GIFs"
- 1-by-1 "GIFs"

# **What information is sent to a server when a Web Bug is viewed? (1)**

- The IP address of the computer
- The URL of the page that the Web Bug is located on

## What information is sent to a server when a Web Bug is viewed? (2)

- The URL of the Web Bug image
- The time the Web Bug was viewed

## What information is sent to a server when a Web Bug is viewed? (3)

- The type of browser that caught the Web Bug image
- A previously set cookie value

# USES OF WEB BUGS (1)

- Creating personal profiles
- Collecting information about web browsers

# USES OF WEB BUGS (2)

- Counting the exact number of people visiting a specific website

# Web bugs & e-mail (1)

The connection between web bugs and e-mails:

- A Web Bug can be used to find out if a particular e-mail message has been read by someone and if so, when the message was read.



## Web bugs & e-mail (2)

- A Web Bug can provide the IP address of the receiver if the receiver is attempting to remain anonymous.

## Web bugs & e-mail (3)

- Within an organization, a Web Bug can give an idea of how often a message is being forwarded and read.

# An example for how a web bugs looks in an e-mail

- ``
- `<IMG SRC="http://email.bn.com/cgi-bin/flosensing?x=ABYoAEhouX">`

# HOW TO PROTECT

- Turn off cookies

# Be careful

- Learn more about websites' dangers
- Be informed



# PART 4

## ■ SNIFFERS



# SNIFFER

- What is this???
- A program or a device that monitors data travelling over a network.



# USE OF SNIFFERS

- Check on information  
(especially about passwords)



# HOW TO DETECT (1)

- To detect a sniffing device that only collects data and does not respond to any of the information requires physically checking each individual internet connection on your computer.

## HOW TO DETECT (2)

- It is also impossible to remotely check by sending a packet or ping if a machine is sniffing. A sniffer running on a machine puts the interface into promiscuous mode, which accepts all the packets.

# HOW TO STOP THEM (1)

## Stopping sniffing attacks:

- Active hubs
- decipherment



# HOW TO STOP THEM (2)

- Kerberos  
(network system for preventing attacks from the internet)
- One-time password technology

# HOW TO STOP THEM (3)

- Non-promiscuous interfaces

