

Federal Trade Commission Microeconomics Conference
Panel Session 2: *Economics of Privacy and Internet Behavior*

ONLINE ADVERTISING TECHNOLOGY OVERVIEW

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The Players

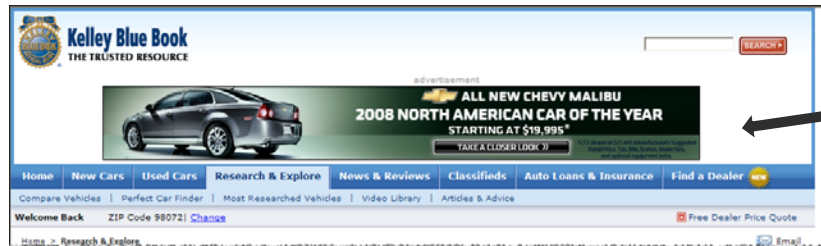
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- Advertisers
 - ▣ Looking for click-through, conversion and awareness
- Publishers
 - ▣ Typically free content providers funded by selling ad inventory
- 3rd Party Ad Networks
 - ▣ Facilitate the delivery of ad campaigns across multiple publishers
 - ▣ Enable small advertiser and publisher participation
- Ad Agencies
 - ▣ Help connect advertisers and publishers
 - ▣ Optimize campaigns
- Customers

Scenario 1

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1. Advertiser wants to buy inventory on single site



Ad
Network
Server

Data in Ad Network Server:

- IP Address of User
- Visited <http://www.kbb.com/>
 - Time/date of visit
 - Chevy ad served

Log is created on ad network server with standard information that is included based on internet protocols

Scenario 2a

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- Advertiser wants to buy inventory on multiple sites, but only wants net-new users



Data in Ad Network Server:

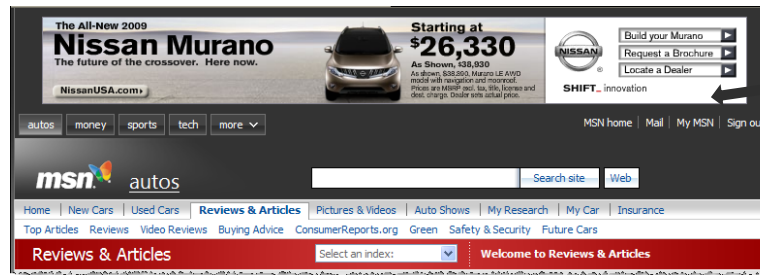
- IP Address of User
- URL <http://www.kbb.com/>
 - Time/date of visit
 - Chevy ad served
- **Unique Cookie ID**

Ad server places a cookie on the users browser with a unique ID

Scenario 2b

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2. Advertiser wants to buy inventory on multiple sites, but only wants net-new users



Ad
Network
Server

Data in Ad Network Server:

- IP Address of User
- URL <http://www.kbb.com/>
 - Time/date of visit
 - Chevy ad served
- Unique Cookie ID
- URL <http://autos.msn.com/>
 - Time/date of visit
 - Nissan ad served

Ad server checks
cookie ID knows user
has seen Chevy ad
already and shows a
different ad

Scenario 3

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- Advertiser wants to target users with specific interests, but publisher site is general interest



Ad
Network
Server

Data in Ad Network Server:

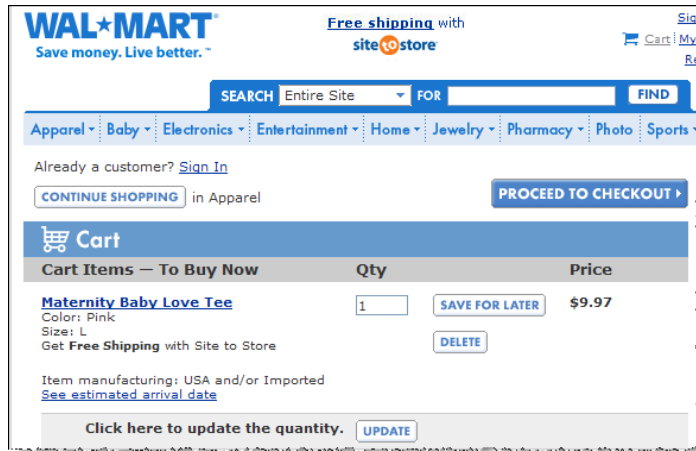
- IP Address of User
- URL <http://fool.com/>
 - Time/date of visit
 - Ad A served
- Unique Cookie ID
- URL <http://money.msn.com/>
 - Time/date of visit
 - Ad B served
- URL <http://msnbc.msn.com/>
 - Time/date of visit
 - AMEX ad served

Ad server checks
cookie ID knows user
has been to financial
sites before and shows
an AMEX ad

Scenario 4a

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5. Advertiser wants to show an ad to a known buyer



Ad
Network
Server

Data in Ad Network Server:

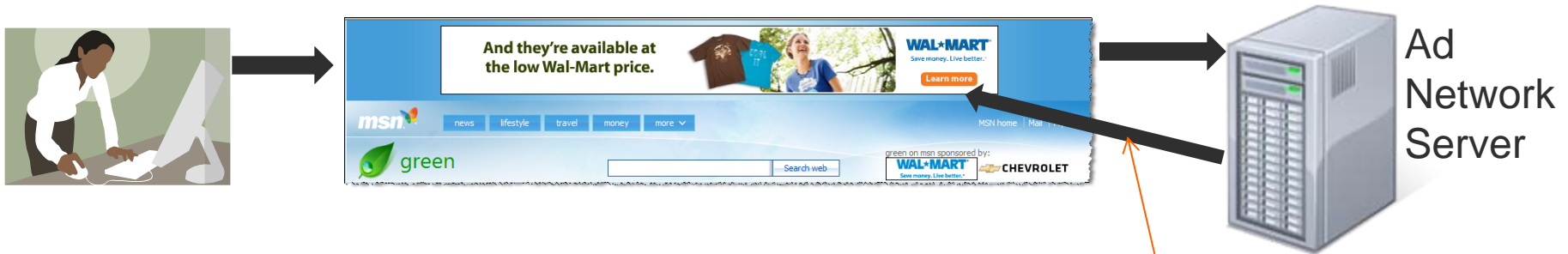
- IP Address of User
- Unique Cookie ID
- URL <http://walmart.com/>
 - Time/date of visit
- Web beacon data
 - shopper
 - cart contained maternity clothes

Advertiser places web beacon on shopping pages. The web beacon can include any information the advertiser chooses to provide.

Scenario 4b

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5. Advertiser wants to show an ad to a known buyer



Data in Ad Network Server:

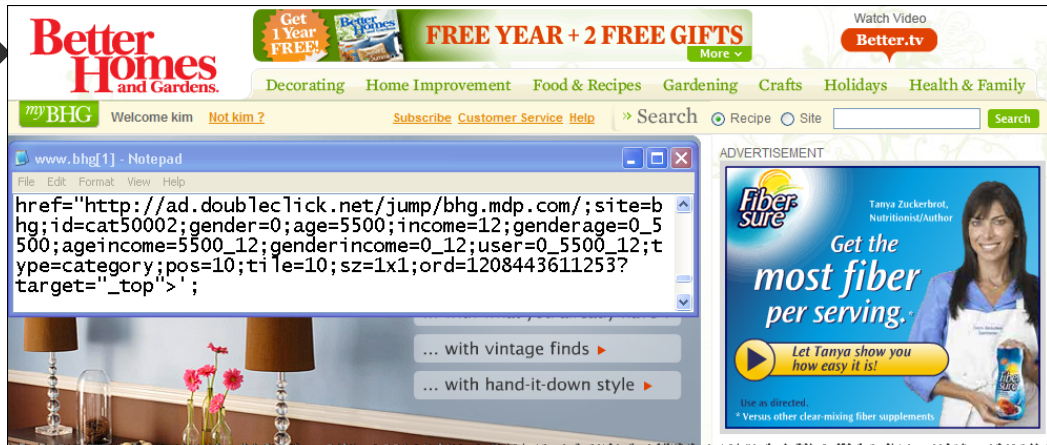
- IP Address of User
- Unique Cookie ID
- URL <http://walmart.com/>
 - Time/date of visit
- Web beacon data
 - shopper
 - cart contained maternity clothes
- URL <http://green.msn.com/>
 - Wal-Mart ad served
 - Time/date of visit

Ad server checks cookie ID and sees they are a Wal-Mart customer and shows them Wal-Mart ad.

Scenario 5

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4. Advertiser wants to show different ads to men vs. women



The screenshot shows the Better Homes and Gardens website. A Notepad window is open, displaying the following tracking code:

```
href="http://ad.doubleclick.net/jump/bhg.mdp.com/;site=bhg;id=cat50002;gender=0;age=5500;income=12;genderage=0_5500;ageincome=5500_12;genderincome=0_12;user=0_5500_12;type=category;pos=10;title=10;sz=1x1;ord=1208443611253?target="_top">';
```

The advertisement shown is for Fiber Sure, featuring Tanya Zuckerbrot, a nutritionist/author, with the text "Get the most fiber per serving." and "Let Tanya show you how easy it is!".



Data in Ad Network Server:

- IP Address of User
- Unique Cookie ID
- URL <http://bhg.com/>
 - Time/date of visit
 - Fiber ad for women served
- Gender, Age, Income, etc.....

Publisher passes registration information to the ad server. Ad server checks gender field, sends appropriate ad based on gender

The Data

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- Data that could be in an 'ad profile'
 - IP Address
 - Unique cookie ID
 - All publisher sites visited where the ad server serves ads
 - All advertiser sites visited where there is a web beacon instrumented
 - Any publisher/advertiser information passed to the ad server
 - Geographic information derived from reverse IP look-up
 - Search queries

The Privacy Concerns

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- Sources and volume of data collected and used
 - Search queries
 - Web surfing behavior
 - Ad networks track across multiple sites
 - ISP-based tracking (deep packet inspection)
 - Other data
- Nature of data collected and used for targeting
 - “Anonymous” or Personally Identifiable?
 - Sensitive categories of data
- Protection of data: What is the risk of loss or misuse?
 - Different degrees of “anonymization” or “pseudonymization” that provide different levels of protection
 - Release of AOL search data and Netflix database revealed that even data stripped of obvious identifiers can in some cases be connected to a person
- Data sharing and aggregation
- Lack of transparency & control

Regulatory and Industry Initiatives

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- Network Advertising Initiative (NAI) self-regulatory principles drafted in 2002 (<http://www.networkadvertising.org>)
- FTC proposed guidelines for self-regulation
- State Legislation
- European response

Customer Choice

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- Clear/Block Cookies
- Set opt-out cookies with NAI members



NAI
Network Advertising Initiative

Home Managing Your Privacy Participating Networks

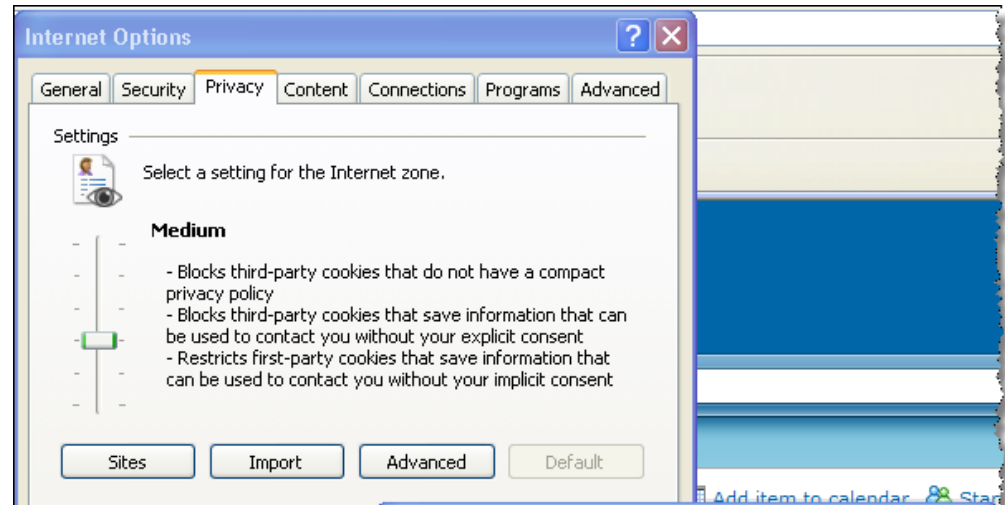
Overview
Principles Overview
Opt-Out
Enforcement
Opt-out Problems

Opt Out of NAI Member Ad Networks

Opt-Out Status

Select all Clear Submit

Network	Status	Opt-Out
aCerno More Information	Active Cookie You have not opted out and you have an active cookie from this network.	Opt-Out <input type="checkbox"/>
Advertising.com More Information	Active Cookie You have not opted out and you have an active cookie from this network.	Opt-Out <input type="checkbox"/>
AlmondNet More Information	Active Cookie You have not opted out and you have an active cookie from this network.	Opt-Out <input type="checkbox"/>
Atlas More Information	Active Cookie You have not opted out and you have an active cookie from this network.	Opt-Out <input type="checkbox"/>
BlueLithium More Information	Active Cookie You have not opted out and you have an active cookie from this network.	Opt-Out <input type="checkbox"/>
DoubleClick More Information	No Cookie You have not opted out and you have	Opt-Out <input type="checkbox"/>



Internet Options

General Security **Privacy** Content Connections Programs Advanced

Settings

Select a setting for the Internet zone.

Medium

- Blocks third-party cookies that do not have a compact privacy policy
- Blocks third-party cookies that save information that can be used to contact you without your explicit consent
- Restricts first-party cookies that save information that can be used to contact you without your implicit consent

Sites Import Advanced Default



Advanced Privacy Settings

You can choose how cookies are handled in the Internet zone. This overrides automatic cookie handling.

Cookies

Override automatic cookie handling

First-party Cookies	Third-party Cookies
<input checked="" type="radio"/> Accept	<input type="radio"/> Accept
<input type="radio"/> Block	<input checked="" type="radio"/> Block
<input type="radio"/> Prompt	<input type="radio"/> Prompt

Always allow session cookies

OK Cancel

Microsoft Online Privacy Notice Highlights

(last updated May 2008)



Scope

This notice provides highlights of the full [Microsoft Online Privacy Statement](#). This notice and the full privacy statement apply to those Microsoft Web sites and services that display or link to this notice.

Personal Information

[Additional Details](#)

- When you register for certain Microsoft services, we will ask you to provide personal information.
- The information we collect may be combined with information obtained from other Microsoft services and other companies.
- We use cookies and other technologies to keep track of your interactions with our sites and services to offer a personalized experience.

Uses of Information

[Additional Details](#)

- We use the information we collect to provide the services you request. Our services may include the display of personalized content and advertising.
- We use your information to inform you of other products or services offered by Microsoft and its affiliates, and to send you relevant survey invitations related to Microsoft services.
- We do not sell, rent, or lease our customer lists to third parties. In order to help provide our services, we occasionally provide information to other companies that work on our behalf.

How to Contact Us

For more information about our privacy practices, go to the full [Microsoft Online Privacy Statement](#). Or write us using our [Web form](#). If you have a technical or general support question, please visit <http://support.microsoft.com> to learn more about Microsoft Support offerings.

Your Choices

[Additional Details](#)

- You can stop the delivery of promotional e-mail from a Microsoft site or service by following the instructions in the e-mail you receive.
- To make proactive choices about how we communicate with you by e-mail, telephone, and postal mail, follow the instructions listed in the [Communication Preferences](#) of the full privacy statement.
- To opt-out of the display of personalized advertisements, go to the [Display of Advertising](#) section of the full privacy statement.
- To view and edit your personal information, go to the [access section](#) of the full privacy statement.

Important Information

- The full [Microsoft Online Privacy Statement](#) contains links to supplementary information about specific Microsoft sites or services.
- The sign in credentials (e-mail address and password) used to sign in to most Microsoft sites and services are part of the [Windows Live ID](#).
- For more information on how to help protect your personal computer, your personal information and your family online, visit our [online safety resources](#).
- Microsoft is a member of the [TRUSTe](#) privacy seal program.

Personalized Advertising from Microsoft

(last updated February 2008)

Introduction

Personalized advertising from Microsoft helps make the online ads we display to you more relevant. As you use our online services and browse sites from Microsoft and its partners, we use the information we collect over time (such as your search queries and page views) to help predict which ads will interest you most. For example, if you've previously searched on bicycling terms, we can display ads for cycling products and services.

Choosing not to receive personalized advertising

If you aren't interested in seeing personalized ads based on information we have previously collected, you can choose not to receive them on sites that use the Microsoft Advertising Platform.

Even if you choose not to receive personalized advertising, Microsoft will continue to collect the same information as you browse the web and use our online services. However, this information and any information collected from you in the past won't be used for displaying personalized ads.

Microsoft will continue to deliver content that's personalized for you, such as the news articles that are displayed on MSN and the results that appear when you search for software updates. You will also continue to receive ads that are tailored to your current search or the page you're currently viewing.

Don't display personalized ads:

On this computer when I use this web browser

This option saves a cookie on this computer and applies it whenever you log on to Windows with this user account and use this web browser. If you don't want to receive personalized ads for other browsers or computers you use, you must come to this page to create the cookie for each one. **Note:** If you delete the cookie, you'll need to come back to this page to create it again. [Learn more about cookies](#)

On any computer after I've signed in to Windows Live™

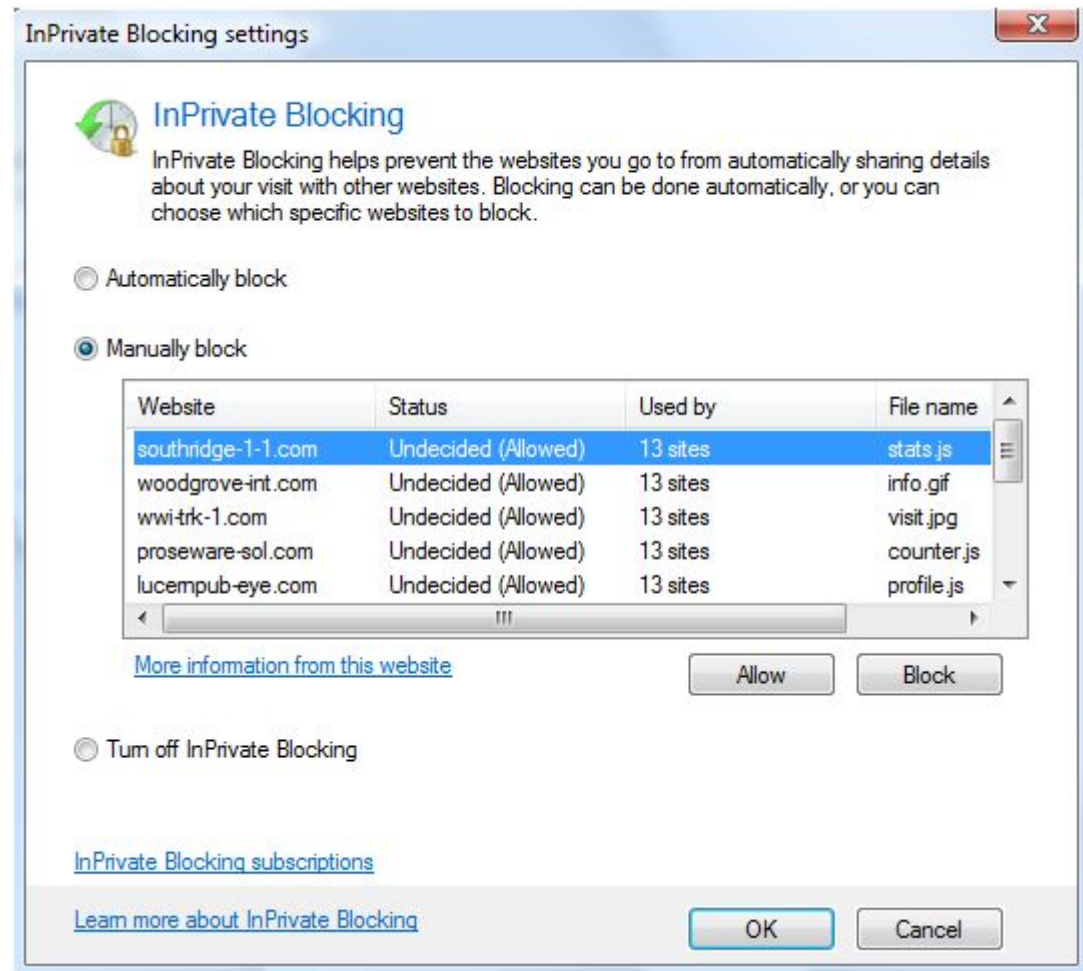
[Sign Out](#)

This option saves an account setting associated with your Windows Live™ ID. It applies on any computer on which you sign in with your Windows Live™ ID, and will continue to apply until someone signs in with a different Windows Live™ ID on that computer. **Note:** If you delete your cookies, you'll need to sign in again for the settings to apply.

[Apply My Choice](#)

Internet Explorer 8

- **InPrivate Browsing**
 - Enables “leave no tracks” locally (cookies, cache & history)
 - Value when shopping for gifts on a shared PC.
- **InPrivate Blocking**
 - Helps to put users in control of their info to third-party sites.
 - Assess, on an ongoing basis, user exposure to third-party content.
 - Helps to prevent information disclosure by automatically blocking high-frequency third-party content from sites users visit.



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