

April 2007

Invalid Clicks and Online Advertising

AUTHORS

By Sean Harvey,
Senior Product Manager,
DART Platform

The term “click fraud” has gained widespread attention in the media and throughout our industry over the past two years. Ad servers and networks do indeed have to protect their customers against not only malicious clicks, but also largely inadvertent invalid clicks arising from robots and spiders in the ad environment that do not obey standard Web server rules and robots.txt files.

This paper outlines the state of invalid clicks in our industry, what DoubleClick is doing to combat invalid clicks, and how to assess the ROI of your click-based online advertising, and in particular search campaigns, for existence and levels of invalid clicking.

What are Invalid Clicks?

Invalid clicks are ad campaign clicks initiated by robotic means or manually by individuals to inflate reported clicks for a given ad. There are five major classes of invalid clicks:

1. **Bad Spiders.** Clicks that are inadvertently initiated by a spidering application that is poorly written and do not obey standard robot instructions issued by a Web server. Thousands of applications spider the Internet for a variety of purposes, such as gathering pages for search engines and RSS feeds.
2. **Speed Demons.** Clicks arising from wireless applications or ISPs that seek to lower Web latency for low bandwidth connections by clicking on links in a Web page. One example of this type of invalid click generator is Radialpoint’s Freedom Secure Web Proxy, which in 2005 began to be distributed by several Canadian ISPs and briefly generated massive invalid clicks across the Web.
3. **Commission Collectors.** Clicks that are generated by individuals that seek to gain commissions from an ad network.
4. **Sore Losers.** Clicks that are generated by either a robot or an individual on a competitor’s ad with the intention of causing additional cost to that competitor. This is seen most often on very high-priced search keywords such as “private jets”.
5. **Badware.** Clicks that are generated by a consumer who was already going to the advertiser’s landing page without the assistance of advertising. This can occur when the consumer’s computer is infected with an adware application. The adware detects the URL as the user types it into the browser, pops up an ad with a search ad for that URL, and hopes the consumer will click on their ad, giving them a small commission.

Invalid Clicks: Where We Are Today

Invalid clicks are primarily an issue for cost-per-click search campaigns, but all digital ad serving applications must account for them to ensure that the customer’s metrics are as accurate as possible. While there are other causes of waste in many advertising

campaigns, online and offline, the promise of digital advertising is its measurability and accountability, and it is therefore incumbent upon all technology vendors to do as much as possible to strip out robotic or otherwise invalid activity.

It is difficult for an advertiser to understand the scope of invalid clicks and their impact on a given ad campaign, as vendors can sometimes exaggerate or minimize the scope of the issue, as their business objectives may not be aligned with those of the advertiser. The good news is that the search engines are doing a lot to combat the problem, companies such as DoubleClick have active click filtration mechanisms, and products like DoubleClick's DART Search and Performics Search provide you with tools that allow you to compare clicks to conversions, so that you can get an understanding of how your campaign clicks are generating value.

A tremendous amount of effort has gone into the detection and stripping of invalid click activity across the industry, and a coordinated industry effort on the problem is underway. The Interactive Advertising Bureau (IAB) has initiated a Click Committee to address the problem across all vendors; committee members include DoubleClick, AOL, Google, Microsoft, Yahoo and a range of search engine technology and security vendors.

For example, in 2006, security vendors alerted the industry to the existence of an application that had been placed on a number of distributed consumer desktops that generated a very low level of click activity per desktop to some search campaigns. While this botnet has been shut down, it is possible that others could emerge. The IAB committee and other initiatives are designed to address problems such as this in a comprehensive, ongoing manner.

What are the Search Engines Doing?

DoubleClick's DART Search application provides us with a unique window into what the search engines are doing to combat invalid clicks. And the answer is, quite a lot. We estimate that approximately 15% of the average search client's click traffic is stripped out by the major search engines before it ever reaches your reports — and you are not charged for this traffic.

Our understanding is that search engines are doing this in three ways:

1. They are stripping out activity at a user level, based on a threshold, i.e. a certain number of clicks from a given user within a given period time. Google is also stripping out double-clicks, that is, two clicks from the same user within a second, so that you are not double-charged for one valid click.
2. They are stripping out all clicks from a given publisher for an entire day should that publisher's click rate or click totals exceed a certain threshold per day.
3. They also maintain click quality teams that will reactively investigate campaigns that might be impacted by invalid clicking. For example, DoubleClick monitors for invalid click activity and can engage the search engines where click elevations occur.

Some advertisers have demanded that search engines share their algorithm for stripping; however, there are compelling business reasons that prevent the engines from sharing that proprietary information. Were these algorithms made public or leaked to a malicious party, bad actors would be able to circumvent the algorithm by keeping their click activity below the algorithm's threshold for determining invalid activity. Sharing the specific algorithm would ultimately do more harm than good to paid search advertisers.

What is DoubleClick Doing?

DART Search leverages the multi-level click filtration of the search engines and imports their numbers directly into its own reporting. DART Search customers therefore have the advantage of the search engine's user-level and user agent-level filtration, as well as the outlier statistical analysis and filtration that takes place at Google, Yahoo and the other major vendors.

In instances where DoubleClick is counting clicks directly, we are extremely proactive in the filtration of invalid clicks, and we are helping to lead the industry in continuing to address these issues. We have multiple mechanisms in place for the filtration and troubleshooting of clicks and other online metrics, and conduct large-scale testing on a monthly basis. Our mechanisms include:

- **User-agent level filtration:** DoubleClick's DART ASP strips out both impressions and clicks from all known robots and spiders in the ad environment based on their user-agent in the HTTP header. This is based on an IAB blacklist that is maintained by the IAB's Bots & Spiders Committee, of which DoubleClick is a member. This list has global reach and includes user-agents from Europe and Asia Pacific, as well as North America. Stripped clicks are not included in your reports and you are not charged for them; however, we maintain a record of them in our log files for later troubleshooting.
- **User level filtration:** In addition to search engine filtration, DoubleClick applications strip out all clicks coming from a given user within a certain period of time that exceed a certain threshold for both search and display campaigns.
- **Monthly testing:** We perform monthly testing on a large amount of DART ASP data in order to discover new user-agents that may be generating invalid clicks, to determine whether any invalid click activity is occurring at the user level which is evading the user-level algorithm, and to find any ads or campaigns that are seeing excessive click rates. This includes proactively conducting tests and setting traps to detect new robots that might otherwise evade detection. Based on this testing, our filtration mechanisms are enhanced.
- **Troubleshooting:** DoubleClick's DART and Performics support teams have expertise in analyzing ad campaigns that you suspect might be impacted by invalid click activity. We have a range of internal tools that enable our teams to break down a given campaign and determine whether it is being adversely impacted. Additionally, we maintain close relationships with the search engines that allow us to engage them directly where we see a potential problem.
- **Variance Reporting:** DoubleClick's Performics team also currently runs variance reports for our clients' programs, which allows us to monitor click trends at the keyword level. For example, a daily exception report flags keywords receiving clicks that are significantly higher or lower than the 7-day moving average for each keyword. If there are any wide variances, we investigate to determine what drove the variation. We may identify marketplace changes, major announcements, program changes and a variety of other factors that could increase clicks on a particular keyword. If there appears to be an issue (invalid clicks), we contact the applicable engine and directly resolves the issue.
- **Publisher quality:** Our affiliate network is based on a pro-advertiser approach, and puts a high premium on publisher quality. We provide you with visibility and granularity into the type and quality of publishers on which your ads appear, and proactively remove publishers who do not meet our quality standards, in order to prevent the advertiser from paying for user-initiated badware clicks, as described earlier in this paper.

- **Landing page conversion comparisons:** The landing-page conversion tracking available on DoubleClick applications such as DART, DART Search, ConnectCommerce and the Performics Affiliate Network enables you to determine the ROI on your cost-per-click campaigns to indicate if invalid click activity may be impacting the effectiveness of your campaigns.

What should you be doing?

Conversion tracking is one of the most important methods that advertisers can use to analyze campaigns to determine whether invalid clicks are eroding the direct online ROI value. To this end, small and large customers alike should be performing conversion/activity tracking to ensure that their clicks are resulting in landing-page traffic and revenue.

Monitoring conversions associated with a paid search or other cost-per-click campaigns enables you to benchmark what you should be paying for a click for a given campaign. If clicks are not resulting in conversions at a high level, this expresses itself clearly in your aggregate ROI. It is therefore imperative for ROI-driven programs to use a campaign tool such as DART Search that allows you to track clicks vs. conversions.

Conclusion

DoubleClick is helping to lead the industry in the quantification and standardization of invalid click handling. We monitor and strip out all identifiable invalid click activity before it appears in your reports, are proactive in the monitoring of our system for outlier activity, and have a support team that is ready to assist our clients with any potential problems. In addition, we have joined together with the search engines, the click monitoring security vendors and other major players in an effort to standardize handling of any invalid click activity across the industry.

If you have questions about Invalid Clicks or this whitepaper, please contact your Account Manager.

About DoubleClick

DoubleClick is a global leader in digital marketing technology and services. From its position at the nerve center of digital marketing, DoubleClick provides unique insights and insider knowledge no one else can. Headquartered in New York, and with 17 offices and development hubs and 15 data centers worldwide, the company employs more than 1000 people. Learn more at www.doubleclick.com.



US Headquarters
111 Eighth Avenue
10th Floor
New York, NY 10011
Tel: 212-683-0001
Tel: 866-683-0001 (toll free)
Fax: 212-287-1203

EMEA Headquarters
The Plaza
East Point Business Park
Clontarf, Dublin 3
Ireland
Tel: +353 1 246 0444
Fax: +353 1 246 0499

Asia Pacific Headquarters
Suite 19, Level 1
88 Cumberland Street
The Rocks,
Sydney, NSW 2000
Australia
Tel: +61 (0)2 8247 3700
Fax: +61 (0)2 8247 3701

**Worldwide Network
Operations Center**
12396 Grant St
Thornton, CO 80241
Tel: 303-729-5200
Tel: 866-729-5200 (toll free)
Fax: 303-729-3233