Geo-Targeting Online

Prepared by IAB Canada's Ad Ops Committee

Executive Summary

- IP addresses are matched to a physical location, but are not always accurate
  - On average, there is an **88% accuracy to within 25 miles**
  - The more broad your targeting is, the more accurate it will be
  - Consequently, the more precise your targeting is, the less accurate it will be.

- Targeting a city by telephone area code only works well in Toronto, where 416 & 647 for downtown and 905 for the surrounding suburbs can be grouped. Every other Canadian city shares its additional area codes with VERY large areas outside the city, therefore the application is ineffective. Be cognisant of this.

- Postal codes are far too small an area to be targetable by IP address databases, as they sometimes contain only a few houses. This method should not be attempted at all, as the accuracy was recorded as being between 0% and 10% accurate in a recent IAB Canada survey. Many geo-vendors claim their database can target to the postal code, and their platforms allow you to program campaigns to use it. However this is due to the functionality being shared with U.S. ZIP code targeting, which work significantly better because they cover much larger areas.

- In order to target locally, Advertisers should take advantage of ads within Mobile apps that permit GPS location transmission, and/or websites and email lists where the users have provided registration data. The latter option can still be inaccurate if the user logs in from another location, but is still better than any other option.

How Geo-Targeting Online Works

The most common type of geo-targeting used in online ad campaigns relies on IP address. An IP address is a unique number usually assigned to a router, which then provides internet to multiple computers located within a single home, office, building or cluster of web servers in a data center. Even in homes where there is one computer, the IP address gets assigned to the router and then the router shares the internet to the computer in the same manner it would share it with many.

IP addresses are assigned by Internet Service Providers (ISPs), and apply to all types of Internet connections including: personal computers (of all makes and models), mobile devices (smartphones and tablets), gaming consoles, and even DVD/Blu-ray players or DVRs that connect to the Internet. There are billions of IP addresses worldwide.

As a webpage is being loaded, the content Publisher's/or Agency's ad server checks the IP of the user against a database containing a directory of worldwide IP addresses. The location returned is based on

the civic address of the ISP node serving the IP -- which includes country, province/state, city, postal/ZIP code and phone number (including area code). Thus, if the database shows that the connected device appears to be in Québec, the ad server has the option of delivering a Québec-based advertisement.

How Geo-targeting Problems Arise

Unfortunately, the ability to match an IP address to the physical location of a user is not always 100% accurate. When a user signs up for Internet access, their Internet Service Provider (Bell, Cogeco, Rogers, Shaw, Videotron, etc.) assigns an IP address to that account, and keeps a record of where that IP address is located.

Even if the ISP records start out accurate to the City level, because ISPs often assign new IP addresses to the same accounts, dynamically, based on Network loads; on a heavy day of Internet usage, a computer which was originally and accurately assigned an IP address in Toronto, is suddenly re-routed through another IP address which maps it to Montréal. ISPs may also choose not to disclose how they plan to distribute the IP addresses to their customers, giving the geo-database providers no choice but to assign all of an providers IPs to their head office's location, regardless of how many cities or provinces they service.

In still other scenarios, the Internet connections for workers in a city such as Calgary may actually be re-routed through the company's head office which is located in another city, province or even another country entirely. This problem also applies to many public places where users connect to the Internet, such as restaurants or hotel hotspots, as often the entire restaurant or hotel chain will have one IP address designated for all its locations. In the end, Advertisers can only target people where they "appear" to be connecting to the Internet. As a result, the ads served to a user who connects from his home in the morning may be accurate; while those served to him while he connects to the same website at the office may be mistakenly linked to a different region of the country; and those served to him as he connects to the same website later in the day at his favourite coffee shop, may be mistakenly mapped onto yet another geographic area.

What's The Net Accuracy Advertisers Can Expect?

There are a variety of companies who sell IP databases to ad servers both within Canada and abroad. The top companies in this field are all similar in their accuracy claims, with the norm being 88% accuracy to within 25 miles.

In general, just remember, the larger the area you're targeting, the more accurate IP geo-targeting will be; the more precise the geo-targeting desired, the less accurate the IP addresses will be.

Tips for Local Advertisers

For many Advertisers, geo-targeting to the province/state or even to a large metropolitan area will suffice for most ad campaigns, and will cover most people connecting both at work and at home. But for Local Advertisers whose customers normally come to the business location from within a 5-20 km

radius, accuracy in geo-targeting ads is important. In order to make sure they are reaching the correct customers, Local Advertisers may need to use a host of alternate targeting tactics including Paid Search (as ads can be targeted by user queries which often contain info about where they prefer to shop (e.g. "sporting goods shops + best + Halifax"); email newsletters whose databases are derived from opt-in contests or registration procedures allowing for the use of a user-submitted Postal Code or other detailed geo-targeting parameter to be used for targeting; or ads within Mobile Apps (which can use cell towers to more accurately determine the user's geographic location, before serving the ad).

What to Be Wary Of… Limits for "City-Level" Accuracy of Geo-Targeting

In order to make "city targeting" as accurate as possible, make sure city limits are agreed upon with your ad serving partners before your campaign begins. For example, does "Toronto" include the GTA; and if so, where does the GTA end geographically? And keep in mind the 88% to within 25 miles rule as it applies to those borders.

Targeting By Telephone Area Code

Area codes are added to the geo-IP database in the exact same fashion as the other ISP level registration information and are just as accurate or inaccurate. Where they are useful is in instances when you can target large areas (e.g. 416 & 905) instead of gathering up the names of every single suburb. Where they struggle is with new area code overlap and, especially, Mobile-only area codes.

Where major cities such as Toronto are concerned, you can target fairly well, based on telephone area codes, but telephone area codes are not recommended to be used to target elsewhere in Canada. For example, in Ontario, the 807 and 705 area codes cover 90% of the province just between themselves. A similar circumstance occurs in Québec, where the 819 telephone area code covers households from the northern polar region, right down to the southernmost part of the province.

Targeting By Postal Code

Due to the limitations of the geo-targeting technology as explained above, this level of targeting is simply not accurate via IP address. The defined areas are simply far too specific, down to only a few houses. If a supplier offers to precisely target to the postal code level, or even a group of postal codes, this should be tested before campaign launch, and they should have a differentiated offering from normal geo-IP databases.

The only way to accurately target a user by postal code is through a user level account registration database (e.g. a user creates an account and submits their mailing information).

Other Ways to Geo-Target Online

There are a variety of additional ways that Advertisers can achieve the same or better results with geo-targeting, namely:

- On local city, newspaper, classifieds and directory sites, as most of the users who access these sites are likely to be within the geographic area itself (e.g. Vancouver.com, Charlottetown Guardian, Winnipeg Free Press, Kijiji.ca listings, etc.)
- On Weather "city" sites, for similar reasons (7-day weather forecast for Iqaluit)
- On an "impression-by-impression" basis via DSPs or Ad Exchanges, based on Behavioural Targeting attributes within cookies

Still have questions about geo-targeting, or want to get involved with IAB Canada's Ad Ops Committee? Please Contact Us!