# Online Fraud and IP Address Tracking

by *Peter Thiruselvam / iEntry Editor-in-Chief*

ClearCommerce Corporation, a provider of payment processing and fraud protection software for e-commerce, studied 1,100 of its best online merchants to get a better understanding of online fraud. In doing so, they analyzed 6 million transactions from 40,000 customers who were collectively doing business with the company's merchants.

ClearCommerce's white paper on fraud prevention states that "fraud rates for orders with IP addresses from certain countries outside the U.S. are more than 10 times the typical rate from US orders. In addition, 21 percent of fraudulent orders can be identified by inconsistencies between the consumer's IP address and their reported billing, shipping or card issuer countries."

Many experts feel that last year's figures will be even higher due to the activities of organized crime taking a larger role in online fraud. Some officials from top US intelligence agencies also believe that terrorists are stealing credit cards to help fund their organizations. To sum up the seriousness of the online fraud, Gartner Inc., one of the major online information researchers, reported that loss because online fraud/identity theft accounts for USD$700 million dollars. This is 19 times that of offline fraud for the same period of time. This loss accounts for 1.14 percent of the total online sales for 2002 (USD$61.8 billion).

Additionally, it is not only the actual fraud but the perception of fraud which takes a toll on the bottom line of an ecommerce business. One of the high-powered analysts for Gartner said, "Merchants were rejecting around 5 percent of Internet transactions, on average, as 'suspicious,' and at large retailers that sell more than 25 percent of their goods and services online, the figure was up 7%."

The number of frauds vary by country. Below is a breakdown of the countries from where the most fraud originates as well as the least. According to ClearCommerce, approximately 6% of all online transactions from such countries as Malaysia and Israel (who are actually on the bottom of the dirty dozen show below) are fraudulent.

| Countries from where the most online fraud originate. | Countries from where the least online fraud originate. | When the fraud is perpetrated from within the U.S., these are the states with the largest percentage of fraudulent people |
|---|---|---|
| 1) Ukraine<br>2) Indonesia<br>3) Yugoslavia<br>4) Lithuania<br>5) Egypt<br>6) Romania<br>7) Bulgaria<br>8) Turkey<br>9) Russia<br>10) Pakistan<br>11) Malaysia<br>12) Israel | 1) Austria<br>2) New Zealand<br>3) Taiwan<br>4) Norway<br>5) Spain<br>6) Japan<br>7) Switzerland<br>8) South Africa<br>9) Hong Kong<br>10) United Kingdom<br>11) France<br>12) Australia<br>13) United States | 1) California - 21%<br>2) Florida - 10.1%<br>3) New York - 8.3%<br>4) Texas - 6.0%<br>5) Penn. - 4.5%<br>6) Illinois - 3.9%<br>7) New Jersey - 3.7%<br>8) Michigan - 2.8%<br>9) North Car. - 2.6%<br>10) Virginia - 2.5% |

I would add Nigeria to the international dirty dozen, with the "help me get my money out of here" email scam. It is also known to be one of the major players in the shipping the goods to a freight forwarder to circumvent the international shipping scrutiny. By the way, most of the victims of this scam pay through account debits and wire services.

**Top Internet Frauds**

| Jan.-Oct. 2001 Top 10 Frauds | Percentage of total fraud | Average Loss Per Person |
|---|---|---|
| Online Auctions | 63% | $478 |
| General Merchandise Sales | 11% | $845 |
| Nigerian Money Offers | 9% | $6,542 |
| Internet Access Services | 3% | $568 |
| Information Adult Services | 3% | $234 |
| Computer Equipment/Soft. | 2% | $1,102 |
| Work-At-Home | 2% | $120 |
| Advance Fee Loans | 1% | No Data |
| Credit Card Issuing | .6% | No Data |
| Business Opportunities/franchises | .4% | No Data |

| 2001 Top 5 Methods of Payment | Payment used in general merchandise fraud |
|---|---|
| Money Order - 29% | Credit Card - 41% |
| Credit Card - 28% | Money Order - 21% |
| Check - 18% | Check - 16% |
| Bank Account Debit - 6% | Debit Card - 6% |
| Debit Card - 5% | Wire - 4% |

*Source: Internet Fraud Watch*

What is an IP address?

Knowing that a large percentage of online fraud comes from overseas, it is good business intelligence to know where orders originate. That way, merchants can scrutinize the order if it came from a high-risk country. The best way to find out the origination of your international orders is by looking at your server logs and tracking their Internet Protocol (IP) address. A computer's IP address is analogous to the street number of your house. If the international buyer has a dedicated line to the Internet then it is possible to know which computer he used to make the transaction. Even if he uses a dial-up network, through his local ISP, it would still be trackable because blocks of these IP addresses are sold to different ISPs in each country. By knowing which country has which IP addresses, you can determine where buyer is located.

Unfortunately, this kind of information is difficult to obtain inexpensively, especially when you consider the there are over 4 billion IP addresses issued worldwide. However, there are certain companies which have filled huge databases with this kind of information. Using their own propriety technology, they have made a business of tracking where an individual user lives. Additionally, you can do this yourself using a software program such as VisualRoute, which is found at visualware.com, or using a more full-bodied service like the ones below. I used Visualroute and found it to be a pretty good program at identifying which IP addresses originate at which country.

On a side note, there have been cases in the past where criminals have been tracked down by their IP addresses. In a famous London case a couple of years ago, a man named David Frankl was fined £26,000 in damages plus legal costs of around £100,000 for sending emails to his company which were full of bulls**t about the company's deputy managing director. Since he used a Hotmail account, he believed that he was safe from being tracked. However, by using an expert in computer forensics, the company was able to track his IP address. Such experts usually look through the logs and/or monitor the IP address to find the guilty person's IP address. They then reverse the address, backtrack through the Internet nodes, and, with the help of ISPs, they are able to identify where that person lives.

Companies Which Track Buyers Through their IP Address

Quova's Geolocator (used by ClearCommerce)
One of the leading geolocation software makers on the Internet is Quova Inc. (quova.com) located in Redwood City, California. This company, founded in January 2000, has created software called GeoLocator. This software gives, in real time, the country of origin of a consumer's IP address. With this information, the merchant can filter orders for review if they come from a country known for fraudulent online purchases. Additionally, you know if the order is being shipped to a different address than where their IP address shows they are located.

The latest GeoPoint version issued is the 4.0 version. This one is particularly good insofar as some of the new added features. It can identify which buyers are coming through anonymous proxies, cache servers, corporate proxies, as well as wide-coverage satellites. Furthermore, it is touted as the only geolocation services which can track the 30 million AOL users down to the country level.

Furthermore, using this technology, you can use Quova's software and services for other information. You can find network connection and performance information so you can determine how much bandwidth is used in that country, which is useful when designing your pages. Furthermore, Quova has a GeoTraffic analytical service to augment your own website traffic service. Lastly, if you want to understand where your US buyers are coming from, GeoPoint can breakdown the information to a city level.

The latest version of GeoPoint can work with .Net and has some administration features. Quova has relationships with Jupiter Media Metrix, Visa International, Real Networks, ClearCommerce and Ladbrokes E-Gaming. GeoPoint doesn't give any figures on how much it costs, but I think that if price is not listed on the website, there is a good chance that it costs some serious money.

HNC Falcon® Fraud Manager
According to the company, HNC's eFalcon is "an intelligent fraud detection and risk management service available to online merchants. This advanced solution uses sophisticated neural networks, scores, and rules to distinguish between legitimate shoppers and fraudulent purchasers. It provides strategy management and customer service tools to help merchants save legitimate transactions that appear risky, as well as set policies for accepting and rejecting transactions. eFalcon is based on HNC's Falcon payment card fraud detection technology, developed over a ten-year period and currently used to protect more than 300 million payment card accounts worldwide."

HNC uses NetGeo technology to track buyers by IP addresses. NetGeo's InfoScope engine lets HNC know all kinds of information about the buyer's country, state, city, designated market area DMA, zip code, company, organization and method of Internet connection.

InfoSplit's Netlocator™
Infosplit's Netlocator accuracy of the person you are trying to find will be, according to the company, 99.5% for the country, 96.5% for the state or region, and 85% for the exact city. Additionally, the company has a program that is called InfoSplit Market Reports, which will tell you how many hits your received every day from every country, state and region in the world. Furthermore, it tallies up the percentage of hits from each area in regards to your total traffic.