

# Phishing Activity Trends

## Report for the Month of May, 2007

### Summarization of May Report Findings

► The number of unique phishing websites detected by APWG was 37,438 in May 2007, a drop of over 18,000 from April. ► The fluctuation in these numbers is attributable to the on-again, off-again trend of the phishers using multiple URLs on the same domain. For example, in April, 80% of all phish URLs used multiple URLs per domain. In May that dropped to 41% of the URLs. ► The number of unique websites hosting keyloggers hit an all time high in May at 3,353. ► APWG notes that in May there was a decrease in keylogger variants; however, there was a major increase in websites hosting crimeware. ► May 2007 saw a drop in hijacked brands to 149, after increases in the previous two months. ► The most targeted brands in May are different from those in the preceeding few months, indicating the professional phishing gangs are changing their targets. ► The number of unique phishing reports submitted to APWG in May came to 23,415, a drop of over 200 from April. ► Financial Services continue to be the most targeted industry sector accounting for 96.9% of all attacks in the month of May. APWG notes that the IRS and one tax preparation company were phished in May 2007, and there is evidence that smaller brokerages may be getting phished.

### Phishing Defined and Report Scope

Phishing is a form of online identity theft that employs both **social engineering** and **technical subterfuge** to steal consumers' personal identity data and financial account credentials. Social-engineering schemes use 'spoofed' e-mails to lead consumers to counterfeit websites designed to trick recipients into divulging financial data such as account usernames and passwords. Hijacking brand names of banks, e-retailers and credit card companies, phishers often convince recipients to respond. Technical subterfuge schemes plant **crimeware** onto PCs to steal credentials directly, often using key logging systems to intercept consumers online account user names and passwords, and to corrupt local and remote navigational infrastructures to misdirect consumers to counterfeit websites and to authentic websites through phisher-controlled proxies that can be used to monitor and intercept consumers' keystrokes.

The monthly *Phishing Activity Trends Report* analyzes phishing attacks reported to the Anti-Phishing Working Group (APWG) via its member companies, Global Research Partners, the organization's website at <http://www.antiphishing.org> and email submission to [reportphishing@antiphishing.org](mailto:reportphishing@antiphishing.org). The APWG phishing attack repository is the Internet's most comprehensive archive of email fraud and phishing activity. The APWG additionally measures the evolution, proliferation and propagation of **crimeware** drawing from the independent research of our member companies. In the second half of this report are tabulations of crimeware statistics and reportage on specific criminal software detected by our member researchers.

### Statistical Highlights for May 2007

• Number of unique phishing reports received in May:	<b>23415</b>
• Number of unique phishing sites recorded in May:	<b>37438</b>
• Number of brands hijacked by phishing campaigns in May:	<b>149</b>
• Number of brands comprising the top 80% of phishing campaigns in May:	<b>11</b>
• Country hosting the most phishing websites in May:	<b>United States</b>
• Contain some form of target name in URL:	<b>15.5 %</b>
• No hostname just IP address:	<b>6 %</b>
• Percentage of sites not using port 80:	<b>1.1 %</b>
• Average time online for site:	<b>3.8 days</b>
• Longest time online for site:	<b>30 days</b>

## Methodology

**APWG** is continuing to refine and develop our tracking and reporting methodology. We have recently re-instated the tracking and reporting of unique phishing reports (email campaigns) in addition to unique phishing sites. An email campaign is a unique email sent out to multiple users, directing them to a specific phishing web site, (multiple campaigns may point to the same web site). **APWG** counts unique phishing report emails as those in a given month with the same subject line in the email.

**APWG** also tracks the number of unique phishing websites. This is now determined by unique base URLs of the phishing sites.

**APWG** is also tracking crimeware instances (unique software applications as determined by MD5 hash of the crimeware sample) as well as unique sites that are distributing crimeware (typically via browser drive-by exploits).

## Phishing Email Reports and Phishing Site Trends for May 2007

The total number of *unique* phishing reports submitted to **APWG** in May 2007 was **23,415**, a drop of more than 200 from the previous month. This is a count of *unique* phishing email reports received by the APWG from the public, its members and its research partners.



The **Phishing Attack Trends Report** is published monthly by the Anti-Phishing Working Group, an industry association focused on eliminating the identity theft and fraud that result from the growing problem of phishing and email spoofing. For further information, please contact APWG Secretary General Peter Cassidy at 617.669.1123. Analysis for the **Phishing Attack Trends Report** has been donated by the following companies:

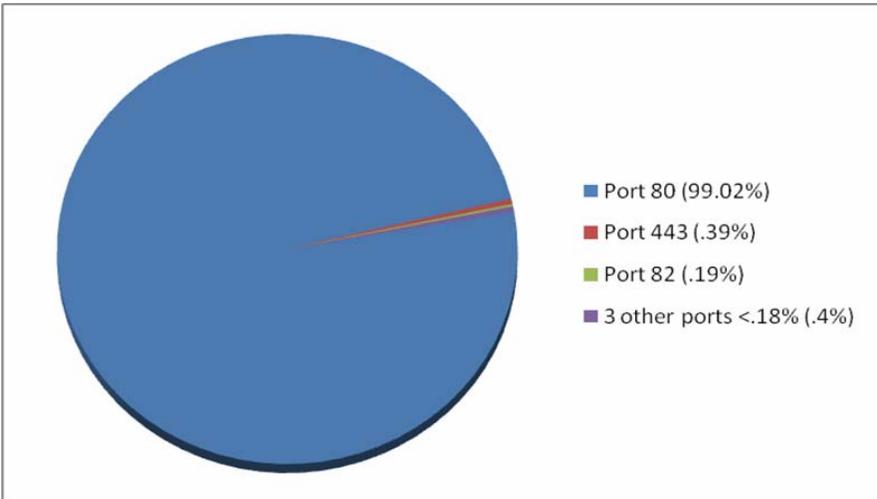


The number of *unique* phishing websites detected by **APWG** was **37,438** in May 2007, a drop of over 18,000 from April. Laura Mather, Ph.D., Senior Scientist at MarkMonitor said, "The number of unique phish URLs in May dropped, but remained at the high levels we were seeing last October and November. The fluctuation in the numbers is due to the on-again-off-again trend of the Phishers using multiple URLs on the same domain. For example, in April, 80% of all phish URLs used multiple URLs per domain. In May that dropped to 41% of the URLs. While the Phishers continue to use the tactic of multiple URLs per domain, we will continue to see fluctuations in these numbers depending on the number of brands being targeted with this technique."



### Top Used Ports Hosting Phishing Data Collection Servers in May 2007

May saw a continuation of HTTP port 80 being the most popular port used at 99.02% of all phishing sites reported.

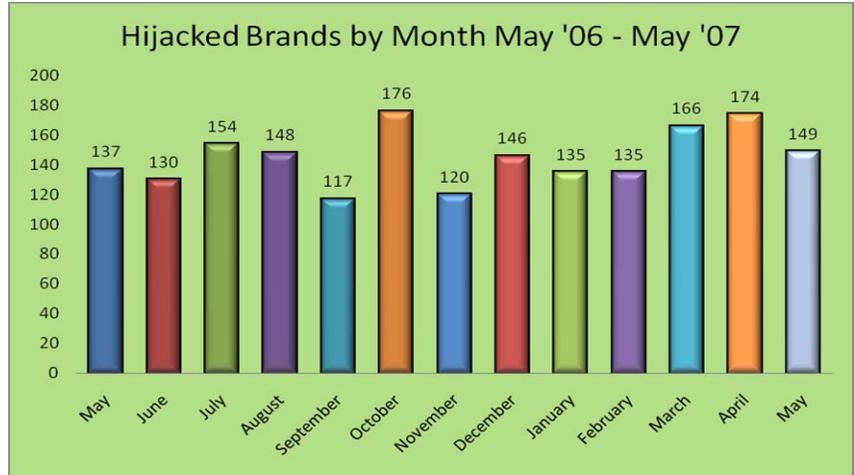


**Brands & Legitimate Entities Hijacked By Email Phishing Attacks in May 2007**

**Number of Reported Brands**

May 2007 saw a drop in hijacked brands to 149, coming after two consecutive months of increases.

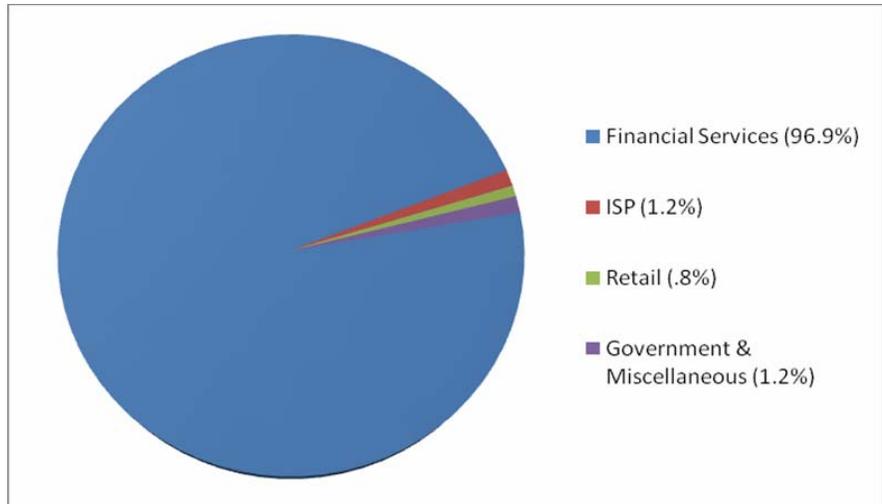
Interestingly, the top several brand targets are different from the last few months which indicates that the professional phishing gangs are changing their targets, either in response to some kind of increased security employed at the established targets, or to exploit some newly discovered weakness at another brand's site.



**Most Targeted Industry Sectors in May 2007**

Financial Services continue to be the most targeted industry sector at 96.9% of all attacks in the month of May.

"The IRS and one tax preparation company were phished in May 2007, and there is some evidence that smaller brokerages may be getting phished. This is something we will keep our eye on to see if it is a trend," said David Jevans, Chairman of the APWG.



## Web Phishing Attack Trends in May 2007

### Countries Hosting Phishing Sites

In May, Websense® Security Labs™ saw the United States remain on the top of the list for countries hosting phishing websites with 32.41%. The rest of the top 10 breakdown is as follows: China 13%, Russia 7.41%, Republic of Korea 6.78%, Germany 4.15%, France 3.51%, Turkey 3.38%, United Kingdom 3.3%, Canada 3.29% and Italy with 1.97%.



## PROJECT: Crimeware

### Crimeware Taxonomy & Samples According to Classification in May 2007

**PROJECT: Crimeware** categorizes crimeware attacks as follows, though the taxonomy will grow as variations in attack code are spawned:

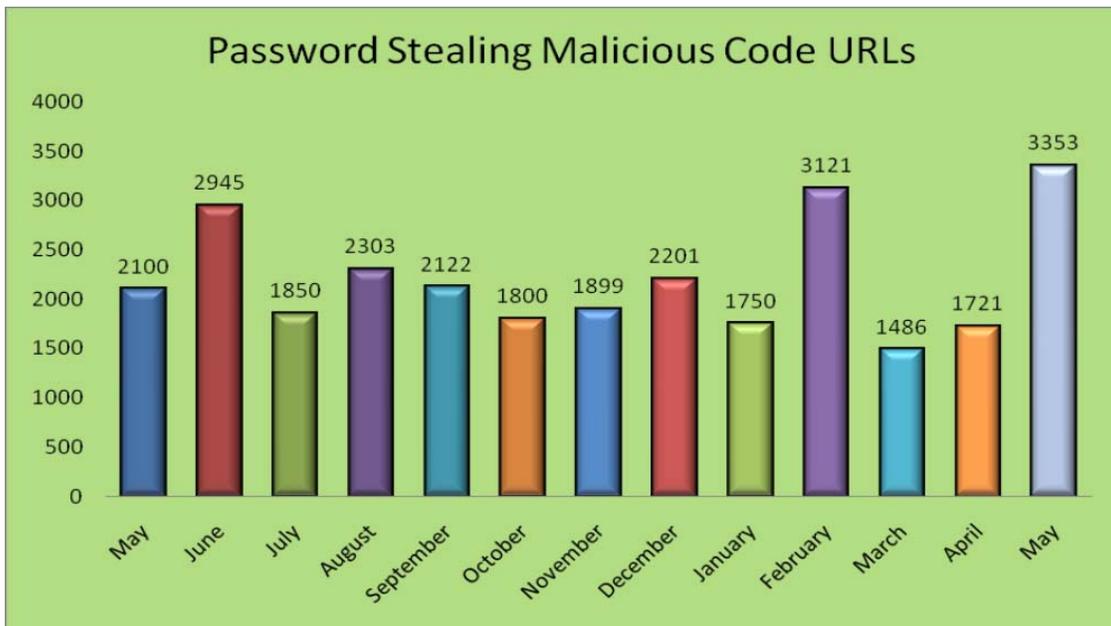
#### *Phishing-based Trojans - Keyloggers*

**Definition:** Crimeware code which is designed with the intent of collecting information on the end-user in order to steal those users' credentials. Unlike most generic keyloggers, phishing-based keyloggers have tracking components which attempt to monitor specific actions (and specific organizations, most importantly financial institutions and online retailers and ecommerce merchants) in order to target specific information, the most common are; access to financial based websites, ecommerce sites, and web-based mail sites.

**Phishing-based Trojans – Keyloggers, Unique Variants in May**



**Phishing-based Trojans – Keyloggers, Unique Websites Hosting Keyloggers in May**



## Phishing-based Trojans – Redirectors

**Definition:** Crimeware code which is designed with the intent of redirecting end-users network traffic to a location where it was not intended to go to. This includes crimeware that changes hosts files and other DNS specific information, crimeware browser-helper objects that redirect users to fraudulent sites, and crimeware that may install a network level driver or filter to redirect users to fraudulent locations. All of these must be installed with the intention of compromising information which could lead to identify theft or other credentials being taken with criminal intent.

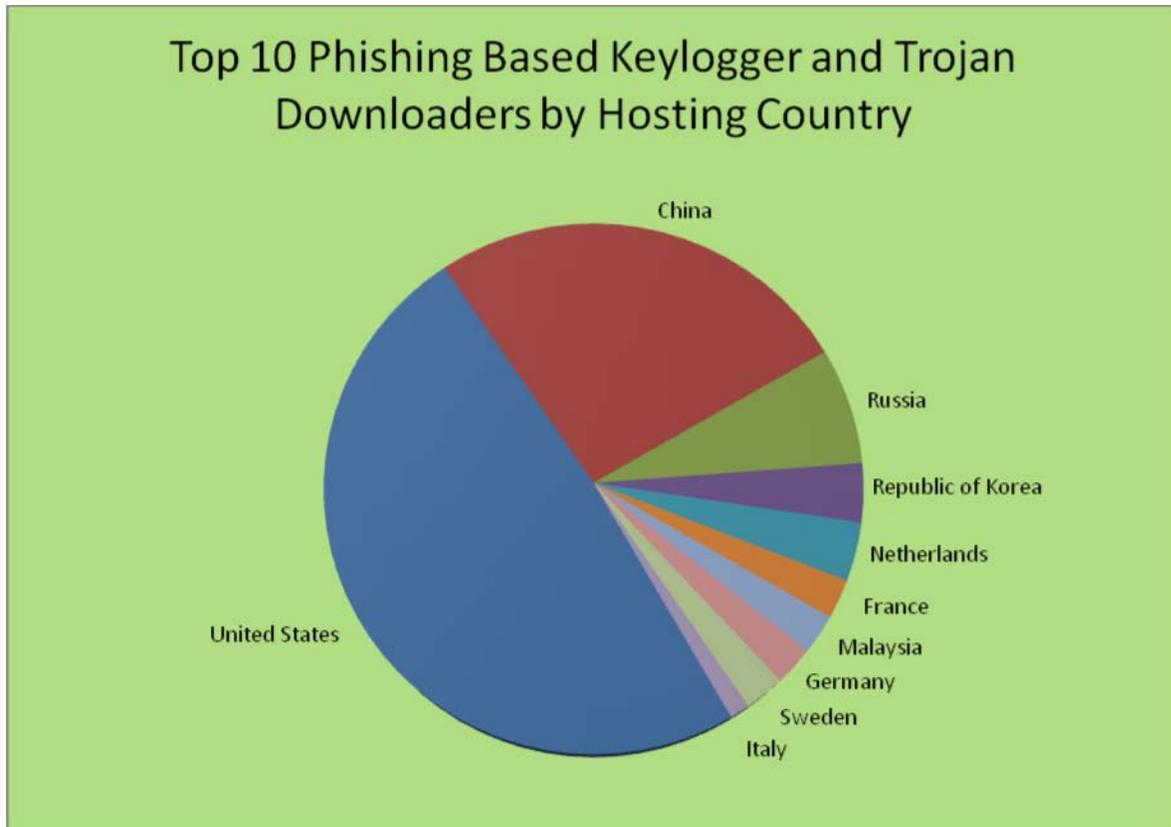
Along with phishing-based keyloggers we are seeing high increases in traffic redirectors. In particular the highest volume is in malicious code which simply modifies your DNS server settings or your hosts file to redirect either some specific DNS lookups or all DNS lookups to a fraudulent DNS server. The fraudulent server replies with “good” answers for most domains, however when they want to direct you to a fraudulent one, they simply modify their name server responses. This is particularly effective because the attackers can redirect any of the users requests at any time and the end-users have very little indication that this is happening as they could be typing in the address on their own and not following an email or Instant Messaging lure.

### Phishing-based Trojans & Downloader’s Hosting Countries (by IP address) in May

The chart below represents a breakdown of the websites which were classified during May as hosting malicious code in the form of either a phishing-based keylogger or a Trojan downloader which downloads a keylogger.

The United States continues to be the top hosting country with 41%.

The rest of the breakdown was as follows; China 22%, Russia 6%, Republic of Korea 3%, Netherlands 3%, France 2%, Malaysia 2%, Germany 2%, Sweden 2%, Italy 1%.



## Phishing Research Contributors



### MarkMonitor

MarkMonitor is the global leader in delivering comprehensive online corporate identity protection services, with a focus on making the Internet safe for online transactions.



### PandaLabs

PandaLabs is an international network of research and technical support centers devoted to protecting users against malware.



### Websense Security Labs

Websense Security Labs mission is to discover, investigate, and report on advanced internet threats to protect employee computing environments.

For media inquiries please contact Peter Cassidy, APWG Secretary General at 617.669.1123 or [pcassidy@antiphishing.org](mailto:pcassidy@antiphishing.org); Cas Purdy of Websense at 858.320.9493 or [cpurdy@websense.com](mailto:cpurdy@websense.com) and Te Smith of MarkMonitor at 831.818.1269 or [Te.Smith@markmonitor.com](mailto:Te.Smith@markmonitor.com).



### About the Anti-Phishing Working Group

The Anti-Phishing Working Group (APWG) is an industry association focused on eliminating the identity theft and fraud that result from the growing problem of phishing and email spoofing. The organization provides a forum to discuss phishing issues, define the scope of the phishing problem in terms of hard and soft costs, and share information and best practices for eliminating the problem. Where appropriate, the APWG will also look to share this information with law enforcement.

Membership is open to qualified financial institutions, online retailers, ISPs, the law enforcement community, and solutions providers. There are more than 1600 companies and government agencies participating in the APWG and more than 2700 members. Note that because phishing attacks and email fraud are sensitive subjects for many organizations that do business online, the APWG has a policy of maintaining the confidentiality of member organizations.

The website of the Anti-Phishing Working Group is <http://www.antiphishing.org>. It serves as a public and industry resource for information about the problem of phishing and email fraud, including identification and promotion of pragmatic technical solutions that can provide immediate protection and benefits against phishing attacks. The analysis, forensics, and archival of phishing attacks to the website are currently powered by Tumbleweed Communications' Message Protection Lab.

The APWG, a 501c6 tax-exempted corporation, was founded by Tumbleweed Communications and a number of member banks, financial services institutions, and e-commerce providers. It held its first meeting in November 2003 in San Francisco and in June 2004 was incorporated as an independent corporation controlled by its steering committee, its board and its executives.