Gone Phishing: Evaluating Anti-Phishing Tools for Windows

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1 Executive Summary

Phishing has become an increasingly serious problem over the last two years. The magnitude of the problem has been increased by several factors:

- A steady upward trend in the number of phishing sites and the number of phishing mails sent. The Anti-Phishing Working Group's latest report in May 2006 showed a 400% increase in phishing sites over the past year.[1]

- The increasing sophistication of phishers' e-mail messages.

- The evolution of phishing methods from shotgun-style e-mail to targeted attacks ("spear phishing") and attacks using other methods ("vishing" as the most recent example).

As phishers have stepped up their activities, a variety of technology companies have tried to ease users' pain by providing anti-phishing tools either built into browsers or as add-ons in the form of toolbars. However, no systematic tests have been done to judge their accuracy against large amounts of real phishing Web sites—until now.

Microsoft hired 3Sharp LLC to test the Microsoft Phishing Filter, a new security feature and service incorporated in Internet Explorer 7 Beta 3, against seven other currently available browser-based anti-phishing technologies. To do this, we tested and compared anti-phishing toolbars or technology built in to browsers from eBay, EarthLink, GeoTrust, Google, Netcraft, McAfee Site Advisor, and Netscape. All of these products try to either block access to or warn the user about Web pages identified by the software as potential or actual phish.

We believe this is the first public comparative test of this kind, harvesting and testing live confirmed phishing URLs from a variety of e-mail sources (including hundreds of spam honeypots at one time), to help provide a more definitive quantitative understanding of comparative catch rate and performance.

We developed and tested each technology with a standardized set of 100 known phishing Web site URLs and 500 known good URLs to see how well each anti-phishing technology flagged both phish and legitimate URLs.

Our tests sought to calculate a composite score of accuracy for each technology to show how well it did two things: warn or block the user from actual live phishing Web sites, and refrain from incorrect warnings or blocking on legitimate Web pages. We combined these two metrics to generate a composite accuracy score using the formula described in the "Testing Methodology" section.

Our objective was to have the composite accuracy scores measure how much better each technology was compared to using no anti-phishing protection at all, so we weighted a block of a Web page as worth twice as much as a warning on a Web page event. This reflects our opinion that blocking access to a known phish is a better anti-phishing remedy than just a visual warning that might be missed by a user.

The score's range is 0 to 200, where 0 represents a browser (like Internet Explorer 6 or Firefox 1.5) with no anti-phishing capability at all and 200 represents an anti-phishing technology that caught all the known phish without making any mistakes by falsely warning or blocking any good URLs as phish.

In our tests, we found that the best overall performers were as follows:

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[1] http://www.apwg.com/reports/apwg_report_May2006.pdf

- **Internet Explorer 7 beta 3 had the best overall performance, with a composite accuracy score of 172.**
- **The Netcraft toolbar was close behind with a composite accuracy score of 168.**

The rest of the pack, including Google, eBay's toolbar, Earthlink, Netscape, GeoTrust, and McAfee Site Advisor, scored significantly lower (from 3 to 106). The results are summarized in Figure 1; detailed composite score results are shown in section 5.

Figure 1: Composite accuracy score results
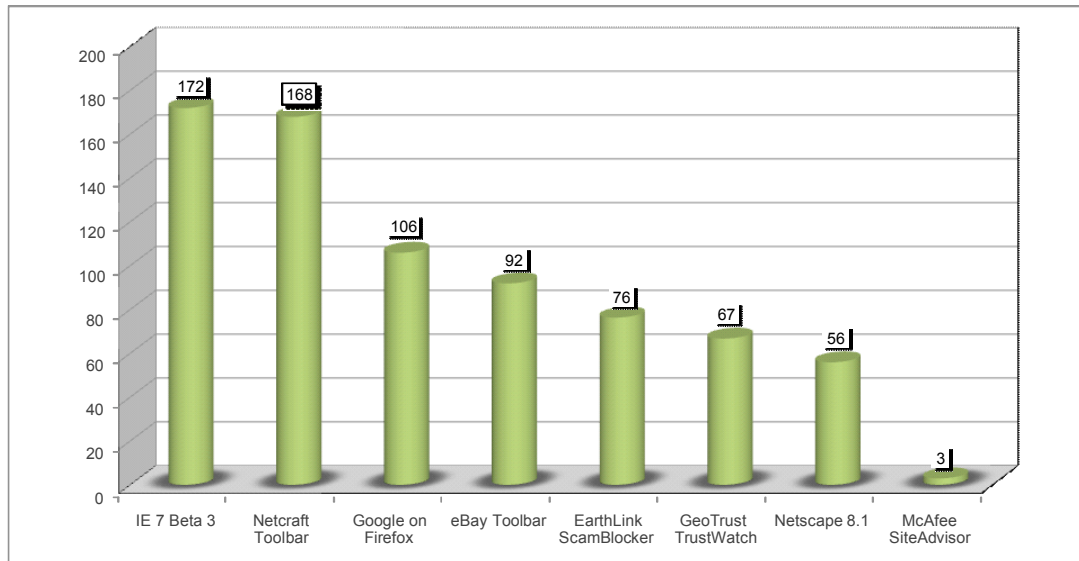
Catching Phish

Table 1 shows how often each technology blocked or warned users when they attempted to load known phishing URLs; products are listed from best performance to worst. When we examined the raw block and warn rates, we found that GeoTrust's solution had the highest catch rate, followed by IE 7 and Netcraft. However, the GeoTrust solution only warns users; it doesn't block them from accessing known phishing sites. In addition, GeoTrust made the most mistakes when evaluating known good sites, which hurt its overall composite score. (We should also note that, by design, eBay's toolbar only warns on what it thinks are eBay or PayPal phish sites, ignoring all others, leading to a lower score than several other products.)

Table 1: Stacked total catch rates for known phish URLs

Product	Total Catch Rate	Blocks	Warns
GeoTrust TrustWatch	**99%**	0%	99%
IE 7 Beta 3 RC3	**89%**	83%	6%
Netcraft Toolbar	**84%**	84%	0%
EarthLink ScamBlocker	**64%**	14%	50%

Google / Firefox	**53%**	53%	0%
eBay Toolbar	**46%**	46%	0%
Netscape 8.1	**28%**	28%	0%
McAfee Site Advisor	**3%**	0%	3%

Measuring Mistakes on Good Sites: False Warnings or Blocks

Table 2 shows a stacked ranking of how often each technology gave a false warning or false block on a Web site that had been confirmed to be real and not a phish. This is a way to calculate the error rate and is critical for maintaining user confidence. The products are ordered from highest error rate to lowest. While in catch rate testing a high score is desirable, in this test a low score (0%) is perfect, as it means there were no mistakes on the 500 good Web sites tested.

In general most of the technologies performed equally well here. However both GeoTrust and EarthLink had significant rates of errors: GeoTrust mislabeled nearly one out of three good sites as phish; EarthLink was the next highest at 1.6%.

Table 2: Mistakes made on known good URLs

Product	Total % of False Warnings/Blocks	False Blocks	False Warns
GeoTrust TrustWatch	32.2%	0.0%	32.2%
EarthLink ScamBlocker	1.6%	0.0%	1.6%
eBay Toolbar	0.0%	0.0%	0.0%
Google on Firefox	0.0%	0.0%	0.0%
IE 7 Beta 3 RC3	0.0%	0.0%	0.0%
McAfee Site Advisor	0.0%	0.0%	0.0%
Netcraft Toolbar	0.0%	0.0%	0.0%
Netscape 8.1	0.0%	0.0%	0.0%

2 About 3Sharp

3Sharp LLC is a privately held technical services company founded in 2002. Our core business revolves around three areas:

- The Infrastructure and Platform group delivers design and deployment consulting and related services for Microsoft Windows, Microsoft Exchange Server, Microsoft Live Communications Server, Windows SharePoint Services, and SharePoint Portal Server.

- The Technical Content Development group builds advanced technical materials, including white papers, public and internal training, courseware development, demos, and hands-on labs.

- The Office System Solutions group develops solutions for customers that leverage the 2007 Microsoft Office release client and server applications. These solutions are usually in the form of demos, hands-on labs, training, technical papers, and integrated solutions.

Our customers include Activision, Andrews & Kurth, eBay, Global Market Insite, MessageOne, Microsoft, Memorial Sloan Kettering Cancer Center, Scripps Media, USG, and Zippo Manufacturing.

3   Overview

3Sharp LLC was commissioned by Microsoft to conduct a competitive evaluation of seven client-side anti-phishing filtering products compared with the Microsoft Phishing Filter (MPF) in Internet Explorer 7 Beta 3. This report summarizes the results of this study.

This evaluation is intended to provide an independent assessment of the real-world accuracy of the new Microsoft Phishing Filter technology in comparison with competing products. The goal of this evaluation was to evaluate each technology using a standardized testing methodology based on the principle that effectiveness of anti-phishing technologies must balance two competing dimensions: protecting the user by high accuracy in catching known phish, and ensuring a low rate of false positives or false warnings on legitimate sites.

3Sharp developed a testing methodology to measure each technology's performance using two key metrics:

1) *Catch rate*: how well each tool catches known phish from a common pool of known phish, either by generating a warning or blocking access to the phish page.

2) *False positive rate*: how many false warnings or blocks each tool generates from a pool of known-good URLs.

We combined these two measurements to calculate an overall score of relative accuracy: the **Composite Anti-Phishing Accuracy Score**.

Using a single composite score as the primary metric gives us a single comparison point to evaluate how well each product works in both catching known phish URLs (which should always be blocked) and not blocking known good URLs (which should always be allowed).

Section 5 contains the details of how we calculated the composite score and an explanation of the weighting factors. Appendix A contains our list of confirmed test phish URLs, and Appendix B contains the list of known good URLs. We didn't include the detailed line-by-line scores for each product in this report, but will make them available upon request by e-mail to *info@3sharp.com*.

4   Products Tested

Table 3 lists the products and versions we tested. The remainder of this section describes each product in more detail. Note that some of these products were updated during the test cycle or shortly afterwards; for example, EarthLink released a new version of their toolbar in early July. Due to the nature of the test, and to preserve the consistency of testing, once we began testing in May 2006 we could not slipstream technology versions into the testing process.

Table 3: Products, versions, and browsers used in our tests

Vendor	Product	Version	Browser used in test
Microsoft	Internet Explorer 7 Beta 3	7.0.5450.33	Internet Explorer 7 Beta 3
EarthLink	ScamBlocker	3.1.5	Internet Explorer 6.0
eBay	Toolbar with AccountGuard	2.3.1	Internet Explorer 6.0
GeoTrust	TrustWatch	3b1	Internet Explorer 6.0
Google	Google Toolbar for Firefox with "Safe Browsing"	2.0 (with Firefox 1.5.4)	Mozilla Firefox 1.5.0.4
McAfee	Site Advisor	1.5.0.0 build 3083	Internet Explorer 6.0
Netcraft	Toolbar	1.6.2	Internet Explorer 6.0
Netscape	Netscape Browser	8.1	Netscape Browser

Microsoft Phishing Filter in Windows Internet Explorer 7

IE 7 is the forthcoming release of the Internet Explorer browser for Windows XP SP2 and will be included with the upcoming release of the Windows Vista operating system. Many of IE 7's updates are aimed at improving the complete browsing experience, but there are also significant security enhancements. These include the Microsoft Phishing Filter, which is also available as part of the Windows Live Toolbar. The Phishing Filter uses a combination of Microsoft's URL Reputation Service (URS) and local heuristics built into the IE 7 browser. These methods allow it to identify and warn users in real time of suspected phish URLs, and block them from accessing confirmed phishing sites that have been reported to the URS by either users or third-party data providers. We tested Internet Explorer 7 Beta 3 build 7.0.5450.3.

EarthLink Toolbar

EarthLink has long offered a toolbar with several interlocking features to their subscribers; for the last few years, they have offered the toolbar as a free download. Besides the ScamBlocker anti-phishing component, the toolbar includes a pop-up blocker, cookie monitoring tools, and a Google search bar. The EarthLink Toolbar is freely downloadable from Earthlink's site. We tested build 3.1.5 of the EarthLink Toolbar on Internet Explorer 6.0.

eBay Toolbar

The eBay Toolbar includes several auction-related tools (including alert functionality and quick links to various "My eBay" pages). It also includes code that's supposed to find eBay and PayPal spoof and phish sites. This toolbar and service is based on technology from Whole Security, which was recently acquired by Symantec. The "Account Guard" feature is intended to help users identify spoofed sites and restrict their ability to enter their legitimate eBay credentials. We tested version 2.3.1 of the eBay Toolbar on Internet Explorer 6.0.

GeoTrust TrustWatch Toolbar

The TrustWatch Toolbar combines site lookups with phishing protection and Google search. Once installed, the toolbar shows a single visual indicator of whether the site was verified

against TrustWatch's database. The toolbar also shows the real DNS name of the currently loaded site, and it allows users to specify a visual or textual identifier that the toolbar knows and can display; this helps guard against sites that put up their own fake address bars. We tested version 3b1 of the TrustWatch Toolbar on Internet Explorer 6.0.

Google Toolbar for Mozilla Firefox

The Mozilla Firefox 1.5 versions we tested in May and June of 2006 don't include any built-in anti-phishing features. However, Google's Toolbar adds some anti-phishing capability with its "Safe Browsing" plug-in for Firefox. The toolbar is primarily intended to drive customers to Google's properties (including Gmail and Google Search). However, the toolbar also includes anti-phishing protection through queries to Google's private URL reputation service. We tested version 2.0 of the Google Toolbar on Mozilla Firefox 1.5.0.4. Mozilla recently released a beta of Firefox v2 that incorporates some of this technology directly into the browser, using the same block list service as Google's "Safe Browsing" tool.

McAfee SiteAdvisor

McAfee's SiteAdvisor product is a free stand-alone anti-phishing product that adds a single SiteAdvisor button to the browser window. Suspect or blocked sites are identified by a pop-up balloon and by color and text changes in the button. SiteAdvisor offers a wealth of information about sites, including whether the site appears to send spam and whether it is suspected of being a phishing site.

Netcraft Toolbar

Netcraft's free toolbar leverages Netcraft's very large database of Web servers to flag suspected or actual phishing sites. The toolbar displays several useful characteristics of the current page, including the country where the Web server is hosted, the true IP address, and a bar-graph "risk rating" indicator. We tested version 1.6.2 of the Netcraft Toolbar on Internet Explorer 6.0.

Netscape Browser 8.1

Netscape's latest browser version includes phishing detection using the Security Center bar, a vertical toolbar that pops out from the right edge of the browser window to display information about the trustworthiness of the site. The security rating is also shown as an icon in the tab associated with each Web page. Netscape doesn't provide a means for users to report suspect sites.

5 Test Methodology

This section describes how we performed the tests, including where the data came from and how we actually tested the products.

Where the Data Came From

3Sharp's first challenge was to ensure that we had the necessary variety and volume of data to provide a significant body of data for statistical significance. Overall, we aimed to send at least 100 known phish URLs through each filter. At first, we thought this would be straightforward, but in practice we saw a phish arrival rate of less than 10 phish/day— sometimes much less. We also needed to ensure that whenever possible, these known phish were "fresh"; that is, that they hadn't already been included in any of the products' data feeds or blacklisted by the front-end mail filtering in use at Microsoft, EarthLink, and other services that use or provide URL reputation services. To prevent bias in our data sources,

we intentionally did not take any feeds from known third-party data providers or end users to the Microsoft Phishing Filter service in IE 7.

We set a requirement of testing each phish URL within 48 hours of its collection to ensure that the filtering data didn't get too far ahead of our feeds and skew the results in favor of products that updated their filter definitions more frequently. Testing of the URLs was done in random order. Finally, we needed to be able to show that we sent the same URLs through each product.

In order to fulfill these requirements, we made use of the following message feeds. Known phish were pulled from the following sources:

- **52% IECC/John Levine spam feed.** 3Sharp subscribed to a spam feed provided by prominent anti-spam activist and researcher John Levine. This feed comprises between 30,000 and 50,000 known spam messages per day, gathered from a custom network of several hundred honeypots and spamtraps. The messages were captured from an incoming SMTP feed at 3Sharp's lab using a simple SMTP sink that logs incoming messages to disk. Each message was tagged with a unique GUID for identification.

- **27% Hotmail feed.** One input used by 3Sharp was phishing URLs mined from two sources of Hotmail data. One source was junk mail identified by users who have opted in to a mail classification program for Hotmail. This is an opt-in program where selected Hotmail subscribers are asked roughly once a day to classify an e-mail message sent to them as good mail or spam. Phishing data was generated identified from mails classified as spam under this program. In addition, raw direct Hotmail mail feeds were also mined for keywords that would indicate a high likelihood of spam or phishing. These feeds were also incorporated into the Hotmail data feed, and Microsoft placed them into a SQL database for 3Sharp's use. Each message was tagged with a unique GUID for identification.

- **17% inbox phish received by 3Sharp personnel during the course of the study.** In order to supplement our phish URL volumes, we had 3Sharp personnel forward us suspicious messages from their personal inboxes, including our Exchange server and personal mailboxes on various ISPs and hosted services.

- **4% APWG (Anti-Phishing Working Group) phish list**. To provide a live source for additional phish, we used a small number of known phish from APWG.

Known good URLs were pulled from a feed of randomly selected traffic-weighted URLs provided by Microsoft. The data set consisted of 500 URLs which had been manually verified by Microsoft but were independent of, and confirmed not to be included in the Microsoft Phishing Filter system to ensure testing fairness.

Methodology for Finding Phish

Each of these feeds presented messages as a collection of individual files in .eml format. Each day, we used a regular expression-based search tool to filter through each day's take from the two feeds, using a set of regular expressions (available on request). This automated method let us quickly find phish-like messages and give them further scrutiny.

On average, these regular expressions found more legitimate phish messages in the Levine feed, with more false positives in the Hotmail feed. On the other hand, genuine phish messages from the Hotmail raw feed were more likely to be unique, live URLs; the Levine feed contained an overwhelming amount of duplicate messages.

Once we'd identified phish candidates from our feeds, we hand-evaluated the resulting collection of messages by opening each message individually and examining the embedded URLs using a browser with no anti-phishing software installed (either IE 6.0, Firefox 1.5, or Safari 2.0.4). When we identified a new unique URL, we opened it to confirm whether it was in fact a phish URL. Our typical day of testing gave us between 350-600 candidate messages to examine; of those, we usually had between 3-7 live unique phish URLs. Phish URLs tend to have a very brief shelf-life.

Once we had identified live phish URLs, we recorded the target URLs along with the date and the message GUID and feed that produced it.

We set up separate Windows XP SP2 installations in virtual machines, with each product installed in its own VM. Each client product was configured to set its home page to an HTML file of the URLs we were testing. This allowed us to quickly and easily work through each day's test batch with minimal effort.

Our human testers manually recorded the results of opening each URL; once collected, we used the results to calculate the composite score for each product. In some cases, we found URLs that went dead during our testing; in those cases, we would remove that URL from the candidate list of live phish and replace it with a new URL.

Calculating the Composite Anti-Phishing Accuracy Score

The anti-phishing composite score was built around the principle that accuracy of anti-phishing technologies needs to balance protecting the user (catching known phish) with ensuring a low error rate on any known good sites (false warnings or false positives). 3Sharp's testing methodology measures each anti-phishing technology's performance in two key ways.

First, the *catch rate* measures how well each technology catches the known phishing URLs by either warning or blocking them. Each URL tested was scored as doing one of three things:

- *Block*: The technology identified the site as a phish, then either blocked the page from loading or prevented text entry onto the page. This is the preferred outcome, since it prevents the user from accidentally or ignorantly reaching a phish page.

- *Warn*: The technology displayed a visual notification or warning to notify the user a site was suspicious and might be a phish but was not confirmed as such. However, the site wasn't blocked and the user could still enter text. This is not as good as a block, but still better than nothing.

- *Allow*: The technology didn't detect the phish, and the page was loaded normally. We also referred to allowing a known phish through as a *false negative*.

Our objective was to have the composite scores represent how much better the technology was than using no technology at all, so we weighted a block as worth twice as much a warn event. This reflects our opinion that blocking access to a known phish is a better anti-phishing remedy than just a visual warning.

The false positive rate measured how many false warnings or blocks were generated on a list of known good URLs by each product. We used the same block/warn/allow definitions. The false positive score was then subtracted from the catch rate to determine overall accuracy. A false block on a good site was scored as twice as bad as a false warning, while allowing a good site through was zero value

The composite score can thus be calculated using this formula:

S(x) = 2 * (% Phish Block) + (% Phish warn) -
          (2 * (% FP block) + (% FP warn))

1. Take the percentage of legitimate blocks on known phish URLs. Multiply this value by 2.
   % of Phish URL Blocks x 2
2. Take the percentage of legitimate warns on known phish URLs.
   % of Phish URL Warns x 1
3. Add the values from steps 1 and 2. This is the Known Phish Subtotal.
   Step 1 + Step 2 = Known Phish Subtotal
4. Take the percentage of false positive warns on known good URLs.
   % of Good URL Warns x 1
5. Take the percentage of false positive blocks on known good URLs. Multiply this value by 2.
   % of Good URL Blocks x 2
6. Add the values from steps 4 and 5. This is the Known Good Subtotal.
   (Step 4 + Step 5) = Known Good Subtotal
7. Ignore the total number of product allows for both known phish URLs and known good URLs.
8. Add the values from steps 3 and 6, and then multiply the value by 100. This value is the product's composite score.
   (Known Phish Subtotal – Known Good Subtotal) x 100 = Composite Score

By using percentages for its base calculations, this formula easily scales against different sizes of data runs.

6 Results

This section records the results of the evaluation process.

In the following tables and figures, the tested products are referred to in the following fashion:

- **IE 7 Beta 3** is the Microsoft Phishing Filter in Internet Explorer 7 Beta 3 build 7.0.5450.3.
- **EarthLink ScamBlocker** is the EarthLink Toolbar 3.1.5 installed on IE6.
- **eBay Toolbar** is the eBay Toolbar 2.3.1 installed on IE6.
- **GeoTrust TrustWatch** is the GeoTrust TrustWatch Toolbar 3b1 installed on IE6.
- **Google Safe Browsing on Firefox** is the Google Safe Browsing technology included in Google Toolbar 2.0 installed on Mozilla Firefox 1.5.0.4.
- **Netcraft Toolbar** is the Netcraft Toolbar 1.6.2 installed on IE6.
- **Netscape 8.1** is Netscape Browser 8.1.
- **McAfee Site Advisor** is McAfee Site Advisor 1.5.0.0 installed on IE6.

The results tables and charts identify the following statistics:

- **Blocks:** how many URLs the product either actively prevented the user from reaching without additional steps or identified as a phishing site and prevented data entry. (Note that some of the products tested don't generate Blocks; they only generate Warns.)
- **Warns:** how many URLs the product identified as a suspected phishing site in a readily noted fashion. (Note that some tested products don't generate Warns, only Blocks.)
- **Allows/False Negatives:** how many URLs to which the product either gave a positive or neutral indication.

- **Total Catch Rate:** how many phish URLs were correctly blocked or warned.
- **False Negatives:** how many phish URLs were incorrectly allowed.
- **Total Allows:** how many good URLs that were correctly allowed.
- **False Positives:** how many good URLs that were incorrectly blocked or warned.

Composite Anti-Phishing Accuracy Score

The **Composite Anti-Phishing Accuracy Score**, also referred to as the composite score, provides a single comparison point between evaluated products. The composite score is an abstract method that assigns points for blocking or warning on known phish URLs while taking points away for blocking or warning on good URLs.

Table 4 provides the composite scores for the tested products, while Figure 1, shown earlier, provides the same data formatted as a chart.

Table 4: Composite Anti-Phishing Accuracy Score

Product	Anti-Phishing Accuracy Score
IE 7 Beta 3 RC3 with Phishing Filter	172
Netcraft Toolbar	168
Google Safe Browsing on Firefox	106
eBay Toolbar	92
EarthLink ScamBlocker	76
GeoTrust TrustWatch	67
Netscape 8.1	56
McAfee Site Advisor	3

Detailed Block, Warn, and Allow Rates for Known Phishing Web Sites

Table 5 shows a ranked summary of the relative performance of the tested products for known phish URLs. The total catch rate consists of the number of warns and the number of blocks added together. This gives a slight advantage to GeoTrust, which had the highest catch rate even though it only warns and doesn't block users from going to known bad sites.

Table 5: Stacked total catch rates for known phish URLs

Product	Total Catch Rate	Blocks	Warns
GeoTrust TrustWatch	**99%**	0%	99%
IE 7 Beta 3 RC3 with Phishing Filter	**89%**	83%	6%

Netcraft Toolbar	**84%**	84%	0%
EarthLink ScamBlocker	**64%**	14%	50%
Google on Firefox	**53%**	53%	0%
eBay Toolbar	**46%**	46%	0%
Netscape 8.1	**28%**	28%	0%
McAfee Site Advisor	**3%**	0%	3%

Figure 2 shows these results as a graph. Blocks are red; warnings are yellow. A product with perfect performance (e.g. blocking 100 of 100 known phish) would have a solid red bar. In this graph, more red is better.

Figure 2: Block and warn results for known phish URLs
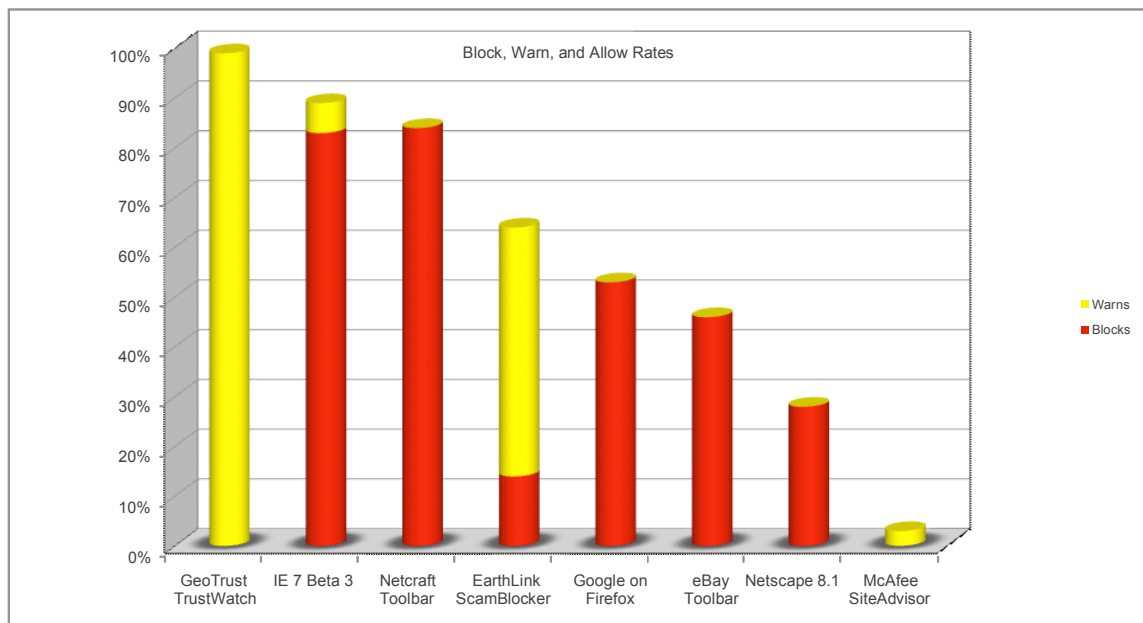
Measuring Mistakes on Good Sites: False Warnings or Blocks

Table 6 shows a stacked ranking of the total allow rate for known good URLs. The products are ordered from highest total allow rate to lowest. While in catch rate testing a high score is desirable, in this test a low score (0%) is perfect, as it means there were no mistakes on good Web sites. GeoTrust generated a significant number of mistakes—nearly one out of three good sites were warns. EarthLink was the next highest at 1.6%. All other technologies performed equally well. Figure 3 shows the false positive rates for known good URLs.

Table 6: Mistakes made on known good URLs

Product	False Warnings/Blocks	False Blocks	False Warns

GeoTrust TrustWatch	32.2%	0.0%	32.2%
EarthLink ScamBlocker	1.6%	0.0%	1.6%
eBay Toolbar	0.0%	0.0%	0.0%
Google on Firefox	0.0%	0.0%	0.0%
IE 7 Beta 3 RC3	0.0%	0.0%	0.0%
McAfee Site Advisor	0.0%	0.0%	0.0%
Netcraft Toolbar	0.0%	0.0%	0.0%
Netscape 8.1	0.0%	0.0%	0.0%

Figure 3: False positives for known good URLs
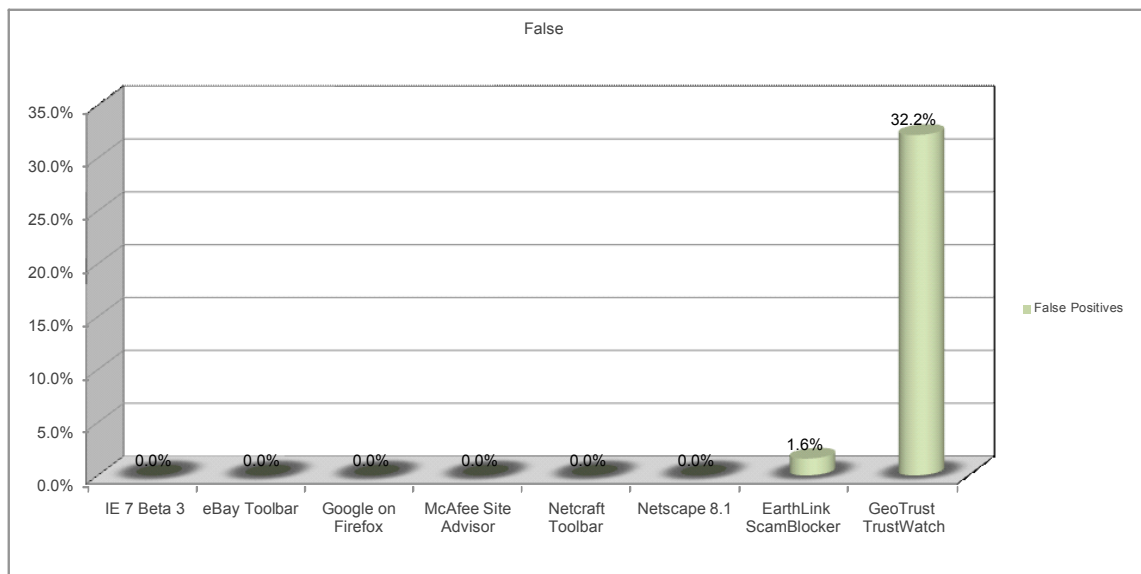
7   Conclusions

We reached several conclusions after performing these tests.

First, **the strongest performers were the Microsoft Phishing Filter in IE 7 and Netcraft's Toolbar; they easily outpaced other technologies.**

- Even though it's still a beta, IE 7 currently offers the best overall accuracy against phish according to our composite scoring model. It nudged out Netcraft because of its ability to anticipate phish with its local heuristics, on top of having almost the same ability to block known phishing sites with its service.

- Netcraft's mature toolbar has clearly succeeded in leveraging Netcraft's large existing database of Web servers to provide good anti-phishing protection. Their toolbar

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offers a good degree of protection for users not running IE 7. The Netcraft Toolbar also offers some useful features, like its Risk Meter, that may appeal to users who want to know more about the sites they're visiting.

Second**, some protection is better than nothing at all**. The trailing products, GeoTrust's TrustWatch and Netscape 8.1, didn't do nearly as well at catching phish (or allowing good URLs through without warning errors) as the leaders did. However, even Netscape caught 28% of our test phish, which is still better than an unmodified browser.

Third, **phish detection is a delicate balance.** This was proved by GeoTrust's product, which warned us about 99% of the phish but then lost its edge by generating false warnings on nearly a third of the 500 confirmed legitimate sites tested.

Based on the data from this study, as phishers get smarter and more sophisticated, we believe that the defensive edge for anti-phishing technology will remain with those companies that use a combination of heuristics and dynamic, regularly updated data feeds instead of just feeds alone.

Finally, this study captures relative performance at a point in time (May–July 2006). As with many other technologies, there is a broad range of companies innovating in this space. It will be interesting to see how relative performance between these products evolves over time. For example, Microsoft, Mozilla, and EarthLink have newer versions of their products than the ones we tested. It's likely that their accuracy has improved, so you should use these results as a starting point in understanding their accuracy.

A. Phish URL Data

Table 7 provides details of the message data used to generate the known phish URLs. In this appendix, the following columns are present in the results tables:

- **URL #** is the row number of the URL. This column is the master key for the detailed results table (available upon request to 3Sharp) that links the result row in the detailed results with the URL detail row in the known phish and good URL tables (Tables 7 and 8).
- **Feed** identifies the source of the message.
- **Sent Date** identifies the date that the message was collected.
- **Message GUID** identifies the GUID stamped on the message by the collection tool, or the filename if the message was submitted by a person.
- **Phish URLS** identifies the URL harvested from the message.

Table 7: Known phish URLs and message data

URL #	Feed	Sent Date	Message GUID	Phish URL
1	Levine	20-Jun	0a486a1b-f578-4426-93ae-02c065a8a496	http://www.asf-gaming.de/cmpro.extern/cmpro.ext/images/Upate-info/NorthForkBank/index.htm
2	Levine	20-Jun	4400b82e-b76b-44e0-bc52-2717884b91aa	http://iqgens.com/myonlineaccounts2.abbeynational.co.uk/Logon.htm
3	Levine	20-Jun	50a6c691-c64b-4cd9-bde4-0c9ff6e05b80	http://www.mccusc.org/verify
4	Levine	20-Jun	8fb8d18b-d686-4aed-9e24-9e3c1b015dbd	http://www.wohnbauprojekte.at/catalog/images/.us/www.paypal.com/cgi-bin/index.htm
5	Levine	20-Jun	979bc19b-744a-42e9-96be-20db6439afdd	http://0xc8.0xd.0xa5d1/icons/www.paypal.com/us/
6	Levine	20-Jun	c48fe1ce-06a4-42cf-ad53-6d5f16d7e401	http://164.125.38.52/webscr/cgi_bin=secure_login/
7	Levine	20-Jun	d9dc4145-0631-4d25-969f-952581b15e0c	http://www.granitnet.hu/~martin/cgi-bin/webscr.php?cmd=_login-run
8	Levine	20-Jun	ff2a762b-cdf2-48e7-b499-2a61d5f2f848	http://ns.rbk.sk/milos/css/.profile_verification/secure/login.htm
9	Levine	21-Jun	186a5128-ed72-4810-af91-62005402a6b4	http://www.wohnbauprojekte.at/catalog/images/.us/www.paypal.com/cgi-bin/index.htm
10	Levine	21-Jun	04ffadab-0b49-4b08-bea1-a025348bdab1	http://hondaphil.com.ph/secure.synovus.com/enroll/enroll1.htm
11	Levine	21-Jun	433d1479-1368-4f40-b5ab-58aacee9eabf	http://24.232.223.68/us/
12	Levine	21-Jun	6801ac47-f57b-42b4-8438-7944bd31bfd0	http://ogilvy.bg:84/cgi_bin/webscr_cmd=_login-run/index.php?

URL #	Feed	Sent Date	Message GUID	Phish URL
13	Levine	21-Jun	7943cf51-2c26-470c-9d7b-98dd2aabc20b	http://ns.rbk.sk/milos/css/redirect.to/www.paypal.com/cgi-bin/webscr_cmd=_login-run/
14	Levine	21-Jun	cebc4066-540b-4c00-bc50-2c63d83ec0e1	http://shirin.dsvr.co.uk/.cgi-bin/.paypal/webscrcmd_login.php
15	HMR	22-Jun	4b87c4f0-c928-4e3f-b1cd-1adb9da3fae7	http://adsl-220-229-128-166.nh.sparqnet.net/icons/ws/signin.ebay/eBayISAPI.dl/SignIn&pUserId/index.html?SignIn&co_partnerId=2&pUserId=&siteid=0&pageType=&pa1=&i1=&showgif=&UsingSSL=&ru=http%3A%2F%2Fwww.ebay.com&pp=&pa2=&errmsg=&runame=&ruparams=&ruproduct=&sid=&favoritenav=&confirm=&ebxPageType=&existingEmail=&isCheckout=&migrateVisitor=
16	HMR	22-Jun	315f6163-89ae-4914-807c-e953ddf22c3f	http://paypal.com.qw-update.com/cgi_bin/webscr.php?cmd=LogIn
17	HMR	22-Jun	b901dbe8-8714-443f-b4f8-29b145baa73e	http://uk-ehsbonline.com/secure/personal-update/12personalpib-home/online-internet-account-update/
18	Levine	22-Jun	786f2d94-72bc-4562-88fe-1ba177ee6f0f	http://200.86.74.9:82/
19	Inbox	22-Jun	n/a	http://ebay.ws-dll99.com/~user/.cgi-bin/index.html
20	Inbox	23-Jun	n/a	http://statweb.tinweb.it/webscr/usPPREDIRECT=1ymxTfhxekVozTn_D3lr4yC_fjPHHjAFxTYeVx2U2qEKd6oY9e-jrvOKGz2GW_O6sifgHThGs2LP18JJ51Qi3TQVAfZzRGZzSF1HrxAYmOpwHqcPaiJ1fsofanm/cgi-bin/3fcmd=_login-run/paypal/index.php
21	Inbox	26-Jun	n/a	http://fsclan.dizitown.net/bbs/www.ebay.com/ebay/index.html
22	Inbox	26-Jun	n/a	http://207.44.220.105/us/webscr.php?cmd=LogIn
23	Levine	26-Jun	ad2f6b8c-0be1-4fde-8284-f07be61f5acf	http://www.payipal.info/
24	Levine	26-Jun	1b7089ab-c5a0-4fbf-94eb-9ba3ab4c6564	http://www.redirectpaypal.front.ru/processing.htm
25	Levine	26-Jun	4db6243c-77ee-463d-8106-d0dc1f64b851	http://normetic.org/IMG/Barclays06/ibank.barclays.co.uk/olb/p/LoginMember.do/
26	Levine	26-Jun	16c2ac73-11fe-41f1-bc85-	http://61.178.63.196/%20ebay_usr/ISAPIdllSignIn&pUserId

URL #	Feed	Sent Date	Message GUID	Phish URL
			ed7f56b58238	=&co_partnerId=2&siteid=0&pageType=-1&pa1=&i1=-1&UsingSSL=1&bshowgif=0&favoritenav=&ru=&pp=&errmsg=8.html
27	Levine	26-Jun	21c3433e-6064-4d82-86ca-6df5d95cd8f0	http://nationalchavezcenter.com/.images/cgi-bin/webscrcmd=_login-run/updates-paypal/login.html
28	Levine	26-Jun	a7220e91-33c3-40c9-873c-7e709ea819bd	http://70.88.31.2/pp/
29	Levine	26-Jun	a136adb2-6aa0-4a8f-8423-ba90070bc130	http://210-213-12-182.static.asianet.co.th/icons/en/cgi-bin/us/webscr.php?cmd=_login-run
30	Levine	26-Jun	aae7f553-a283-4251-bce4-14ca7894a4de	http://www.forgiven5.com/login.html
31	HMR	26-Jun	1b8b2e9d-ec53-41d6-9dfc-d56a3362bd0a	http://164.125.38.52/webscr/cgi_bin=secure_login/l
32	HMR	26-Jun	55ff8bf6-8796-4279-9b72-99f7293a956e	http://blueravenphoto.com/session/www.bankofamerica.com/onlineid-sessionload/cgi-bin/sso.login.controllernoscript=true/sessiondid=2335454893_Secured152388884&Update/index.htm
33	HMR	26-Jun	b3f986dc-f4d8-449b-9bba-12b69934744f	http://kj52.com/phpBB/templates/seciler/index.htm
34	Levine	27-Jun	8b7ed63a-b883-4d91-a34f-c3104316fbe3	http://1079839498/%20/www.paypal.com/cgi-bin/webscr_cmd=_login-run/
35	Levine	27-Jun	828507fb-8d83-4213-8887-1699eb6e8eaa	http://193.95.228.216/~mp3/bankofamerica-/bankofamerica/online_bofa_banking/e-online-banking/
36	Levine	27-Jun	86510434-b849-4219-91ca-bcca1c13d0b0	http://nuagequebec.com/couplesquebec/signin.ebays/.signin.ebay.com/.ws/eBayISAPI.dll.php?SignIn&co_partnerId=2&pUserId=&siteid=0&pageType=&pa1=&i1=&bshowgif=&UsingSSL=&ru=&pp=&pa2=&errmsg=&runame=&ruparams=&ruproduct=&sid=&favoritenav=&migrateVisitor=
37	Levine	27-Jun	c6435c85-ec79-4f3f-9ec4-48666aa2927a	http://217.217.146.40/ssl/paypal-security/service/
38	Levine	27-Jun	e194ea20-2971-4328-9a8d-b870dad4808a	http://www.google.com/pagead/iclk?sa=l&ai=Br3ycNQz5Q-fXBJGSiQLU0eDSAueHkArnhtWZAu-FmQWgjlkQAxgFKAg4AEDKEUiFOVD-4r2f-

URL #	Feed	Sent Date	Message GUID	Phish URL
				P____8BoAGyqor_A8gBAZUCCapCC qkCxU7NLQH0sz4&num=5&adurl=h ttp://c-8876e353.06-2021- 73746f16.cust.bredbandsbolag et.se:82/departament/index.p hp
39	Inbox	27-Jun	n/a	http://www.azurconseils.com/ data/ssl/messages.php?SignIn co_partnerId=2&pUserId=&site id=0&pageType=&pa1=&i1=&bsho wgif=&UsingSSL=&ru=&pp=&pa2= &errmsg=&runame=&ruparams=&r uproduct=&customerid=eherman @njcu.edu&sid=&favoritenav=& confirm=&ebxPageType=&existi ngEmail=&isCheckout=&migrate Visitor&&MfcISAPICommand=Con firmRegistration
40	Levin e	28-Jun	0e84e08e-008b- 43c2-b305- 284e84c9d663	http://58.26.137.30/manual/e bay/login2144/
41	Levin e	28-Jun	13e3f9df-acd8- 44cc-a667- 8845440c70e3	http://58.26.137.30/manual/e bay/login5602/
42	Levin e	28-Jun	54baf2da-9768- 43ef-8f43- a9f56f6a3db1	http://58.26.137.30/manual/e bay/login3274/
43	Levin e	28-Jun	59c09a16-1c58- 44f1-88ab- 05f200cc8a95	http://61.17.123.186/www.pay pal.com/index.html
44	Levin e	28-Jun	92eb6080-6715- 4adc-aba1- d4a3b5948695	http://62.232.4.211/paypal.h tm
45	Levin e	28-Jun	937e19dc-d540- 4f9f-8504- a1a2909bdb61	http://58.26.137.30/manual/e bay/login4994/
46	Levin e	28-Jun	25627b8f-9dc0- 4ec6-9aa0- f08abbf21fd7	http://58.26.137.30/manual/e bay/login1273/
47	Levin e	28-Jun	d658b107-d406- 4c6a-b0b5- 23a009e06f8a	http://www-paypal- com.50webs.org/cgibin/webscr .html
48	Inbox	28-Jun	n/a	https://atl01.seba.com/webco nnect.nsf/loginpage?openform &RTN=90021234;
49	HMR	28-Jun	8baf8846-585d- 4e78-95ae- 15b0ce5de8ba	http://61.101.98.253/eBay.dl lSignIn&co_partnerId=2&pUser Id=&siteid=0&pageType=&pa1=& i1=&bshowgif=&UsingSSL=&ru=& pp=&pa.html
50	Inbox	28-Jun	n/a	http://www.dnmich.com/srvt/
51	Inbox	28-Jun	n/a	http://www.forum.davestraw.c o.uk/.java/cnbwax.com/cgi- bin/hb.htm
52	Levin e	29-Jun	0befeba3-7be5- 4dbd-9a99- 80bfdb2704c5	http://www.online- chaos.myip.org/
53	Levin	29-Jun	07e98373-018d-	http://200.4.101.76/www.payp

URL #	Feed	Sent Date	Message GUID	Phish URL
	e		40b1-a03e-95e8151d04b7	al.com/SecureInfo/paypal/index.php
54	Levine	29-Jun	9a05b7c0-7a09-4d39-a4ac-de0c7466fc27	http://61.152.237.53/intl.paypal.com/us/cgi-bin/webscr/cmd=_login/index.htm
55	Levine	29-Jun	451825ba-26f8-4915-bade-9235ecca60fb	http://210.213.12.182/icons/en/cgi-bin/us/webscr.php?cmd=_login-run
56	HMR	29-Jun	9d556329-37b6-4752-b7a8-f9fd56d2381f	http://adsl-074-238-019-042.sip.mia.bellsouth.net:82/departament/index.php
57	HMR	29-Jun	c2a27e73-d276-4c27-ac5c-88b5426b33f3	http://samoalive.com/wachoviaupdate/index.htm
58	Levine	30-Jun	0c1b4ace-1b3f-440c-a073-02d65c87596b	http://203.130.255.183/.cgi-bin/us/webscr/cmd=_login/paypal/index.htm
59	Levine	30-Jun	03af7103-d218-45ac-82d8-ccfdaae62f20	http://www.skycar.net.cn/.../.../ebay/index.php?MfcISAPICommand=SignInFPP&UsingSSL=1&email=&userid=
60	Levine	30-Jun	016221b2-eccc-4346-8167-101f2ed61e75	http://www.protectedway.com/
61	HMR	30-Jun	03b5acf4-8f12-4bac-bd08-cfadc0f4007f	http://adithyagnarus.com/ibc/logon.html
62	HMR	30-Jun	8ee9bfd3-32ed-41e8-bf7a-0cc56ca8f210	http://221.143.41.167/TRV_45/Common/SignOn/
63	HMR	30-Jun	a59763e8-b50a-4ee8-b375-7391e24e4fcc	http://210.98.135.18/.MembersLogIn/update/cgi-bin/webscrcmd_login.php
64	HMR	30-Jun	f1a61442-aab7-4abd-af2b-1b2df2ff0f9b	http://ciabucdevara.has.it/
65	Levine	1-Jul	31f520fd-7ab6-4f62-9602-6db4cfc898c3	http://210-213-12-182.static.asianet.co.th/icons/gp/gss/ccp/refya_hp_pi_2/102.9537828-4760904/index.html
66	Inbox	1-Jul	n/a	http://0xc8.0x4b.0x31.0x05/horde/.us/www.paypal.com/login/index.htm
67	HMR	1-Jul	571b1cd1-861c-4a3c-a3a1-898ea2a3907b	http://200.30.110.55/pp/secure/
68	HMR	2-Jul	79d4c57f-625b-41c5-b546-07401e3b32c5	http://8364062821.usrvalidation.cn/HSBC/secure/login/index.html
69	Levine	2-Jul	8b35b24b-f06d-4565-94f3-0f8f37c4e5f0	http://www.wholoveyou.myip.org/online/
70	Levine	2-Jul	24874612-73b4-4aaf-ab24-994af35a623a	http://221.143.41.167/etimebanker.bankofthewest.com/

URL #	Feed	Sent Date	Message GUID	Phish URL
71	HMR	2-Jul	0040f9ae-6e3d-4806-8f58-f23891729d0e	http://www.onlinechasebank.us/colappmgr/colportal/prospect.php?_nfpb=change_form
72	HMR	2-Jul	2822934c-27c0-4973-a793-48dfdcd07e6f	http://www.villagebistro.info/phpAquaScape/update/paypal signup/onlineid-sessionload/sessiondid=2335454893_Secured152388884&Update/
73	HMR	2-Jul	2936962e-82a9-489d-bf7f-d3efcbab49fd	http://www.voodoocult.net/images/wanda/img/index.htm
74	HMR	2-Jul	40008185-1b94-4f20-8980-4544fd706d6f	http://wellsfargo.phpnet.us/wachoviabank/index.htm
75	HMR	2-Jul	cdf6e975-8c9d-428d-9f2a-6b4fbd5dd701	http://team-eonium.co.uk/Nationwide/index.html
76	Inbox	2-Jul	n/a	http://www.parst.or.th/fft/upgrade/contact.php?customerid=paul@robichaux.net&JbQqzzFgGCFTgAgAAeJbQqzzF=gGC&FTgAgAAeHlz9FnXeMWZllAAAAAuMCwCFBQlz9FnXeMWZllWXS3AlBX+VShqAhQRfhgTDrferHCURstpAisNRFgmQ=https://www.paypal.com/us/cgi-bin/webscr?cmd=_confirm-profile&gTDrferHCURstHbsYaNyAgTDrferHCURstHbsYaNyApAisNRFDWZlHhlWXS2AlBXVShqAhQRfhgTDrferHCURstHbsYaNyApAisRFDTDArferHCstpAisNRFgmQAAJST
77	HMR	3-Jul	74cb3a50-c4e6-42e2-a0f0-9040e9244b2e	http://adsl-074-238-019-042.sip.mia.bellsouth.net:82/update/index.php
78	HMR	3-Jul	c6e05faa-5151-4426-a9ea-7d985c0d70d0	http://www.chinamarket.co.kr/www/cnbwax.com/cgi-bin/hb.htm
79	Levine	4-Jul	0acff3bd-db55-4555-8aa6-0d0bcb33f990	http://www.kstc.cn/xcb/webscr/paypal/cmd/login_submit/index.html
80	Levine	5-Jul	04450382-0a5a-4da4-9ecd-9c921d1c4ef7	http://0x50.0xf7.0x88.0x2f/REDIRECT/www.paypal.com/Command.verfication.success12993749923498200023719946128938/LoginuserSSL
81	Levine	5-Jul	4c3bf896-cb6a-4594-85b0-9c20cf7c3c1d	http://217.74.168.176/.pp/cgi-bin/us/webscr.php?cmd=_login-run
82	Levine	5-Jul	a077182a-3d1e-4796-81b5-28544db0261e	http://210.125.224.10/office/co.html
83	Inbox	5-Jul	n/a	http://leya.ru/modules/update.php/index.htm
84	Inbox	5-Jul	n/a	http://www.witooncocktailandwine.com/claim.php?SecureKey=GSVOGH&customerid=resatisfy-

URL #	Feed	Sent Date	Message GUID	Phish URL
				poison@yahoo.com&gGCFTgAgAAe Hlz9FnXeMWZllWXAAAAAuMCwCFBQ lz9FnXeMWZllWXS3AlBX+VShqAhQ RfhgTDrferHCURspAisNRFgmQ=ht tps://www.e-gold.com/acct/login.html?Sec ureKey=TMBJLM&cmd=_update&lo gin_access=1097401855/&AAJbQ qzzF/gGCFTgAgAAeHAAAAAuMCwCF BQlz9FnXeMWZllWXSDAS3_pageLa bel=page_resolution_center&a ctionOverride=1
85	Inbox	5-Jul	n/a	http://200.0.210.6/.ebay/eBa y.dllSignIn&co_partnerId=2&p UserId=&siteid=0&pageType=&p .htm
86	Levin e	6-Jul	2e2565ec-5166- 448f-943d- 0b1e9dd6ff0a	http://210-213-12- 182.static.asianet.co.th/ico ns/exec/varzea/register/logi n/homepage.html/102-7451275- 4610556/index.html
87	Levin e	6-Jul	7abcfa3d-ad59- 475b-bbad- 77143c79059a	http://www.flexy- women.myip.org/
88	Levin e	6-Jul	a29622e3-d4f1- 4f5e-8830- d247f7759ab6	http://206.41.218.203/www.pa ypal.com/cgi- bin/webscr/cmd=_login/paypal -security/index.htm
89	HMR	6-Jul	5fad3460-2f06- 47a8-b99e- dcaec210912d	http://www.paypal.com.ilil.u s/manual/mod/ /webscr/login- run/pp/index.htm
90	HMR	6-Jul	8dd094fc-a9ad- 4d8b-b693- a5843957bcc8	http://pstlc5.com/cgi_/index .htm
91	HMR	6-Jul	8e0a2fac-5743- 4d6f-ac18- 10c422050414	http://wachlearn.com/wacholo gin/index.htm
92	HMR	6-Jul	8e8fb6e2-5873- 4038-af3e- c0238c71d8b6	http://home.earthlink.net/~s ignin.ebay.com/eBayISAPII.dl l
93	HMR	6-Jul	9609282e-fc32- 451e-a025- 450dad839517	http://www.learnmusic- online.de/foum/secure- online/index.html
94	Inbox	7-Jul	n/a	http://81.204.217.124/horde/ services/images/signin.ebay. com/ws/SignIn&co_partnerId=2 &pUserId=&siteid=0&pageType= &pa1=&i1=&bshowgif=&UsingSSL =&ru=&pp=&pa2=&errmsg=&runam e=&ruparams=&ruproduct=&sid= &favoritenav=&confirm=&ebxPa geType=&existingEmail=&isChe ckout=&migrateVisitor/index. html
95	Inbox	7-Jul	n/a	http://paypal.com.cgi- bins.com.agearedgrafix.com/w ebscr.php?cmd=_login-run
96	Inbox	7-Jul	n/a	http://www.truetech.info/.cg i_bin/ws/ISAPIdllUPdate/ISAP

URL #	Feed	Sent Date	Message GUID	Phish URL
				IdllSignInpUserId=co_partner Id=siteid=0pageType=-1pa1=UsingSSL=1bshowgif=favo ritenav=errmsg=8/index.html
97	APWG	7-Jul	Row 68	http://12.218.4.65:82/webscr r/index.php
98	APWG	7-Jul	Row 70	http://125.201.120.47/paypal /Confirm.htm
99	APWG	7-Jul	Row 115	http://200.35.92.99/paypal.c om-webscr.php%3Dcmd%3DLogIn/ind ex.html
100	APWG	7-Jul	Row 146	http://203-19-59-15.digitalpacific.com.au/web calendar/cnbwax/signon.html

B. Known Good URL Data

Table 8 lists the known good URLs we used.

In this appendix, the following columns are present in the results tables:

- **URL #** is the row number of the URL. This column is the master key for the detailed results table (available upon request to 3Sharp) that links the result row in the detailed results with the URL detail row in the known phish and good URL tables (Tables 7 and 8).
- **Good URLS** identifies the URL harvested from the message.

Table 8: Known good URLs

URL #	Good URL
1	http://fotolog.terra.com/
2	http://www.flogao.com.br/gatasdeksa
3	http://music.kapook.com/newrelease2.shtml
4	http://blueyspoker.easycash.com.au/p1.asp
5	http://bluewin.ch/
6	http://www.caf.fr/SimuLog.htm
7	http://www.friday-ad.co.uk/FullAdDetails.asp
8	http://www.satsw.net/
9	http://www.devochki.ru/showanketbynum.php
10	http://list4.auctions.yahoo.co.jp/jp/2084057161-category-leaf.html
11	http://windowsmedia.com/Shop/FindAlbums.asp
12	http://www4.climatempo.com.br/climatempo/cep.php
13	http://board.n-age.in.th/forum_topics.asp
14	http://212.174.200.74/AirDev/login/loginIndex.jsp
15	http://aovivo.noticias.terra.com.br/noticias/aovivo/index2.htm
16	http://www.littlewoods-online.com/rf/navigation/home/index.do
17	http://www.publicanary.com/cristal/versos_tristes.htm
18	http://www.flyloco.de/DE

URL #	Good URL
19	http://www.silver-world.net/auberge.php
20	http://www.poemasromancesyamor.com/principal.html
21	http://elearning.uws.edu.au/webct/ticket/ticketLogin
22	http://services.orange.co.th/ringtone/sounddemo.asp
23	http://lotteries.olgc.ca/consumer_wn_ct.jsp
24	http://www.ittakes2.com/login.php
25	http://www.mochisonline.com/foros/search.php
26	http://www.ancestry.com/s12955/t5299/landing/rd.ashx
27	http://www.bingobilly.com/
28	http://www.fife.gov.uk/themes/index.cfm
29	http://www.winantiviruspro.com/landingpage/wavpro_4in1.php
30	http://www.supreme.state.az.us/publicaccess/partylist.asp
31	http://www.neti.ee/cgi-bin/teema/HARIDUS_JA_KULTUUR/Haridus/
32	http://www.mariasearch.com/XML/index.php
33	http://hk.f522.mail.yahoo.com/ym/login
34	http://psc.disney.go.com/disneychannel/theproudfamily/games/musicvideo/index.html
35	http://fr.barbie.com/activities/games/softwared/2003/
36	http://clearstation.etrade.com/
37	http://ar.f331.mail.yahoo.com/ym/login
38	http://6arab.com/singers-ar/north/keffori/index-ar.shtml
39	http://www.compusa.com/default.asp
40	http://www.internacional.com.br/
41	http://www.mtv.com/onair/dyn/realworld-season16/series.jhtml
42	http://www.uh.edu/
43	http://www.tarjetasvirtuales.com/pe_es/
44	http://randki.o2.pl/
45	http://hub.benl.ebay.be/buy
46	http://www.aussiematchmaker.com.au/Default.aspx
47	http://www.lagrange-holidays.com/home.php3
48	http://www.portalcanoas.net/principal.asp
49	http://www.q8me.com/
50	http://www.zecheval.com/banque.php
51	http://monthlyprizes.iwon.com/mp/mp1/questions1.jsp
52	http://reservationdesk.sunparks.be/ReservationDesk/booking/bookingscherm01.aspx
53	http://www.esmas.com/espectaculos/fotogaleria/galeria137/index.html
54	http://www.fetchfido.co.uk/
55	http://www.romanarena.com/summary.cgi
56	http://www.thomsonlocal.com/BusinessFinder.aspx
57	http://www.youzinet.com/bbs/index.php
58	http://it.weather.yahoo.com/Europa/italia/

URL #	Good URL
59	http://humortadela2.uol.com.br/h/foto/index.php
60	http://email.terra.com//xam_rc.es/template_terra/image.htm
61	http://atrevida.uol.com.br/portal/
62	http://dsurvey.iwon.com/home.jsp
63	http://fr.myscene.com/
64	http://www.mediahousedvd.com/920/shop.cgi
65	http://www.skysms.co.kr/
66	http://www2.tubededentifrice.com/all.php
67	http://www.zepirates.com/index.php?nouvo=2
68	http://chat.supereva.com/
69	http://www.ortskontrollfahrt.de/fotos.php
70	http://www.toggo.de/treff/mailbox/write/frame.jsp
71	http://www.bj.chinamobile.com/index/?smartID=778829683
72	http://superposta.superonline.com/index.jsp
73	http://www.cashfiesta.com/php/login.php
74	http://www.glowfoto.com/index.php
75	https://www.huntington.com/
76	http://www.ontrackplant.com/hunt.php
77	http://www.nokia.com.br/nokia/0,2094,28246,00.html
78	http://www.shcus.gov.cn/spgl/catalog.dw
79	http://www.sortirensemble.com/forum.php
80	http://www.modifiyem.com/
81	http://login.live.com/login.srf?id=2&svc=mail&cbid=24325&msppjph=1&lc=1044
82	http://www.agcmt.com.tw/cmtapp/Function/servlet/asiwas35.cmt1.CMM011u
83	http://service.51uc.com/pwd_protect/mo.shtml
84	http://tw.bbs.yahoo.com/cgi-bin/ListPost4all.cgi
85	http://www.google.com/intl/es/help/faq_translation.html
86	http://www.ig.com.br/
87	http://www.jade66.com/dispbbs.asp
88	http://www.bondscoachspel.nl/login.a
89	http://ucc.media.daum.net/uccmix/news/sports/soccer/200507/22/yonhap/v9662019.html
90	http://login.yahoo.co.jp/config/login?.lg=jp&.intl=jp&.src=auc&.last=http:%2f%2flogin.yahoo.co.jp%2fconfig%2fedit_auc&.done=http:%2f%2fopenwatchlist5.auctions.yahoo.co.jp/jp/uconfig/forget&reason=notloggedin
91	http://forum.southshields-sanddancers.co.uk/boards/viewforum.php
92	http://actualidad.terra.es/foros/neutro/ver_mensaje2.cfm
93	http://www.4udo.ru/show/p/
94	http://www.elforo.de/animetion/

URL #	Good URL
95	http://results.searchscout.com/content/980/40301-0/content24452-0.html
96	http://www.megajobs.nl/site/MJ/index.lasso
97	http://www.symantec.com/techsupp/
98	http://www.trt4.gov.br/
99	http://www2.indystar.com/forums/forumdisplay.php
100	http://www.the10club.com/shop/shopbrand.html
101	http://hkisee.com/forumdisplay.php
102	http://www.webhard.co.kr/notice/E_pop_pm.html
103	http://www.trollz.com/registration/reg_ageloc.php
104	http://www.waawaa.com/cobuy/cobuy_all.jsp
105	http://www.mromance.ru/search.phtml
106	http://bigchurch.com/p/member.cgi
107	http://www.sourcea.fr/annonce_synth.php
108	http://apronet.com/
109	http://www.animemusicvideos.org/home/home.php
110	http://rds.ca/cgi-bin/AffichageTalkback
111	http://ilpostino2.telesat.com.co/login.php?url=/message.php?sid=0bc1ed6f45f954977e2cf99fcc0fca28&reason=session
112	http://go.rising.com.cn/
113	http://www.carom3d.com/guild/guild_index.asp
114	http://www.choice.co.uk/AgNet/shop/Choice-JF4D9B9DRVLG81SU9L68SXF50PQWJJJQ/default.aspx
115	http://www.distrigame.com/distriastro2/index.cfm
116	http://www.gmarket.co.kr/gonggu_club/
117	http://www.gm.com.mx/content_data/LAAM/MX/es/GMMGM/flash/corporate/index.html
118	http://www.hamsterpaj.net/traffa/gallery.php
119	http://www.ikea.com/ms/en_CA/index.html
120	http://www.rushcollection.com/Web?task=&process=HomePage&language=fr
121	http://www.fordtechservice.dealerconnection.com/tpsasps/auth_error.asp?reason=no_perm
122	http://www.msnbc.msn.com/id/8716780/
123	http://www.qkamura.or.jp/
124	http://cafe.daum.net/videocafe
125	http://www.samsclub.com/shopping/navigate.do?dest=0
126	http://seattle.craigslist.org/rfs/
127	http://www.ase.com.jo/ar/depth.php
128	http://www.espacesfr.com/webapp/wcs/stores/servlet/TopCategoriesDisplay?storeId=10001&catalogId=10001&langId=-2&prehome=1
129	http://www.exteen.com/manage/fileman.php
130	http://www.incredimail.com/french/order.asp

URL #	Good URL
131	http://www.babooforum.com.br/idealbb/access.asp?msg=Temporaria mente+apenas+usu%E1rios+registrados+podem+realizar+buscas%2E
132	http://www.adelphia.com/
133	http://passport.yinsha.com/
134	http://quantumgate.stargatewars.com/index.php
135	http://www.cemex.com/
136	http://www.cjmall.com/etv_new/etvItemViewLst.jsp?broad_gb=20
137	http://www.g2b.go.kr/index.html
138	http://www.gzrz.net/default.asp
139	http://www.jeteplais.com/index.php
140	http://www.empleosdemexico.com/v2004/secciones/u_candidatos/bu squeda_vacantes.php
141	http://bungie.net/Stats/NoStats.aspx?mode=player
142	http://chat.affection.org/chat/frame2d.html
143	http://houston.astros.mlb.com/NASApp/mlb/index.jsp
144	http://www.clasificadosonline.com/NoAdID.asp
145	http://www.clasos.com/clasos/presenta_historia.php
146	http://www.clicrbs.com.br/regiao.htm
147	http://www.jeuxvideo.com/
148	http://www.localhookupz.com/index.jsp
149	http://www.mytelus.com/movies/tdetails.do
150	http://www.onket.com/member_new/LoginPage.jsp
151	http://www.xanga.com/signin.aspx?ReturnUrl=%2fprivate%2fentryp rivacy.aspx
152	http://registration.excite.com/excitereg/login.jsp?ref=email&r eturn_url=http://e31.email.excite.com
153	http://www.autotrader.com/dealers/ida/inventory_frame.jsp
154	https://edit.yahoo.com/config/eval_register
155	http://webmail.asianet.co.th/mylogin.php?reason=session
156	http://news.china.com/zh_cn/social/photogallery/
157	http://login.yahoo.co.jp/config/login?.lg=jp&.intl=jp&.src=auc &.last=http:%2f%2flogin.yahoo.co.jp%2fconfig%2fedit_auc&.done= http:%2f%2fopenwatchlist6.auctions.yahoo.co.jp/jp/uconfig/forg et&reason=notloggedin
158	http://kr.news.yahoo.com/service/news/shellsection.htm
159	http://www.merchantempires.com/me_4g/planet_orbit.php
160	http://moneycentral.msn.com/home.asp
161	http://list1.auctions.yahoo.co.jp/jp/2084005140-category.html
162	http://jr.naver.com/gamelink/cache/3d.html
163	http://horoscope.sanook.com/funny/
164	http://edp.ipbhost.com/
165	http://diversao.terra.com.br/

URL #	Good URL
166	http://correio.wnet.com.br/horde/imp/login.php?url=%2Fhorde%2F imp%2Fmailbox.php%3FHorde%3D270a3a539bd4a9e133dc6f4c0757eb62&H orde=270a3a539bd4a9e133dc6f4c0757eb62&1=1&reason=session
167	http://www.bebehouse.com/
168	http://www.comet.co.uk/comet/html/cache/error_500.htm
169	http://www.fiefs.net/index.php
170	http://www.homestarrunner.com/games.html
171	http://www.hepsiguzel.com/galeriuyev3.php
172	http://www.imbc.com/broad/tv/drama/samsoon/special/index.html
173	http://www.trt.net.tr/wwwtrt/tvakis.aspx
174	http://www2.towerhobbies.com/cgi-bin/WTI0096p
175	http://www.tesco.com/extra/
176	http://www.tesco.com/extra/
177	http://www.pandasoftware.com/activescan/activescan/ascan_2.asp
178	http://anpe.fr/deconnexion/index.html
179	http://www.repsolypf.com/esp/ventajasdelportal/promociones/pro moruta/introduccion.asp?PaginaID=102884
180	http://spravy.pravda.sk/
181	http://www.nuevaprensa.com.ve/ver_art.php
182	http://ucc.media.daum.net/uccmix/news/digital/science/200507/2 0/yonhap/v9637060.html
183	http://chicagosports.chicagotribune.com/
184	http://www.coldecon.net.co/correo1.php
185	http://www.funnygames.nl/spelletjes/2374.html
186	http://horoscopo.123.cl/
187	http://www.tinami.com/search/chresult.php?word=&type=&sort=&di sp=
188	http://www.sozluk.web.tr/
189	http://web1.maktoob.com/Jokes/category.php
190	http://www.babyhome.com.tw/
191	http://www.behringer.com/02_products/proddetail.cfm
192	http://www.dpgalleries.com/dp/gallery.php
193	http://www.jeropa.com.ar/galeria_ampliada.php3
194	http://www.mersin.edu.tr/
195	http://www.securerba.com/pclinks.process?catalog_id=1&ab=1
196	http://www.supereva.com/love/login_us.html
197	http://www.wretch.cc/album/yuuting
198	http://cafe.daum.net/yohwanfan
199	http://oa.chinabird.com/
200	http://gwynnvalley.ecamp.net/index.php?pn=sec
201	http://brs02.tst.gov.br/cgi-bin/nph-brs
202	http://meteorus.uol.com.br/
203	http://flyasiana.com/sub/other/050720/050720.html

URL #	Good URL
204	http://www.netboard.hu/index.php
205	http://www.bebo.com/PleaseSignIn.jsp?Page=PhotoAlbumEdit_jsp&null
206	http://www.citysky.com.cn/index.asp
207	http://www.economista.com.mx/
208	http://www.firstplus.co.uk/index.asp
209	http://www.letsgoresort.com/pop.html
210	http://www.meetic.com/search/result_affv.php
211	http://www.photoways.com/utilisateur.php
212	http://www.tubreveespacio.com/pensamientos-amistad.htm
213	http://www.telefonica.com.br/sp/conta_online/
214	http://www.orange.co.uk/bigbrother/
215	http://www.webster.com/
216	http://tv.wp.pl/?ticaid=11fc8
217	http://www.300dollarsmail.com/scripts/runner.php
218	http://www.hotmatchup.com/index.html?log=1
219	http://www.keyifli.com/
220	http://www.kingoloto.com/accueil.php
221	http://www.rmcinfo.fr/
222	http://www.chatbabe.be/cgi-bin/login/login
223	http://www.gamect.co.kr/
224	http://www.gmarket.co.kr/challenge/neo_order/login_order.asp?URL=http://www.gmarket.co.kr/challenge/neo_auction/auction_bidding_final.asp
225	http://www.nick.com/games/3d/sb_3d.jhtml
226	http://www.tuparada.com/Default.aspx
227	https://topup2.levelupgames.com.br/
228	http://go.walla.co.il/ts.cgi
229	http://espndeportes.espn.go.com/sports/tvlistings/deportes/deportesindexla
230	http://exam.derekr.com/cgi-bin/cgiwrap/chat/exam.cgi
231	http://members.macauslot.com/slot/jsp/login/sessioncreate.jsp
232	http://www.yenta4.com/game/gamelogin.php?ref=Bingo
233	http://www.familjeliv.se/Forum-4-0/
234	http://www.n3sport.no/03/Table.asp
235	http://www.infonavit.org.mx:8093/servlet/OCI.TAX.Controlador.BuscarNSS
236	http://www.hyuckfans.com/yesvbb/showthread.php
237	http://www.prizee.com/cadeaux.php
238	http://www.searchex.com/
239	http://www.singleme.com/session_not_found.cfm?Reason=Client
240	http://www.thailocaladmin.go.th/index.html
241	http://www.myscenelatina.com/home/home.aspx
242	http://www.hustlehustle.com/free/fighters/index.html

URL #	Good URL
243	http://www.itoctoc.co.kr/FrontStore/iGoodsList.phtml
244	https://www.imstores.com/ingrammicromx/login/login.aspx?ReturnUrl=%2fingrammicromx%2fcategory.aspx
245	http://www.kalplerimizbir.com/arama_islem.asp
246	http://bbs.1t1t.com/forumdisplay.php
247	http://bbs.infoseek.co.jp/Board02
248	http://www.naseeb.com/login.php?e=4&nextpage=%2Ffriend-profile.php%3F
249	http://webpiraat.nl/
250	http://www.prijsvragenforum.nl/default.asp
251	http://www.msn.nl/nieuws/weer/Default.asp
252	http://tv.mynet.com/
253	http://www.eva.ru/main/forum
254	http://www.cdcovers.cc/dvd_f.php
255	http://www.baskinrobbins.com/BDayClub/Admin/SignIn.aspx?ReturnUrl=%2fbdayclub%2fadmin%2fAddUser.aspx
256	http://www.fropper.com/partner-search/dating-search-results.php
257	http://www.gegen-bilderklau.net/board.php
258	http://www.hakasefet.co.il/game/todpgame2.asp
259	http://www.mps-shop.com/PositivoDire/default.asp?mscssid=DUMMY9B0RW689NV3U7D04U9QTMPBC7C1
260	http://www.progarchives.com/Progressive_rock_discography_LIST.asp
261	http://www.staples.com/webapp/wcs/stores/servlet/home?storeId=10001&cm_ven=Glamour&cm_ite=includes/GenericFunction.asp
262	http://friendfinder.com/
263	http://wright.facebook.com/login.php?e=0&next=http%3A%2F%2Fwright.facebook.com%2Fsearch.php
264	http://orderpopup.sonnerie.net/external/DrtTop/dl_NEW_ALL_v4.php?&a=shoshan&status=3
265	http://service.pandasoftware.com/rolv3/allen.html
266	http://get.live.com/messenger/overview
267	http://us.imdb.com/
268	http://p075.ezboard.com/fjustlabradors41940frm20.showMessage
269	http://webmail3.click21.com.br/horde/imp/login.php?url=%2Fhorde%2Fimp%2Fview.php%3FHorde%3D089886aae13b19c79623062de20fd0f3&Horde=089886aae13b19c79623062de20fd0f3&1=1&reason=session
270	http://email01.wanadoo.co.uk/webmail/en_GB/login.html
271	http://cards.webshots.com/bday.fcgi
272	http://bbs.news.qq.com/cgi-bin/bbs/show/content
273	http://www.vodafoneshop.de/shop/detail/index.cfm
274	http://www.marktplaats.nl/

URL #	Good URL
275	http://seeqmail.seeq.com/seeq/int_index.jsp?portal_id=253&domain=seeqmail.com&referrer=
276	http://www.sport4fun.com/
277	http://www.swingkids.net/main/memberlogin.php?url=%2FSchoolZone%2Fphotoview.php%3F
278	http://www.worldofwarcraft.com/imageviewer.html
279	http://www.crh.noaa.gov/showsigwx.php
280	http://www2.2000fun.com/discuz/games.php
281	http://www.wwe.com/play/fantasy/
282	http://www.seoprise.com/board/view.php
283	http://www.simon.com/
284	http://www.loxa.com.tw/
285	http://www.twang.co.kr/shop/image_view.html
286	http://mail18.paran.com/
287	http://tvzonebbs.media.daum.net/griffin/do/drama/bbs/nonstop5/bbs2/read
288	http://mail.terra.com.co/cgi-bin/web_login.cgi
289	http://mtn.merit.edu/regionpage.html
290	http://us99.listenernetwork.com/CodeDetail.asp
291	http://excoboard.com/
292	http://www.kenshobox.com/kensho_annai/start.cgi
293	http://kt68nara4.magicn.com/mybox4/popup/sadlove_eventpop.html
294	http://php.spaarbeleg.nl/index.php
295	http://www.cuneo2night.com/network/2night/
296	http://www.isohunt.com/
297	http://www.joycemeyer.org/cgi-bin/home.plx
298	http://www.kkdream.com/bbs/viewthread.php
299	http://web.qoos.com/blog/
300	http://dailynews.yahoo.co.jp/fc/sports/horse_racing/
301	http://angelscity.combats.ru/enter.pl
302	http://cn.zs.yahoo.com/start.htm
303	http://web.yazgulu.com/sms/guzelsozler.asp
304	http://www.dekaron.co.kr/world/gallery/pop_image.as
305	http://www.depareja.com/index.asp?msg=ALERTA%3A+Ha+pasado+m%26aacute%3Bs+del+tiempo+l%26iacute%3Bmite+de+inactividad%2C+por+favor+con%26eacute%3Bctate+nuevamente%2E
306	http://www.lbcatalog.com/lbcatalog/basket/basket.asp?referer=1&
307	http://www.neopets.com/games/bbslots.phtml
308	http://www.paulayoung.com/catalog/dept.asp
309	http://www.rcpano.net/ayrinti.aspx
310	http://www.nickjr.com/playtime/shows/dora/games/dora_diegorescue.jhtml

URL #	Good URL
311	http://www.spict.com/port/cntr/find_out_cntr.cfm
312	http://www.7453217467431.com/products/productDetails.jsp
313	http://members.macauslot.com/slot/jsp/login/login.jsp
314	http://mypaper.pchome.com.tw/news/lovemicky/
315	http://buscador.terra.com.br/Default.aspx?ca=1&palabra=galerias&query=galerias&source=Search
316	http://search.grip.com/index.cfm
317	http://stat.onestat.com/link.aspx
318	http://wm68.ig.com.br/inmail/compor.pl
319	http://www.cannavallee.com/page.php
320	http://www.planete-se.net/index.php
321	http://www.romerun.com/script/jump.php
322	http://support.d-imaging.sony.co.jp/regist/index.html
323	http://www.telefonbuch.vhm.de/home.htm
324	http://www.virtualdj.com/
325	http://www2.ustcers.com/forum/showpost.asp?
326	http://www.tat.or.th/
327	http://www.eshop-esoteric.com/login.php
328	http://mail.daum.net/hanmail/login/Index.daum?_top_hm=wout_top&returl=http%3A%2F%2Fmail.daum.net%2Fhanmail%2FIndex.daum
329	http://www.betterdeal.com.au/selectcar.aspx
330	http://www.adplan.ne.jp/index.html
331	http://www.aparecidaliberato.com.br/casa.asp
332	http://www.csclub.com/club/2005_event/jul/pop_0701.asp
333	http://www.dcx.co.kr/main/category.asp
334	http://www.friendsreunited.co.nz/FriendsReunited.asp
335	http://www3.catho.com.br/cadastro_site/busca.phtml
336	http://bbs.njut.edu.cn/post.jsp
337	http://plusd.itmedia.co.jp/mobile/articles/0508/02/news036.ht
338	http://www.nforce.nl/index.php
339	http://www.denhaag.nl/smartsite.html
340	http://www.jeeran.com/signup/hostingpackage.aspx
341	http://12530.qq.com/cgi-bin/cring12.cgi
342	http://www.abcsearch.com/
343	http://www.filmovore.com/default.asp?link=/pages/films.asp?
344	http://www.hkdreamcast.com/cgi-bin/free/lb/cgi-bin/topic.cgi
345	http://www.ncity.net/~saf112/bbs/zboard.php
346	http://www.neopets.com/games/tycoon/warehouse.phtml
347	http://www.peacemakeronline.net/board/viewforum.php
348	http://www.surfingtheapocalypse.net/cgi-bin/forum.cgi
349	http://www.zubeyde.com/bolumler/uyeolun.php
350	http://www.admission.com/html/error.htmI

URL #	Good URL
351	http://wm.qatar.net.qa/
352	http://local.yahoo.com/
353	http://premium.joins.com/enter/comix/list.asp
354	http://game.265.com/
355	http://sd.12530.com/user/querytonebytype.do
356	http://tv.media.daum.net/drama/lifeagain/index.html
357	http://www.boyuboyuna.com/tr/uyeolmalisiniz.asp?RTP=%2Ftr%2Farama%5Ftemel%2Easp
358	http://www.esmas.com/contravientoymarea/fotogalerias/galeria999/index.html
359	http://www.esmas.com/mujer/fotogaleria/galeria928/index.html
360	http://www.yoox.com/zoom.asp
361	http://tales.nexon.com/tales/page/Gnx.aspx?URL=Home/Index
362	http://www.ksu.edu.tr/index.php
363	http://messenger.yahoo.com/messenger/help/pref.html
364	http://msnuk.match.com/search/searchSubmit.aspx
365	http://a.disney.go.com/disneychannel/playhouse/clay/music/singalong.html
366	http://voxnamoros.parperfeito.com.br/servlet/Login?redirect=/jsp/index_searchprofile.jsp
367	http://downloads.yahoo.com/
368	http://esportes.terra.com.br/futebol/santos.html
369	http://estados.omnilife.com.mx/edos/
370	http://secure.caramail.lycos.fr/
371	http://radio.media.hinet.net/player/hinetplayer.asp
372	http://www.edu4job.co.kr/
373	http://www.frcu.eun.eg/docs-n/uni1.php
374	http://www.msn.com/
375	http://bbs.jaycn.com/dispbbs.asp
376	http://www.arcor.de/content/index.html
377	http://forum.playstation2.com.br/index.php
378	http://forum.netvigator.com/forum/thread.jspa
379	http://gzsz.rtl.de/gamechannel/sammelalbum/sammelalbum_0605/picturebox.php
380	http://main.zylom.com/partner/chello/nl/
381	http://user.centrum.cz/log_form.php
382	http://www.bionico.com/forums/viewer.php
383	http://p073.ezboard.com/fladiesescapefrm25.showMessageRange
384	http://www.fatadubai.com/vb/showthread.php
385	https://www.password.dealerconnection.com/login/index_en.cgi?WslIP=131.107.0.105&back=http://www.fmcdealer.dealerconnection.com/portal/catalog/opendoc.asp

URL #	Good URL
386	http://www.ozmall.co.jp/psychology/Answer.asp?Book_ID=&Title=&FortuneID=&Score=
387	http://www.punto.ru/
388	http://www.2xmoinscher.com/pda/detail.asp
389	http://sikyung.mu2ent.com/schedule/schedule.php
390	http://www.itembay.com/ErrCollector/ErrCollector.asp?404;http://www.itembay.com/MyitemBay/Message/GetMessage.asp
391	http://www.enfoqueinformativo.com/etc/default.asp
392	http://www.skyrock.com/chat/
393	http://dlc2.pconline.com.cn/column.jsp
394	http://ath.customer.ipower.be/db/aig/gallery.asp
395	http://agents.mylexxus.com/EN/Agents_Login.asp
396	http://x333x.com/vb/forumdisplay.php
397	http://www.uabc.mx/
398	http://www.bizmon.com/List_ST/ST_Cate_Main.asp
399	http://sublimes-signatures.forumactif.com/viewtopic.forum
400	http://www.christianmingle.com/why_the_change.html?redir=%2Fconnect%2Fmail%2Findex.html
401	http://www2.ciashop.com.br/flaboutique/default.asp?partner_id=&mscssid=7B12DGHELXNP8LJKSB3R637C3RW48EMA&
402	http://www.dvdshrink.org/where.html
403	http://www.mypcera.com/
404	http://www.sublet.com/spider/LeSearch.asp?nocache=8%2E626956E%2D02
405	http://www.tokyo-hbf.com/index.php
406	http://www.brasilflog.com.br/404-flog.php
407	http://blog.tom.com/blog/blogindex.php
408	http://blog.naver.com/post/postView.jsp
409	http://www.audipassion.com/services/forums/index.php
410	http://toolbar.msn.nl/
411	http://t-online.autoscout24.de/neu/search.asp?ts=413059.2&error=insuff&&zipcountry=
412	http://sports.yahoo.com/golf
413	http://www.kuwait500.com/
414	http://www.grsites.com/exec/public/tile.cgi
415	http://chat.nate.com/natechat/jsps/main/pop_mt_view_profile.jsp
416	http://www.rumbo.com.br/public-br/sb/sb002pkn.jsp
417	https://www.reil.com/
418	http://www.radio-yasoo.co.il/forum/index.php
419	http://www.nbedi.com/h2000eport/default.asp
420	http://www.one.lv/index.html;jsessionid=bwGGRcL2OGy_
421	http://my.myway.com/weather/loc.jsp

URL #	Good URL
422	http://www.albanuri.co.kr/offer/search_area.asp
423	http://test.jcjh.net/jh1/error.asp?id=440
424	http://www.asda.com/asda_shop/rc04_products/web_rc04_b_products_detail.jsp
425	http://www.asku.com/rgj/;jsessionid=D16D0CF68ACC63598C7C0947C400BFEE
426	http://www.dm.com.br/ultimas.php
427	http://kayit.tnn.net/hatamesaj.asp?hatakodu=11
428	http://www.bdjobs.org/bdjobs/cat_IT.asp
429	http://www.albumtown.com/showalbum.php
430	http://pc.wkeibaw.net/
431	http://points.incentivelogic.com/login.m
432	http://zone.msn.com/en/root/pokerandcasino
433	http://www.boraclub.net/Bbs/NBoard.asp
434	http://www.gazzag.com/login
435	http://www.harakamasria.net/ShowEngouphMore.asp
436	http://www.kazimkoyuncu.com/index.php
437	http://www.metro.dk/metroposter.asp
438	http://www.feyenoord.nl/domains/feyenoord/pages/picture.asp
439	http://www.versatel.de/
440	http://chat.flymeow.idv.tw/flymeow/bug/bbs.cgi
441	http://survey3.opinionworld.com/scripts/dubinterviewer.dll/Frames
442	http://viva.himapara.to/pc/mailbox.php
443	http://www.cupido.no/login.cfm?from=%2Fpmessages%5Fshow%2Ecfm%3F
444	http://newforum.cnool.net/search.jsp
445	http://www.gonegambling.com/boom-or-bust-game-play/index.html
446	http://www.lovepu.com/bbs/ShowPost.asp
447	http://www.insinuante.com.br/loja/principal.do
448	http://www.ps3forums.com/viewforum.php
449	http://uyeler.mynet.com/login/login.asp?rurl=http%3a%2f%2fadresdefteri.mynet.com%2fMain%2fNoItemsPage.aspx&formname=addressbook
450	http://login.yahoo.co.jp/config/login?.lg=jp&.intl=jp&.src=auc&.last=http:%2f%2flogin.yahoo.co.jp%2fconfig%2fedit_auc&.done=http%3a//auctions.yahoo.co.jp/jp/show/submit%3fcategory=&reason=notloggedin
451	http://www.missbingo.com/
452	http://games.enet.com.cn/download/gmd_index.php
453	http://www.desjardins.com/fr/services_en_ligne/accesd/aide/ai_logoff.jsp
454	http://211.138.197.20/user/querytonebytype.do
455	http://www5.flirtlife.de/viewpmsg.php
456	http://s4.photobucket.com/albums/y116/sexi-princess/
457	http://saychatting.sayclub.com/meeting/meet_playroom_visitor.n

URL #	Good URL
	wz
458	http://www.cheaters.com/
459	http://www.menglu.com/merch/4ji/4ji.asp
460	http://www.planuk.gr.jp/re-news/kitaku/login_err.html
461	http://www.ragnarokonline.com/
462	http://www.shoesmoa.co.kr/event/jjori.html
463	http://www.thebrick.com/application/staticfiles/nopage.htm
464	http://www.shop.nokia.com.cn/ProductView.jsp
465	http://www.elcomercioperu.com.pe/ediciononline/html/onlPoliticaIndex.html
466	http://www.windowsmedia.com/MediaGuide/jaHome
467	http://music.yahoo.com/musicvideos/genrehub.asp
468	http://pds.hanafos.com/NPSubMain.asp
469	http://01net.allocine.fr/webtv/intersticiel.html?
470	http://samsunghth.com/homepage/searchTraceGoods/SearchTraceDtdShtno.jhtml
471	http://www.cadillacforums.com/forums/showthread.php
472	http://www.god-is-love.net/modules.php
473	http://finance.move.com/homefinance/findlender/signin.asp?poe=move
474	http://www.mysteel.com/servlet/Member.SignOn?url=/servlet/NewsAdmin.CHqInput
475	http://pib.wooribank.com/common/reDraw.jsp?target=/pib/pib_index.jsp@target=http://pib.wooribank.com/pib/bank/fndt/wpdep011_07p.jsp&s=null
476	http://astrocentro.msn.es/msnes/FunTools/Profiles.aspx
477	http://www.laredoute.es/es/femme/index.php
478	http://images.google.fr/
479	http://hotel.hospedarse.com/index.jsp
480	http://comic.daum.net/servlet/comicbuy
481	http://www.arcelik.com.tr/Cultures/tr-TR/default.htm
482	http://www.dragongoserver.net/error.php?err=no_game_nr
483	http://globoesporte.globo.com/
484	http://www.morningstar.co.jp/fund/sr_query.asp
485	http://www.sooff.com/
486	http://cafe.daum.net/backstory9
487	http://blog.empas.com/expand.html
488	http://pksp.jp/seekseek/bbs.cgi
489	http://news.sina.com.cn/s/p/2005-07-27/00367331622.shtml
490	http://img.mediaplex.com/cgi-bin/html/ads/707/20274/707-20274-3639-19_Allgemein_Auto-Motorrad_600x600_tuning.html

URL #	Good URL
491	http://login.live.com/login.srf?lc=1033&id=45930&ru=http%3a%2f%2fspaces.msn.com%2fkatarinamay%2fSpaceSettings.aspx%3f&msppjph=1&tw=14300&kv=7&ct=1153265197&ems=1&kpp=2&ver=2.1.6000.1&rn=p26wN7R8&tpf=43905309db47a82a0e72a141468b0873
492	http://classificadosjc.uol.com.br/resultado.php
493	http://login.live.com/login.srf?id=2&svc=mail&cbid=24325&msppjph=1&tw=0&fs=1&fsa=1&fsat=1296000&lc=1033&_lang=EN
494	http://www.expedia.fr/voyage/sejour/sejour-degriffe.aspx?USR=3-7WFARDXT-1-DIV
495	http://www.bidders.co.jp/dap/sv/list2
496	http://www.clubfriends.co.kr/msg_center/msg_view.html
497	http://www.justlisted.com.au/sp/jlresdisplay.asp
498	http://www.legendarena.com/stats.php
499	http://www.searay.com/online_brochure.asp
500	http://www.samsclub.com/sci/error/error.html