

## Mapping the Mal Web

March 12, 2007

[Dan Nunes](#)

Engineer, McAfee

[Shane Keats](#)

Research Analyst, McAfee

### Introduction

Online safety risks are a truly global issue. Yet differences in threats vary significantly by country and other factors, for example:

- A consumer is almost 12 times more likely to encounter a drive-by-download while surfing Russian domains as Colombian ones.
- Registering at a Web site in India results in a 4.3% chance of getting spammy e-mail. Taking the same action with a domain registered in China yields a 7.2% chance.
- 5.2% of Vietnamese Web sites have risky downloads. Just 0.5% of Singaporean sites host such files.
- 2.7 million times every month, casual Web surfers visit risky Dutch Web sites. Even though Hong Kong has approximately the same percentage of risky Web sites, those risky domains receive just 52,000 clicks each month.

Geographic differences give rise to important big-picture questions. For example, what level of online risk is involved as an ever greater percentage of the world's population moves online and users seek out Web sites in their native languages? Are there relatively safer or riskier country domains? Should online consumers factor in this information when searching and surfing? Can the malicious Web be mapped in a way that is interesting and useful?

McAfee can help answer these questions thanks to data from SiteAdvisor. SiteAdvisor tests web sites to keep consumers safe from spyware, spam, viruses and scams. SiteAdvisor is a free download for use with [Internet Explorer](#) and [Firefox](#).

### Methodology

We compare the ratings of sites found in each of 265 [country](#) (example: .br for Brazil) and [generic](#) (example: .com) top-level domains (TLDs) and then rank these domains by risk.

Our site safety assessments come from McAfee SiteAdvisor's Web safety database of 8.1 million of the most trafficked Web sites and account for more than 95% of Web traffic. These sites have been tested for a wide variety of unwanted behaviors.

- **Web sites** are tested for excessive pop-ups, other fraudulent practices, and browser exploits. Browser exploits, also known as drive-by-downloads, enable viruses or spyware to install on a consumer's computer without their consent and often without their knowledge.
- **Downloads** are analyzed by installing software on our test computers and checking for viruses and any bundled adware, spyware or other unwanted programs.
- **Sign-up forms** are completed using a one-time use e-mail address so the volume and "spamminess" of any subsequent e-mail can be tracked. Spamminess refers to the

### Table of Contents

[Introduction](#)

[Methodology](#)

[Key Findings](#)

[Data Breakouts](#)

- [Asia / Pacific TLDs](#)
- [Europe and the Middle East TLDs](#)
- [The Americas TLDs](#)
- [Generic TLDs](#)
- [Top TLDs for downloads, e-mail registrations and exploits](#)
- [The Safest TLDs](#)
- [The Most Pervasively Risky TLDs](#)

[Additional Analysis](#)

- [Risky Clicks by TLD](#)
- [How many days does it take to land on a risky site?](#)
- [Islands of Red](#)

[Cautions About the Data](#)

[Conclusion](#)

[Complete Data Tables](#)

[Study in Other Languages](#)

[zh-CN](#)      [zh-TW](#)

[de-DE](#)      [es-ES](#)

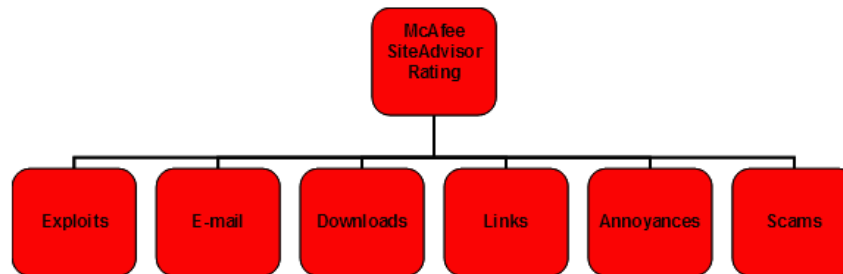
[pt-BR](#)      [nl-NL](#)

[ja-JP](#)      [fr-FR](#)

commercial content of e-mail, as well as the use of tactics to trick spam filter software.

- **Feedback** from individual users and site owners, plus analysis by SiteAdvisor staff enhance SiteAdvisor's automated testing.

Red ratings are given to Web sites that fail one or more of these tests. Yellow ratings are given to sites that merit caution before using.



Our analysis measures risk in four ways:

- Percent of red and yellow rated sites
- Percent of red and yellow rated sites, of those with tested downloads
- Percent of red and yellow rated sites, of those with tested e-mail practices
- Percent of sites in that domain rated red for exploits

The rankings are restricted to 71 top level domains, each containing at least 2,000 sites tested by SiteAdvisor.

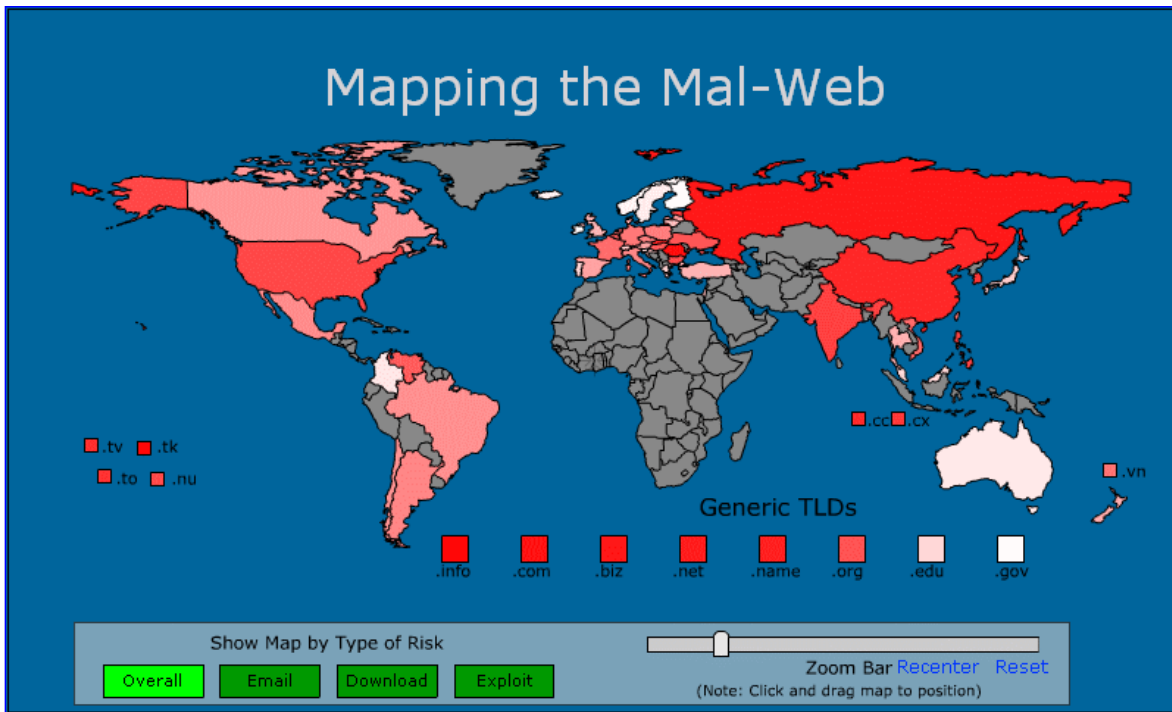
## Key Findings

[back to top](#)

4.1% of all sites tested by SiteAdvisor are rated red or yellow. But the incidence of red and yellow sites varies dramatically across top-level domains, ranging from a low of 0.1% for Finland (.fi) to a high of 10.1% for the tiny island of [Tokelau](#) (.tk). We find that Tokelauan domains, discussed later, offer some advantages to scammers.

- The most risky large countries are Romania (.ro, 5.6% risky sites) and Russia (.ru, 4.5% risky sites). These country TLDs are also the most likely to host exploit sites.
- .info is the riskiest generic TLD, with 7.5% of its sites rated as risky. .com is the second most risky generic TLD, with 5.5% of sites rated as risky.
- Four of the five least risky country TLDs are Nordic countries - Finland (0.10%), Norway (.no, 0.16%), Sweden (.se, 0.21%) and Iceland (.is, 0.19%). Ireland (.ie, 0.11%) rounds out the top five least risky country TLDs.
- .gov is the only frequently tested TLD for which SiteAdvisor has found no risky sites. .gov is only available to United States government agencies.
- Even though the .com TLD is only the 5th most risky TLD by rank, its huge popularity magnifies its impact on search and browsing risk dramatically. 86.6% of clicks to red and yellow rated sites go to .com sites.
- Even though the Netherlands (.nl), Germany (.de) and the United Kingdom (.uk) are all relatively safe TLDs, ranking 31st, 33rd and 51st most risky, each of their TLDs account for more than 2 million clicks to red and yellow sites every month. Likewise Japan (.jp) is ranked 57th most risky and yet red and yellow rated .jp sites receive an estimated 1.6 million clicks each month.

[back to top](#)



**Data Breakouts**

**Asia / Pacific TLDs**

- China (.cn) and South Korea (.kr) are the riskiest major country domains in the Asia/Pacific region, with 3.7% and 2.6% of their sites rated as risky, respectively. Japan and Australia (.au) are overwhelmingly less risky, with just 0.4% and 0.2% risky sites, respectively.

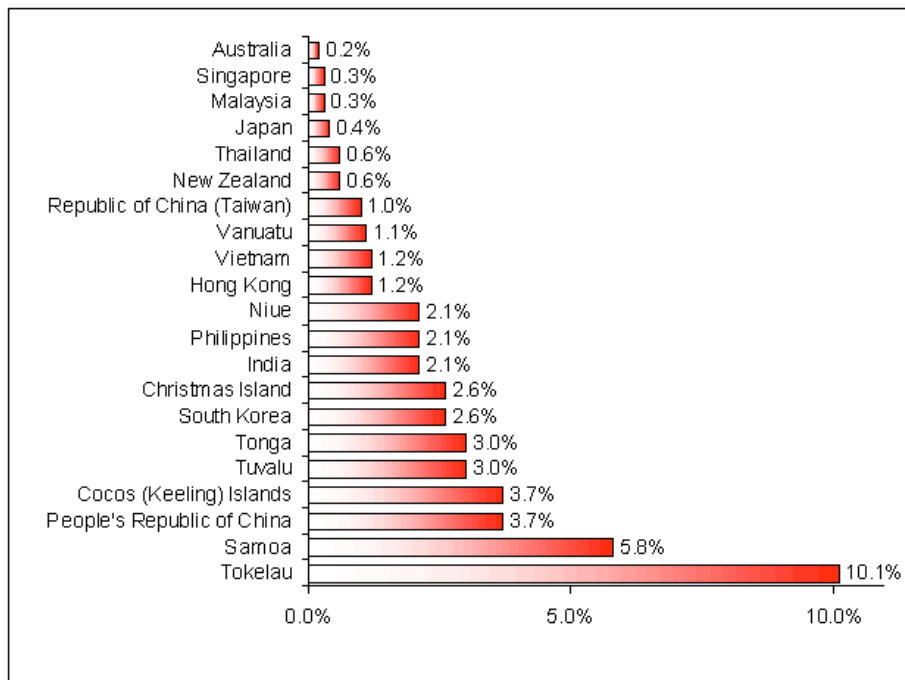


Figure: Asia Pacific TLDs ranked by overall percentage of red and yellow sites

[Complete Asia / Pacific Results](#)

### Europe and the Middle East TLDs

[back to top](#)

- Romania and Russia are the most risky domains in the Europe/Middle East region, with 5.6% and 4.5% risky results, respectively. By contrast, Germany, the region's domain with the most tested sites, has just over 1% risky sites.

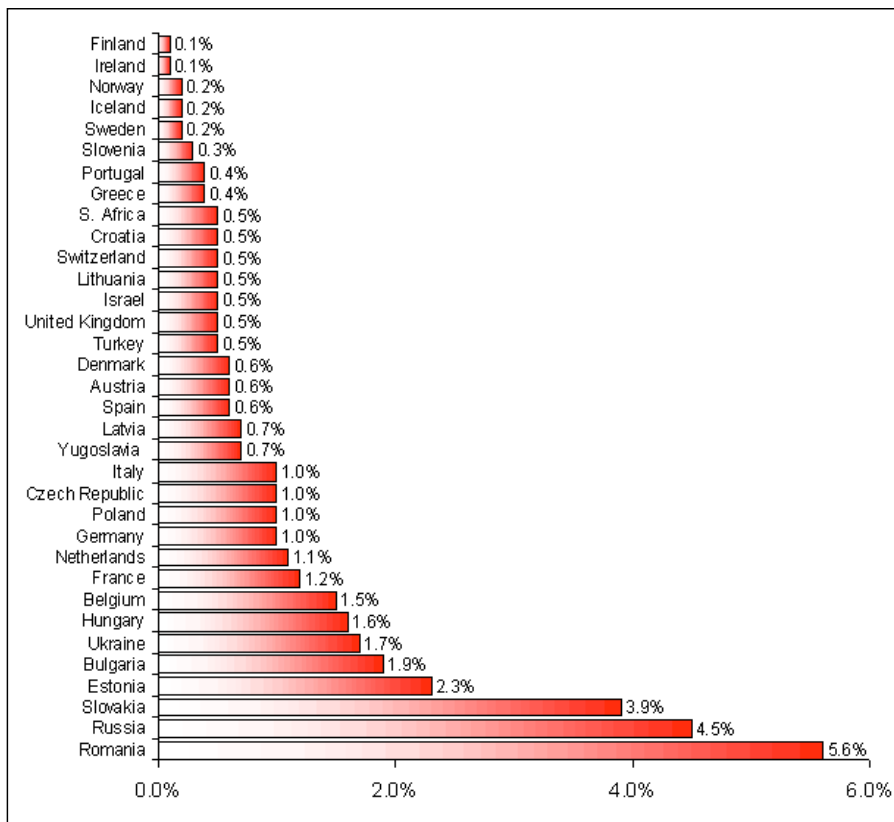


Figure: Europe and the Middle East TLDs ranked by overall percentage of red and yellow sites

[Complete Europe and the Middle East Results](#)

### The Americas TLDs

[back to top](#)

- Latin American and South American countries are somewhat safer than countries in other regions. According to a [recent study](#) Internet penetration rates in Latin and South American countries are modest. 19.8% of Argentines, 18.6% of Mexicans and 11.3% of Brazilians are online. By comparison, 70.5% of South Koreans and 63.6% of Americans are online. In general, we find that economically motivated scammers seek out the largest Web audiences in order to maximize profit potential. This may account for the lower incidence to date of red and yellow sites in these TLDs.
- At 2.1% red and yellow, the United States (.us) is the riskiest TLD in the Americas, while Venezuela (.ve) is the riskiest TLD in Latin and South America, with 1.5% of sites rated as risky. Brazil (.br), Mexico (.mx) and Argentina (.ar) are all relatively safe domains, each with just under one percent risky sites.

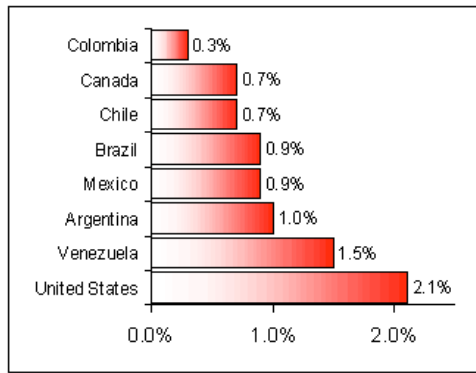


Figure: Americas TLDs ranked by overall percentage of red and yellow sites

[Complete Americas Results](#)

### Generic TLDs

[back to top](#)

- .info is the riskiest generic TLD, with 7.5% of its sites rated as risky. .com, by far the largest TLD by number of registered sites, as well as the TLD with the greatest number of sites tested by SiteAdvisor, is the second most risky generic TLD, with 5.5% of sites rated as risky.
- .gov is the only frequently tested TLD for which SiteAdvisor has found no risky sites. .edu is also quite safe, with just 0.3% of sites rated risky. We believe that the reason for this relative and absolute safety is because those applying for .gov and .edu domains must provide credentials and are significantly less likely to engage in risky or unethical Web practices.

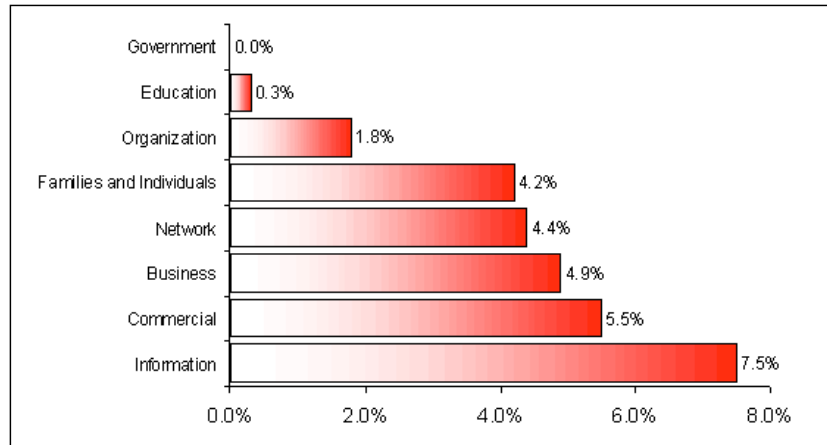


Figure: Generic TLDs ranked by overall percentage of red and yellow sites

[Complete Generic Results](#)

### Relative "facet" risk for downloads, e-mail registrations and exploits

[back to top](#)

- **Downloads** Of those sites with tested downloads, Somoa (.ws), .biz and Bulgaria (.bg) are the most risky. 14.0%, 11.4% and 9.9%, respectively, contain risky downloads. In other words, a consumer that chooses to randomly download from one of these top level domains has at least a 1 in 10 chance of downloading from a risky site.

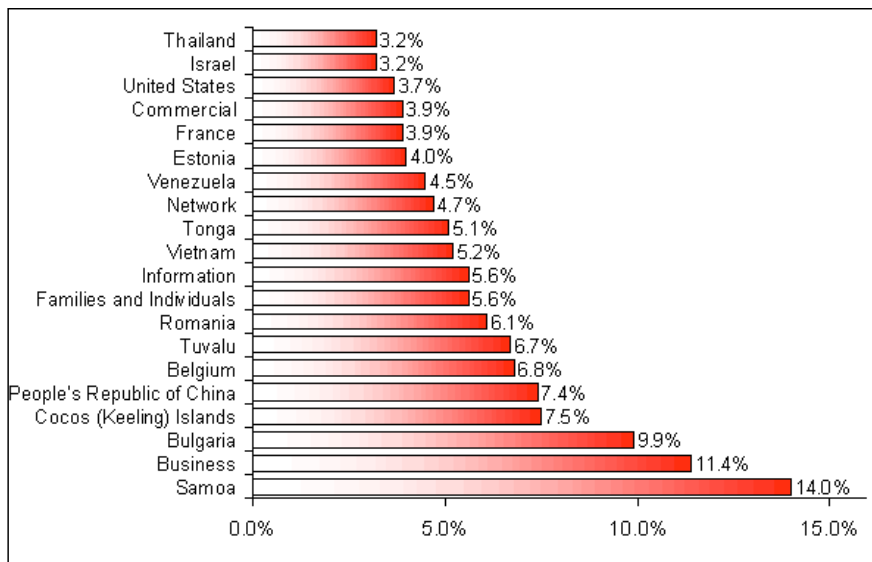


Figure: Top 20 TLDs ranked by percentage of sites with red and yellow download ratings

[Complete Download Results](#)

[back to top](#)

- E-Mail** A stunning 73.2% of the more than 6,000 .info sites that we have tested for e-mail practices are rated risky, meaning that SiteAdvisor registrations at these sites resulted in the receipt of high volume e-mail, spammy e-mail or both. Russia and South Korea trail the .info TLD with 21.7% and 19.6% respectively. While less risky than registering at a .info domain, consumers who provide their e-mail addresses to randomly chosen Korean or Russian domains have a 1 in 5 chance of receiving high volume e-mail, highly commercial e-mail or both.

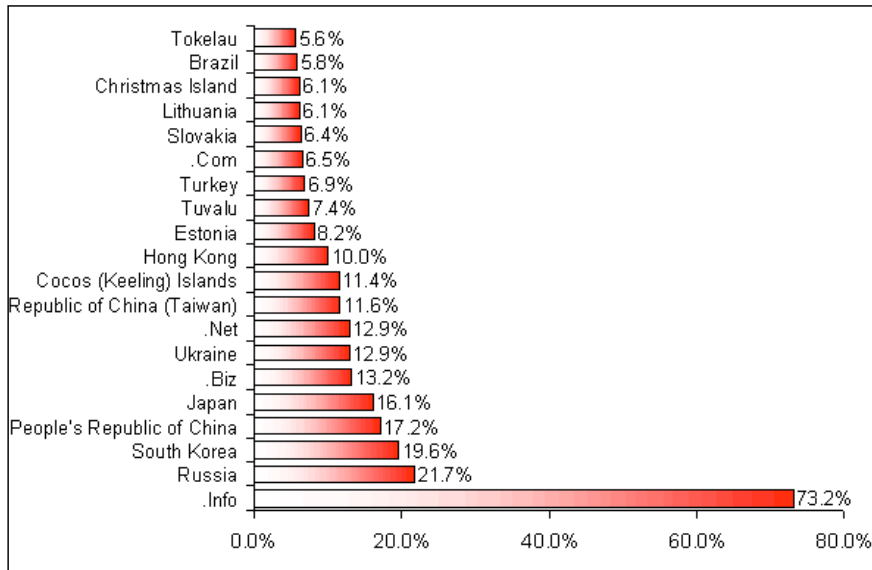


Figure: Top 20 TLDs ranked by percentage of sites with red and yellow e-mail practices ratings

[Complete E-mail Results](#)

[back to top](#)

- Exploits** A casual Web surfer is more than five times as likely to encounter an exploit site while browsing a .nu or .ru site than he is while surfing the .com TLD. In fact, the tiny island of Niue and the massive Russia vie for the domain most frequently used to launch an exploit or drive-by-download type attack. While rare - just 0.45% and 0.43%

of sites tested, respectively - exploits are arguably one of the most dangerous kinds of threats which Internet users face today because successful exploits can lead to permanent computer failure and identity theft.

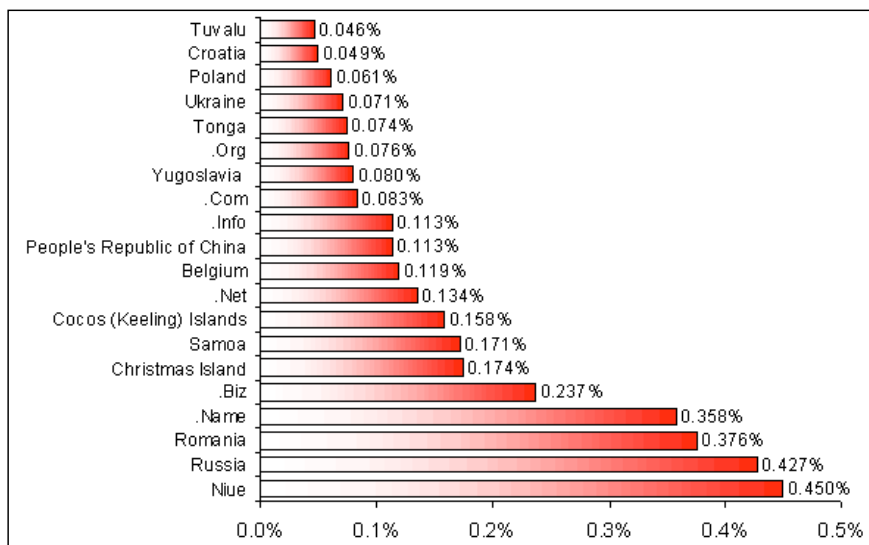


Figure: Top 20 TLDs ranked by percentage of sites with exploits

[Complete Exploit Results](#)

[back to top](#)

### **The Safest TLDs**

- Four of the five least risky country TLDs are Nordic countries: Finland (0.10%), Norway (0.16%), Sweden (0.21%) and Iceland (0.19%). Ireland (0.11%) rounds out the top five least risky country TLDs. This could be due to governing bodies employing stricter regulations of these domains. Registrations in Norway are [limited](#) to companies registered with the government. Prior to 2003, [Finland](#) and [Sweden](#) had similar requirements.
- [.gov](#) is the only frequently tested TLD for which SiteAdvisor has found no risky sites. [.edu](#) is also quite safe, with just 0.3% of sites rated risky. Strict registration requirements limit the kind of registrants who can operate sites with these domains to those who are least likely to be scammers.

### **The Most Pervasively Risky TLDs**

[back to top](#)

- Seven TLDs (.com, .info, .net, .biz, Tuvalu (.tv), Cocos Islands (.cc), and China (.cn)) earn the dubious distinction of ranking in the top 20 riskiest for each of the four risky facets we examined.
- Of these seven domains, .biz and .info are the overall worst domains with highly risky rankings in each of the four categories:
- .info ranks 2nd (overall risk), 1st (e-mail practices), 10th (download risk) and 12th (exploit risk)
- .biz ranks 6th (overall risk), 6th (e-mail practices), 2nd (download risk) and 5th (exploit risk)

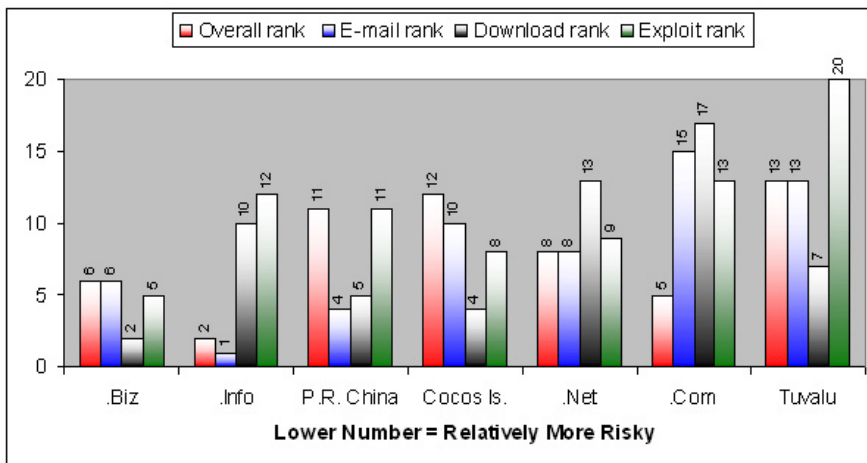


Figure: 7 TLDs that rank in Top 20 for each of 4 tests

- Again, low cost appears to be at least [one factor](#) in drawing scammers to the .info TLD.

Spammers flock to .info, which was created as an alternative to the crowded .com, because its domain names are cheaper - registrars often let people use them gratis for the first year - which is helpful for those, like sploggers, who buy Internet addresses in bulk. Splogs so commonly have .info addresses that many experts simply assume all blogs from that domain are fake.

- [Others note](#) that ".info is the first and only top-level domain that was explicitly created and chartered for unrestricted use, though various other TLDs have ended up that way as a de facto situation."
- .biz is [said to be](#) the most popular TLD for spammers because the name servers update immediately, meaning spammers can start using the domain as soon as they register, rather than wait up to 24 hours for the registration to take effect. This is particularly attractive due to the transient nature of spam and phishing Web sites.

[Complete Pervasively Risky Results](#)

### Additional Analysis

[back to top](#)

#### Risky Clicks by TLD

Relative risk can be measured in many ways. The rankings presented thus far are not weighted to reflect the popularity of different TLDs. For example, .tv may have a higher percent of risky sites than .com, but .com's massive presence surely means that its TLD is responsible for many more risky Web interactions.

We can factor in the weight of a TLD through a series of approximations to arrive at a different ranking of relative risk. How many clicks are made to risky Web sites within a given TLD? It's hard to calculate global figures, but we can make some estimates based on US traffic patterns. US Internet users [conduct](#) approximately 5.7 billion searches per month. According to one [reputable source](#), the average search results in 2.3 clicks per search. Multiplied by the percent of red and yellow sites within the TLD and weighted by the traffic received by that TLD, we can calculate an approximate number of risky clicks per TLD. For this ranking, we use the following formula:

$$5.7 \text{ billion searches/month} * 2.3 \text{ clicks/search} * \text{TLD's \% red + yellow} * \text{TLD's \% traffic}$$

Note that the TLDs' weighted traffic is based on analysis of the traffic patterns of the millions of SiteAdvisor users worldwide. While this user base is large enough to be representative, it does have some non-representative characteristics. For example, the SiteAdvisor safe search tool is particularly popular in the Netherlands which positively skews the number of red and yellow clicks attributed to searching Dutch domains.

Of an estimated 555 million risky clicks made each month via search engine results, the vast majority, 86.6% go to .com sites. Even though the .com TLD is only the 5th most risky TLD by rank, its huge popularity magnifies its impact on search and browsing risk dramatically.

As mentioned in the key findings above, even relatively safe TLDs like the Netherlands, Germany or Japan can generate enormous numbers of clicks through to red and yellow rated sites. This is because these countries have such large online populations searching within their native TLDs that even small percentages of risky sites can still yield dramatic aggregate risk environments.

[Complete Clicks to Risk Results](#)

## How many days does it take to land on a risky site?

[back to top](#)

A different way of examining the relative risk of various TLDs is to pose a thought experiment. If a consumer restricted himself to browsing within a single TLD, how many days of surfing would it take before that user landed at a red or yellow site? For this thought experiment, we use the following formula:

$30 \text{ days per month} / (43.1 \text{ searches per month} * 2.3 \text{ clicks per search} * x\% \text{ red+yellow sites}) = n \text{ days}$

Where n is the number of days of surfing required to land at a risky site.

On average, it would take just 4 days of random browsing within the .info domain to land at a risky .info site. For the Tokelau domain, it's even worse - just 3 days of browsing. And it takes just 5.5 days to land at a risky .com site. By contrast, the average surfer would have to spend more than 318 days within the .fi domain to land at a risky site. Of course heavy users - who browse to more sites per day - face an even greater chance of infection.

[Complete Days to Risk Results](#)

## Islands of Red

[back to top](#)

Small island nations and island territories frequently rank high on the list of most risky TLDs. If we include TLDs for which SiteAdvisor has tested 100 or more sites, we find five small island TLDs that are unusually risky.

- Sao Tome / Principe (.st) 18.5%
- Tokelau (.tk) 10.1%
- Turks and Caicos (.tc) 9.9%
- South Georgia / South Sandwich Islands (.gs) 9.3%
- British Virgin Islands (.vg) 9.1%

Cocos Islands (.cc), while not highly ranked on overall risk, is 10th for e-mail practices (11.4% risky sites) and 4th for downloads (7.5% risky sites). Likewise, Tuvalu (.tv) ranks 13th for e-mail practices (7.4% risky sites) and 7th for downloads (6.7% risky sites). And Niue (.nu) ranks 1st for exploits (0.45%).

One possible reason for the relatively higher concentration of risky sites for at least some of these domains is cost. Tokelau and Niue give out domains for free. Scammers, particularly those employing phishing, exploit or spam tactics, are subject to frequent blacklisting and so they must register and discard many domains very quickly. Registration costs, minimal for one or two domains, become significant when the number of registered sites becomes large.

The .nu TLD goes even further to make itself attractive to registrants by allowing anonymous registration. The owner of the TLD indirectly acknowledged the problem some years ago when it announced a "zero tolerance" policy for spammers. But our tests indicate that this policy may not be effective in actually deterring scammers. By contrast, some larger nations require additional documentation as part of the site registration process. Japan, one of the safest TLDs, [requires](#) a local postal address as do Ireland, Sweden, and Finland. Norway, another safe TLD, [requires](#) businesses to register with the government in order to receive a .no domain.

Other countries, including relatively safe TLDs like Australia and Canada, require a local contact for all domain registrations. While this can be accomplished by hiring a third party to perform this function, the requirement adds time and cost to domain registration, two factors scammers certainly consider as they consider where to register.

## Cautions About the Data

[back to top](#)

- Individual domains can be owned by persons from any nationality. For example, .com's are registered to people of almost every nationality. This data should not be used to infer riskiness of nationality.
- "Domain Hacks" like <http://cr.yo.to/> , <http://del.icio.us/> , <http://blo.gs/> are increasingly popular and reduce the ability to infer risk from nationality.
- SiteAdvisor's automated download and e-mail testing currently "reads" 13 of the world's most common languages. This means that we occasionally miss downloads and registration forms, particularly those in other languages. Note, however, that our exploit data is not language specific. We catch exploits no matter what the language of the sites that host them.

## Conclusion

[back to top](#)

Between [March 2004](#) and [December 2006](#), the growth of Internet users in the US has been just below 4%. During the same time period, the growth rate in Germany was 18.6%. In Japan it was 31.7%.

These statistics underscore an important if sometimes overlooked fact about the Internet. As more and more of the world's population moves online, the World Wide Web increasingly earns its "world wide" moniker. This study shows that the distribution of Web safety threats is increasingly world wide as well. Problems that were once thought to largely affect surfers to say .com or .biz are now found throughout the trafficked Web.

Few Web consumers spend all of their online time surfing on a single top level domain, even if that TLD is in their native language. The ease of Web navigation and the variety of compelling content across TLDs mean that most users often "leave home." And while we do not recommend that the online population avoid any one TLD, we encourage users to search and browse with more knowledge. Tools like SiteAdvisor give consumers the kind of information they need, when they need it, to make smarter, and safer searching and surfing decisions.

#### Complete Data Matrices

[back to top](#)

#### Asia / Pacific TLDs ranked by overall percentage of red and yellow sites

Name	TLD	% sites rated red and yellow	Regional Rank	Overall rank % sites rated red and yellow
Tokelau	TK	10.1%	1	1
Samoa	WS	5.8%	2	3
People's Republic of China	CN	3.7%	3	11
Cocos (Keeling) Islands	CC	3.7%	4	12
Tuvalu	TV	3.0%	5	13
Tonga	TO	3.0%	6	14
South Korea	KR	2.6%	7	15
Christmas Island	CX	2.6%	8	16
India	IN	2.1%	9	18
Philippines	PH	2.1%	10	19
Niue	NU	2.1%	11	21
Hong Kong	HK	1.2%	12	28
Vietnam	VN	1.2%	13	29
Vanuatu	VU	1.1%	14	32
Republic of China (Taiwan)	TW	1.0%	15	34
New Zealand	NZ	0.6%	16	48
Thailand	TH	0.6%	17	49
Japan	JP	0.4%	18	57
Malaysia	MY	0.3%	19	61
Singapore	SG	0.3%	20	63
Australia	AU	0.2%	21	65

#### Europe and the Middle East TLDs ranked by overall percentage of red and yellow sites

[back to top](#)

Name	TLD	% sites rated red and yellow	Regional Rank	Overall rank % sites rated red and yellow
Romania	RO	5.6%	1	4
Russia	RU	4.5%	2	7
Slovakia	SK	3.9%	3	10
Estonia	EE	2.3%	4	17
Bulgaria	BG	1.9%	5	22
Ukraine	UA	1.7%	6	24
Hungary	HU	1.6%	7	25
Belgium	BE	1.5%	8	27
France	FR	1.2%	9	30
Netherlands	NL	1.1%	10	31
Germany	DE	1.0%	11	33
Poland	PL	1.0%	12	35

Czech Republic	CZ	1.0%	13	36
Italy	IT	1.0%	14	38
Yugoslavia	YU	0.7%	15	43
Latvia	LV	0.7%	16	44
Spain	ES	0.6%	17	45
Austria	AT	0.6%	18	46
Denmark	DK	0.6%	19	47
Turkey	TR	0.5%	20	50
United Kingdom	UK	0.5%	21	51
Israel	IL	0.5%	22	52
Lithuania	LT	0.5%	23	53
Switzerland	CH	0.5%	24	54
Croatia	HR	0.5%	25	55
S. Africa	ZA	0.5%	26	56
Greece	GR	0.4%	27	58
Portugal	PT	0.4%	28	59
Slovenia	SI	0.3%	29	62
Sweden	SE	0.2%	30	66
Iceland	IS	0.2%	31	67
Norway	NO	0.2%	32	68
Ireland	IE	0.1%	33	69
Finland	FI	0.1%	34	70

Americas TLDs ranked by overall percentage of red and yellow sites

[back to top](#)

Name	TLD	% sites rated red and yellow	Regional Rank	Overall rank % sites rated red and yellow
United States	US	2.1%	1	20
Venezuela	VE	1.5%	2	26
Argentina	AR	1.0%	3	37
Mexico	MX	0.9%	4	39
Brazil	BR	0.9%	5	40
Chile	CL	0.7%	6	41
Canada	CA	0.7%	7	42
Colombia	CO	0.3%	8	64

Generic TLDs ranked by overall percentage of red and yellow sites

[back to top](#)

Name	TLD	% sites rated red and yellow	Regional Rank	Overall rank % sites rated red and yellow
Information	INFO	7.5%	1	2
Commercial	COM	5.5%	2	5
Business	BIZ	4.9%	3	6
Network	NET	4.4%	4	8
Families and Individuals	NAME	4.2%	5	9
Organization	ORG	1.8%	6	23
Educational	EDU	0.3%	7	60
Governmental	GOV	0.0%	8	71

**Top 20 TLDs ranked by percentage of sites with red and yellow download ratings**

[back to top](#)

Name	TLD	Of those sites w/ download ratings, % red and yellow	Download ratings rank	Overall rank % sites rated red and yellow
Samoa	WS	14.0%	1	3
Business	BIZ	11.4%	2	6
Bulgaria	BG	9.9%	3	22
Cocos (Keeling) Islands	CC	7.5%	4	12
People's Republic of China	CN	7.4%	5	11
Belgium	BE	6.8%	6	27
Tuvalu	TV	6.7%	7	13
Romania	RO	6.1%	8	4
Families and Individuals	NAME	5.6%	9	9
Information	INFO	5.6%	10	2
Vietnam	VN	5.2%	11	29
Tonga	TO	5.1%	12	14
Network	NET	4.7%	13	8
Venezuela	VE	4.5%	14	26
Estonia	EE	4.0%	15	17
France	FR	3.9%	16	30
Commercial	COM	3.9%	17	5
United States	US	3.7%	18	20
Israel	IL	3.2%	19	52
Thailand	TH	3.2%	20	49

**Top 20 TLDs ranked by percentage of sites with red and yellow e-mail practices ratings**

[back to top](#)

Name	TLD	Of those sites w/ e-mail ratings, % rated red or yellow	E-mail ratings rank	Overall rank % sites rated red and yellow
Information	INFO	73.2%	1	2
Russia	RU	21.7%	2	7
South Korea	KR	19.6%	3	15
People's Republic of China	CN	17.2%	4	11
Japan	JP	16.1%	5	57
Business	BIZ	13.2%	6	6
Ukraine	UA	12.9%	7	24
Network	NET	12.9%	8	8
Republic of China (Taiwan)	TW	11.6%	9	34
Cocos (Keeling) Islands	CC	11.4%	10	12
Hong Kong	HK	10.0%	11	28
Estonia	EE	8.2%	12	17
Tuvalu	TV	7.4%	13	13
Turkey	TR	6.9%	14	50
Commercial	COM	6.5%	15	5
Slovakia	SK	6.4%	16	10
Lithuania	LT	6.1%	17	53
Christmas Island	CX	6.1%	18	16
Brazil	BR	5.8%	19	40
Tokelau	TK	5.6%	20	1

**Top 20 TLDs ranked by percentage of sites with exploits**

[back to top](#)

Name	TLD	% of sites with exploits	Exploit Rank	Overall rank % sites rated red and yellow
Niue	NU	0.450%	1	21
Russia	RU	0.427%	2	7
Romania	RO	0.376%	3	4
Families and Individuals	NAME	0.358%	4	9
Business	BIZ	0.237%	5	6
Christmas Island	CX	0.174%	6	16
Samoa	WS	0.171%	7	3
Cocos (Keeling) Islands	CC	0.158%	8	12
Network	NET	0.134%	9	8
Belgium	BE	0.119%	10	27
People's Republic of China	CN	0.113%	11	11
Information	INFO	0.113%	12	2
Commercial	COM	0.083%	13	5
Yugoslavia	YU	0.080%	14	43
Organization	ORG	0.076%	15	23
Tonga	TO	0.074%	16	14
Ukraine	UA	0.071%	17	24
Poland	PL	0.061%	18	35
Croatia	HR	0.049%	19	55
Tuvalu	TV	0.046%	20	13

**Pervasive Risk: Seven TLDs that score in the Top 20 for each of our four rankings**

[back to top](#)

Country / Generic	TLD	Overall rank % sites rated red and yellow	E-mail ratings rank	Download ratings rank	Exploit Rank
Information	INFO	2	1	10	12
Business	BIZ	6	6	2	5
People's Republic of China	CN	11	4	5	11
Cocos (Keeling) Islands	CC	12	10	4	8
Network	NET	8	8	13	9
Tuvalu	TV	13	13	7	20
Commercial	COM	5	15	17	13

**Clicks to Risk: Top 50 TLDs ranked by percentage of estimated monthly clicks to red and yellow sites**

[back to top](#)

Name	TLD	% of overall clicks to red + yellow	Estimated clicks to red + yellow / month	Rank of Clicks to Red + Yellow	Overall rank % sites rated red and yellow
Commercial	COM	86.60%	481,143,591	1	5
Network	NET	6.13%	34,060,427	2	8
Organization	ORG	2.07%	11,511,747	3	23
Information	INFO	0.74%	4,130,859	4	2
Netherlands	NL	0.49%	2,695,749	5	31
United Kingdom	UK	0.41%	2,297,096	6	51
Germany	DE	0.38%	2,099,952	7	33
Japan	JP	0.30%	1,653,240	8	57

France	FR	0.21%	1,186,737	9	30
Russia	RU	0.20%	1,107,725	10	7
United States	US	0.20%	1,098,066	11	20
Business	BIZ	0.17%	925,737	12	6
Italy	IT	0.17%	917,225	13	38
Brazil	BR	0.14%	793,146	14	40
Romania	RO	0.14%	777,712	15	4
Belgium	BE	0.14%	765,627	16	27
Canada	CA	0.14%	764,518	17	42
People's Republic of China	CN	0.13%	743,164	18	11
Samoa	WS	0.11%	593,095	19	3
Tuvalu	TV	0.10%	556,402	20	13
Spain	ES	0.09%	490,266	21	45
Educational	EDU	0.08%	446,593	22	60
Poland	PL	0.07%	402,905	23	35
Cocos (Keeling) Islands	CC	0.06%	325,706	24	12
Slovakia	SK	0.05%	299,964	25	10
India	IN	0.04%	246,390	26	18
Tonga	TO	0.04%	230,171	27	14
Colombia	CO	0.04%	228,157	28	64
Australia	AU	0.04%	227,423	29	65
Mexico	MX	0.04%	214,368	30	39
Argentina	AR	0.04%	202,257	31	37
Hungary	HU	0.03%	165,170	32	25
Denmark	DK	0.03%	160,814	33	47
Switzerland	CH	0.03%	146,732	34	54
Czech Republic	CZ	0.03%	139,207	35	36
Israel	IL	0.02%	133,374	36	52
Republic of China (Taiwan)	TW	0.02%	131,647	37	34
Tokelau	TK	0.02%	128,471	38	1
Niue	NU	0.02%	127,761	39	21
Austria	AT	0.02%	121,766	40	46
Chile	CL	0.02%	111,106	41	41
South Korea	KR	0.02%	91,248	42	15
Turkey	TR	0.02%	87,323	43	50
New Zealand	NZ	0.01%	83,197	44	48
Philippines	PH	0.01%	71,804	45	19
Bulgaria	BG	0.01%	71,534	46	22
Portugal	PT	0.01%	68,418	47	59
Venezuela	VE	0.01%	64,665	48	26
Vietnam	VN	0.01%	55,284	49	29
Hong Kong	HK	0.01%	51,813	50	28

**Days to Risk: Top 20 TLDs ranked by days of surfing required to land on a red or yellow site**

[back to top](#)

Name	TLD	Rank of sites by days it takes to land on red and yellow sites	Days of surfing required to land on a red or yellow site
Tokelau	TK	1	3.0
Information	INFO	2	4.0
Samoa	WS	3	5.2
Romania	RO	4	5.4
Commercial	COM	5	5.5

Business	BIZ	6	6.1
Russia	RU	7	6.7
Network	NET	8	7.0
Families and Individuals	NAME	9	7.2
Slovakia	SK	10	7.7
People's Republic of China	CN	11	8.1
Cocos (Keeling) Islands	CC	12	8.3
Tuvalu	TV	13	10.0
Tonga	TO	14	10.1
South Korea	KR	15	11.5
Christmas Island	CX	16	11.5
Estonia	EE	17	13.2
India	IN	18	14.2
Philippines	PH	19	14.5
United States	US	20	14.6

Complete Results

[back to top](#)

Name	TLD	% sites rated red + yellow	Overall rank % sites rated red + yellow	Of those sites w/ e-mail ratings, % rated red + yellow	E-mail ratings rank	Of those sites w/ download ratings, % red + yellow	Download ratings rank
Tokelau	TK	10.1%	1	5.6%	20	0.0%	69
Information	INFO	7.5%	2	73.2%	1	5.6%	10
Samoa	WS	5.8%	3	3.2%	36	14.0%	1
Romania	RO	5.6%	4	1.5%	55	6.1%	8
Commercial	COM	5.5%	5	6.5%	15	3.9%	17
Business	BIZ	4.9%	6	13.2%	6	11.4%	2
Russia	RU	4.5%	7	21.7%	2	2.0%	36
Network	NET	4.4%	8	12.9%	8	4.7%	13
Families and Individuals	NAME	4.2%	9	0.0%	69	5.6%	9
Slovakia	SK	3.9%	10	6.4%	16	3.2%	22
People's Republic of China	CN	3.7%	11	17.2%	4	7.4%	5
Cocos (Keeling) Islands	CC	3.7%	12	11.4%	10	7.5%	4
Tuvalu	TV	3.0%	13	7.4%	13	6.7%	7
Tonga	TO	3.0%	14	1.0%	65	5.1%	12
South Korea	KR	2.6%	15	19.6%	3	2.1%	34
Christmas Island	CX	2.6%	16	6.1%	18	3.2%	21
Estonia	EE	2.3%	17	8.2%	12	4.0%	15
India	IN	2.1%	18	4.3%	28	1.5%	48
Philippines	PH	2.1%	19	3.7%	31	0.8%	63
United States	US	2.1%	20	2.8%	38	3.7%	18
Niue	NU	2.1%	21	4.6%	26	2.3%	29
Bulgaria	BG	1.9%	22	4.6%	25	9.9%	3
Organization	ORG	1.8%	23	3.1%	37	1.7%	41
Ukraine	UA	1.7%	24	12.9%	7	1.8%	39
Hungary	HU	1.6%	25	4.7%	23	2.2%	33
Venezuela	VE	1.5%	26	4.0%	30	4.5%	14
Belgium	BE	1.5%	27	2.1%	49	6.8%	6
Hong Kong	HK	1.2%	28	10.0%	11	1.8%	38
Vietnam	VN	1.2%	29	1.8%	51	5.2%	11
France	FR	1.2%	30	3.4%	33	3.9%	16
Netherlands	NL	1.1%	31	1.9%	50	3.1%	24
Vanuatu	VU	1.1%	32	0.0%	70	0.0%	70

Germany	DE	1.0%	33	1.6%	53	0.9%	61
Republic of China (Taiwan)	TW	1.0%	34	11.6%	9	1.2%	56
Poland	PL	1.0%	35	1.6%	54	2.8%	25
Czech Republic	CZ	1.0%	36	4.8%	22	1.6%	45
Argentina	AR	1.0%	37	4.6%	27	2.6%	27
Italy	IT	1.0%	38	2.6%	41	3.2%	23
Mexico	MX	0.9%	39	2.1%	46	1.4%	49
Brazil	BR	0.9%	40	5.8%	19	2.2%	32
Chile	CL	0.7%	41	2.2%	44	2.2%	31
Canada	CA	0.7%	42	1.5%	57	0.8%	62
Yugoslavia	YU	0.7%	43	4.7%	24	2.5%	28
Latvia	LV	0.7%	44	1.6%	52	2.6%	26
Spain	ES	0.6%	45	1.2%	62	1.0%	59
Austria	AT	0.6%	46	1.1%	63	1.3%	51
Denmark	DK	0.6%	47	3.4%	34	1.7%	42
New Zealand	NZ	0.6%	48	0.8%	67	0.9%	60
Thailand	TH	0.6%	49	4.1%	29	3.2%	20
Turkey	TR	0.5%	50	6.9%	14	1.5%	47
United Kingdom	UK	0.5%	51	1.2%	60	1.2%	54
Israel	IL	0.5%	52	5.0%	21	3.2%	19
Lithuania	LT	0.5%	53	6.1%	17	2.3%	30
Switzerland	CH	0.5%	54	1.3%	58	1.8%	40
Croatia	HR	0.5%	55	3.2%	35	1.0%	58
S. Africa	ZA	0.5%	56	2.1%	45	1.2%	52
Japan	JP	0.4%	57	16.1%	5	0.5%	65
Greece	GR	0.4%	58	2.6%	42	2.0%	35
Portugal	PT	0.4%	59	1.1%	64	1.2%	55
Educational	EDU	0.3%	60	0.9%	66	1.6%	46
Malaysia	MY	0.3%	61	1.5%	56	0.4%	68
Slovenia	SI	0.3%	62	2.1%	48	1.9%	37
Singapore	SG	0.3%	63	2.6%	43	0.5%	64
Colombia	CO	0.3%	64	2.7%	40	1.7%	43
Australia	AU	0.2%	65	0.7%	68	1.7%	44
Sweden	SE	0.2%	66	1.2%	59	1.2%	53
Iceland	IS	0.2%	67	3.4%	32	1.1%	57
Norway	NO	0.2%	68	2.1%	47	1.4%	50
Ireland	IE	0.1%	69	1.2%	61	0.4%	66
Finland	FI	0.1%	70	2.8%	39	0.4%	67
Governmental	GOV	0.0%	71	0.0%	71	0.0%	71

Complete Results, Continued

[back to top](#)

Name	TLD	% of sites with exploits	Exploit Rank	Rank of Clicks to Red + Yellow	% of overall clicks to red + yellow	Estimated clicks to red + yellow / month	Days of surfing required to land on a red or yellow site
Tokelau	TK	0.030%	25	38	0.02%	128,471	3.0
Information	INFO	0.110%	12	4	0.74%	4,130,859	4.0
Samoa	WS	0.170%	7	19	0.11%	593,095	5.2
Romania	RO	0.380%	3	15	0.14%	777,712	5.4
Commercial	COM	0.080%	13	1	86.60%	481,143,591	5.5
Business	BIZ	0.240%	5	12	0.17%	925,737	6.1
Russia	RU	0.430%	2	10	0.20%	1,107,725	6.7
Network	NET	0.130%	9	2	6.13%	34,060,427	7.0

Families and Individuals	NAME	0.360%	4	52	0.01%	50,824	7.2
Slovakia	SK	0.010%	41	25	0.05%	299,964	7.7
People's Republic of China	CN	0.110%	11	18	0.13%	743,164	8.1
Cocos (Keeling) Islands	CC	0.160%	8	24	0.06%	325,706	8.3
Tuvalu	TV	0.050%	20	20	0.10%	556,402	10.0
Tonga	TO	0.070%	16	27	0.04%	230,171	10.1
South Korea	KR	0.010%	40	42	0.02%	91,248	11.5
Christmas Island	CX	0.170%	6	54	0.01%	39,704	11.5
Estonia	EE	0.000%	51	51	0.01%	50,984	13.2
India	IN	0.000%	57	26	0.04%	246,390	14.2
Philippines	PH	0.000%	60	45	0.01%	71,804	14.5
United States	US	0.050%	21	11	0.20%	1,098,066	14.6
Niue	NU	0.450%	1	39	0.02%	127,761	14.8
Bulgaria	BG	0.000%	55	46	0.01%	71,534	16.0
Organization	ORG	0.080%	15	3	2.07%	11,511,747	17.1
Ukraine	UA	0.070%	17	56	0.01%	35,934	17.9
Hungary	HU	0.000%	54	32	0.03%	165,170	19.3
Venezuela	VE	0.000%	59	48	0.01%	64,665	19.7
Belgium	BE	0.120%	10	16	0.14%	765,627	19.7
Hong Kong	HK	0.000%	50	50	0.01%	51,813	25.7
Vietnam	VN	0.000%	64	49	0.01%	55,284	26.1
France	FR	0.000%	47	9	0.21%	1,186,737	26.2
Netherlands	NL	0.000%	45	5	0.49%	2,695,749	27.8
Vanuatu	VU	0.000%	70	69	0.00%	2,633	28.1
Germany	DE	0.010%	42	7	0.38%	2,099,952	28.9
Republic of China (Taiwan)	TW	0.040%	22	37	0.02%	131,647	30.0
Poland	PL	0.060%	18	23	0.07%	402,905	30.4
Czech Republic	CZ	0.010%	31	35	0.03%	139,207	30.7
Argentina	AR	0.000%	56	31	0.04%	202,257	31.0
Italy	IT	0.010%	38	13	0.17%	917,225	31.3
Mexico	MX	0.010%	37	30	0.04%	214,368	34.5
Brazil	BR	0.010%	32	14	0.14%	793,146	34.9
Chile	CL	0.000%	62	41	0.02%	111,106	43.7
Canada	CA	0.010%	36	17	0.14%	764,518	44.7
Yugoslavia	YU	0.080%	14	66	0.00%	8,450	45.0
Latvia	LV	0.030%	24	61	0.00%	16,403	45.3
Spain	ES	0.000%	67	21	0.09%	490,266	47.0
Austria	AT	0.000%	44	40	0.02%	121,766	48.4
Denmark	DK	0.000%	48	33	0.03%	160,814	49.6
New Zealand	NZ	0.000%	69	44	0.01%	83,197	52.7
Thailand	TH	0.000%	58	53	0.01%	45,732	54.6
Turkey	TR	0.030%	26	43	0.02%	87,323	56.3
United Kingdom	UK	0.020%	27	6	0.41%	2,297,096	57.4
Israel	IL	0.000%	53	36	0.02%	133,374	59.9
Lithuania	LT	0.000%	52	62	0.00%	15,401	61.5
Switzerland	CH	0.010%	39	34	0.03%	146,732	63.5
Croatia	HR	0.050%	19	59	0.01%	30,287	64.4
S. Africa	ZA	0.020%	29	57	0.01%	34,291	65.9
Japan	JP	0.000%	49	8	0.30%	1,653,240	73.5
Greece	GR	0.010%	33	58	0.01%	34,152	77.0
Portugal	PT	0.020%	30	47	0.01%	68,418	80.3
Educational	EDU	0.000%	68	22	0.08%	446,593	100.4
Malaysia	MY	0.000%	65	64	0.00%	13,844	101.2
Slovenia	SI	0.000%	63	68	0.00%	3,983	110.3
Singapore	SG	0.020%	28	60	0.00%	16,416	115.8

Colombia	CO	0.040%	23	28	0.04%	228,157	118.6
Australia	AU	0.010%	35	29	0.04%	227,423	140.0
Sweden	SE	0.010%	43	55	0.01%	37,415	144.3
Iceland	IS	0.000%	61	70	0.00%	2,287	155.3
Norway	NO	0.000%	46	63	0.00%	14,569	184.2
Ireland	IE	0.000%	66	65	0.00%	10,974	283.9
Finland	FI	0.010%	34	67	0.00%	8,316	318.6
Governmental	GOV	0.000%	71	71	0.00%	0	∞

[back to top](#)