

Project C (r. 1.0)

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About Project C

Project C is a *copyright enumeration* project that explores the relationship between censorship, technology and resistance through a technical analysis of state-imposed content filtering and blocking schemes illustrated through the identification of blocked URLs. Through this enumeration Project C aims to:

- Heighten public awareness of human rights, free speech and privacy issues
- Expose the relationship between censorship, surveillance and the state
- Explore the legal, political and economic dimensions of censorship
- Identify and challenge companies that profit from censorship technologies
- Highlight and support the growing resistance to Internet censorship that is occurring on the political, legal, and technological levels.

More Information:

<http://www.chass.utoronto.ca/~citizen/ar/projectc.htm>

Project C: Round One

The initial focus of Project C is on national backbone Internet blocking in the People's Republic of China. The Internet censorship regime in China is broadly composed of a combination of self-censorship, legal restraint and fear of punishment, content filtering software (usually implemented in Internet Café's), and a national firewall at the Internet backbone level designed to block access to Internet content deemed "undesirable" or "subversive".

This study analyzed Internet blocking at the national backbone level. There are nine backbone networks according to the China Internet Network Information Center and there are differences in blocked content among the networks. The primary focus of this study was CHINANET, which is the largest Internet Service provider in China.

When an Internet user requests content from behind the "Great Cyber Wall" the request is routed through a series of backbone network routers. The routers contain tables of banned Internet Protocol (IP) addresses and simply do not forward requests to the banned addresses thus denying the user access to the requested web content. The user will receive an error indicating that the request has failed but will not tell the user why the request has failed.

Figure 1 is a screenshot of a visual traceroute request from a server on CHINANET to the website of Human Rights Watch (www.hrw.org). The request originating in China is routed through various regional routers from CHINANET's Beijing province network but the request is finally blocked at the CHINANET backbone network.

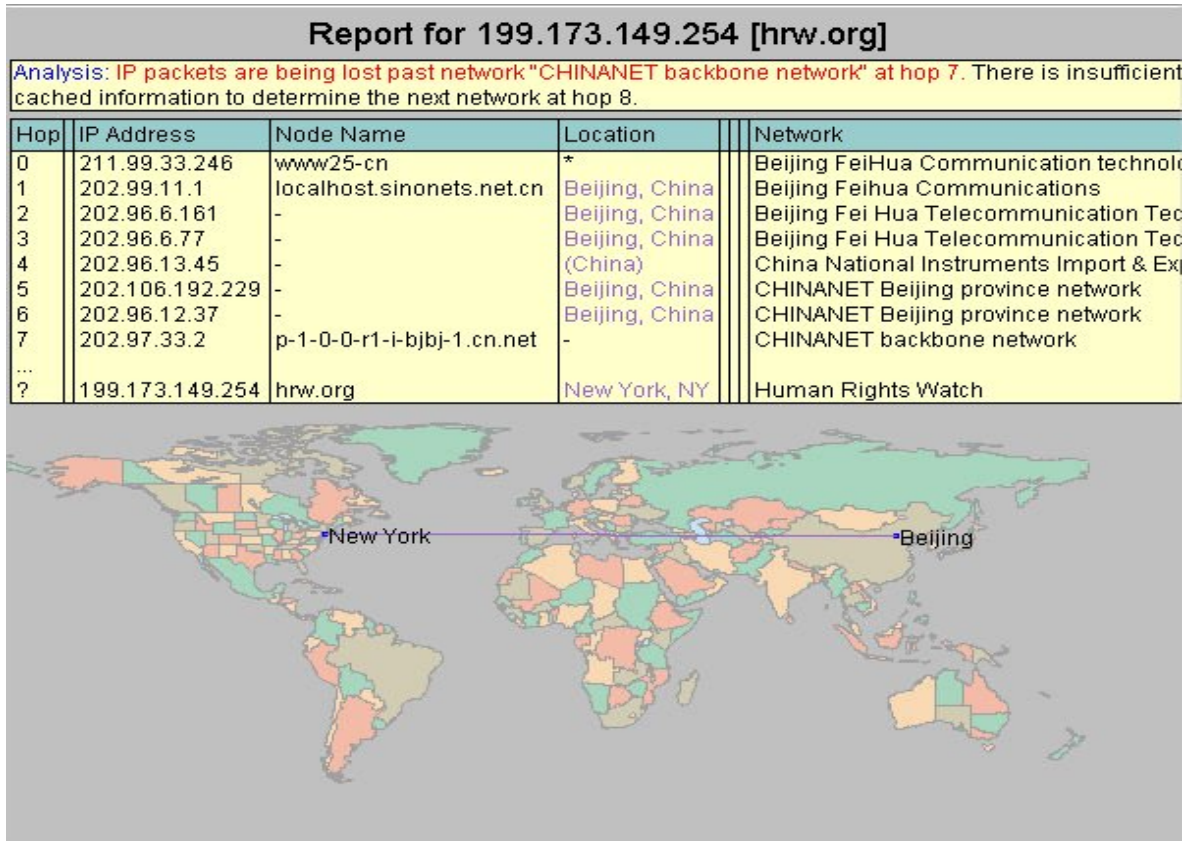


Figure 1: visual traceroute results of a request to the website of Human Rights Watch.

Scans of the offending router, in this case p-1-0-0-r1-i-bjbj-1.cn.net (202.97.33.2), indicate that the router is manufactured by Cisco, an American company that does considerable business with China. An nmap scan shows that ports indicative of a Cisco router are open and connections to the open ports display a typical Cisco login prompt.

Port	State	Service
137/tcp	filtered	netbios-ns
138/tcp	filtered	netbios-dgm
139/tcp	filtered	netbios-ssn
2001/tcp	open	dc
4001/tcp	open	unknown
6001/tcp	open	X11:1
9001/tcp	open	unknown

Cisco provides Internet backbone technology to the major Internet Service Providers in China. Cisco has been accused of developing “a special firewall box for the Chinese authorities which blocked the forbidden web sites on a national scale”¹.

Round One of Project C focused on the enumeration of the user experience when trying to access controversial subject matter on the Internet. Filtering at the national backbone

¹ Tech Law Journal. News from April 16-20, 2002. Available: <http://www.techlawjournal.com/home/newsbriefs/2002/04d.asp>

level is done by blocking the ip or domain name address so that users will be unable to access the content on the blocked servers. The list of blocked ip addresses/domains is secret and identification of blocked sites must be conducted through trial and error.

Instead of attempting to positively enumerate the entire list of blocked domains, this study attempted to *approximate the user experience* by using the Google search engine to retrieve lists of URL's based on different search criteria and then attempting to access each of those URL's locally and from proxy server on three backbone networks in China. In this way the study aimed to enumerate some of the blocked domains as well as approximate the user's experience in attempting to seek information on the Internet. This study shows what content is denied to a user when searching via Google and attempting to access content for specific sensitive topics in China.

Topic Category	Number of URLs	Google Search Terms
Falun Gong	623	"falun gong"
Human Rights	938	"human rights"
Minorities	2252	"inner mongolia" "mongolia china" "east turkestan" "uighur" "uyghur"
News	853	"news"
Anonymous Proxy	680	"Anonymous Web Proxy"
Religion	1291	"islam" "christianity" "judaism" "hinduism" "buddhism" "taoism" "shaolin"
Taiwan	712	"taiwan" "taiwan independence"
Tiananmen	751	"tiananmen"
Tibet	779	"tibet"

Total URLs Scanned: 8878

Total URLs inaccessible locally: 647

Total Live URLs: 8231

Category	URLs	Down	Total			
Falun Gong	623	57	566	ChinaGBN 144	ChinaNET 124	UniNET 113
Human Rights	938	53	885	CerNET 85	ChinaGBN 80	UniNET 73
Minorities	2251	173	2078	CerNET 565	ChinaNET 280	UniNET 286
News	853	78	775	CerNET 46	ChinaNET 53	UniNET 48
Proxy /Anon	680	43	637	ChinaGBN 52	ChinaNET 61	UniNET 70
Religion	1291	93	1198	CerNET 125	ChinaNET 134	UniNET 119
Taiwan	712	51	661	CerNET 97	ChinaNET 120	UniNET 98
Tiananmen	751	68	683	ChinaGBN 135	ChinaNET 117	UniNET 108
Tibet	779	31	748	CerNET 93	ChinaNET 95	UniNET 87

* Testing was conducted in July-August 2002. Consistent testing conditions were difficult to maintain as proxy servers would become unavailable for periods of time and new proxy servers had to be used.

CHINANET

ChinaNET is the largest Internet Service provider in China.

(www.chinanet.cn.net)

CHINAGBN

The Golden Bridge Project, developed by Jitong Communications, is a key communications network designed to serve the finance and economy sectors.

(www.gb.com.cn/english/)

CERNET

The China Education and Research Network is the first nationwide education and research computer network in China.

(www.edu.cn/HomePage/english/cernet/)

UNINET

Uninet is the first commercial Internet Service Provider in Shanghai, China and provides services foreign business, foreign consulates and the general public.

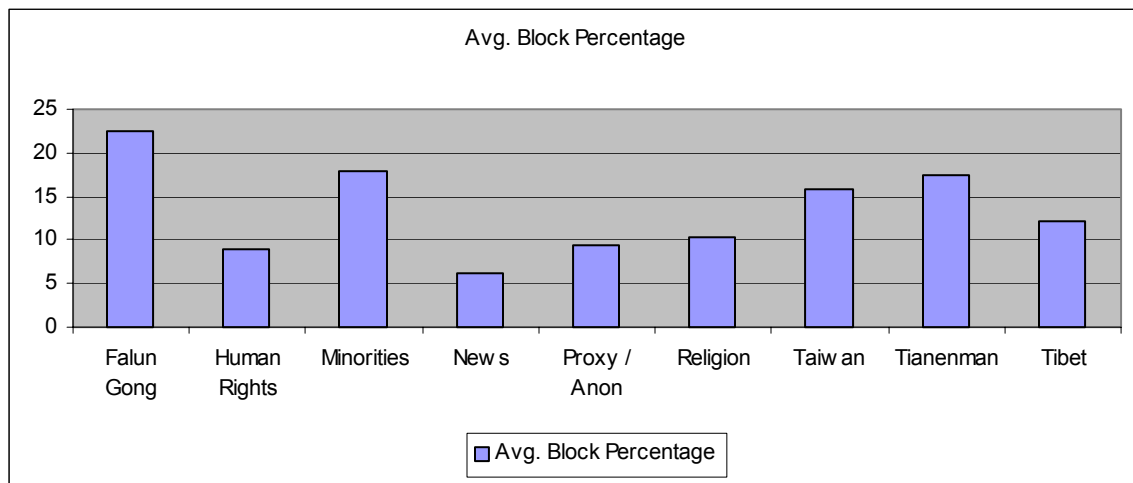
(www.uninet.com.cn)

Category	Block URL Percentage	Block URL Percentage	Block URL Percentage
Falun Gong	ChinaGBN 25.4%	ChinaNET 21.9%	UniNET 19.9%
Human Rights	CernNET 9.6%	ChinaGBN 9.0%	UniNET 8.2%
Minorities	CernNET 27.1%	ChinaNET 13.4%	UniNET 13.7%
News	CernNET 5.9%	ChinaNET 6.8%	UniNET 6.1%
Proxy/Anon	ChinaGBN 8.1%	ChinaNET 9.5%	UniNET 10.9%

Religion	CernNET 10.4%	ChinaNET 11.1%	UniNET 9.9%
Taiwan	ChinaGBN 14.6%	ChinaNET 18.1%	UniNET 14.8%
Tiananmen	ChinaGBN 19.7%	ChinaNET 17.1%	UniNET 15.8%
Tibet	CernNET 12.4%	ChinaNET 12.7%	UniNET 11.6%

* Note that China Education and Research Network has a considerably higher block percentage in the "Minorities" category.

Average Block Percentage



Samples of Blocked Domains

Falun Gong

Falun Gong a form of qigong which combines special exercises and meditation with Buddhist and Taoist principles. The group has been labelled a "dangerous cult" by Chinese authorities and has been outlawed. Websites supportive of Falun Gong are blocked by the PRC.

<http://www.falundafa.org/>

<http://faluninfo.net/>

<http://www.fofg.org/>

<http://clearwisdom.net/>

<http://www.falungonginfo.net/>

Human Rights

Human Rights organizations are extremely critical of the human rights abuses perpetrated by the PRC. The websites of Human Rights organizations are routinely blocked by the Chinese authorities.

<http://www.hrw.org/>
<http://www.derechos.org/>
<http://www.hrichina.org/>
<http://www.amnesty.org/>
<http://www.liberty-human-rights.org.uk/>

Minorities

Minority groups such as the Uighur population of Xinjiang (Republic of East Turkestan [1944]) and the population of Inner Mongolia face repression at the hands of PRC authorities for any nationalist or independence activism. Websites containing pro-independence information about minority groups in China are blocked.

<http://www.taklamakan.org/>
<http://www.mongolianews.com/>
<http://www.innermongolia.com/>
<http://www.uyghuramerican.org/>
<http://www.uygur.org/>

News

A recent study conducted by the CNNIC found that the primary information gathered online by Chinese Internet users was news (74.0%). However, the Chinese authorities sporadically block Internet access to news sources.

<http://news.bbc.co.uk/>
<http://www.cbsnews.com/>
<http://www.worldnews.com/>
<http://www.voanews.com/>
<http://www.abc.net.au/news/>

Proxy/Anonymity

Websites that provide web-based anonymous proxy servers or information on how to find and use publicly available proxy servers which can be used to bypass the blocking and internet surveillance mechanisms deployed by the Chinese authorities are blocked in the PRC.

<http://www.silenter.com/>
<http://www.guardster.com/>
<http://www.goproxy.com/>
<http://www.safeproxy.org/>
<http://www.proxyportal.com/>

Religion

The Chinese authorities see religion as a source of instability, separatism, and subversion and have increased efforts to crackdown on and control the dramatic growth of religion in

the PRC. Along with persecution and imprisonment of religious activists the authorities have blocked access to religious websites.

<http://www.moslem.org/>
<http://www.clarifyingchristianity.com/>
<http://www.masters-of-shaolin.com/>
<http://www.hinduism.net/>
<http://main.chinesephilosophy.net/daojia.html>

Taiwan

The People's Republic of China views Taiwan as an integral part of China and is strongly opposed to Taiwan independence or separation of any form. Websites that contain information supporting the independence of Taiwan are blocked in the PRC.

<http://www.president.gov.tw/>
<http://www.taiwanese.com/>
<http://home.sina.com/>
<http://www.chinatimes.com.tw/>
<http://www.taipei.org/>

Tiananmen

On June 4 1989 the Chinese government ordered the military to brutally suppress a pro-democracy protestors gathered in Tiananmen Square. Troops and tanks fired on the unarmed crowd comprised mostly of students. Websites telling the story of Tiananmen are blocked in China.

<http://www.tsquare.tv/>
<http://www.fillthesquare.org/>
<http://www.democracy.org.hk/>
<http://www.christusrex.org/>
<http://www.dfn.org/>

Tibet

Chinese authorities heavily censor Internet content concerning Tibet. Websites that support the Dalai Lama are blocked as are websites that provide information on human rights abuses in Tibet.

<http://www.tibet.com/>
<http://www.savetibet.org/>
<http://www.tibet.org/>
<http://www.tibet.net/>
<http://www.milarepa.org/>