Timeline of Tor Censorship

Sadia Afroz and David Fifield
University of California, Berkeley

The goal of this document is to understand the current censorship arms race, mainly the techniques used for blocking Tor, how censorship techniques have evolved over time and how quickly the censors and evaders react to each others' actions. Table 1 shows when and how different countries blocked Tor and how Tor circumvented it. We collected these events from the Tor blog, bug tracker, talks and reports. We wrote a simple machine learning classifier that can exhaustively search thousands of blog posts and bug track reports and find censorship events.

This timeline is incomplete. Let us know if you know the missing dates in the table or/and other Tor censorship events.

References

[1] C. Anderson, P. Winter, and Roya. Global Censorship Detection over the RIPE Atlas Network. In *Free and Open Communications on the Internet*. USENIX, 2014.

[2] R. Dingledine and J. Appelbaum. How governments have tried to block Tor. 28th Chaos Communication Congress, Dec. 2012.

[3] P. Winter and S. Lindskog. How the Great Firewall of China is blocking Tor. In *Presented as part of the 2nd USENIX Workshop on Free and Open Communications on the Internet*, Berkeley, CA, 2012. USENIX. A related technical report is posted on ArXiv under number arXiv:1204.0447.

Seen	Description	First seen	First reported	Confirmed	Resolved	Time
Thailand 2006 [2]	DNS filtering Tor website					
Saudi Arabia 2007 [2]	Block Tor directory requests (smartfilter)					
Tunisia 2009 [2]	Block every port except 80 and 443					
Syria 2011 (test?) [2] and 2012/12	DPI on TLS renegotiation	Dec 16, 2012	-	-	Obfsproxy works	–
Ethiopia 2012/06	DPI on TLS Server Hello		May 31, 2012	Jun 3, 2012	Jun 3, 2012 (change cipher suite, obfs)	3 days
UAE 2012	DPI on TLS	Jun 25, 2012	6:05 am Jun 27, 2012	12 pm Jun 27, 2012	Jun 27, 2012 (change cipher suite, obfs)	2 days
Kazakhstan 2012/02	DPI on Server Hello		Feb 16, 2012	March 2, 2012	Mar 2, 2012 (obfs2/3)	14 days
Philippines 2012	DPI on TLS cipher suit	Jun 26, 2012	Jun 29, 2012	Sep 6, 2012	Sep 6, 2012 (change cipher suit, obfs2/3)	≥ 2 months
Japan 2013	Bridge blocked	Jan 30, 2013	Jan 30, 2013	Jan 30, 2013		–
Turkey 2014	Tor website blocked [1]	Mar 28, 2014				
ISPs in UK	Tor website blocked					
Iran 2007	Block Tor directory GET request pattern with '/tor/'					
Iran 2009	SSL throttling					
Iran 2011/01	DPI on TLS DH parameter		Jan 21, 2011	Jan 21, 2011	Jan 25, 2011 (Adjust Tor's TLS DH parameters to match those used by Apache's mod_ssl)	4 days
Iran 2011/09	DPI on SSL certificate lifetime		9:31 pm Sep 13, 2011	10:57 pm Sep 13, 2011	10:57 pm Sep 13, 2011 (change lifetime to 365 days)	1 hour
Iran 2011/10	SSL throttling		Oct 16, 2011	Oct 30, 2011		
Iran 2012/02	DPI on SSL handshake		Feb 8, 2012	Feb 10, 2012	Feb 10, 2012 (Majority of Tor users were not affected)	N/A
Iran 2012/10	DPI on TLS for client key exchange		Oct 18, 2012	Oct 24, 2012	Oct 18, 2012 (Domain fronting)	–
Iran 2013	TCP reset on all non-HTTP					
Iran 2013	SSL handshake filtered when $MAX\_SSL\_KEY\_LIFETIME\_ADVERTISED$ is 365 days		9:22 pm Mar 9, 2013	10:28 pm Mar 9, 2013	Mar 9, 2013 (randomize life time)	≤ 1 hour
Iran 2014	Block directory authorities		Jul 29, 2014	Jul 29, 2014	Jul 29, 2014 (bridge dir auth)	≤ 1 hour
China 2008	Block Tor website	Jun 17, 2008	Jun 17, 2008	Jun 17, 2008	Jun 17, 2008 (mirror site, tor via email)	–
China 2009	Block IP address of public relays, directory authorities, bridges from BridgeDB	Sep 25, 2009	Sep 27, 2009	Sep 27, 2009	Sep 27, 2009 (Other bridges)	2 days
China 2010	Block IP addresses of popular bridges		Mar 11, 2010	Mar 11, 2010	Mar 11, 2010 (more bridges)	–
China 2011 [3]	Active probing on bridges		Oct 4, 2011	Dec 9, 2011	May 4, 2014 (obfs4, scramblesuit)	≥ 2 years
China 2011	Active probing on bridges	05 DEC 2011	Dec 19, 2011	Feb 8, 2012	May 4, 2014 (obfs4, scramblesuit)	≥ 2 years
China 2013	Active probing obfs2 bridges		Mar 26, 2013	Apr 13, 2013	May 4, 2014 (obfs4, scramblesuit)	≥ 1 year
China 2015	Obfs4 default bridges blocked	Feb 1, 2015				

Table 1: Censorship Incidents