

Impact of Site Blocking in Indonesia

October 2017



Executive Summary

- This study uses [SimilarWeb](#) data from March 2015 to August 2017 to examine the impact of the first four waves of site blocking in Indonesia on desktop visits to blocked sites, unblocked sites used for piracy, and on total visits to piracy sites (both blocked and unblocked).
- The analysis finds that:
 - Traffic to sites blocked in all four waves show steep drops immediately after site blocking implementation, with reductions in traffic of 74% - 94% at six months post-block.
 - However, traffic to piracy sites is generally increasing in Indonesia, and has seen a large increase since the February 2017 site blocking wave, the last wave measured in this analysis. Unblocked piracy traffic increased by 166% from March 2015 to August 2017, causing a 79% increase in total piracy traffic over the same time period. As a result, total piracy traffic grew between 9% and 24% in the six months after a site blocking wave.
 - The large bump in total piracy in 2017 seems to be attributable to increases in traffic to two groups of sites: lk21 and indoxxi. In addition to any technical limitations to the type of site blocking (DNS blocking), the traffic patterns to the lk21 sites suggest that sites in Indonesia may be using domain hopping to avoid the effects of site blocking. lk21 and indoxxi redirect sites are being targeted in further blocking waves.

Background

- Since August 2015, 260 copyright infringing sites have been blocked in Indonesia in four waves of site blocking via DNS blocking.
- Traffic to sites blocked in Wave 1-4 represented between 3% and 40% of total piracy traffic in Indonesia, with the February 2017 wave the largest both in terms of number of sites blocked (175) and as a percentage of total piracy traffic (40%).
- This study uses SimilarWeb data from March 2015 to August 2017 to examine the impact of Waves 1-4 of site blocking on desktop and mobile visits to blocked sites, unblocked sites used for piracy, and total visits to piracy sites (both blocked and unblocked). SimilarWeb provides data on desktop and mobile visits to 828 sites¹ accessed by users in Indonesia, including both blocked and unblocked piracy sites.

Wave	Verdict Date	Sites Blocked	% of Total Piracy Site Visits in Month of Block
Wave 1	Aug. 2015	21	9%
Wave 2	Sept. 2015	4	3%
Wave 3	Apr. 2016	60	27%
Wave 4	Feb. 2017	175	40%

¹The site list methodology is described in the Appendix.

Trends in Traffic to Blocked Sites (Level 1)

- Traffic to sites blocked in all four waves show steep drops immediately after site blocking implementation.
- Only sites blocked in the February 2017 wave continue to show any noticeable traffic after site blocking. The blocked sites that continue to have measurable traffic tend to be piracy sites that are popular globally, such as thepiratebay.org, rarbg.to, and eztv.ag, which may be easier to access via circumvention methods.



Effects on Traffic to Blocked Sites (L1)

- For each wave of site blocking, the table below compares visits to blocked sites before and after blocking implementation.
- All targeted sites saw reductions in traffic in the period after site blocking. At three months post-site blocking, traffic to targeted sites had decreased between 71% (Wave 4) and 95% (Wave 2). At six months after site blocking, traffic had decreased between 74% (Wave 4) and 94% (Wave 2).
- Statistical tests (“t-tests”) indicate that the reduction in traffic to sites in Waves 1-4 was statistically significant when comparing traffic in the three and six months prior to site blocking to traffic after site blocking implementation.

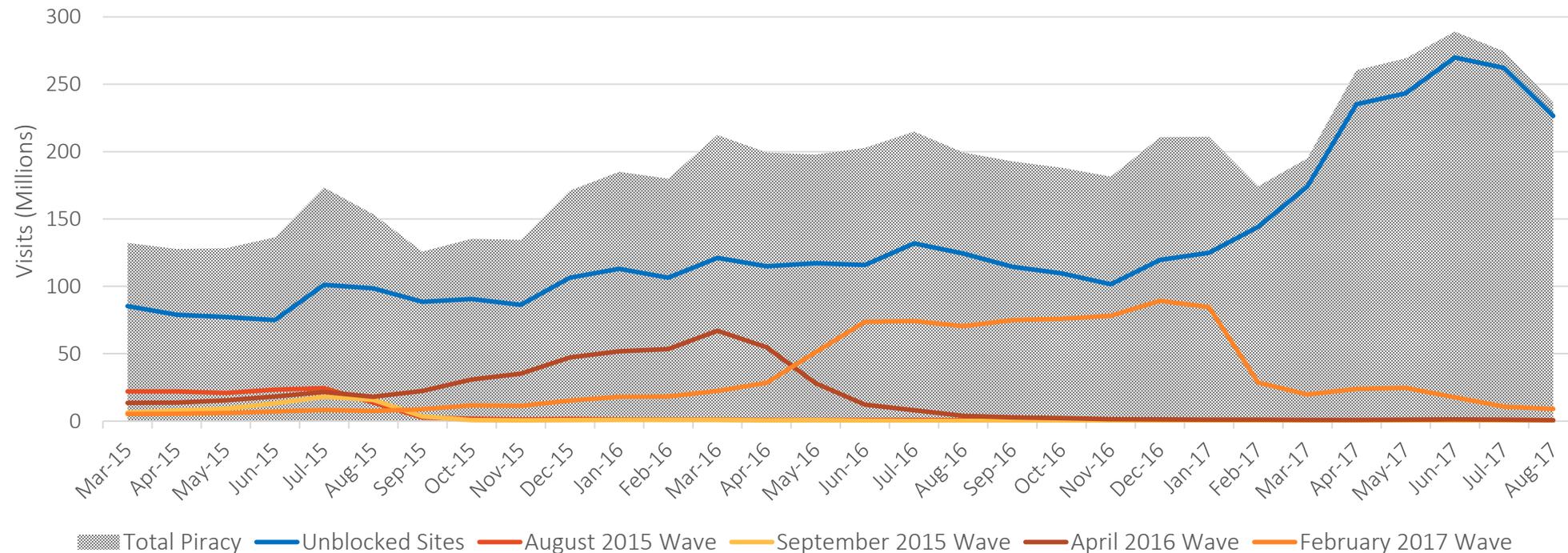
Wave	Change in Visits: 3 Months	Change in Visits: 6 Months
Wave 1	-91%**	-92%**
Wave 2	-95%**	-94%**
Wave 3	-73%**	-82%**
Wave 4	-71%**	-74%**

**p<0.05 *p<0.10

Trends in Traffic to Piracy Sites (Level 2)

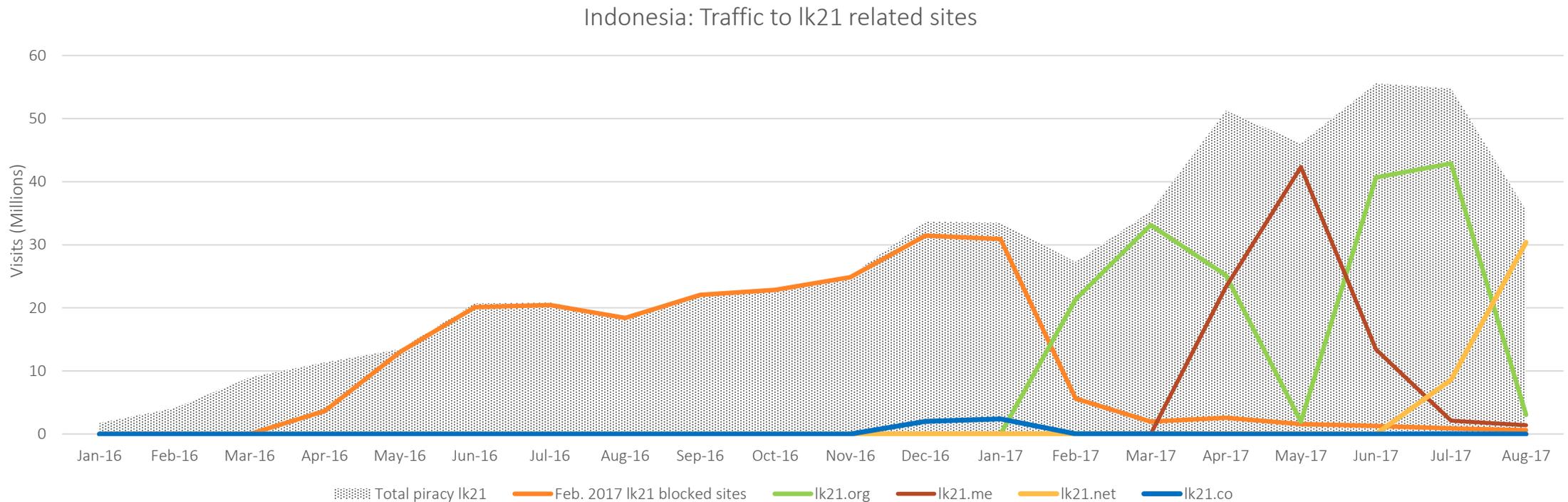
- Traffic to piracy sites is generally increasing in Indonesia, and has seen a large increase since the February 2017 site blocking wave. Unblocked piracy traffic increased by 166% from March 2015 to August 2017, resulting in a 79% increase in total piracy traffic over the same time period.
- The large bump in total piracy in 2017 seems to be attributable to increases in traffic to two groups of sites: lk21 and indoxxi.
 - Traffic patterns for sites in the lk21 group suggest that the sites may be utilizing domain hopping to avoid the effects of site blocking. Domain hopping will be examined on the next page.
 - The indoxxi site group is relatively new and does not show the same patterns as lk21. Analysis by MPA APAC suggests that indoxxi is benefitting from strong search engine optimization and links to known sites to gain large traffic figures.

Indonesia: Visits to Blocked and Unblocked Sites



Domain Hopping: lk21 sites

- Traffic to sites in the lk21 group, including layarkaca21.tv and lk21.tv, made up a large portion of the traffic to sites blocked in February 2017.²
- After those sites were blocked, users trying to navigate to those sites were directed to sites with new TLDs: lk21.org, lk21.me, and others.³ Cumulatively, traffic to the new domains is larger than the prior traffic to the now-blocked sites.
- Traffic patterns after the February 2017 site blocking wave suggest that the site group is switching domains frequently. This domain hopping may help lk21 sites avoid the effects of site blocking.⁴



² <https://beritabulukumba.com/50311/situs-streaming-lk21-tv-ikuti-layarkaca21-diblok-internet-positif>

³ <https://beritajeneponto.com/4260/situs-nonton-film-layarkaca21-pindah-lagi-dari-lk21-org-ke-lk21-me>

⁴ MPA APAC now reports that lk21.co is currently the domain in the lk21 group with the most traffic.

Effects on Traffic to Piracy Sites (L2)

- While all four waves of site blocking saw large drops in traffic in the six months after implementation, unblocked piracy traffic and total piracy traffic showed a steady increase over the time period covered in this study.
- Unblocked pirate sites showed increases in traffic in the six months after site blocking (between 10% and 91%). Total piracy traffic seems to have increased as a result, growing between 9% and 24% in the six months after a site blocking wave.
- The increase in total piracy at six months after site blocking was statistically significant for Wave 2 (+20%) and Wave 4 (+24%).

	Visits to Blocked Piracy Sites (6 Months)	Visits to Unblocked Piracy Sites (6 Months)	Visits to Piracy Sites Overall (6 Months)
Wave 1	-92%**	+15%*	+9%
Wave 2	-94%**	+20%**	+20%*
Wave 3	-82%**	+10%*	+10%
Wave 4	-74%**	+91%**	+24%**

**p<0.05 *p<0.10



Conclusions

- Site blocking has been successful in dramatically reducing traffic to targeted sites. At three months post-site blocking, traffic to targeted sites had decreased between 71% (Wave 4) and 95% (Wave 2). At six months after site blocking, traffic had decreased between 74% (Wave 4) and 94% (Wave 2).
- While all four waves of site blocking saw large drops in traffic in the six months after implementation, overall traffic to piracy sites is generally growing in Indonesia. An especially large increase in traffic has been seen since the February 2017 site blocking wave, the last wave covered in this study.
- Unblocked piracy traffic increased by 166% from March 2015 to August 2017, and this large increase has offset any declines from site blocking. The growth in unblocked traffic has resulted in a 79% increase in total piracy traffic over the same time period, and between 9% and 24% increases in total piracy traffic in the six months after a site blocking wave.
- Evidence suggests that the large surge in unblocked site traffic was driven by growth to two site groups: lk21 and indoxxi. The traffic patterns to the lk21 sites suggest that sites in Indonesia may be using domain hopping to avoid the effects of site blocking. lk21 and indoxxi redirect sites are being targeted in further blocking waves.

Appendix: Methodology

- This report uses [SimilarWeb](#) data representing visits to websites by Indonesian desktop and mobile users for March 2015-August 2017. SimilarWeb is a market intelligence company that uses a combination of panel, crawler, ISP and other data for its data estimations. See <https://www.similarweb.com/downloads/our-data-methodology.pdf> for more information.
- For the purpose of this analysis, custom analysis categories were created for the following categories of sites:
 - Blocked Sites: Sites blocked under any of the Indonesian blocking orders since Wave 1 (August 2015).
 - Unblocked Sites: Any infringing site never subject to a blocking order.
- The unblocked site list was prepared using the following approach:
 - Sites with at least 10,000 URLs removed from the [Google Transparency Report](#) as of August 2017:
 - Including sites with any TV and/or movie content
 - Excluding sites with only adult, music, games, anime, UGC and eBook content
 - Supplemented by other sources including:
 - United States Trade Representative's [Out-of-Cycle Notorious Markets](#) reports.
 - Infringing sites mentioned in reports released by the [Digital Citizens Alliance](#).
 - The Infringing Website List (IWL) maintained by the Police Intellectual Property Crime Unit ([PIPCU](#)).
 - Infringing sites subject to site blocking in other countries.
- For the period of the study, SimilarWeb had data for 247 blocked sites and 581 other unblocked sites.