



## The Citizen Lab

**Research Brief**  
January 2013

### *Planet Blue Coat:*

#### *Mapping Global Censorship and Surveillance Tools*

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## SUMMARY OF KEY FINDINGS

- Blue Coat Devices capable of filtering, censorship, and surveillance are being used around the world. During several weeks of scanning and validation that ended in January 2013, we uncovered 61 Blue Coat ProxySG devices and 316 Blue Coat PacketShaper appliances, devices with specific functionality permitting filtering, censorship, and surveillance.
- 61 of these Blue Coat appliances are on public or government networks in countries with a history of concerns over human rights, surveillance, and censorship (11 ProxySG and 50 PacketShaper appliances). We found these appliances in the following locations:
  - **Blue Coat ProxySG:** Egypt, Kuwait, Qatar, Saudi Arabia, the UAE.
  - **PacketShaper:** Afghanistan, Bahrain, China, India, Indonesia, Iraq, Kenya, Kuwait, Lebanon, Malaysia, Nigeria, Qatar, Russia, Saudi Arabia, South Korea, Singapore, Thailand, Turkey, and Venezuela.
- Our findings support the need for national and international scrutiny of Blue Coat implementations in the countries we have identified, and a closer look at the global proliferation of “dual-use” information and communication technologies. Internet service providers responsible for these deployments should consider publicly clarifying their function, and we hope Blue Coat will take this report as an opportunity to explain their due diligence process to ensure that their devices are not used in ways that violate human rights.

## PART I: BACKGROUND AND CONTEXT

Blue Coat Systems is a California-based provider of network security and optimization products. These products include: ProxySG devices that work with WebFilter,<sup>1</sup> which categorizes web pages to permit filtering of unwanted content; and PacketShaper, a cloud-based network management device that can establish visibility of over 600 web applications and control undesirable traffic.<sup>2</sup> ProxySG provides “SSL Inspection” services to solve “...issues with intercepting SSL for your end-users.”<sup>3</sup> PacketShaper is integrated with WebPulse, Blue Coat Systems’ real-time network intelligence service that can filter application traffic by content category.<sup>4</sup> Blue Coat Systems states that it “provides products to more than 15,000 customers worldwide,”<sup>5</sup> and indeed, it maintains offices globally, including in Latin America, the Middle East, and the Asia Pacific region.<sup>6</sup>

In 2011, researchers (including a team from the Citizen Lab) [found evidence](#) of the use of Blue Coat Systems products in Syria. These findings raised concerns that Blue Coat products were being used as part of the network filtering and monitoring apparatus of the Syrian government, known for its violations of human rights and widely condemned crackdown against ongoing domestic opposition. In such provision of secure web gateway and filtration products, Blue Coat Systems exemplifies the manufacture and service of so-called “dual use” technology: information and communication technology (ICT) that may equally serve legitimate and positive purposes, or purposes resulting in adverse impact on human rights, depending on its deployment or particular “end use.”<sup>7</sup>

In August 2011, the website Reflets.info, in collaboration with Telecomix and Fhimt.com, began to release a series of blog posts concerning the use of Blue Coat Systems devices in Syria.<sup>8</sup> Reflets.info documented the presence of Blue Coat devices through in-country testing done in collaboration with Telecomix,<sup>9</sup> and in October 2011, Telecomix released 54 gigabytes of data purportedly consisting of Syrian censorship log files collected from Blue Coat devices active in Syria.<sup>10</sup>

Initially, Blue Coat Systems denied that its equipment had been sold to Syria,<sup>11</sup> a country subject to US sanctions.<sup>12</sup> Soon after, however, Blue Coat Systems acknowledged that at least thirteen of its devices were active in Syria and that these devices had been communicating with Blue Coat Systems-controlled servers. In October 2011, the company told the *Wall Street Journal* that it had shipped the devices to a distributor in Dubai, believing that they were destined for the Iraqi Ministry of Communications.<sup>13</sup>

In November 2011, following Blue Coat Systems' admission, Citizen Lab researchers documented the use of Blue Coat Systems commercial filtering products in both Syria and Burma, in the report [Behind Blue Coat: Investigations of commercial filtering in Syria and Burma](#).<sup>14</sup> Employing network scans of publicly accessible servers in the IP address ranges of the Syrian Telecommunications Establishment, the Citizen Lab report identified devices in Syria not previously identified in the first Reflets and Telecomix release. In the case of Burma, the findings were gathered on the basis of data gathered from in-country field testing and research.<sup>15</sup>

Blue Coat Systems soon announced in a statement that it was no longer “providing support, updates or other services” to its ProxySG appliances in Syria. The company stated that its devices in Syria were no longer “able to use Blue Coat’s cloud-based WebPulse service” or “run the Blue Coat WebFilter database” and were now “operating independently.” Blue Coat Systems added they did not have a “kill switch” to remotely disable the devices.<sup>16</sup> An experiment conducted by Citizen Lab researchers, over a period of three weeks in July 2012, revealed evidence that suggests Blue Coat devices in Syria were no longer ‘phoning home’ to Blue Coat Systems’ servers. Citizen Lab also found that many Blue Coat Systems domains were being blocked in Syria, perhaps to prevent existing devices from receiving updates.<sup>17</sup>

The US Department of Commerce launched an investigation to determine whether Blue Coat Systems had prior knowledge of the use of its equipment in Syria.<sup>18</sup> The investigation was launched following a call from US Senators requesting an investigation into Blue Coat Systems and NetApp, another US company whose equipment had been implicated in Syria’s surveillance system as detailed by Bloomberg shortly before the publication of Citizen Lab’s Blue Coat reports.<sup>19</sup> In December 2011, the US Department of Commerce’s Bureau of Industry and Security (BIS) added one individual and one company based in the United Arab Emirates to its Entity List for purchasing US commercial filtering products from Blue Coat and exporting the products to Syria.<sup>20</sup>

## **PART II: FINGERPRINTING THE GLOBAL NETWORK OF BLUE COAT SYSTEMS DEVICES**

### **A: Methodology**

This project set out as an effort to understand the widespread nature and geographic spread of Blue Coat Systems’ commercial filtering and traffic inspection products, using several techniques to identify Blue Coat devices. It is not intended to provide an exhaustive enumeration of all Blue Coat hosts on the Internet.

From December 2012 to mid-January 2013, we used the Shodan Computer Search Engine to search for Blue Coat PacketShaper and Blue Coat ProxySG hosts.<sup>21</sup> Results from the Shodan Computer Search Engine were subsequently verified by scanning<sup>22</sup> and followed by manual inspection. In addition to surveying Shodan for Blue Coat hosts, we undertook substantial whole-country scanning from hosts in Europe and the US.

Our investigation yielded a significant number of hosts identifying themselves in ways that indicated they were a Blue Coat device, including Telnet and FTP banners, specific HTML pages, and so on. Because of our primary interest in devices that could be used for surveillance, filtering, and censorship, we narrowed in on PacketShaper and ProxySG Blue Coat appliances. We then worked through the results of our initial scanning, and excluded many devices from our final analysis that could not be identified with high confidence as PacketShaper and ProxySG appliances.

The installations included in the final report met the following criteria: (1) a Blue Coat Systems ProxySG or PacketShaper device on what we think is a public network (i.e. not a private company), (2) located in a country that is the subject of ongoing concern over compliance with international human rights law, legal due process, freedom of speech, surveillance, and censorship.

## **B: Results**

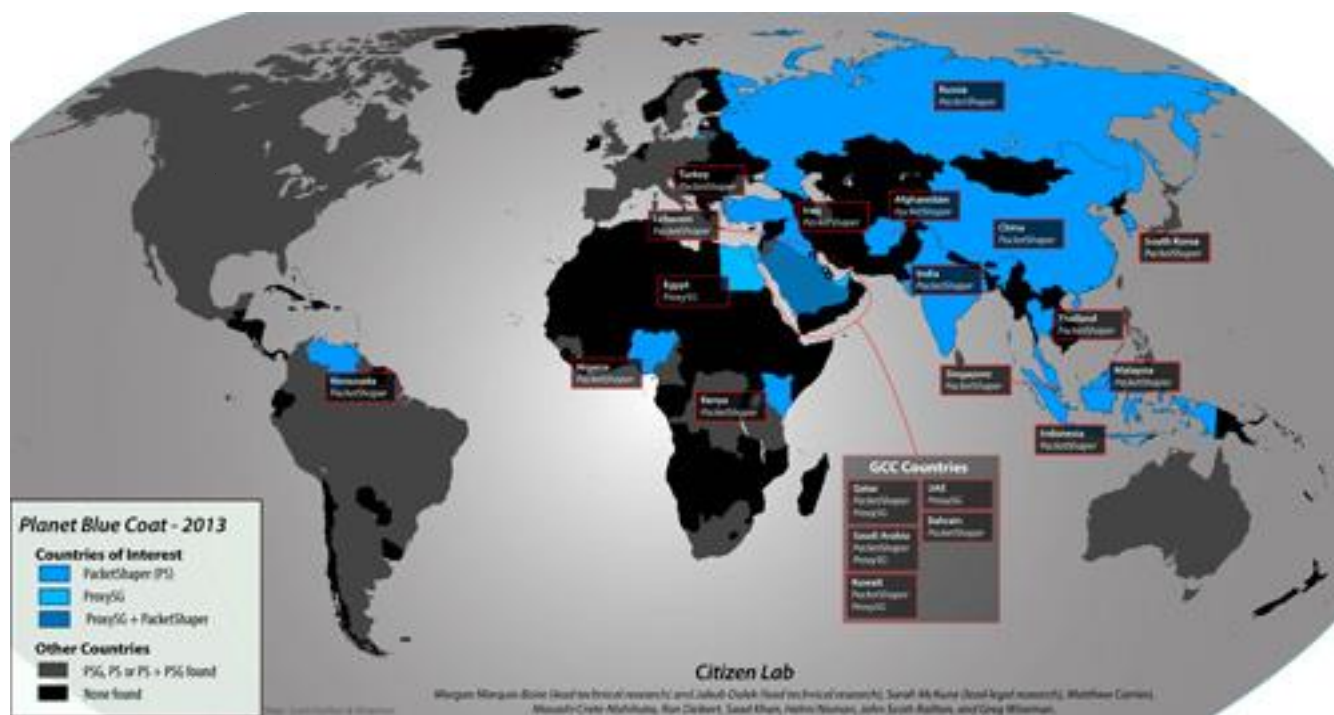
The scanning and validation process yielded 61 Blue Coat ProxySG devices and 316 Blue Coat PacketShaper devices located all over the world. Of these, we identified 11 ProxySG and 50 PacketShaper devices on public or government networks in countries with a history of concerns over human rights, surveillance, and censorship. These hosts were present on either government networks or on netblocks associated with telecommunication companies that provide Internet access of some sort. Specific efforts were made to exclude devices we believed to be on health, education, or commercial networks not associated with providing Internet service or telecommunications. The only exception is a device we found on the “King Abdulaziz City for Science and Technology” network which, although it is an educational institution, is involved in the implementation of national filtering.<sup>23</sup>

Hosts found to be used on health, education or commercial networks are included in the maps to display the widespread use of this technology, but will not be specifically discussed in this report.

We identified ProxySG installations in the following countries of interest: Egypt, Saudi Arabia, Kuwait, the United Arab Emirates, and Qatar. We have also noted that Shodan has reported Egyptian ISP Nile Online as having a ProxySG installation as recently as August 2012, although we were unable to identify it in our testing. Nevertheless, we have decided to include it in our results because of its recent detection by Shodan.

We discovered PacketShaper installations in the following countries of interest: Afghanistan, Bahrain, China, India, Indonesia, Iraq, Kenya, Kuwait, Lebanon, Malaysia, Nigeria, Qatar, Russia, Saudi Arabia, South Korea, Singapore, Thailand, Turkey, and Venezuela. We were able to visit these hosts and confirm that they were running the product. Bahrain is the only exception; however, Shodan has reported the presence of a PacketShaper installation as recently as December 31, 2012. This host was located on ASN named “BIX-AS Bahrain Internet Exchange.” Using the service provided by iplocation.net, the IP in question was listed as being on an ISP named the “Central Informatics Organisation” by two data location companies: maxmind and db4.

*ProxySG and PacketShaper deployments:*



**Map of BlueCoat worldwide deployments in countries of interest.**

(Basemap: [Wikimedia Commons](#), Creative Commons License)

Graphics: John Scott-Railton & Greg Wiseman

[View larger image.](#)

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[Explore the data further.](#)

*A summary of data is available for download in a variety of formats:*

Google Doc:

<https://docs.google.com/spreadsheet/pub?key=0AtJqKcMmUwTKdDRkU1BiMHc4UGdPaGtNWndiWm5RaEE&output=html>

Excel: [https://citizenlab.org/data/planetbluecoat\\_data.xlsx](https://citizenlab.org/data/planetbluecoat_data.xlsx)

CSV: [https://citizenlab.org/data/planetbluecoat\\_data.csv](https://citizenlab.org/data/planetbluecoat_data.csv)

## **C: Summary of Country Results**

The countries featured in this report are a subset of the cases where we identified Blue Coat Systems filtering and monitoring products (ProxySG and PacketShaper) on public networks. We've focused on a subset of cases where our scanning identified Blue Coat devices in countries with widely-reported concerns over legal due process, human rights, and transparency, especially pertaining to filtering, censorship or surveillance. What emerged is a picture of the global spread of Blue Coat devices to countries where their presence raises

substantial concerns. The picture varies across regions and between countries, and we think these are a natural topic for further research, especially as this pertains to our findings.

We found Blue Coat devices in all countries of the Gulf Cooperation Council except Oman (**Bahrain, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates**). These states all have well known and pervasive regimes of Internet content filtering, so the presence of Blue Coat filtering products is not surprising. In several cases it has already been reported on.<sup>24</sup>

The region is also experiencing massive growth in Internet penetration, triggering aggressive marketing efforts by Western technology companies, intent on accessing these new markets. Less well known, however, is the extent of domestic electronic surveillance regimes in these countries, particularly in light of crackdowns on domestic dissent in Bahrain and Saudi Arabia, and where the devices we found were in locations suggestive of national filtering.

The finding of a Blue Coat device in **Egypt** is noteworthy in light of the widespread condemnation of the Mubarak regime's use of electronic surveillance to monitor activists that came to light after the 2011 Revolution.<sup>25</sup> The Egyptian government has reportedly continued to acquire the means to filter and surveil its national Internet using Deep Packet Inspection, and has recently proposed new online content regulations.<sup>26</sup>

The case of Blue Coat products in **Lebanon** is interesting because, while the country does not have a history of Internet filtering,<sup>27</sup> the government has recently drafted online content regulations concerning public morals.<sup>28</sup> This makes Lebanon a good case for follow-up research to clarify the function of these devices.

**Iraq** and **Afghanistan** are especially noteworthy cases. As they undergo reconstruction, both countries are the subject of international concern and scrutiny for ongoing human rights abuses, including a trend towards greater regulation and criminalization of some aspects of free expression,<sup>29</sup> including freedom of the press.<sup>30</sup> Additional concerns have been raised over increasing pressure by these governments on ISPs to implement these controls and submit to monitoring requirements.<sup>31</sup> In both cases, Blue Coat products have the necessary features to help ISPs comply with these requests. The presence of these devices raises serious concerns about "surveillance-by-design" being built in from the ground up as the countries undergo reconstruction and expansion in telecommunications sectors.

In **China** we found several Blue Coat devices on a state-controlled ISP. The country is known for its comprehensive and multifaceted Internet filtering and surveillance regime, often referred to as the "Great Firewall."<sup>32</sup>

**Russia** and **Venezuela** are noteworthy because of serious concerns about the regimes in power, and their track record of using unlawful surveillance along with non-technical means to control political dissent and opposition.<sup>33</sup>



Elsewhere, **Turkey** has recently passed a series of laws empowering ISPs to filter a wide range of content,<sup>34</sup> and in **India**, government agencies are explicitly authorized to monitor and intercept Internet traffic and user information for purposes of national security or cyber security.<sup>35</sup>

The government of **South Korea**, despite its sophisticated telecommunications sector, has an extensive set of legal and technical mechanisms to control online content and expression, although the overall rate of filtering is low.<sup>36</sup> Meanwhile, the case of **Kenya** is also potentially interesting as the government is reportedly in the process of implementing a domestic monitoring apparatus.<sup>37</sup>

Blue Coat products emerged repeatedly in Southeast Asia, where technology sectors and Internet penetration are growing rapidly, and new forms of online activism pose challenges to ruling governments: **Malaysia** has a documented history of state control, regulation, and monitoring of online expression, and recent legislation in the country authorizes warrantless interception with a vaguely defined scope.<sup>38</sup> **Thailand** engages in widespread Internet filtering and blocking, supplemented with substantial non-technical legal mechanisms.<sup>39</sup> Currently, the Thai government is extending its ability to engage in surveillance and monitoring, explicitly for the purpose of unmasking those engaging in speech critical of the monarchy.<sup>40</sup>

**Indonesia** employs widespread but inconsistent filtering that emphasizes blocking content featuring some sexual, gender, and religious themes, and access to circumvention tools.<sup>41</sup> With respect to **Singapore**, which implements limited Internet filtering, but has broad general censorship focused on potentially divisive racial, political, or religious content, a 2006 Privacy International report found that Singaporean law permits government surveillance of Internet activity and “grants law enforcement broad power to access data and encrypted material when conducting an investigation.”<sup>42</sup>

A more complete overview of each of the countries of interest can be found in [Appendix A](#).

### **PART III: EXPORT OF DUAL-USE INFORMATION AND COMMUNICATION TECHNOLOGIES—ETHICAL AND LEGAL CONSIDERATIONS**

The geographic spread of Blue Coat Systems technology outlined above, including within countries that have presented significant human rights concerns, highlights the importance of addressing at a number of levels the expanding dual-use ICT sector. Blue Coat Systems is only one of many participants in this industry, which includes numerous types of technologies and services utilized by governments as well as private actors. With respect to the market for secure web gateway solutions alone—which primarily include filtering software and related products such as those of Blue Coat Systems—analysts estimated the size of the market at nearly US\$1.2 billion in 2012, and recognized five market leaders (Blue Coat Systems, Cisco, McAfee, Websense, and Zscaler), all of which are companies based in the US.<sup>43</sup> Accordingly, the role of Western companies in providing dual-use technologies is a crucial subject for discussion among governments and policy makers,

civil society, and the private sector. Such discussion is currently under way in a variety of fora, raising complex questions to which there are no simple solutions.

One of the key goals of the debates surrounding dual-use technologies is to determine a method of crafting effective controls on such technology that simultaneously limit its sale and deployment for purposes that negatively impact human rights, while protecting those uses that serve legitimate purposes and result in benefits to society. Such an approach requires an understanding of the likely end use of the technology in any given scenario, as well as carefully crafted legal and regulatory language to prevent over- or under-inclusiveness by companies when assessing whether particular products and services fall within the scope of controls.

For example, the Electronic Frontier Foundation (EFF) has warned of potential problems with legislation that is based on pre-defining *types of technology* “because broadly written regulations could have a net negative effect on the availability of many general-purpose technologies and could easily harm the very people that the regulations are trying to protect.”<sup>44</sup> The EFF points out that legal terms to define harmful technology could encompass basic technologies such as web browsers, and would result in denying citizens of the use of basic technologies.<sup>45</sup> Therefore, rather than focusing on the technology, the EFF advocates for a “Know Your Customer” approach, encouraging companies to investigate a customer before and during a transaction.<sup>46</sup>

Government use of sanctions to control the flow of dual-use and other sensitive technologies to repressive regimes has run up against this dilemma. For example, while US sanctions against Iran and Syria restrict the sale by US companies of most goods and services to these countries, in order to support freedom of expression and access to information among the Iranian and Syrian populations, the US has found it necessary to issue general licenses enumerating that some (but not all) services related to Internet-based communications and telecommunications are authorized.<sup>47</sup> Yet companies providing such services have in many instances erred on the side of caution and avoided providing technologies that would serve legitimate ends within these two countries altogether, given the possibility of significant penalties and reputational damage should they be found in violation of the sanctions.<sup>48</sup> This collateral effect of the sanctions has had the unintended consequence of pitting US goals regarding isolation of authoritarian regimes and promotion of Internet freedom against each other. The need for precise, strategic language surrounding controlled technologies was reiterated in the US State Department’s November 2012 call for comments on its draft “Guidance on the Provision of ‘Sensitive Technology’ to Iran and Syria,” which concerns the scope of the term “sensitive technology” as utilized in the language of Iran and Syria sanctions.<sup>49</sup>

In addition to the matter of careful calibration of language to ensure clear and appropriate restrictions on dual-use technologies, is the matter of determining appropriate methods of control. While sanctions are perhaps one of the most potent methods of control given the significant penalties and policy interests at stake, their application is typically limited to those few countries that members of the international community generally



agree represent threats to international order. Thus, the use of Blue Coat Systems technologies highlighted in this report is largely beyond the scope of sanctions, as, with the exception of certain limited sanctions applicable to Iraq<sup>50</sup> and Lebanon,<sup>51</sup> the countries in which Blue Coat Systems products were found are not currently subject to US sanctions—yet significant human rights concerns regarding the application of these technologies remain. Moreover, government entities involved in sanctions regimes that cover a wide variety of critical products and services, such as banking, petroleum products, insurance, etc., across multiple countries, may allocate a smaller percentage of their institutional resources to the matter of dual-use technologies, both in the drafting and enforcement of sanctions. Dual-use technologies employed in both the sanctioned and unsanctioned world therefore require further methods of attention, inquiry, and control.

Export control frameworks offer an additional method for control of dual-use technologies, if effectively adapted to the issue. Export controls generally restrict the transfer of products that are “dual use” in the classic sense of having both commercial and military application, in order to protect national security, though other products may be covered as well. At the international level, the Wassenaar Arrangement covers dual use goods and technologies in the US, Canada, European Union, and other countries with participating countries committing to maintain national export controls on listed items—which include items related to “telecommunications” (Category 5, Part 1) and “information security” (Category 5, Part 2).<sup>52</sup> Notably, the Wassenaar Arrangement served as grounds for the UK government to assert that FinFisher spyware reported by Citizen Lab and others<sup>53</sup> was subject to export controls, arguing that the technology made use of controlled cryptography as listed Category 5, Part 2.<sup>54</sup>

Generally, however, international and national export controls have not proven applicable to so-called dual-use ICTs, given that many such products and services fall within the realm of commercial application or public security rather than military application or national security. For example, at the national level in the US, while a number of different agencies are involved in export control administration,<sup>55</sup> licensing of most items of commercial nature is carried out by the Bureau of Industry and Security at the US Department of Commerce pursuant to the Export Administration Regulations.<sup>56</sup> Depending on their destination, items on the Commerce Control List<sup>57</sup> require a license to export if they fall within a designated “reason for control”—namely, if they are linked to chemical and biological weapons, nuclear nonproliferation, national security, missile technology, regional stability, firearms convention, crime control, or anti-terrorism.<sup>58</sup> It appears unlikely that technologies such as the Blue Coat Systems ProxySG or PacketShaper products would fit these criteria to trigger the licensing requirement.

If export control frameworks are adapted to better incorporate dual-use ICTs, however, they might serve as a method to restrict provision of technologies that have potential to negatively impact human rights, on the basis of the characteristics of the technology in question and its ultimate destination. Such an approach would require political commitment by governments to develop significant additions to their export control regulations, a process that may also be complicated by necessary export control reforms already in progress on

different fronts.<sup>59</sup> Yet if companies were required to build compliance with export regulations into trade of dual-use ICTs, such mandate could serve as an important stimulus to internalization of human rights risk assessments in the surveillance and filtration technology industry, as well as overall corporate social responsibility (CSR) efforts. As with sanctions, the effectiveness of export control frameworks will depend on how carefully such regulations are calibrated.

While the applicability of export controls in this industry is a matter for ongoing discussion, noteworthy steps in that direction are taking place within the EU, including with respect to its “Community regime for the control of exports, transfer, brokering and transit of dual-use items.”<sup>60</sup> In September 2011, the European Parliament passed a resolution to prohibit authorization of the export of telecommunications technologies to certain specified countries if they are used “in connection with a violation of human rights, democratic principles or freedom of speech (...) by using interception technologies and digital data transfer devices for monitoring mobile phones and text messages and targeted surveillance of Internet use.”<sup>61</sup> In October 2012, the European Parliament expanded upon its earlier effort, approving proposals put forward by Dutch Member of Parliament Marietje Schaake that would require authorization for any sale of dual-use technologies designated by European authorities as violative of human rights, democratic principles, or freedom of speech.<sup>62</sup> Finally, the European Parliament passed a resolution in December 2012 on a “Digital Freedom Strategy,” which, *inter alia*, called for “a ban on exports of repressive technologies and services to authoritarian regimes” and establishment of a list of countries to which exports of “single-use” technologies (those that inherently threaten human rights) should be banned.<sup>63</sup>

Such multilateral efforts are essential to the success of export controls in curbing the inappropriate use of ICTs. A common justification of companies supplying such technology is that “if we don’t sell it, someone else will.” Coordinated international measures would help prevent problematic sales of dual-use technology by industry leaders in multiple countries, limiting the availability of top-of-the-line equipment and software that could effectively advance the state of surveillance and filtration within authoritarian regimes. It is noteworthy, therefore, that the European Parliament’s “Digital Freedom Strategy” also “calls for the inclusion of targeted repression technologies in the Wassenaar Arrangement,”<sup>64</sup> which would extend the effort beyond the EU to the US, Canada, the Russian Federation, and other countries.

Corporate social responsibility measures are another method relevant to control of dual-use technologies. Inappropriate use of a technology may stem from its technical attributes as well as the behavior of the company supplying or employing it, and it is essential that companies themselves take steps to prevent complicity in human rights compromise. ICT companies can draw on the significant progress that has been made on CSR standards over time, including the UN Guiding Principles on Business and Human Rights<sup>65</sup> and the ICT sector guidance currently in development in the EU.<sup>66</sup>

Moreover, companies such as Blue Coat Systems that make their profits in surveillance and filtering technology would be well-served to explore possibilities for effective self-regulation through CSR if they are indeed concerned about human rights, the possibility of onerous government requirements being imposed on them, or soured public relations. If, for example, Blue Coat Systems had conducted a human rights impact assessment or other due diligence measures regarding the use of its technology by client King Abdulaziz City for Science and Technology (KACST), perhaps it would have come to the conclusion that KACST was an agent of the government in national-level filtering, including of content related to political reform and human rights issues.<sup>67</sup> It appears Blue Coat Systems may not have fully appreciated or addressed the ramifications of such deployment of its technology, given its inclusion in marketing materials of KACST as a client “success story.”<sup>68</sup> On the other end of the spectrum, Websense, previously noted as one of the market leaders in secure web gateway solutions, has already taken steps toward CSR integration: it joined the Global Network Initiative (GNI) in December 2011, thus committing to the GNI’s freedom of expression and privacy principles and accountability framework.<sup>69</sup> The more companies take proactive measures to prevent complicity in human rights abuses, the more normalization of corporate social responsibility will take place within the industry.

A combination of the methods described above and other measures is essential to addressing the human rights impact of the booming market for surveillance, filtration, and other sensitive technologies, including dual-use ICTs. Scrutiny and foresight regarding what this market has and has yet to become are critical, as the societal and political ramifications will only grow more profound as technologies develop and use becomes more widespread. Proposals on a framework for control (through sanctions, export regulations, and other methods) of dual-use and other technologies that may compromise human rights are forthcoming in a future blog post by Citizen Lab.

## **PART IV: AREAS FOR FURTHER RESEARCH AND POLICY DISCUSSIONS**

This report raises several issues for further research and policy discussion:

**There is a need for more transparency around censorship and surveillance practices as well as dialogue among states, ISPs, civil society, and the private sector.** States and large ISPs have tended toward a lack of transparency when it comes to their capabilities for censorship and interception of network traffic. Their silence, however, should not be mistaken for the absence of such activity; indeed, many of them have moved to acquire and deploy powerful filtering and monitoring infrastructure, including Blue Coat Systems technology, as our report makes clear. Some countries have had elements of a public dialogue over network monitoring and filtering, others have not. In the US, for example, a raucous debate continues over whether ISPs should be able to massively filter network traffic based on content and type. These public debates have also emerged in Germany and France.<sup>70</sup> Similarly, some debates have taken place over state surveillance and ISP participation in monitoring, although these are often hampered by limited public evidence of the scope and scale of these practices. Yet, as

this report shows, **even in countries where ISPs or governments may not have publicly declared their ability to exercise this kind of control and little public notice or debate has taken place, opponents of Internet filtering and massive interception should be aware that the infrastructure may already be present** — and in some cases, built from the ground up as a kind of “surveillance-by-design.” By providing this overview, we hope to encourage civil society groups, governments, and researchers to take a closer look at why these devices are present in their country. We also hope that this report will encourage ISPs, manufacturers, and other actors involved in deployment of these products to consider publicly clarifying their scale and function.

**More independent, evidence-based research on the global spread and use of censorship, surveillance, and other “dual-use” technologies is essential.** Providing a clearer picture of the global presence of Blue Coat Systems devices highlights how widely such technologies are used and how technical interrogation methods can be used to determine their presence in specific instances. We see our methodology as an important component of the civil society toolkit (including academia) for engaging in ongoing debates over the proliferation of censorship and intercept technologies, among others. We hope to stimulate dialogue surrounding deployment of dual-use technologies, and provide empirical support for ongoing efforts to develop appropriate control strategies. It is important to note that our methodology does not reveal the intentions or exact uses of the Blue Coat Systems devices in question. We expect these to be different in each case, and think this is an important area for future research. If such contributions are going to be credible, however, it is important that the research be independently conducted and based on open and reproducible methods and empirical evidence.

**It is time to examine the appropriate course of action for companies that participate in the industry for network surveillance, censorship and other sensitive technologies.** While the pursuit and development of new markets and products is naturally a priority to for-profit companies, they remain obliged at all times to respect human rights and avoid activities that would infringe upon them.<sup>71</sup> The events of the Arab Spring have raised awareness that the products and services of this sector can and will be used to advance illegitimate ends that violate international human rights law. Companies can no longer simply assert that it is acceptable to provide their technology to any prospective client, no matter how questionable, until their home governments instruct them otherwise. Civil society and academic groups have indicated this is an area of high concern, key governments have begun pursuing this issue, and it is time for the private sector to join the dialogue and commit to finding solutions.

To that end, we pose the following questions to Blue Coat Systems, which we hope will spark further constructive dialogue:

- What human rights policy commitments and due diligence measures does Blue Coat Systems have in place concerning the development and sales of its products and services?

- In designing its products, does Blue Coat Systems assess their potential human rights impact? Have product designs ever been considered “off-limits” given inherent capabilities to undermine privacy or freedom of expression?
- What if any resources does Blue Coat Systems devote to human rights compliance at the operational level? For example, what percentage of the annual budget is allocated to human rights programs, investigations or training? What human rights training is provided to staff in each department of the company (including executive leadership as well as engineering, sales and legal departments)? What is staff awareness of the human rights implications of deployment of Blue Coat Systems products?
- Does Blue Coat Systems attempt to integrate a “know your customer” standard into its business practices? Does it attempt to discern the purpose for which a client seeks to purchase its products or services? If so, how (for example, in the case of the services provided to King Abdulaziz City for Science and Technology Internet Services Unit)? If the potential client is a government or located in a country known to have experienced unrest, does Blue Coat Systems investigate the human rights track record of that potential client? If human rights concerns are flagged, how does Blue Coat Systems act on such concerns?
- What is the process at Blue Coat Systems for evaluating compliance with US sanctions and export controls?
- What processes are in place for ensuring “downstream” compliance with human rights policy commitments and due diligence by resellers, distributors and other third parties with whom Blue Coat Systems contracts? Particularly after the discovery of Blue Coat devices in Syria as described in Part I of this report, were any changes made concerning such processes?

We commit to publishing in full Blue Coat System’s reply.

**Our work supports the need for an effective framework for control of technologies that have significant potential to undermine human rights.** It is important to emphasize that the questions posed to Blue Coat Systems (above) are pertinent as well for all other companies active in this industry. Given the many documented instances of advanced information communication technologies put to use by governments and other actors for the purpose of maintaining power and control at the expense of human rights, and the rapid, lucrative growth of the market, it is clear that this industry cannot continue to operate in a largely unregulated atmosphere. While control of dual-use and other sensitive technologies raises significant complexities (see Part III above), some form of check on this industry is essential—whether it be proactive self-regulation, export controls, sanctions, or a combination of these and other efforts. We hope that more companies will step forward to discuss how such controls can be applied in a pragmatic manner. The input of civil society is likewise crucial, as is the leadership of governments in developing multilateral approaches for effective control.

## ACKNOWLEDGEMENTS

Thanks to Eireann Leverett and Shawn Merdinger for pointing the way.

## MEDIA COVERAGE

Media coverage of the report includes [IT World](#); [Salon](#); [Ars Technica](#); [Slate](#); [ComputerWorld](#); [TTV](#), [MacFound](#), [AllGov](#) and [Internet Law Center](#).

## FOOTNOTES

<sup>1</sup>"WebFilter," Blue Coat, <http://www.bluecoat.com/products/proxysg/addons>.

<sup>2</sup>"Blue Coat PacketShaper Application List," Blue Coat, [http://www.bluecoat.com/sites/default/files/documents/files/PacketShaper\\_Application\\_List.c.pdf](http://www.bluecoat.com/sites/default/files/documents/files/PacketShaper_Application_List.c.pdf).

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