

[REDACTED]. See id. at 7. Moreover, at the time of acquisition, NSA's upstream Internet collection devices are generally incapable of distinguishing between transactions containing only a single discrete communication to, from, or about a tasked selector and transactions containing multiple discrete communications, not all of which may be to, from, or about a tasked selector.²⁷ Id. at 2.

As a practical matter, this means that NSA's upstream collection devices acquire any Internet transaction transiting the device if the transaction contains a targeted selector anywhere within it, and:

[REDACTED]

[REDACTED]

See id. at 6.

The practical implications of NSA's acquisition of Internet transactions through its upstream collection for the Court's statutory and Fourth Amendment analyses are difficult to assess. The sheer volume of transactions acquired by NSA through its upstream collection is such that any meaningful review of the entire body of the transactions is not feasible. As a result, the Court cannot know for certain the exact number of wholly domestic communications acquired through this collection, nor can it know the number of non-target communications

[REDACTED]

acquired or the extent to which those communications are to or from United States persons or persons in the United States. Instead, NSA and the Court can only look at samples of the data and then draw whatever reasonable conclusions they can from those samples. Even if the Court accepts the validity of conclusions derived from statistical analyses, there are significant hurdles in assessing NSA's upstream collection. Internet service providers are constantly changing their protocols and the services they provide, and often give users the ability to customize how they use a particular service.²⁸ *Id.* at 24-25. As a result, it is impossible to define with any specificity the universe of transactions that will be acquired by NSA's upstream collection at any point in the future.

Recognizing that further revelations concerning what NSA has actually acquired through its 702 collection, together with the constant evolution of the Internet, may alter the Court's analysis at some point in the future, the Court must, nevertheless, consider whether NSA's targeting and minimization procedures are consistent with FISA and the Fourth Amendment based on the record now before it. In view of the revelations about how NSA is actually conducting its upstream collection, two fundamental underpinnings of the Court's prior assessments no longer hold true.

28 [REDACTED]

First, the Court previously understood that NSA's technical measures²⁹ would prevent the acquisition of any communication as to which the sender and all intended recipients were located in the United States ("wholly domestic communication") except for "theoretically possible" cases

[REDACTED]

[REDACTED]

[REDACTED] The Court now understands, however, that NSA has acquired, is acquiring, and, if the certifications and procedures now before the Court are approved, will continue to acquire, tens of thousands of wholly domestic communications. NSA's manual review of a statistically representative sample drawn from its upstream collection³⁰ reveals that NSA acquires approximately 2,000-10,000 MCTs each year that contain at least one wholly domestic communication.³¹ See Aug. 16 Submission at 9. In addition to these MCTs, NSA

29 [REDACTED]

³⁰ In an effort to address the Court's concerns, NSA conducted a manual review of a random sample consisting of 50,440 Internet transactions taken from the more than 13.25 million Internet transactions acquired through NSA's upstream collection during a six month period. See generally Aug. 16 Submission (describing NSA's manual review and the conclusions NSA drew therefrom). The statistical conclusions reflected in this Memorandum Opinion are drawn from NSA's analysis of that random sample.

³¹ Of the approximately 13.25 million Internet transactions acquired by NSA through its upstream collection during the six-month period, between 996 and 4,965 are MCTs that contain a wholly domestic communication not to, from, or about a tasked selector. Aug. 16 Submission at 9.

likely acquires tens of thousands more wholly domestic communications every year,³² given that NSA's upstream collection devices will acquire a wholly domestic "about" SCT if it is routed internationally.³³ Moreover, the actual number of wholly domestic communications acquired

³² NSA's manual review focused on examining the MCTs acquired through NSA's upstream collection in order to assess whether any contained wholly domestic communications. Sept. 7, 2011 Hearing Tr. at 13-14. As a result, once NSA determined that a transaction contained a single, discrete communication, no further analysis of that transaction was done. See Aug. 16 Submission at 3. After the Court expressed concern that this category of transactions might also contain wholly domestic communications, NSA conducted a further review. See Sept. 9 Submission at 4. NSA ultimately did not provide the Court with an estimate of the number of wholly domestic "about" SCTs that may be acquired through its upstream collection. Instead, NSA has concluded that "the probability of encountering wholly domestic communications in transactions that feature only a single, discrete communication should be smaller – and certainly no greater – than potentially encountering wholly domestic communications within MCTs." Sept. 13 Submission at 2.

The Court understands this to mean that the percentage of wholly domestic communications within the universe of SCTs acquired through NSA's upstream collection should not exceed the percentage of MCTs containing a wholly domestic communication that NSA found when it examined all of the MCTs within its statistical sample. Since NSA found 10 MCTs with wholly domestic communications within the 5,081 MCTs reviewed, the relevant percentage is .197% (10/5,081). Aug. 16 Submission at 5.

NSA's manual review found that approximately 90% of the 50,440 transactions in the sample were SCTs. Id. at 3. Ninety percent of the approximately 13.25 million total Internet transactions acquired by NSA through its upstream collection during the six-month period, works out to be approximately 11,925,000 transactions. Those 11,925,000 transactions would constitute the universe of SCTs acquired during the six-month period, and .197% of that universe would be approximately 23,000 wholly domestic SCTs. Thus, NSA may be acquiring as many as 46,000 wholly domestic "about" SCTs each year, in addition to the 2,000-10,000 MCTs referenced above.

³³ Internet communications are "nearly always transmitted from a sender to a recipient through multiple legs before reaching their final destination." June 1 Submission at 6. For example, an e-mail message sent from the user of [REDACTED] to the user of [REDACTED] will at the very least travel from the [REDACTED] user's own computer, to [REDACTED], to [REDACTED], and then to the computer of the [REDACTED] user. Id. Because the communication's route is made up of multiple legs, the transaction used to transmit the communication across any particular leg of the route need only identify the IP

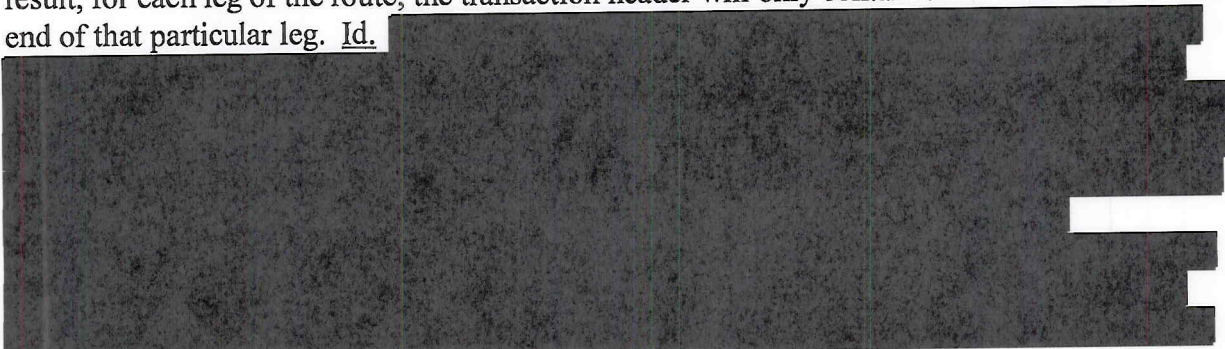
(continued...)

may be still higher in view of NSA's inability conclusively to determine whether a significant portion of the MCTs within its sample contained wholly domestic communications.³⁴

Second, the Court previously understood that NSA's upstream collection would only acquire the communication of a United States person or a person in the United States if: 1) that

³³(...continued)

addresses at either end of that leg in order to properly route the communication. *Id.* at 7. As a result, for each leg of the route, the transaction header will only contain the IP addresses at either end of that particular leg. *Id.*



³⁴ During its manual review, NSA was unable to determine whether 224 of the 5,081 MCTs reviewed contained any wholly domestic communications, because the transactions lacked sufficient information for NSA to determine the location or identity of the "active user" (i.e., the individual using the electronic communications account/address/identifier to interact with his/her Internet service provider). Aug. 16 Submission at 7. NSA then conducted an intensive review of all available information for each of these MCTs, including examining the contents of each discrete communication contained within it, but was still unable to determine conclusively whether any of these MCTs contained wholly domestic communications. Sept. 9 Submission at 3. NSA asserts that "it is reasonable to presume that [the] 224 MCTs do not contain wholly domestic communications," but concedes that, due to the limitations of the technical means used to prevent the acquisition of wholly domestic communications, NSA may acquire wholly domestic communications. *See* Aug. 30 Submission at 7-8. The Court is prepared to accept that the number of wholly domestic communications acquired in this category of MCTs is relatively small, for the reasons stated in the government's August 30 Submission. However, when considering NSA's upstream collection as a whole, and the limitations of NSA's technical means, the Court is not prepared to presume that the number of wholly domestic communications contained within this category of communications will be zero. Accordingly, the Court concludes that this category of communications acquired through NSA's upstream collection may drive the total number of wholly domestic communications acquired slightly higher.

person was in direct contact with a targeted selector; 2) the communication referenced the targeted selector, and the communication fell into one of [REDACTED] specific categories of "about" communications; or 3) despite the operation of the targeting procedures, United States persons or persons inside the United States were mistakenly targeted. See Docket No. [REDACTED]

[REDACTED]. But the Court now understands that, in addition to these communications, NSA's upstream collection also acquires: a) the communications of United States persons and persons in the United States that are not to, from, or about a tasked selector and that are acquired solely because the communication is contained within an MCT that somewhere references a tasked selector [REDACTED]

[REDACTED] and b) any Internet transaction that references a targeted selector, regardless of whether the transaction falls within one of the [REDACTED] previously identified categories of "about communications," see June 1 Submission at 24-27. [REDACTED]

[REDACTED]

[REDACTED]

On the current record, it is difficult to assess how many MCTs acquired by NSA actually contain a communication of or concerning a United States person,³⁵ or a communication to or from a person in the United States. This is because NSA's manual review of its upstream collection focused primarily on wholly domestic communications – i.e., if one party to the

³⁵ NSA's minimization procedures define "[c]ommunications of a United States person" to include "all communications to which a United States person is a party." NSA Minimization Procedures § 2(c). "Communications concerning a United States person" include "all communications in which a United States person is discussed or mentioned, except where such communications reveal only publicly-available information about the person. Id. § 2(b).

communication was determined to be outside the United States, the communication was not further analyzed. Aug. 16 Submission at 1-2. Nevertheless, NSA's manual review did consider the location and identity of the active user for each MCT acquired, and this information – when considered together with certain presumptions – shows that NSA is likely acquiring tens of thousands of discrete communications of non-target United States persons and persons in the United States, by virtue of the fact that their communications are included in MCTs selected for acquisition by NSA's upstream collection devices.³⁶

To illustrate, based upon NSA's analysis of the location and identity of the active user for the MCTs it reviewed, MCTs can be divided into four categories:

1. MCTs as to which the active user is the user of the tasked facility (i.e., the target of the acquisition) and is reasonably believed to be located outside the United States;³⁷
2. MCTs as to which the active user is a non-target who is believed to be located inside the United States;
3. MCTs as to which the active user is a non-target who is believed to be located outside the United States; and

³⁶ Although there is some overlap between this category of communications and the tens of thousands of wholly domestic communications discussed above, the overlap is limited to MCTs containing wholly domestic communications. To the extent that the wholly domestic communications acquired are SCTs, they are excluded from the MCTs referenced here. Similarly, to the extent communications of non-target United States persons and persons in the United States that are contained within the tens of thousands of MCTs referenced here are not wholly domestic, they would not be included in the wholly domestic communications referenced above.

³⁷ Although it is possible for an active user target to be located in the United States, NSA's targeting procedures require NSA to terminate collection if it determines that a target has entered the United States. NSA Targeting Procedures at 7-8. Accordingly, the Court excludes this potential category from its analysis.

4. MCTs as to which the active user's identity or location cannot be determined.

Aug. 16 Submission at 4-8.

With regard to the first category, if the target is the active user, then it is reasonable to presume that all of the discrete communications within an MCT will be to or from the target. Although United States persons and persons in the United States may be party to any of those communications, NSA's acquisition of such communications is of less concern than the communications described in the following categories because the communicants were in direct communication with a tasked facility, and the acquisition presumptively serves the foreign intelligence purpose of the collection. NSA acquires roughly 300-400 thousand such MCTs per year.³⁸

For the second category, since the active user is a non-target who is located inside the United States, there is no reason to believe that all of the discrete communications contained within the MCTs will be to, from, or about the targeted selector (although there would need to be at least one such communication in order for NSA's upstream devices to acquire the transaction). Further, because the active user is in the United States, the Court presumes that the majority of that person's communications will be with other persons in the United States, many of whom will be United States persons. NSA acquires approximately 7,000-8,000 such MCTs per year, each of which likely contains one or more non-target discrete communications to or from other

³⁸ NSA acquired between 168,853 and 206,922 MCTs as to which the active user was the target over the six-month period covered by the sample. Aug. 16 Submission at 9.

persons in the United States.³⁹

The third category is similar to the second in that the active user is a non-target. Therefore, there is no reason to believe that all of the communications within the MCTs will be to, from, or about the targeted selector (although there would need to be at least one such communication in order for NSA's upstream devices to acquire the transaction). However, because the active user is believed to be located outside the United States, the Court presumes that most of that persons's communications will be with other persons who are outside the United States, most of whom will be non-United States persons. That said, the Court notes that some of these MCTs are likely to contain non-target communications of or concerning United States persons, or that are to or from a person in the United States.⁴⁰ The Court has no way of knowing precisely how many such communications are acquired. Nevertheless, it appears that NSA acquires at least 1.3 million such MCTs each year,⁴¹ so even if only 1% of these MCTs

³⁹ In its manual review, NSA identified ten MCTs as to which the active user was in the United States and that contained at least one wholly domestic communication. See Aug. 16 Submission at 5-7. NSA also identified seven additional MCTs as to which the active user was in the United States. Id. at 5. Although NSA determined that at least one party to each of the communications within the seven MCTs was reasonably believed to be located outside the United States, NSA did not indicate whether any of the communicants were United States persons or persons in the United States. Id. The Court sees no reason to treat these two categories of MCTs differently because the active users for both were in the United States. Seventeen MCTs constitutes .3% of the MCTs reviewed (5,081), and .3% of the 1.29-1.39 million MCTs NSA acquires every six months (see id. at 8) is 3,870- 4,170, or 7,740-8,340 every year.

⁴⁰ The government has acknowledged as much in its submissions. See June 28 Submission at 5.

⁴¹ Based on its manual review, NSA assessed that 2668 of the 5,081 MCTs reviewed
(continued...)

contain a single non-target communication of or concerning a United States person, or that is to or from a person in the United States, NSA would be acquiring in excess of 10,000 additional discrete communications each year that are of or concerning United States persons, or that are to or from a person in the United States.

The fourth category is the most problematic, because without the identity of the active user – i.e., whether the user is the target or a non-target – or the active user's location, it is difficult to determine what presumptions to make about these MCTs. NSA acquires approximately 97,000-140,000 such MCTs each year.⁴² In the context of wholly domestic communications, the government urges the Court to apply a series of presumptions that lead to the conclusion that this category would not contain any wholly domestic communications. Aug. 30 Submission at 4-8. The Court questions the validity of those presumptions, as applied to wholly domestic communications, but certainly is not inclined to apply them to assessing the likelihood that MCTs might contain communications of or concerning United States persons, or communications to or from persons in the United States. The active users for some of these

⁴¹(...continued)

(approximately 52%) had a non-target active user who was reasonably believed to be located outside the United States. Aug. 16 Submission at 4-5. Fifty-two percent of the 1.29 to 1.39 million MCTs that NSA assessed were acquired through its upstream collection every six months would work out to 670,800 - 722,800 MCTs, or approximately 1.3-1.4 million MCTs per year that have a non-target active user believed to be located outside the United States.

⁴² NSA determined that 224 MCTs of the 5,081 MCTs acquired during a six-month period [REDACTED]

[REDACTED] From this, NSA concluded that it acquired between 48,609 and 70,168 such MCTs every six months through its upstream collection (or approximately 97,000-140,000 such MCTs each year). Id. at 9 n.27.