



Messaging Anti-Abuse Working Group (MAAWG)

Email Metrics Program: The Network Operators' Perspective

Report #3 - 2nd Quarter 2006
(Issued November 2006)

Executive Summary

The metrics program initiated by the Messaging Anti-Abuse Working Group (MAAWG) continues to evolve into a comprehensive and unbiased tool for gauging the level of spam invading the email stream. This third quarterly report, covering the period from April to June 2006, reflects a slight decline in the percentage of suspected abusive messages but an increase in the volume of unaltered delivered messages during this period.

The MAAWG Email Metrics Program has now expanded to cover the flow of messages to 435.6 million mailboxes worldwide, representing a substantial global sampling. It includes confidential data collected from both first and second tier network operators, Internet Service Providers and mailbox service providers worldwide. This is a voluntary industry program that seeks to provide unbiased data from the network operators' perspective.

We also are learning from our experience as the first year of this program unfolds. To improve the process, we have changed our reporting system and have subsequently restated the results from previous quarters in this report, although there is only a slight variation from the earlier data. The reporting companies also have gained a better understanding of how to accurately track the necessary information and a few providers have changed how they capture this data.

MAAWG initiated the email metrics program in March 2006 with statistics from the last quarter of 2005. Report #3 covers April through June 2006, and at this point we have accumulated data representing three-quarters of a year. The reports are intended to gauge the industry's efforts in preventing abusive emails from reaching users and to define trends.

As the largest global trade association focusing on email abuse solutions, MAAWG is able to gather the information necessary to objectively measure spam levels because its members include major Internet Service Providers (ISPs), global network operators and industry vendors. The organization continues to grow and attract the participation of service providers worldwide, expanding the scope of this report and building a foundation for industry cooperation in tackling abusive messaging and online activity.



Report #3 - 2nd Quarter 2006 Results

The statistics reported below are compiled from confidential data provided by participating MAAWG member network operators for the second quarter of 2006. There is a slight decline in the percentage of dropped connections and emails tagged as potential spam, but an increase in the overall number of unaltered messages delivered.

Reported Metrics	Report #1 Q4 2005	Report #2 Q1 2006	Report #3 Q2 2006
Number of Mailboxes Represented	357.777 Million	389.674 Million	435.626 Million
Number of Dropped Connections & Blocked/Tagged Inbound Email	361.279 Billion	405.844 Billion	408.009 Billion
Number of Unaltered Delivered Email	86.226 Billion	102.418 Billion	142.485 Billion

Selected Ratios	Report #1 Q4 2005*	Report #2 Q1 2006	Report #3 Q2 2006
Dropped Connections & Blocked/Tagged Inbound Emails per Mailbox	1010	1041	937
Dropped Connections & Blocked/Tagged Inbound Emails per Unaltered Delivered Email	4.19 or 80.73% abusive email	3.96 or 79.84% abusive email	2.86 or 74.12% abusive email
Number of Unaltered Delivered Email per Mailbox	241	263	327

* Data for 4Q 2005 and 1Q 2006 have been updated to reflect new reporting participants and a slightly revised reporting system.

What is Measured?

- **Number of Mailboxes Represented** - This is the total current customer mailbox count at the end of the quarter. This metric is reported in million of mailboxes.
- **Number of Dropped Connections & Blocked/Tagged Inbound Emails** – Taken together, dropped connections and blocked/tagged inbound emails are a measure of "abusive emails." The Number of Dropped Connections is the total connections dropped by using RBLs (Real Time Blacklists) and other devices. The Number of Blocked or Tagged Inbound Emails is the total number of emails blocked or tagged by a provider using commonly applied devices such as ASAV (Anti-Spam/ Anti-Viral) framework, MTAs (Mail Transfer Agents) and other recipient or message based rules. The sum of three months of dropped connections and blocked or tagged inbound emails is reported in billions. In this report, one dropped connection is equivalent to one blocked or tagged inbound email.
- **Number of Unaltered Delivered Emails** - This is the total number of emails that were not blocked or tagged by the network operator's anti-abuse efforts and have been delivered to customers. The sum of three months of delivered emails is reported in billions.

Explanatory Notes:

- **Abusive Emails:** The one thing this report does not attempt to define is “spam.” Even though a great deal of time and energy has been devoted to clarifying this term, there is no universally accepted definition. The precise definition of spam differs slightly from jurisdiction to jurisdiction in accordance with local laws. For example, in Europe and Canada, spam is based on an “opt-in” approach, whereas the United States has adopted an “opt out” approach. Nevertheless, most would agree that “spam” can be defined as electronic communications that likely are not wanted or expected by the recipient.

What is more, in working to reduce spam, the industry has become increasingly focused on the behavior of the sender instead of only looking at the form or content of a message. In this report, therefore, we measure “abusive email,” which we believe to be a more accurate term. Abusive emails are communications that seek to exploit the end user.

- **False Positives:** Given the massive volumes of email that transverse the networks everyday, one of the challenges facing ISPs and network operators is how to differentiate between abusive, unwanted emails and legitimate messages sent to a large number of recipients. A “false positive” is the term generally used to describe legitimate messages that have been blocked or tagged by a spam filter or other mechanisms intended to stop abusive email. The issues that arise in the context of accurately defining and accounting for false positives are similar to those associated with defining spam. Therefore, this report does not attempt to account for any “false positives,” leaving that assessment to others.
- **ISP & Network Operator Data:** As noted above, this aggregated data has been obtained exclusively from ISPs and network operators who are members of MAAWG. It does not include information generated separately by anti-abuse solution providers or vendors.
- **Minimum Number of Mailboxes:** This email metrics program is based on a minimum threshold of 100 million mailboxes as we believe this number is statistically significant.
- **Dropped Connections:** A dropped connection occurs before the number of recipients or emails is known. It is therefore impossible to determine how many abusive emails per dropped connection were prevented from entering the network. Moreover, when a connection is prohibited, i.e. “null routed,” there is no connection to count and so these are not factored in the number of reported dropped connections. As a result, a substantial volume of abusive emails are never likely to be counted. However, it is a conservative estimate to say that each dropped connection corresponds to at least one abusive email. This metric, although imprecise in and of itself, gives a sense of the magnitude of abusive emails that are not even penetrating the operator’s network.

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