



Messaging Anti-Abuse Working Group (MAAWG)

Email Metrics Program: The Network Operators' Perspective

Report #10R1 – Third and Fourth Quarter 2008
(Issued March 2009, Revised Dec. 2009)

Executive Summary

This tenth report in the MAAWG Email Metrics Program incorporates new data for the third and fourth quarters of 2008 with aggregated metrics from July through December. During all of 2008, the percentage of email identified as abusive has been oscillating between 89% and 92%, and the same can be said for the number of unaltered delivered email per mailbox, in roughly an inverse manner. This high rate of abusive messaging is a reminder that the industry must remain vigilant to disruptive online activities and continue its cooperative efforts to provide users a stable messaging environment.

About the MAAWG Email Metrics Program

At the request of government and private agencies worldwide, the Messaging Anti-Abuse Working Group (MAAWG) developed these quarterly reports as a guide to understanding the effectiveness of the industry's efforts in obstructing abusive emails before they reach users. They also have become an important tool for identifying related trends over time.

The metrics data reported here is provided voluntarily and confidentially by Internet service providers, network operators and email providers that have come together in MAAWG to work against online abuse. However, MAAWG members are under no obligation to supply this information or to participate in this program. The data is shared at the discretion of each company and is reported here as aggregated metrics. While the participating companies may change from time to time, each quarterly MAAWG report covers at least 100 million mailboxes.

We are committed to continuing the important work of the MAAWG Email Metrics Program. The quarterly reports issued through MAAWG have become a vital industry resource for understanding the extent of abusive emails and for responding to fraudulent and damaging online activity.

Changes to Reporting in this Update

With this report, we have a significant increase in the number of mailboxes covered; we now cover half a billion mailboxes worldwide. To accommodate this change, the metrics from previous quarters have been revised from previous reports to provide meaningful comparisons.

The email industry operates in a dynamic environment and minor changes are inevitable from quarter to quarter. Overall, to account for these reporting variances, we show the data as percentages with metrics from the last twelve months in each new report. Selected data from the earlier quarters also are represented in a separate historical graph. Those interested in the long-term metrics beyond the coverage provided in this report can find the previously published reports with the original data on the MAAWG Web site at <http://www.maawg.org/about/EMR>.

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Messaging Anti-Abuse Working Group

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Report #10 – 3rd and 4th Quarter 2008 Results

The statistics reported below are compiled from confidential data provided by participating MAAWG member service operators for Q3 and Q4 2008. Previous reports have been adjusted as necessary to provide relatively comparative data.

In previous reports, the percentage of email identified as abusive fell between 84-86%. This report shows a revised higher percentage **due to an increase in the number of mailboxes covered**. Our reporting basis now covers more than 500 million mailboxes with 200 billion unaltered emails being delivered. Previously reported metrics from Q4 2007 through Q2 2008 have been updated in this report to incorporate the new data from the increase in mailboxes.

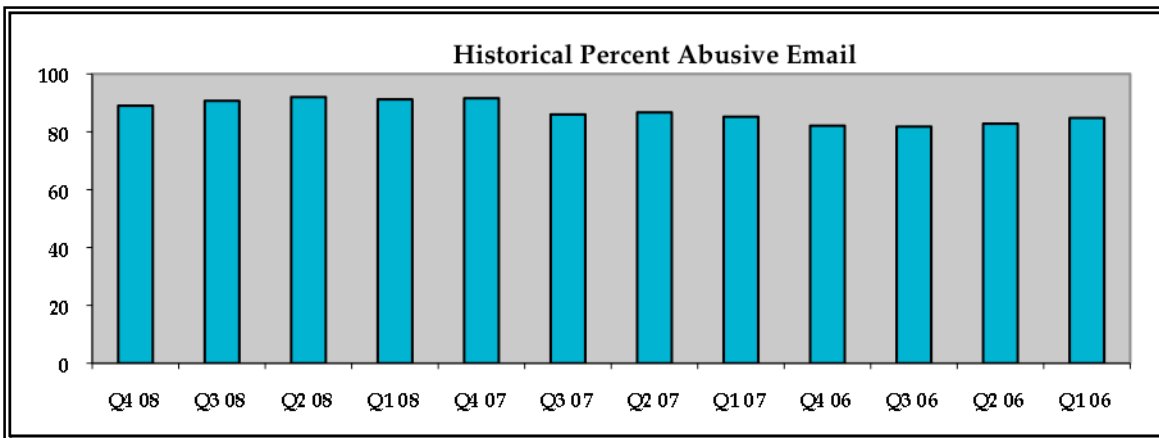
Selected Ratios	Report #10 Q4 2008	Report #10 Q3 2008	Report #9 Q2 2008	Report #8 Q1 2008	Report #7 Q4 2007
Dropped Connections & Blocked/Tagged Inbound Emails per Mailbox	3041	3510	4731	3854	4131
Ratio of Dropped Connections & Blocked/Tagged Inbound Emails to Unaltered Delivered Email	8.09 or 89.0% abusive email	9.80 or 90.7% abusive email	11.49 or 92.0% abusive email	10.39 or 91.2% abusive email	10.93 or 91.6% abusive email
Number of Unaltered Delivered Email per Mailbox	376	358	412	371	378

This report covers more than 500 million mailboxes with 200 billion delivered email. All of the original reports are available at <http://www.maawg.org/about/EMR>.

Observations

It is important to understand that the metrics in the MAAWG report do not represent spam, but report the volume of email identified as “abusive.” This distinction is significant because the definition of spam can vary greatly from country to country and as used in local legislation.

With the addition of this new data from the second quarter of 2008, the percentage of email identified as abusive has oscillated over the last year between 89% and 92%. The number of unaltered delivered email per mailbox has fluctuated in roughly the reverse manner from 11% to 8%. The fluctuation in the metrics, therefore, may be the result of service providers dealing with new schemes introduced by abusers to escape service providers’ detection methods, including the use of filters to keep abusive email from reaching users’ inboxes.



The metrics continue to reflect the continuing high level of abusive email the industry works to prevent from clogging users' inboxes and the need for continued industry cooperation and diligence.

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 and 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 were 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 and Network Operator Data:** As noted above, this aggregated data has been obtained exclusively from ISPs, network operators and email providers 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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