



Messaging Anti-Abuse Working Group (MAAWG)

Email Metrics Program: The Network Operators' Perspective

Report #8 – First Quarter 2008
(Issued July 2008)

Executive Summary

This eighth report in the MAAWG Email Metrics Program incorporates new data for the first quarter of 2008 with aggregated metrics from January through March. Over the last two years, the percentage of email identified as abusive has been oscillating between 82.1% and 86.7%, 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 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

There are no significant data collection changes in the current report that would affect comparisons with previous metrics reports. However, the number of mailboxes covered and the specific network operators that contributed to this report may have changed slightly since the last quarter. The email industry operates in a dynamic environment and minor changes are inevitable from quarter to quarter.

To account for these reporting variances, we now 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>.



Report #8 – 1st Quarter 2008 Results

The statistics reported below are compiled from confidential data provided by participating MAAWG member service operators for Q1 2008. Previous reports have been adjusted as necessary to provide relatively comparative data.

Comparing similar periods, the first quarter of 2008 saw an increase of over 2% in the volume of email identified as abusive compared to the first quarter of 2007. However, the number of unaltered emails delivered in Q1 2008, 240 per mailbox, was much higher than the 204 in Q1 2007, although lower than the previous Q4 2007 metric.

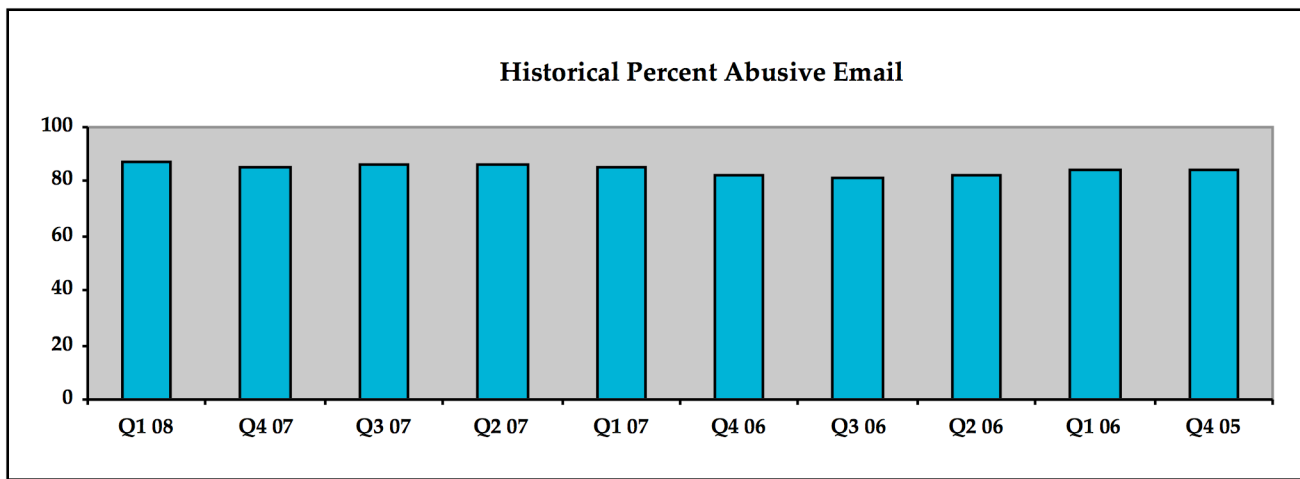
| Selected Ratios | Report #8 Q1 2008 | Report #7 Q4 2007 | Report #7 Q3 2007 | Report #6 Q2 2007 | Report #5 Q1 2007 |
|--|--|--|--|--|--|
| Dropped Connections & Blocked/Tagged Inbound Emails per Mailbox | 1640 | 1604 | 1363 | 1230 | 1178 |
| Ratio of Dropped Connections & Blocked/Tagged Inbound Emails to Unaltered Delivered Email | 6.87 or 87.3% abusive email | 5.51 or 84.7% abusive email | 6.27 or 86.2% abusive email | 6.50 or 86.7% abusive email | 5.77 or 85.2% abusive email |
| Number of Unaltered Delivered Email per Mailbox | 240 | 290 | 217 | 189 | 204 |

This report and the third and fourth quarter 2007 report covers more than 200 million mailboxes, with 100 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 first quarter of 2008, the percentage of email identified as abusive remains oscillating between 82% and 87%, and the same can be said for the number of unaltered delivered email per mailbox, in roughly an inverse manner. 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 have 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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