MAAWG

Messaging Anti-Abuse Working Group (MAAWG)

Email Metrics Program:

The Network Operators' Perspective
Report #1 - 4th Quarter 2005 Report

(issued March 2006)

Introduction

To efficiently address any situation, it is necessary to understand the scope and depth of the problem. This Messaging Anti-Abuse Working Group Email Metrics Report attempts to define the scope of the problem of abusive email. This report is intended as a guide to understanding the industry's efforts in obstructing abusive emails before they reach users and in identifying related trends over time. This is a voluntary industry program that seeks to provide unbiased data from the network operators' perspective.

MAAWG is particularly suited to the task of measuring abusive email levels because its members include major Internet Service Providers (ISP) and network operators worldwide with other associated industry vendors; MAAWG is the largest global trade association focusing on this problem.

The 4th Quarter 2005 Results:

For this first report, participating ISP and network operator member companies of MAAWG voluntarily submitted confidential data about their network operations for the fourth quarter of 2005. Going forward, the report will be updated on a quarterly basis in an attempt to identify trends over time.

Fourth Quarter 2005	
Number of Mailboxes Represented	**127.200 Million**
Number of Dropped Connections	**61.342 Billion**
Number of Blocked/Tagged Inbound Emails	**142.534 Billion**
Number of Unaltered Delivered Emails	**36.593 Billion**

Selected Ratios	
Dropped Connections per Mailbox	**482**
Dropped Connections per Unaltered Delivered Email	**1.68**
Blocked/Tagged Inbound Emails per Mailbox	**1120**
Blocked/Tagged Inbound Emails per Unaltered Delivered Email	**3.9**

Metrics:

The metrics that can be derived from the first quarterly report for the 4Q2005, based on 127 million mailboxes, include:

a. Approximately 500 dropped connections per mailbox
b. More than 1.5 dropped connections per unaltered delivered email
c. More than 1,000 blocked/tagged inbound emails per mailbox
d. Approximately 4 blocked/tagged inbound emails per unaltered delivered email or 80%
e. If we factor in 1 abusive email per dropped connection, the ratio of blocked/tagged inbound emails per unaltered delivered email increases to 5.6 emails or 85**%**

What is Being Measured?

1. **Number of Mailboxes Represented** - This is the total current customer mailbox count at the end of the quarter. (million of mailboxes)
2. **Number of Dropped Connections** - This is the total number of connections dropped by using RBLs (Real Time Blacklists) and other devices. (sum of three months of dropped connection in billions)
3. **Number of Blocked or Tagged Inbound Emails** - This is the total number of emails blocked or tagged using ASAV (Anti-Spam/Anti-Viral) framework, MTAs (Mail Transfer Agents) and other recipient or message based rules, but does not include MUAs (Mail User Agents). (sum of three months of blocked or tagged inbound emails in billions)
4. **Number of Unaltered Delivered Emails** - This is the total number of emails that have not been blocked or tagged in any way by the network operator's anti-abuse efforts and have been delivered to customers. (sum of three months of unaltered delivered emails in billions)

Explanatory Notes:

1. **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.

2. **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.

3. **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.

4. **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.

5. **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 likely substantial amount of abusive email is never counted. However, it would be conservative to say that each dropped connection corresponds to at least one abusive email. This metric, though imprecise, in and of itself gives a sense for the magnitude of the amount of abusive emails which are not even penetrating the operator's network.

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