

The Anatomy of Email Delivery

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Outline

Email Delivery Overview

- What is email deliverability?
- How does it vary across ISPs?
- Who is responsible for email delivery?
- What does good email delivery look like?

Best Practices for Improving Deliverability

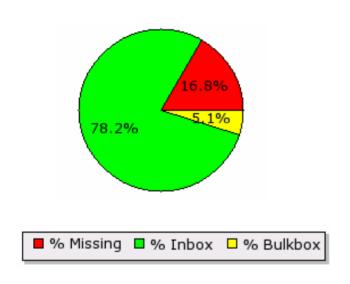
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- List Building
- List Maintenance
- Subscription Management
- Avoiding Spam Filters
- Email Subject and From Address
- Content
- Messaging
- Q&A

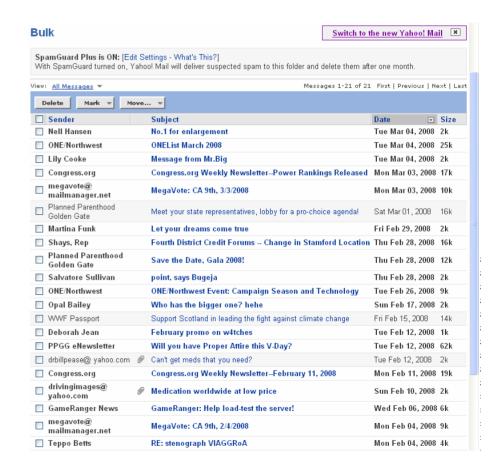


Email Deliverability – Why it matters

Did your email arrive?



What company are you keeping?





Defining Deliverability

Classic definition

Gross Delivery =

Sent - # Bounced # Sent

- Measures delivery into a domain, but not to an end recipient
- Relies on bounce messages, which have become very unreliable
- Overstates delivery success

Today's definition

Inbox Delivery =

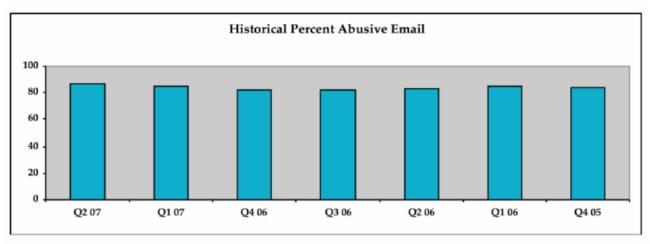
Delivered to Inbox # Sent

- Focuses on whether end recipient gets the email
- Tracks bulk folder diversions as well as delivery rejections
- Relies on seed lists, which are only available for top ISPs



ISP Perspective:

To protect subscriber inboxes, ISPs need to block and filter



| Selected Ratios | Report#6 Q2 2007 | Report#5 Q1 2007 | Report#4 Q4 2006 | Report#4 Q3 2006 |
|--|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Dropped Connections & Blocked/Tagged Inbound Emails per Mailbox | 1230 | 1178 | 1221 | 1210 |
| Dropped Connections & Blocked/Tagged Inbound Emails per Unaltered Delivered Email | 6.50 or 86.7% abusive email | 5.77 or 85.2% abusive email | 4.58 or 82.1% abusive email | 4.82 or 81.8% abusive email |
| Number of Unaltered Delivered Email per Mailbox | 189 | 204 | 267 | 268 |

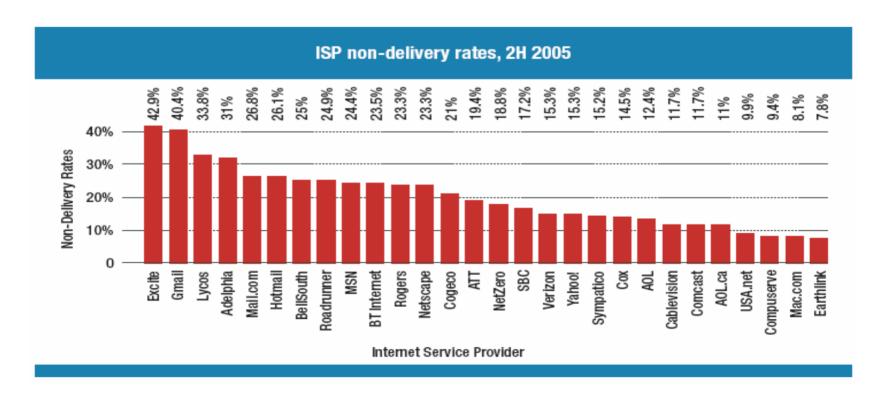
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MAAWG Second Quarter 2007 Email Metrics Report: http://www.maawg.org/about/MAAWG20072Q_Metrics_Report.pdf



Delivery Barriers Vary across ISPs

5%-40% of commercial permission-based email is not delivered



Source: Return Path Email Blocking and Filtering Report http://www.returnpath.biz/resources/archives/whitepapers/index.php



Ranking ISPs: Rejections vs Diversions

| 1 | Top Ten US Domains by Gross Deliverability | |
|------|---|----------------------|
| Rank | ISP Name | Percent Delivered |
| 1 | AIM.com | 96.65 |
| 2 | XO Concentric | 93.25 |
| 3 | USA | 92.98 |
| 4 | Verizon | 92.95 |
| 5 | SBC Global | 91.18 |
| 6 | Yahoo! | 90.14 |
| 7 | IWon | 89.53 |
| 8 | Google Mail | 89.06 |
| 9 | PeoplePC | 88.60 |
| 10 | RoadRunner SoCal | 87.01 |

| 3 | Top Ten US Domains by Junk/Bulk Folder Deliverability | |
|------|---|-----------------|
| Rank | ISP Name | Percent Spam |
| 1 | XO Concentric | 56.49 |
| 2 | SBC Global | 29.61 |
| 3 | Bell South | 29.52 |
| 4 | Yahoo! | 25.95 |
| 5 | MSN Network | 17.82 |
| 6 | Google Mail | 17.76 |
| 7 | Hotmail | 17.51 |
| 8 | PeoplePC | 13.27 |
| 9 | USA | 7.40 |
| 10 | Earthlink | 6.46 |
| | AVG | 15.94 |

Compare Lycos: Rejects 53% of all email

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AVG

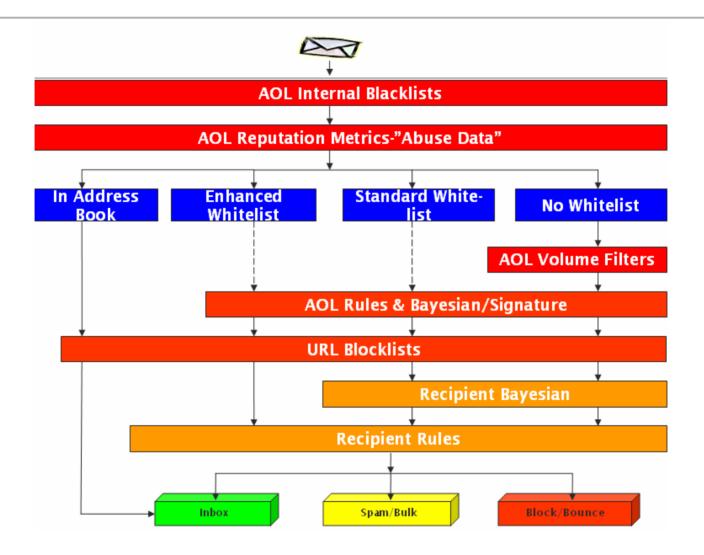
Compare AOL: Diverts only 1.9% to spam folder

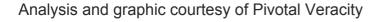
Lyris Q2 2007 ISP Deliverability Report Card: http://www1.lyris.com/resources/reports/

83.60



Blocking & Filtering: AOL Example







Impact of Delivery Problems on Non-profits

- Messages don't get through
 - Rejection
 - Diversion to bulk/spam folder
- Messages get mangled
 - Images suppressed
 - Hyperlinks disabled
- Slower list growth
 - Dropping opt-in rates
 - Increasing spam-policy related list churn

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- Brand damage
 - Spam complaints



Deliverability is a Shared Responsibility

Your Email Service Provider:

- Email infrastructure
- Compliance with sender verification standards
- ► ISP relationships
- Mail reputation monitoring & management

Your Organization:

- Compliance with sender verification standards
- Permission-based list building
- Emarketing practices
- Complaint reduction



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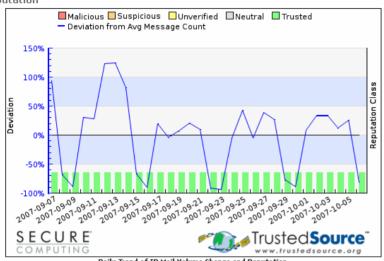
Optimal Email Infrastructure

- Use specialized email appliances or MTA software to send email
 - Send rates and procedures customized to each ISP
- Automate compliance with ISP requirements
 - ▶ No repeat mailings to hard-bouncing addresses
 - ► Integrate feedback loops that automatically unsubscribe recipients that report messages as spam
- Support Sender Verification
 - Enable recipients to check that email sent using your brand name is really from your organization
- Manage mail reputation actively
 - Segment senders based on complaint rates
 - Segregate mail streams by message type
 - Monitor inbox delivery and blocklisting



Mail Reputation

Mail Reputation



Daily Trend of IP Mail Volume Change and Reputation

Sender Information

Hostname: cluster2.convio.net

Domain: convio.net
Current reputation: Trusted
First seen: 2006-08-30
Last seen: 2007-10-07

Whois Information

Registry: RIPE CIDR range: 0.0.0.0/0

Show related netblocks

Description: The whole IPv4 address space

Country: USA

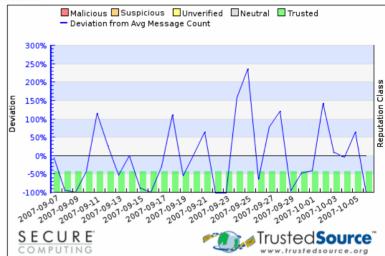
Message Volume

Daily avg 30 days:

Yesterday: (-81%)

Real-Time Blacklists
Not on any blacklists

Mail Reputation



Daily Trend of IP Mail Volume Change and Reputation

Sender Information

Hostname: bonded.iron2.qetactive.com

Domain: <u>qetactive.com</u>
Current reputation: ● Trusted
First seen: 2006-08-30
Last seen: 2007-10-06

Whois Information

Registry: RIPE CIDR range: 0.0.0.0/0

Show related netblocks

Description: The whole IPv4 address space

Country: USA

Message Volume

Daily avg 30 days: 💮 🦇 🕬

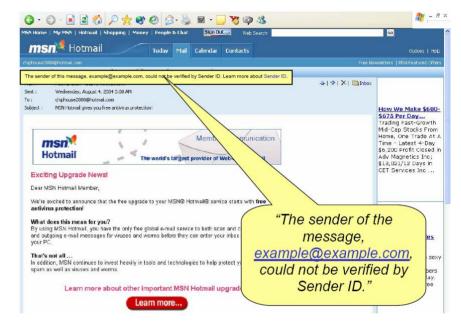
Yesterday: (-99%)

Real-Time Blacklists
Not on any blacklists



Rise of Sender Verification: Sender ID

- Microsoft's sender verification protocol
 - Used at MSN & Hotmail
 - Integrated into Outlook
 - Sender ID checks used to filter spam
 - Verification results displayed to recipients (trust demotion)
 - Email failing verification is marked as suspicious, or diverted to bulk folder
- Easy to implement
 - Simple addition of SPF TXT record to your DNS record



"If the Sender ID verification passes, the message is delivered as regular mail. If the check fails, the message is further analyzed and the receiving server may refuse to deliver the email, or it may flag the e-mail as a possible deceptive message. Depending on the recipient's ISP or e-mail server software, messages that fail the Sender ID check may be flagged and sorted differently. For example, a simple icon may be displayed in the message to indicate the failure. Or the message may be sent to the junk mail folder for the recipient's review, or it may be automatically rejected and deleted."



Rise of Sender Verification: DomainKeys

- Yahoo and Cisco's sender verification protocol
 - Integrated into various anti-spam systems
 - Yahoo provides delivery benefits to senders supporting DK
 - Verified email is marked as trustworthy (trust promotion)
- Harder to implement
 - Mail infrastructure must be able to digitally sign email



Trust promotion of sender with DK icon





ISP Whitelists



YAHOO! • Two of the top-tier ISPs operate their own whitelists:



- Yahoo
- ► AOL (standard and enhanced)



- MSN and Hotmail use a commercial whitelist:
 - Return Path Sender Score Certified
- Most second-tier ISPs do not offer whitelists, although some use commercial reputation services to filter email:



Return Path Sender Score - Comcast



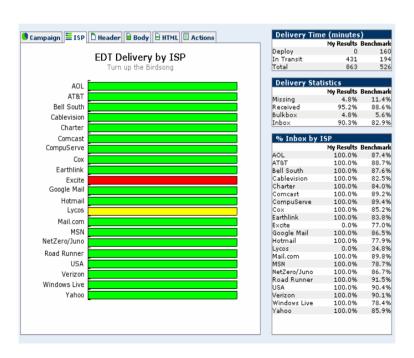
Habeas Safelist - Charter

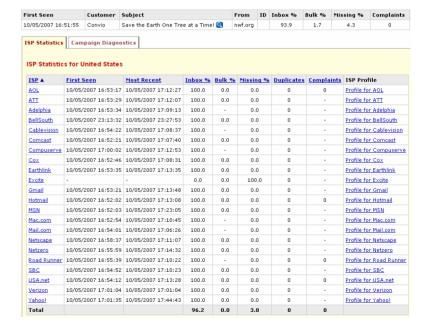


Delivery Monitoring

Good delivery performance =

- Gross Delivery ~95%
- Inbox Delivery 95% 100%





Representative Pivotal Veracity Report

Representative Return Path Report



Reputation Monitoring

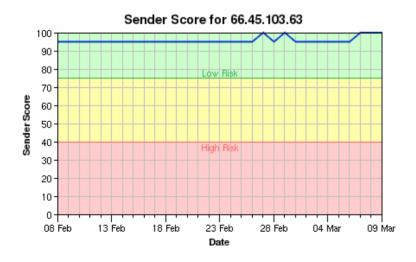
Sender Score

Reputation for 66.45.103.63 (Pool A1)





| Measure | Risk | You | CMI | All Mailers | |
|----------------------------------|----------|-------|-------|-------------|-------|
| Sender Score | | 100 | 70 | 5 | Graph |
| Complaint Rate | • | 0.19% | 0.12% | 0.61% | Graph |
| <u>Volume</u> (percentile) | • | 97th | 69th | 50th | Graph |
| <u>Unknown User Rate</u> | ② | 0.33% | 0.33% | 12.88% | Graph |
| Rejected Rate | ② | 0.38% | 0.6% | 67.4% | Graph |
| External Reputation (percentile) | ② | 87th | 87th | 50th | Graph |



Blocklist Alert

Convio Blacklist Alert

Across all of your IP addresses you're listed on a total of 6 blacklists checked by our service.

| | All blacklists | Important blacklists | | |
|---------------|----------------|----------------------|--|--|
| Added To: | 0 | 0 | | |
| Removed From: | 0 | 0 | | |
| Unchanged: | 6 | 0 | | |
| Total Active: | 6 | 0 | | |

Testing 66.45.103.63

Generated by www.BNSstuff.com

Status: Got back 103 of 107 requests. Failed: None

| Test Name | Result |
|-----------------------|--------------|
| PTR | Pass |
| <u>AHBL</u> | Not listed |
| <u>ASPEWS</u> | Not listed |
| BACKSCATTERER | Not listed |
| BURNTTECH | Not listed |
| CBL | Not listed |
| CASA-CBL | Not listed |
| CASA-CBL+ | Not listed |
| CASA-CBL- | Not listed |
| <u>CSMA</u> | Timeout |
| CSMA-SBL | Timeout |
| CYBERLOGIC | Not listed |
| DEADBEEF | Not listed |
| <u>DELINK</u> | Not listed |
| DNSBLINFO | Not listed |
| <u>DNSBLNETAUOHPS</u> | Not listed |
| DNSBLNETAUOMRS | Not listed |
| DNSBLNETAUOSPS | Not listed |
| DNSBLNETAUOSRS | Not listed |
| DNSBLNETAUOWFS | Not listed |
| DNSBLNETAUOWPS | Not listed |
| DNSBLNETAURDTS | Not listed |
| DNSBLNETAURICN | Not listed |
| DNSBLNETAURMST | Not listed |
| DNSBLNETAUT1 | Not listed |
| DSBL | Not listed |
| Dept 111 | K1_E 12_E_ 3 |



Best Practices to Ensure Good Delivery

- List Building
- 2. List Maintenance
- 3. Subscription Management
- 4. Avoiding Spam Filters
- Email Subject and From Address
- 6. Content
- 7. Messaging



Best Practices: List Building

- Recipient complaints are the single most important cause of delivery barriers
 - Complaint rates increase as permission-basis of list decreases
- Permission-based = Opt-in, not opt-out
- Request explicit permission whenever and wherever you acquire email addresses
 - ► Link brand or publication name to every opt-in request
 - ▶ Document all opt-ins—especially those collected offline
- Respect permission
 - ► Let subscribers control their communication preferences
 - Address and investigate complaints
 - ► Honor opt-out requests



List Building Methods to Avoid

Questionable*

- Opt-in without positive action
 - ► Pre-checked opt-in
- Hidden opt-in
 - ➤ Transactional opt-in adding to a list as part of some other transaction, like event participation or donation
- Appending
 - Assumed opt-in based on some prior business relationship
 - ➤ >80% of recipients do not think a mailer who has their postal address on file "has the right to send me email"

http://www.proclickexchange.com/news/easyway.php

Indefensible*

- Transferred opt-in
 - ► List shares or buys
- Email harvesting
 - ► From web pages, directories, voter registration lists
- Opt-out

^{*} From the perspective of a major ISP that has requested documentation of opt-in for a recipient that filed a spam complaint

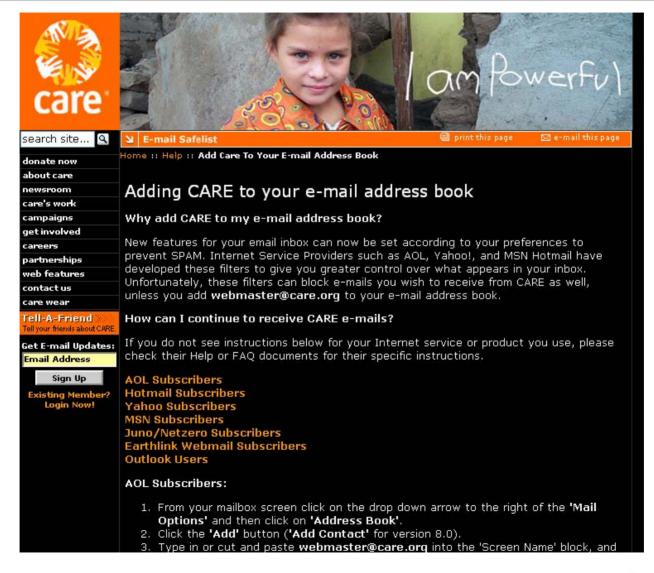


Best Practice: List Maintenance Preserve Your Opt-Ins

- Recipient address books serves as a local whitelist
 - If you're on it, email is delivered
 - ▶ If you're not, email will be blocked, routed, or mangled
- Ask to be added
 - Provide instructions regularly
 - Use one branded "from:" address for all bulk email from your organization
 - Don't break local whitelisting by changing your "from" address



Sample "Add to Address Book" Instructions





Best Practices: List Maintenance Managing "Churn"

- Email addresses have a short shelf life
 - People are forced to change address when they switch ISPs or change job
 - They may change voluntarily to avoid spam
 - ► They almost never tell you when they do
 - ► ISPs may tell you an address is no longer valid when it is
- An average list will decrease by 2-5% per month!
- Use direct mail or phone to re-recruit lost constituents
- Use "email change of address" (ECOA) services to refresh email addresses for unreachable opt-in subscribers
- Continuous recruitment and viral marketing are essential to offsetting churn and growing your list



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Best Practices: List Maintenance List Hygiene

- Keeping lists "clean" is critical to deliverability
 - ► ISPs monitor proportion of invalid addresses in an inbound mailing, and raise delivery barriers when this exceeds acceptable thresholds
- Quality control email addresses collected offline
 - Correct common mistakes (e.g., spelling of top level domain names) prior to import
- Remove hard bouncing emails until they can be recovered
 - ► ISPs monitor resends to addresses they have previously hard bounced, and treat this as a spam signal
 - Do not reset the delivery status of an email address without evidence that a hard bounce was in error or spam-policy related



Best Practices: Subscription Management

- Respect your audience
 - Provide tools that enable self-serve subscription management
 - Avoid complex log-in or email account management procedures
 - Allow users to maintain profiles with their contact data and interest preferences
- Provide subscribers with choices
 - ► Offer a variety of email publications if your organization targets different audience segments, works on different issues, sends email at different frequencies, etc.
 - Provide text-only versions of HTML publications
- Make it easier to get removed/unsubscribe than complain
 - Support single-click unsubscribe
 - Promote the option to unsubscribe from a single publication rather than all organizational communications



Complex Removal ->

More Spam Complaints





Best Practices: List Maintenance

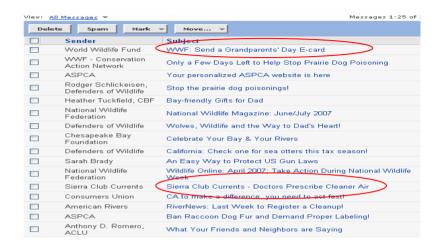
Act on Spam Complaints

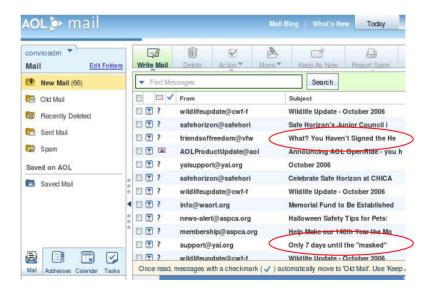
- Use each complaint to conduct ongoing evaluation of your list building practices
- Reduce your reliance on list building practices with high complaint rates
- Ensure your "remove me" procedures across all touch points are operational
- Prevent inadvertent re-additions of complainants to your lists
- Complaints can also be caused by messaging frequency (too often, or too infrequent), list age, and the overall quality of your content and engagement offers

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Best Practices: Email Subject

- The "Subject" line is your first opportunity to get subscribers' attention
 - ► For regular newsletters, use a standard title that conveys your brand identity
 - Succinct but informative subject lines should stand out in a crowded inbox
 - Less is more it has to work in 31 characters in some clients

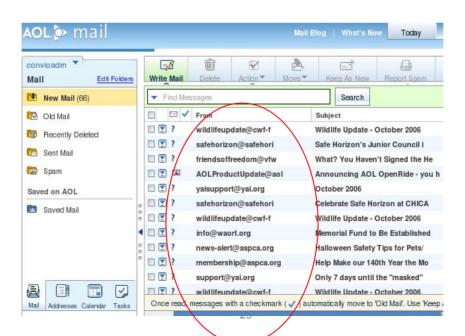






Best Practices: Email "From" Address

- Many recipients decide whether to read a message or report it as spam - based on the sender's identity.
 - ▶ In the subscriber's inbox, the From line is what carries your brand
 - Use a consistent From name <u>and</u> address to support both brand recognition and auto-whitelisting systems
 - Some email clients only display email address, so make sure your brand is clear in your email address





Best Practices: Avoiding Spam Filters

- Filters attempt to identify spam in order to block it or route it to bulk mail
- Market-leaders like Spam Assassin
 - Authenticate senders
 - Check blocklists and whitelists
 - Check distributed spam ID networks
 - Check content against rule sets
 - Score message for spam probability
- Few prevalent anti-spam systems filter by content alone
- Testing messages against a single type of filter is rarely sufficient
- Avoid content practices that can impact delivery

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Best Practices: Content (1)

Word Choice

- Content-based filters are triggered by characteristics of email messages which are commonly associated with spam
- Keyword filters
 - Avoid overly promotional language: the word "free" is all too easy to trip up on
 - Avoid words associated with common spam memes this can sometimes be very tricky for groups with reproductive health missions
- Bayesian filters
 - Most modern filters use multi-word/phrase matching, which is harder to trigger with legitimate messaging
 - Unless your phrasing is necessarily commercial, or reported as spam to a distributed spam identification network



Best Practices: Content (2) Formatting and Attachments

HTML Formatting

- ➤ Spammers often use lots of HTML formatting to break up words into letters, in attempts to confuse keyword and Bayesian filters
- Spam filters look for a high ratio of HTML tagging to actual text
- Use a light, clean style with significant chunks of meaningful content.
- ► Get the side benefits of better rendering in multiple email clients.

Attachments

- Malware is often hidden in executable attachments.
- Avoid bulk mail distribution of any type of attachment (e.g., pdf)



Best Practices: Content (3)

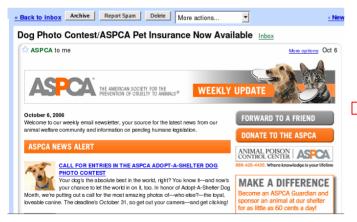
Images

- Single Images
 - Spammers often use image-based spam to defeat content filters
 - ► Filters therefore treat all single-image messages as suspicious
- Growing number of email clients (AOL 9.0, Gmail, MS-Outlook) block images by default
 - Implemented to protect subscribers from pornography and spam
 - Suppression can be over-ridden if sender is whitelisted at an ISP, or safelisted in local email address book

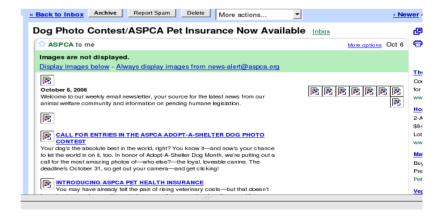


Best Practices: Content (4) Anticipate Image Suppression

- Design your email to render well even with images suppressed
 - Provide a link to the online version of your HTML newsletter
 - Omit width and height specifiers to allow blocked images to collapse





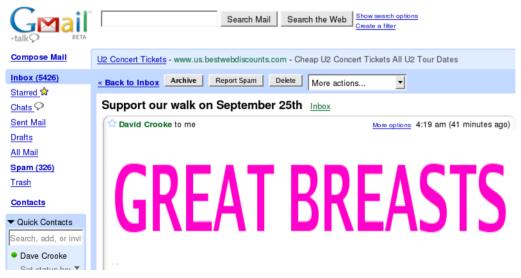




Best Practices: Content (5)

Use Common Sense

- Content alone can trigger delivery barriers if you send a message that looks like spam:
 - Is this email from a cancer charity or ?
 - Spam complaints from highly engaged walkathon participants triggered barriers at multiple ISPs





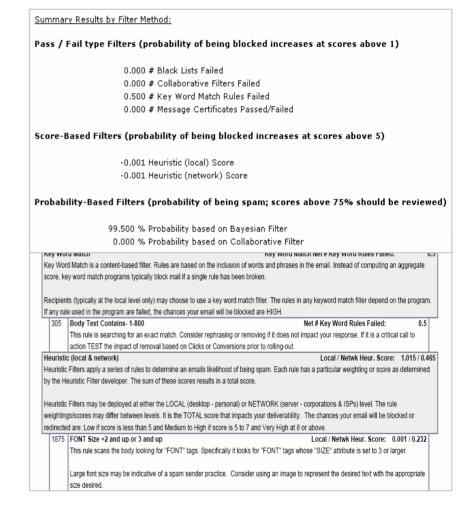
Best Practices: Messaging Quality Control

- Test your content thoroughly before you send
 - ▶ Use A/B split testing tools to optimize your messaging – different subject lines, different layouts, different engagement offers
 - Run draft content through a spam filter to check for spam signals that are easy to avoid
 - Proofread draft messages in major webmail systems and desktop email clients
 - Setup and monitor test accounts at major webmail systems (leaving default spam filter settings unchanged) to identify problems with message mangling or spam folder diversion.



Best Practices: Messaging Premium Spam Filter Scoring

- Several commercial services allow you to identify potential delivery barriers with advanced screening that tests your email messages against more than 50 different anti-spam systems
- Learn whether you are on blocklists that will prevent delivery of your email
- Learn whether your content triggers spam filters based on keywords, rules, or probability tests
- Focus your attention on the spam signals that could actually impact your delivery
- Receive real-time advice on the changes needed to maximize your email delivery





Best Practices: Messaging Frequency

- For periodic emails, establish a predictable schedule that leads subscribers to expect your email
 - ► If your newsletter is your primary or sole touch point, weekly is better than monthly
- If you have a lot of departments / campaigns, coordinate drop days to avoid subscriber fatigue
 - ► Few subscribers want (and few communications program warrant) multiple emails per week
- If you have a high frequency email publication, make it a separate subscription
- Contrary to popular wisdom, which day of the week you send on rarely has a major impact

