Email Validation

for Improved Deliverability & Marketing Results

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Overview

Your email marketing program is only as successful as the number of subscribers who see and respond to the messages you send. Even the most relevant, timely and compelling emails are wasted if your subscribers never read them—and mailing to undeliverable addresses, spam traps, and people who complain about your messages can cause your emails to go to the junk folder or even get blocked entirely.

Email validation is a key tool for preventing bad addresses from getting on your list, improving deliverability, and capturing accurate leads.

Mailing to bad emails reduces inbox delivery and sender reputation

AOL, Hotmail, and other Internet Service Providers (ISP) are the "gated communities" of the Internet, actively screening and filtering incoming mail for their users to determine who gets in and who doesn't. Increasingly, ISPs rely on a sender's "reputation" to determine which email messages get through. In fact, a study by Return Path cited sender reputation as the culprit in 77% of delivery problems.

The principal components of sender reputation are:

Bounce rate: The number of messages that are returned as undeliverable divided by the number of emails sent.

Complaint rate: The number of people who report your messages as spam divided by the number of emails delivered.

Spam trap hits: The number of messages delivered to addresses that are explicitly used to trace and catalog spam.

The higher your numbers for these metrics, the worse your reputation becomes. A slightly poor reputation will cause some messages to land in the spam folder; as reputation worsens, messages may be partially or fully blocked. Each ISP treats reputation differently. With AOL, for example, a complaint rate greater than 0.1% may send some of your messages to the spam folder, and a rate above 0.3% may cause messages to be blocked. For most ISPs, a double-digit bounce rate or mailing to a single spam trap can result in some blocking.

Mailing to a clean email list not only improves your reputation, it also delivers better marketing results.

Improving reputation and results using Email Validation

Email validation starts with the identification of undeliverable email addresses, but more comprehensive validation services can also flag spam traps and addresses that are likely to generate complaints. A full suite of validation services delivers multiple benefits, including:

- **Reduced bounce rate:** Removing invalid email addresses from your list (or preventing them from getting there in the first place) means a greater percentage of the emails you send will be delivered.

- **Fewer complaints and spam trap hits:** Avoiding people who will mark your messages as spam and steering clear of spam traps means a lower complaint rate and a better sender reputation.

- **Increased inbox delivery and results:** With a better reputation from fewer bounces and complaints, more—if not all—of your messages will make it into the inbox of your subscribers, resulting in greater open, click, and response rates.

- **Less fraud:** Prevent bogus email addresses, such as nothanks@test.com, or emails generated by bots from wasting resources or impacting security.

- **Lower mailing costs:** If you use an Email Service Provider (ESP) to send your mail, fewer messages sent means lower costs. Plus, improved deliverability means less effort to manage your mailings and infrastructure.

- **More usable leads:** Validating emails when they're entered on your website ensures you capture a working address, increasing data quality and the number of people you can mail to.

After implementing email validation, some companies have reported over 90% reduction in bounce rates and a 20% increase in open rates. For retailers, higher open rates lead to more clicks and additional sales. For email newsletters, they mean increased brand exposure and better response rates to ads—and thus repeat advertisers and higher advertising rates. For online businesses, validating emails at the point of entry on your website will reduce data entry errors and fraud, resulting in fewer lost leads and a larger email list.

In an analysis of real-time validation results across its clients, TowerData found that as much as 8% of emails entered on websites are incorrect or invalid.

How to effectively validate email addresses

Email validation can be as simple as checking for the '@' sign in the address. However, to achieve the cleanest and most deliverable email address lists, four key steps should be performed:

(1) Catch and correct syntax errors

Although the proper syntax for email addresses is defined by the Internet standards document RFC 5322, various email address formats are used in practice that do not meet the standard. For example, the RFC prohibits the use of a period before the '@' symbol, but some domains allow it. Select a validation program or service sophisticated enough to accept the full range of valid email addresses as well as catch emails that appear acceptable, yet in fact will never work.

Free email validation programs do a relatively simple series of checks to see if there is a single '@', a period in the domain, and the email as a whole uses an accepted range of characters. Often, the authors of these free scripts did not properly understand the RFC email format rules and consequently not only permit emails with syntax errors, but also reject perfectly valid ones—which means lost customers. For example, we have found web forms that will not accept emails containing a plus sign, even though domains such as Gmail permit them. A plus cannot be used in a domain name, yet some validation programs will let this through. Can the program you use tell the difference?

Most ISPs enforce their own format rules, which are stricter than the overall standard. For example, AOL email addresses never start with a number, and a plus sign cannot be used in a Hotmail address. Ensure you use email verification that incorporates accurate ISP-specific format rules to minimize the junk and capture more valid emails.

Email syntax errors can sneak in if addresses are mistyped by visitors to your web page, improperly entered by customer service representatives, or incorrectly scanned from product registration cards. Domains are frequently misspelled; for example, hotmale.com instead of hotmail.com, or typing a comma instead of a period. Advanced email validation solutions can help you recover otherwise invalid emails by correcting spelling and syntax errors, either by prompting a customer with a suggested correction or updating your email list prior to your next mailing. Here are some examples:

Here are some examples:

Invalid Email	Corrected Email
"Smith, Bessie" <bsmith@example.com>	bsmith@example.com
fred;billings!@netzreo.net	fred.billings@netzero.net
http://felix26@sbcgobal.com	felix26@sbcglobal.net
steve@atntworldnet.com	steve@worldnet.att.net
joséaol.com	jose@aol.com

Identifying proper email syntax is only the start—yet that is where most email validation programs stop.

2 Confirm email domains work

Properly validating email domain names—the portion of the email to the right of the '@' sign—will increase your invalid identification rate further. For many lists, proper domain validation can find three times more dead emails than syntax checks alone.

A valid domain both exists and is enabled to accept email. The Internet is littered with domains that have never set up an email server and thus cannot receive mail.

Do not rely on a solution that verifies domains in real time. Network outages are a fact of life on the Internet; data centers such as Rackspace go offline, Gmail has downtime, and the Egyptian government cut off the Internet entirely in 2011. If even a brief network interruption occurred during a real-time domain check, all the addresses at that domain would be falsely categorized as dead.

Choose an enterprise validation service that maintains a domain database and monitors the status of a domain over days, not seconds. Only if a domain fails repeated checks over several days is it classified as invalid, so your data is protected from intermittent outages.

3 Verify mailboxes exist

The most important component of email validation is verifying the mailbox at the domain. For example, with the address sarah667@yahoo.com, is sarah667 a working account at Yahoo? In TowerData's experience, invalid mailboxes consistently account for more than 70% of the undeliverable emails found during validation.

The most accurate way to validate a mailbox without sending an email message is to "ping" the mailbox by pretending to send a message to it without actually doing so. Pinging uses the same process as email delivery software to check for a bounce, and can be just as accurate as long as you use a program that can correctly differentiate between the myriad status codes returned by email servers.

However, don't try this at home. Pinging a domain many times without actually sending an email can cause an IP address to be blocked. Choose an email validation provider that uses its own dedicated IPs and conforms to best practices to insulate your IP from risk.

Mailbox pinging will find most (but not all) undeliverable emails. Administrators at each domain control whether the domain will provide hard bounce information during an email delivery session (using the SMTP protocol). While the majority do, some domains use catch-all accounts and never generate a bounce, and others only send a bounce message if an email is actually sent.

(4) Suppress spam traps and risky email addresses

Emailing the following kinds of addresses can hurt your reputation and the deliverability of your mail. Know what they are—and how to handle them—before you send to your list.

Spam traps

Spam traps are working email addresses used to identify spam messages and senders. Because spam traps are supposedly never actively subscribed to a mailing list, the reasoning is that any email sent to them must be unsolicited, i.e. spam. Mailing to them can get you blacklisted and blocked.

Traps may get on your email list from abandoned emails, malicious activity, or harvested data. Old, once-valid emails are sometimes recycled into spam traps. ISPs such as Outlook.com use this technique to identify mailers that have not been cleaning their email list. If you regularly remove bounces from your list, it is unlikely you'll get a recycled trap on it. The most dangerous traps are those that are explicitly created by organizations such as Spamhaus. These should not get on your list unless you scraped email addresses off the Internet, acquired data from a risky source, or had your list poisoned by someone subscribing a trap to it.

It used to be the case that someone subscribing a trap to your list would take a deliberate, malicious act. Now, legitimate people trying to subscribe can unintentionally add what are known as "typo traps" to your list. These are traps created at domains that are misspelling of common domains, e.g., alo.com for aol.com. In the case of Spamhaus, typo traps are used to identify companies that continue sending marketing emails to addresses that have not confirmed their interest in them. Spam trap creators do not want them to be discovered, thus it is impossible to build a comprehensive list of them. However, by working with a validation provider that has a proven history in the industry, you can minimize the risk.

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Complainers and screamers

Within the email industry, "complainers" are people who habitually report commercial email as spam, and "screamers" are dreaded individuals who will angrily call to complain about unwanted email and sometimes threaten to sue. When working with a large or historical email list, it is better to be safe than sorry. Weed out addresses that may increase your complaint rate, ruin your mailing reputation, and cause your messages to be filtered or blocked. Some email validation services maintain suppression lists for these types of emails.

Bogus emails and bots

While not nearly as harmful as the categories above, fraudulent addresses tie up resources and allow people access to information you wanted to protect. Fake addresses can be as simple as asdf@asdf.com or contain vulgar phrases and words. Internet bots or web robots are used by spammers to compromise web forms and get them to send spam to the site owners or other individuals. Using the proper email validation on your website form will stop your list from being polluted or your forms from getting hacked.

Role-based accounts

We recommend not mailing email addresses that represent a group of people or a job function such as sales@domain.com or info@domain.com. Because multiple people frequently receive messages sent to such accounts, those messages are more likely to be marked as spam. In addition, role-based email addresses for old domains are more likely to be repurposed as spam traps.

Do Not Mail

The Direct Marketing Association maintains a list of people who have contacted the DMA to opt out of unsolicited commercial email. To avoid complaints and support industry efforts to reduce spam and avoid legislation, match prospect email lists against the DMA Do Not Mail file.

Wireless domains

As part of the federal CAN-SPAM legislation, sending unwanted commercial email messages to wireless devices without prior permission is against the law. The FCC maintains a list of Internet domain names that are used to transmit email to wireless devices, and prospect lists should be matched against the list to avoid complaints and fines.

Known bouncers

While real-time mailbox validation is highly accurate, it is a resource-intensive process and may not be cost-effective for large email databases. A quicker and more affordable solution for reducing your bounce rate is to match your list to a file of known bounced emails. Any company that does large volume email delivery maintains such a list, and some email validation providers aggregate this data and offer it as a service. Take care, however, to only use lists that are current and were collected using accurate bounce tracking technology.

All known bouncer lists suffer from false positives, i.e., they will incorrectly contain some working email addresses. The older the list, the greater the number of false positives. When working with bounce suppression, be wary of a very high match rate, and test your vendor's bounce list against emails you've recently mailed to see how many deliverable emails were improperly flagged as dead. Depending on the size of your list, the value of an email address, and the deliverability challenge you face, using a bounce suppression file can either quickly ready your list for mailing or throw out the baby with the bathwater.

When to use Email Validation

There are a variety of tactics for keeping your email list clean—but when should you use them?

At the point of entry

Validating email addresses as they are collected is the best way to keep bad emails off of your list. In addition, by prompting users to make corrections when they enter invalid emails, you can increase the number of working addresses you collect, which means increased revenues and brand awareness.

Emails that are actively submitted to your list are fresh and have a confirmed interest in being on it. In this setting, the best validation techniques to use are:

- Syntax, domain, and mailbox validation
- Email correction
- Suppression of spam traps, bots, role-based accounts, and fake emails

Prior to mailing dormant data

If your email list has not been mailed in months or years, scrubbing it before mailing will greatly increase the likelihood of successful delivery. Some ESPs such as Constant Contact will shut down mailings that exceed their thresholds for bounce and complaint rates, and only by validating the list first will you be able to use it.

For very old or large lists, suppressing known bouncers, complainers, and do not mail addresses can be a very effective and low-cost technique to protect your sender reputation.

For regular email hygiene

Once you've cleaned your house list and are checking emails as they come in, validating unmailed addresses on a quarterly or semi-annual basis will keep your list in optimal mail-ready condition. As dead addresses are removed from your list, consider an Email Change of Address (ECOA) service to replace abandoned email addresses with current ones.
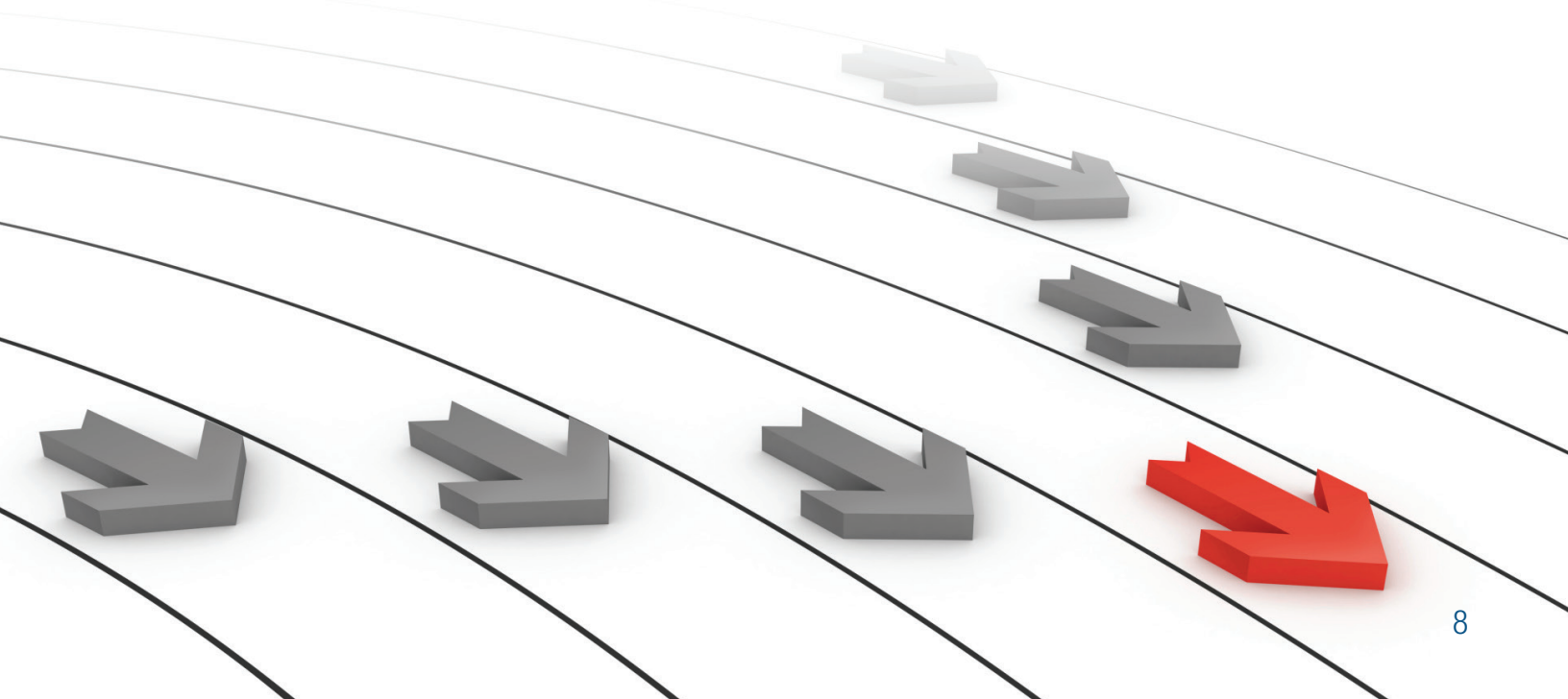
How to use Email Validation

Depending on your business needs and objectives, you may validate email through three methods:

- **In Real-Time:** Using an API or web service is the best tool for validating email addresses on a web site, mobile device, or anywhere an individual email address needs to be checked instantly. Choose an API that has all the functionality you require, is easy to integrate, and has a reputation for reliability.

- **In Batch:** The batch process is the simplest validation method and is best suited for companies with occasional projects, limited database administration resources, or that do not have a sense of urgency. Depending on the file size, the lead time is a day or two.

- **Automated Batch:** For frequent submission of email lists, batch processing can be automated using FTP file delivery with file naming and format conventions. Files are detected and submitted for processing every few minutes, and results are ready for retrieval within hours. Retailers who collect data from their stores nightly, for example, use automated batch processing to validate and correct data the day it was collected before integrating it into their central database.

Conclusion

Deliverability is a key component for email marketing performance, and consistent, thorough validation of the emails on your list will keep it clean, protect your sender reputation, and improve deliverability. Improved inbox placement means more opens and clicks, increased sales and stronger marketing results. Email Validation is a fast, easy-to-use, and cost-effective solution for boosting the performance of your email marketing and communication programs.

**For additional information or a free trial of our services,
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