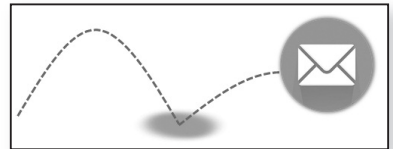


Why Email May ‘Bounce Back’ to You, and What You Can Do About It

This article shows you:

- How messages get from you to your recipient
- Why a message may be returned to you undelivered
- What to check and change to solve the problem

With roughly 270 billion messages sent every day, it’s fair to say that email is popular. And why not? You can send someone as much text as you like, and even include pictures and documents, and have the message delivered within mere seconds.



That’s assuming it *is* delivered. If it isn’t, it comes back to you and you have to work out why. Is it worth trying again and, if it is, what needs changing to prevent the same thing happening again? In this article, I’ll explain why messages ‘bounce back’ to you and what to do when it happens.

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From Me to You: The Journey of a Message

The process that gets a message delivered

When an email message can't be delivered to its intended recipient, it should be returned to you: in Internet parlance, it 'bounces back' to you. To understand the reasons why messages might bounce, it helps to know how email works – the process that gets a message from your computer to someone else's.

Does the email address look valid?

The process starts when you click the 'Send' button in a message you've just written. Your email program checks the email address you've entered for the recipient to ensure it looks valid – for example, that it doesn't have commas where there should be dots, that it does contain an '@' sign, and so on. If there are any of these 'obvious' problems with the address, your email program will show an error message drawing your attention to it and insisting you fix the problem before trying to send the message.



Of course, you may not have typed an email address at all. You might be replying to a message you received, in which case the recipient's email address was entered automatically, or you might have typed the name of someone in your contacts list or address book (in which case, your email program retrieves the corresponding email address from that contact's details). Regardless of how the address got into the message, your email program checks its validity.

If you're sending the message to several recipients, the addresses of each are checked in the same way.

The message is handed to your ISP's email server

Assuming the address looks valid, your message starts its journey. Among the details of your email account in your email program, there's the name of an 'SMTP server': this is a server owned by your Internet Service Provider (ISP) which handles the job of sending email messages for your ISP's customers. Your email program tries to contact this

SMTP server and, assuming it's able to do so, passes on your email message for delivery.

When the SMTP server accepts the message, your email program moves the message into your 'Sent Items' folder. Many email users tend to assume that if a message is placed into 'Sent Items' that means it's been delivered successfully: it hasn't, it's just been sent successfully!



Now, let's assume you were sending an email message to someone named John Smith at this email address: **johnsmith@example.com**. The first thing that SMTP server does is to look up the last part of that address – **example.com** – to make sure that somewhere on the Internet there is a server which has been set up to accept email sent to 'example.com' email addresses.

Does the destination exist?

Assuming there is, your message is sent over the Internet in the general direction of that 'example.com' server. On the way, it will pass through several computers – perhaps two or three, perhaps a dozen – and it may pause on any of these computers for a fraction of a second, a few minutes, or perhaps even hours or days before being passed on to the next.

A journey across the Internet

Eventually the message arrives at that 'example.com' server and its journey is almost complete. First, though, this server has to check a few things. Most importantly, it has to look at the first part of the message's email address – **johnsmith** – and see whether it has a mailbox in that name. If it does, is there enough space in that mailbox to accept your message? The server may also want to examine your message to see whether it looks like spam or appears to contain a virus.

Arrival at the destination

A 'mailbox' is just a rather grand name for a folder on an email server. When John Smith set up an account at Example.com and chose the username 'johnsmith', the



folk at Example.com created a folder with that name to store all the messages that arrived for him. On the same server there will be similar 'mailbox' folders for hundreds or thousands of other Example.com customers, so each folder has a size limit: when it's full, the mailbox can't accept any more email messages.

*The message waits
in the mailbox*

Assuming your email message jumped these hurdles, it's stored in John Smith's mailbox – delivery has been successful. At some point, Mr Smith will start his email program and collect any messages waiting in his mailbox, including the message you sent him. When he does that, those messages will be deleted from his mailbox, leaving it empty.

*Will it be
collected?*

It's worth noting that John Smith may never actually bother to check that mailbox, in which case your message will simply languish in it, unread, forever. For delivery of an email message to be regarded as successful, it just has to reach the recipient's email address (in this case, the mailbox named 'johnsmith' on the server named 'example.com'), it doesn't have to reach John Smith himself!

7 Reasons for a Message to Bounce Back to You

*An undeliverable
message 'bounces
back' to you*

Now that you've followed an email message on its journey across the Internet, you can probably see that there's plenty of room for things to go wrong. If they go wrong in such a way that the message can't be delivered, the message will bounce back to you from whichever point it reached: that may be your own ISP's server, the recipient's server, or – just possibly – one of the servers it passed through on its trip between the two.

*Notification of
delivery failure*

Exactly what you'll receive can vary, but it will usually be an email message with the subject line 'Message delivery failed' (or something similar). The text of the message will explain that a message you sent couldn't be

delivered, and will go on to give some identifying details of the message – date and time sent, subject line, recipient's email address – along with an explanation of the error that occurred. It may also include the full text of your original message, but most email services regard that as unnecessary and don't bother.

The explanation of what went wrong can vary enormously: it may be in plain English or it may be couched in very technical terms. It may include an error number such as 550 or 552, but an error number can apply to several different causes, so these aren't usually much help.

There are seven common reasons for an email message to be returned to you, and after reading the explanation given in your bounced message you should find that it tallies with one of these:

Reason 1: Host not found/Domain lookup failed

The 'host' or 'domain' is the name of the server to which the message should have been delivered (such as 'example.com' in the message we were following earlier). If the reason given for non-delivery is similar to those above, it means this server doesn't exist. That's almost certainly because there's a typing mistake in that part of the address, and your message was returned to you almost instantly by your own ISP's server when it realised it couldn't deliver the message.

What can you do? Open the copy of the message you sent (which you should find in your 'Sent Items' folder) and have a look at the email address to which it was sent. Check the part after the '@' sign and you'll probably find a typing mistake. If so, correct it and send the message again.

If this message was sent to someone in your address book or contacts list, check the details you've stored for that contact: the last part of the email address is likely to be wrong.

In plain English or email jargon

The destination server doesn't exist

Check the server part of the address



**Reason 2: User unknown/Mailbox not found/
Invalid recipient**

*There's no
such mailbox*

This bounce message would have come from the recipient's server. Your message reached its destination, but it then had to be placed in the recipient's personal mailbox, and the server has no mailbox in that name. Using our earlier example again, it may be that John Smith has deleted his account at Example.com, but it's more likely that there's a spelling mistake in the mailbox name – the 'johnsmith' part of the email address.

*Check the mailbox
part of the address*

What can you do? Similar to Reason 1 above, check the email address in the message you sent and you'll quite likely find a typing mistake in the part of the address before the '@' sign. If so, correct the typo and resend the message.

*An obvious
typing mistake?*

The difficulty here is knowing what the correct mailbox name should be. John Smith himself may have made a mistake when giving you his email address, and you faithfully typed what he told you (either in the email message itself or when adding him to your contacts list). You may have to find some other way of contacting the recipient and checking whether he's closed that email account or given you the wrong email address.



Unless you can clearly see that you've made a typing mistake in the first part of the email address, it's best not to take a guess at what it should be! If you do, perhaps you won't get a bounce-back this time, but that only means you've now typed a mailbox name that does exist – it's not necessarily the mailbox belonging to your intended recipient!

*Attachments
too large?*

Reason 3: Message exceeds size limit

Most email services place a limit on the size of an email message, and this error indicates that your message was too large. The limit is usually quite generous – at least a

few megabytes – so you must have attached one or more files to the message. This made the message too large to be handled by one of the servers in the chain.

What can you do? As a rough guide, the maximum ‘safe’ size for a single email message is 10 MB. Check the size of the message you sent (in particular its attachments, since any text you typed into the message won’t amount to much). If you were sending several files, split them between several new messages so that each message contains no more than about 10 MB. If you were sending just one very large file, you’ll probably have to use a different method such as placing it on a cloud storage service like Dropbox or Microsoft OneDrive and setting it to be shared with your intended recipient.

Send several smaller messages

Reason 4: Mailbox full/Mailbox over quota/Mailbox limit exceeded

Our fictional user, John Smith, has a mailbox folder where his messages are stored until he collects them, but there will be a limit to the total size of that folder. It will be a generous size – probably at least 1 GB – but if it ever gets full, his ISP will refuse to accept any more messages for him, returning them with a note that the recipient’s mailbox is full or ‘over quota’.

The mailbox has a maximum size

When someone collects their waiting email, it should be deleted from their mailbox (to ensure they don’t receive the same messages over and over again!). Therefore it should be almost impossible for a mailbox to become full. So, if a message is bounced with this reason given, it suggests that the recipient has simply stopped checking this email account and has left the messages to pile up, uncollected and unread.

If full, it accepts no more messages

What can you do? Perhaps your recipient has a comparatively small mailbox and/or receives a tremendous amount of email, and has been on holiday recently and couldn’t collect it. That must be a very rare set of circumstances, but you could try waiting a day or two

Worth trying again?

and emailing again. It's far more likely that you'll have to find some other method of contact.

Reason 5: Suspected virus

Automatic virus checking

Most email servers examine the attachments in email messages, and if an attached file contains a virus or looks potentially harmful, the system may reject it and send you a bounce message.



What does 'looks potentially harmful' mean? Certain types of file, when opened, could wreak havoc on a computer. Programs, for example, can be dangerous if they've been written with malicious intent, as could certain types of system files. Even Microsoft Word and Excel files can contain small programs known as 'macros' which can be designed to carry out malicious acts. Some email services will refuse to accept these types of files in order to protect their users.

A real virus or overcautiousness

What can you do? It would be wise to scan your computer for viruses – or at least to scan the file you sent. However, it's more likely that the file you sent has an extension that the recipient's server regards as denoting a risky type of file: perhaps you sent a .EXE file (a program) or a .DOC/.DOCX file (a Microsoft Word document). The usual way around this problem is to create a zip file containing the file you want to send, and send a new email message with this zip file attached to it. You can read more about creating and using zip files in article **Z320 – Zip Files: Open, Extract and Create**, included in your Main Manual.

Reason 6: Suspected spam

Anti-spam checking

Many email services try to protect their users from spam (junk email): all incoming messages are checked with anti-spam software and given a 'spam score'. If the score is too high – in other words, the message looks too much like spam – it may be bounced back to the sender.

Try rewriting your message

What can you do? See whether the bounce message gives you any clue about why your message received a

high spam score. It probably doesn't, and you'll have to look at what you sent and try to spot the reason yourself. Obvious points to consider are mentions of products that commonly appear in sales messages, and words or phrases that are popularly used in scams and junk mail.

Reason 7: Sender domain blocked/blacklisted for spam

Some email services are notorious for being used by spammers to send out junk mail, and there are blacklists of these services operated by companies like 'SpamCop', 'Blackhole' and 'Spamhaus'. When your message arrived at its destination, it might have been checked against one of these blacklists to see whether it came from a server known for being a source of spam. If you receive a bounce message with a reason similar to the one above, your ISP's email service is indeed one of those on a blacklist.

Server is notorious for spam?

What can you do? To get your message delivered, your only option is to send it from a different email account provided by another company. You should also report what's happened to your ISP and ask them to do whatever is necessary to have themselves removed from the blacklist: until they do, you (and their other users) will continue to run into this problem.

Use a different email account

Message Delayed: Is it Ever Going to Arrive?

Another, similar type of 'bounce' message you may receive is one that says your message has been delayed. It's rather a vague problem, and the reason given may be equally elusive: 'Connection Timed Out' or 'Resources Temporarily Unavailable', for instance.

Your message has been delayed

There's usually a note that your message has been delayed by 24 hours, or two days, or some other period, and you might receive a similar message daily for a while. It also says that you don't need to send your

Updates may arrive daily

message again, and the server responsible will continue trying to deliver it.

Apparently a temporary hitch

A common reason for this is that your recipient's server is temporarily switched off or has a fault that prevents it from accepting email, and your message (along with others destined for the same server) is stuck on some other server waiting for delivery. However, another possible reason is that your message has arrived at a server which, due to problems of its own, can't pass it on but can send you these status reports to tell you there's a delay.

Has it been delivered?

This isn't – yet – a bounce message as such: your email message may get delivered. The server responsible will usually continue trying to deliver your message for five days. At that point, if the message still can't be delivered, you'll receive one final message saying that the server responsible has given up trying. What you won't get, unfortunately, is any notification that the message has finally been delivered (assuming that ever happens): just as with all the other email you send, you have to assume it has been delivered unless you're told otherwise.

Wait to see if a failure message arrives

What can you do? The expected course of action is to do nothing, unless and until you receive that final message saying that the server on which your message landed has given up trying to deliver it. If you do receive that notification, try sending the message again.

Or try sending the message again

However, although these long delays are rare, when they do happen they tend to be fatal: that first 'Message delayed for 24 hours' notification tends to mean that in a few days' time you'll be told the server has given up. If your message wasn't particularly important or urgent you might choose to wait and see what happens. Otherwise, it's a good idea to send the same message again – ideally from a different email account if you can – perhaps including a brief note to your recipient that he

may receive another copy if that first message ever gets itself untangled.

Help! Every Message I Send is Bouncing Back

We know there are various reasons for email messages to bounce back undelivered, and we'll all be caught out by them at least once in a while. But if every message you send is bouncing back, there's clearly something more fundamental wrong!

Unable to send any messages?

In fact, this problem doesn't quite qualify as a 'bounce back' because the messages you send won't ever leave your computer: they'll probably be stuck in your email program's Outbox, and whenever you try to send them you'll receive an error message.

They stay in your Outbox

A short-term reason for this could be that your ISP's server is temporarily out of action: certainly, if you've previously been able to send email and you haven't since changed any of your account settings, this is the most likely cause.

A temporary problem with your ISP

If you're unable to send any email at all, it does suggest that your email account settings are wrong – in particular the settings for the 'SMTP server' (sometimes termed the 'Outgoing server'). In your email program, check the settings for your email account and make sure they match those quoted by your ISP. Most ISPs tell you the required settings and server name in the Help, Support or Email section of their website.

Wrong settings in your email account

Also in your email account settings, make sure that your own email address is given correctly, with no typing mistakes (such as commas in place of dots) or spaces. Your ISP won't accept email from you if you don't provide a valid email address to which replies (and bounces) can be sent.

Your email address contains a typing mistake

Scam Alert: Bounced Messages You Never Sent!

Not your message? Whenever you receive a bounce back message, check its details carefully to find out whether it really does refer to a message you sent yourself. It might not!

There are two reasons why you might receive a 'bounce back' for a message you didn't actually send:

Junk mail returned to you • A spammer has used your email address as the 'From' address in a junk message, so when the message bounced, it bounced to your address.

A common scam • It's a scam in which the bounce message itself gives no clue about which of your messages failed, but insists you open an attachment to find out. The attachment is probably designed to infect your PC with malicious software.

Does the message tell you what bounced? Any legitimate bounce back message should tell you which message it is that's bounced. It may not include the full text of your original message, but the combination of date, time, recipient and subject line (which certainly should be included) will be enough. If these details don't relate to any message you've sent, there's nothing more to do but to delete that bounce message.

Don't be fooled by this scam! If the bounce message tells you nothing at all about what bounced, be suspicious! And if the message encourages you to open an attachment, don't fall for it! A common scam is to send this type of fake bounce message, aiming to fool recipients into opening an infected attachment. It's a clever scam because, as I mentioned earlier, everyone has a message bounce on them once in a while, and it's natural to want to find out which message it was. But if the only way to find out is by opening an attachment, assume it's a scam, assume the attachment is dangerous, delete the message you received and think no more about it!