



HOW EMAIL WORKS

Is there hope for lost email?

By [Ron Herardian](#)

It wasn't too long ago when there was no such thing as email. It's difficult to even remember what the business world was like back then. It's become an integral part of our lives, aiding us not only in business communication but also in keeping in touch with friends and family. However, as with everything designed to make our lives easier, when it goes wrong, it can suddenly become a massive frustration.

IT departments blame "the Internet," but usually when email is lost, it is due to incompatible systems and human error behind the scenes. Although the Internet is a dangerous place for a lone email message, there is hope of recovery for most lost email.

Miscommunication

To users, email is like the telephone. It's ubiquitous, easy to use, always available, and generally reliable. Sometimes with the telephone, however, the call doesn't go through. Maybe it's the wrong number. Maybe the circuits are busy. Perhaps the number has been changed or disconnected, or you have the wrong area code. What some users may not realize is the same things can apply to email messages.

With email, a system may be too busy to send a message for several hours. You may have an incorrect email address, an account may have been deleted, an address may have been changed, or you may have the wrong Internet domain name. These common problems cause email messages to be returned to the sender with an often-cryptic explanation of what went wrong. Sometimes, however, email messages don't "bounce." Instead, they seem to simply disappear.

Email's treacherous journey

While the telephone network is consistent in the technology that makes it up, email is a patchwork of fundamentally different technologies. If you have a cell phone, you may notice that, while driving, you sometimes lose your connection when moving between "cells." A similar situation occurs in the email world.

Email travels from point to point in a series of "hops." Often, an email message will actually pass from one kind of email system to another with each hop. Unfortunately, not all email technologies are created equal, and the multiplicity of email systems can make the journey tremendously complex behind the scenes.

The main cause of "lost" mail is that each email technology uses a different kind of address. When an email message travels between different systems, it may pass through gateways that link two or more fundamentally different email systems together. Gateways have to rewrite or map addresses from one system, such as the Internet, to another system, such as Microsoft Exchange, and then back again. This process is often fraught with errors, and it is the primary cause of lost email.

Email limbo

Email messages don't just disappear. When an error occurs that causes a message to be lost there is usually an error reported to the administrator of the system where the message got stuck. Sometimes a message is sent to an administrator and at other times messages are held in a queue waiting for someone to correct whatever the problem is.

Unfortunately, email administrators, and especially ISPs (Internet Service Providers), are often overwhelmed by

the sheer volume of "postmaster" or "administrator" email created by different kinds of errors and by user queries and complaints. The sad truth is that most lost email isn't really lost. It's deleted by administrators who just can't keep up with it.

A new hope

If an email message is "lost" there may still be hope. At one major company, email users complained that they were receiving all their messages almost exactly 24 hours after the messages had been sent. At the time, email communication was expected to take only about five minutes. A baffled customer called my company, the email provider, Global System Services. GSS found that the problem was caused by an overloaded email gateway that would become so backlogged during business hours (when there was a lot of email traffic) that it couldn't catch up until just before the next business day began.

After three days of frustration, another GSS client called for help. The IT department at GSS explained that they could observe email messages coming into their system on the same machine where they were supposed to be delivered, but the email seemed to disappear.

Eventually, GSS found that the email was being forwarded because of a configuration error. It was getting transferred from the machine where it should have been delivered to another machine where it got stuck. From that machine, the messages couldn't be returned to the sender or be delivered. The problem was fixed the same day, and all the email was delivered. Meanwhile, the machine where the email had been stuck for as long as three days was dubbed the "black hole."

Conclusion

Many things can go wrong but there is always a solution. With properly designed, configured, and operated email systems, lost email is virtually impossible. Often email messages that are missing in action and presumed lost are actually awaiting rescue on some distant machine. Unfortunately, email messages that have gone astray are more likely to be summarily deleted than to be saved.

Bulk reprints

Bulk reprints of this article (in quantities of 100 or more) are available for a fee from Reprint Services, a ZATZ business partner. Contact them at reprints@zatz.com or by calling 1-800-217-7874.

Ron Herardian is CEO & Chief Systems Architect at Global System Services (GSS). You can reach Ron via email at rherardi@gssnet.com, or via his web page at <http://www.gssnet.com>.

Copyright © 1998-2008, [ZATZ Publishing](#). All rights reserved worldwide.