

## SMTP Error Codes & SMTP Status Codes & SMTP Reply Codes Reference 2010

There comes a time in the life of a Computer Consultant where, one day, he/she will have to deal with email server problems. It is inevitable. Sometimes these problems will be with the interfacing of the mail server with the ISP, in particular an inability to send mail. After checking the usual suspects such as lack of connection (your broadband line is dead), faulty router, firewall problems, DNS problems, or an incorrect SMTP server name (thanks to some clever ISP changing its SMTP server name without informing anyone – it happens!!), you will likely start delving a little deeper by checking if your email server reports any errors.

Depending on the actual problem it is encountering, your mail server may not be able to provide detailed help on how to resolve the problem, and may instead only be able to provide you with an SMTP Status Code in your server's log (these codes are also known as SMTP Error Codes or SMTP Reply Codes), or emails will be returned to the sender with error text. A classic reply might be, for example, *"SMTP error from remote mail server after end of data - <host ip-address> : 550 Error: Message content rejected"*, or *"SMTP error from remote mail server after RCPT TO <email-address>, 550 5.1.1 User unknown"*. It is just for such cases that we have produced this document (we use it too !! ☺). What does 550 mean? What does 550 5.1.1 mean (or, shortened, what does 511 mean?)?

So, use this document as a quick reference to common SMTP status codes or SMTP error codes for SMTP mail servers such as AA Mail Server, Alt-N MDAemon, ArGoSoft Mail Server, Axigen Mail Server, Barracuda Spam Firewall, CMail, CMailServer, E-Mail Anywhere, FTGate, GMS Mail, Internet Anywhere, Kerio MailServer (KMS), Lotus Notes, MailEnable, Mailman, MailMax, Mailtraq, Merak Mail Server, Microsoft Exchange (Exchange Server 2003 NDR, Non-Delivery Report, error codes), Novell GroupWise, Qmail, PostCast Server, PostConf, PostFix, PowerMTA, QK SMTP Server, Rockliffe MailSite, SendMail, SquirrelMail, SurgeMail, TFS Secure Message Server, VisNetic Mail Server, WinMail, Zimbra, or any other SMTP / ESMTP standards compliant e-mail MTA.

**Note :** the following list of SMTP reply codes can also be used to troubleshoot Eudora or FoxMail email problems, Outlook error codes, Outlook Express error codes (Windows 2000/XP), Windows Mail Error Codes (Vista), Thunderbird problems, or other email program problems when those programs send and collect emails directly to and from the Internet as opposed to through a corporate email system. The error codes returned are the same.

Finally, there are no better tools for resolving complex SMTP error situations than the **WHOIS**, **Name Server Lookup**, **Trace Route**, and **PING** tools of our own [The Ultimate Troubleshooter](#) available on our [AnswersThatWork.com](#) website – that is how we ourselves quickly solve complex SMTP error situations.

SMTP Status Codes	What the message may mean
<p><b>101 – Cannot open connection</b></p> <p>(also called SMTP Error 1.0.1)</p>	<p><b>SMTP Error 101 :</b> Typically your SMTP server or email program is unable to even start an SMTP session. Typical replies will be “<i>SMTP Error 101, Error opening connection</i>” or “<i>SMTP Error 101, cannot open SMTP stream</i>”.</p> <p>All <i>SMTP Error 101</i> errors usually point to a configuration problem, such as an incorrectly spelt SMTP server, or an IP address that does not exist, or an SMTP port that does not exist or which the recipient will not accept SMTP connections on, or some other process is already using the default SMTP port, port 25.</p>
<p><b>111 – Connection refused</b></p> <p>(also called SMTP Error 1.1.1)</p>	<p><b>SMTP Error 111 :</b> Typically from Linux based email systems such as SquirrelMail and Mailman. The message will usually go like this : “<i>Connection refused, 111 Can’t open SMTP stream</i>”.</p> <p>All <i>SMTP Error 111</i> errors usually point to an inability of your server to communicate with the remote SMTP server (either the recipient’s SMTP server or your ISP’s SMTP server) or to a Linux/SMTP software configuration problem, typically <b>/etc/hosts not being world readable</b>, or a <b>newly installed or reconfigured firewall</b> preventing connection to the remote SMTP server, or <b>incorrect hostnames and/or domains</b> (e.g. does your sending hostname match your IP address in a reverse lookup?), or <b>exim</b> not running. Telnet and logs should help you home in on the problem.</p>
<p><b>211 – System Status message or System Help Reply</b></p> <p>(also called SMTP Error 2.1.1)</p>	<p><b>SMTP Error 211 :</b> SMTP status 211 prefaces a message about the Mail Server status or a System Help reply to the user requesting help information. You might for example issue a command to the mail server to display a list of commands you can use and the server replies with an SMTP Reply 211 followed by the list you requested.</p>
<p><b>214 – Help Reply message</b></p> <p>(also called SMTP Error 2.1.4)</p>	<p><b>SMTP Error 214 :</b> SMTP status 214 is usually in reply to the “HELP” command. It displays information about the server, usually a URL to the FAQ page of the SMTP software running on the server. As a result this “error” is normally called a reply, as in SMTP Reply 214.</p>
<p><b>220 – &lt;Server Name&gt; service is running</b></p> <p>(also called SMTP Error 2.2.0)</p>	<p><b>SMTP Status 220 :</b> This is normally the first message you will get back from the server. It means the mail service is running (ie. your mail server is running). It will normally contain a welcome message and/or the title of the SMTP software and, sometimes, the version number of the mail server software. SMTP Reply 220 is effectively a “<i>Hi There, I have just this second finished starting up – I am ready to go and at your command</i>” informational message.</p>

SMTP Status Codes	What the message may mean
<p><b>221 – The domain service is closing the transmission channel</b></p> <p><b>(also called SMTP Error 2.2.1)</b></p>	<p><b>SMTP Error 221 :</b> The server is ending the mail session – it is closing the conversation with the ISP as it has no more mail to send in this sending session.</p> <p>SMTP Status 221 is often misconstrued as an error condition, when it is in fact nothing of the sort. The mail server is simply telling you that it has processed everything it was given in this particular session, and it is now going back into waiting mode.</p> <p>Because SMTP status 221 is often misinterpreted, with some mail servers the Network Administrators have changed the default text of SMTP Reply 221 to something more meaningful and less alarming. For example, a typical SMTP reply 221 might say “221 Goodbye” or “221 Closing connection”, or the most irritating one we’ve seen “221 Bye”, Arrrgghh – can you blame anyone for thinking there might be a problem ? Of course not ! So some Network Administrators are these days being quite imaginative by changing the default text of SMTP reply 221 to more user friendly messages like : “221 Thank you for your business” (I love that one!), or “221 All messages processed successfully in this session, SMTP connection is closing”.</p>
<p><b>250 – Requested mail action OK completed</b></p> <p><b>(also called SMTP Error 2.5.0)</b></p>	<p><b>SMTP Status 250 :</b> The mail server has successfully delivered the message! This is the best SMTP reply (250) to receive - your message has been accepted and transmitted OK ! ☺ Yippee.</p> <p>250 is effectively a status code rather than an error code – there is no such thing as an SMTP error 250.</p>
<p><b>251 – User not local will forward</b></p> <p><b>(also called SMTP Error 2.5.1)</b></p>	<p><b>SMTP Status 251 :</b> The email account is not local to the ISP server but the ISP server will accept the email and will forward it (the server will <b>RELAY</b> your message, this is the most common action for ISP Mail servers – the recipient will see your ISP in the mail header as one of the first hops on the way to the recipient’s email system).</p> <p>SMTP Error 251 is therefore more of an informational message for technicians tracking how a message reached its destination.</p>

SMTP Status Codes	What the message may mean
<p><b>252 – Cannot VRFY (verify) the user – the server will accept the message and attempt to deliver it</b></p> <p><b>(also called SMTP Error 2.5.2)</b></p>	<p><b>SMTP Status 252 :</b> The user account appears to be valid but could not be verified, however the server will try to deliver the message.</p> <p>There are sometimes circumstances where an email address appears to be valid but cannot be verified as definitely valid during the SMTP session between the sending server (your server) and the next server to accept your message. This can happen for example in very large corporation where the first email receiving server might only be an email exchanger server, a gateway server to the eventual server which holds the user mailboxes and which can verify if the intended recipient exists in that organization. When this happens the gateway server will reply with an SMTP Error 252 telling your sending server that it cannot verify the user part of the email address, that the domain part is OK, and that it will forward your email to a server which can do the checking and eventually deliver to the user mailbox if it exists.</p>
<p><b>354 – Start mail input end with &lt;CRLF&gt;.&lt;CRLF&gt;, or, as a less cryptic description – “FROM and TO information received, now please provide message body and mark its end with &lt;CRLF&gt;.&lt;CRLF&gt;”</b></p> <p><b>(also called SMTP Error 3.5.4)</b></p>	<p><b>SMTP Error 354 :</b> This is normally in response to the DATA command. The server has received the <b>From</b> and <b>To</b> information and is now asking for the “<b>Message Body</b>”, the main part of the message which should be ended by two blank lines separated by a dot (period).</p> <p>Therefore, on receiving an SMTP Reply 354 the sending server should send the body of the message to the receiving server and indicate the end of the message body with <b>&lt;CRLF&gt;.&lt;CRLF&gt;</b> (note the full stop between the two Carriage_Return-Line_Feed's).</p>

SMTP Status Codes	What the message may mean
<p data-bbox="272 327 624 533"><b>420 – Timeout communication problem encountered during transmission. This is a Novell GroupWise SMTP error</b></p> <p data-bbox="272 607 616 636"><b>(also called SMTP Error 4.2.0)</b></p>	<p data-bbox="684 327 1326 712"><b>SMTP Error 420 :</b> In our experience only Novell GroupWise servers use this error (we use GroupWise!). You will get a GroupWise GWIA (GroupWise Internet Agent) <b>420 TCP Write Error</b> or <b>420 TCP Read Error</b> if there are communication problems during transmission of the actual message after the sending and receiving servers have actually connected. A small number of 420 SMTP errors is normal as occasional peaks of Internet usage may delay the transmission of an email with attachment so much that a timeout occurs. When a timeout occurs on a GWIA send, the message is queued up in the &lt;Domain&gt;\WPGATE\DEFER directory for processing at a later time (as defined in ConsoleOne or GWIA.CFG).</p> <p data-bbox="684 748 1326 1048"><b>If you experience 420 errors <u>only</u> with specific recipient then it is quite likely that the recipient's anti-spam firewall does not like your server,</b> your server's external IP address, or that your server's HELO command uses an outbound identification that does not match your server's external IP address (check that your sending domain's DNS is set up correctly). In an ideal world a well behaved recipient server should really be issuing your GroupWise server with a 554 error rather than timing out and causing the GroupWise GWIA to fault with a 420 error.</p> <p data-bbox="684 1084 1326 1682"><b>If you experience too many 420 errors with all email communications, then you have a physical communication problem somewhere.</b> This could be your <u>server's network card</u>, the <u>network point</u> that your server is plugged into, <u>your switch(es)</u>, <u>your router(s)</u>, <u>your firewall</u>, or your <u>Internet line</u> – problems caused by <u>routers with different MTU sizes</u> is a classic issue. Unless the logs of all those various problem points can give you an instant answer, the only way you will get to the bottom of the problem is to use a packet tracing and inspection program like <b>Ethereal</b> or <b>Wireshark</b>, its successor, if you're running GroupWise on a Windows or Linux server; on NetWare your only choice is <i>PacketScan</i> which you can get <a href="http://support.novell.com/docs/Readmes/InfoDocument/2967287.html">here</a> <a href="http://support.novell.com/docs/Readmes/InfoDocument/2967287.html">http://support.novell.com/docs/Readmes/InfoDocument/2967287.html</a>. In the final analysis, if the tracing of packets, and the changing of hardware does not help then do not discount a <u>slightly faulty hard disk</u> being the cause of all your problems (even if your RAID controller or your hard disk testing software does not detect any problem!).</p>

SMTP Status Codes	What the message may mean
<p>421 – &lt;Server name&gt; Service not available – the sending email program should try again later</p> <p>(also called SMTP Error 4.2.1)</p>	<p><b>SMTP Error 421</b> : The Mail transfer service is unavailable because of a transient event. SMTP reply 451 can be caused by many things but generally indicates that the mail server which returns this status code is currently unavailable <u>but may be available later</u>.</p> <p>For example, the server administrator may have stopped the mail service to troubleshoot a problem, or the mail server is right in the middle of rebooting, or the mail server is currently processing too many incoming messages or incoming requests, etc.... <b>Note</b> : “Mail Server” in this case can be any of the mail servers on the message’s route – the sending server (your server), the ISP SMTP server, or the recipient’s mail server.</p> <p>Clearly, if you repeatedly receive an SMTP status 421 then the problem is no longer of a transient nature and you need to investigate or inform the relevant network administrator, ISP tech support, or the recipient.</p>
<p>422 – The recipient’s mailbox is over its storage limit</p> <p>(also called SMTP Error 4.2.2)</p>	<p><b>SMTP Error 422</b> : Either the recipient’s mailbox is over its storage limit or the message delivery directory (folder) on the recipient’s mail server is currently over a size limit imposed by the Network Administrator (e.g. possibly as a result of the mail server having been down for some time, having been repaired, and currently in the process of collecting thousands of queued up messages).</p>
<p>431 – The recipient’s mail server is experiencing a Disk Full condition</p> <p>(also called SMTP Error 4.3.1)</p>	<p><b>SMTP Error 431</b> : The recipient’s mail server is experiencing a <b>Disk Full</b> error condition, or an <b>Out of Memory</b> (too many file handles) error condition (Microsoft Exchange).</p>
<p>432 – The recipient’s Exchange Server incoming mail queue has been stopped</p> <p>(also called SMTP Error 4.3.2)</p>	<p><b>SMTP Error 432</b> : This is an SMTP status response specific to Microsoft Exchange Server. It indicates that the recipient’s mail queue on their Exchange Server has been stopped (frozen), probably while the Network Administrator troubleshoots some problem.</p>
<p>441 – The recipient’s server is not responding</p> <p>(also called SMTP Error 4.4.1)</p>	<p><b>SMTP Error 441</b> : This is an error emanating from <u>your</u> server indicating that the recipient’s server is not responding. Your server will automatically try again a number of times – how many depends on how your server has been configured.</p>
<p>442 – The connection was dropped during transmission.</p> <p>(also called SMTP Error 4.4.2)</p>	<p><b>SMTP Error 442</b> : Your server started delivering the message but the connection was broken during transmission. This may be an unusual transient error – however, if it keeps happening you should investigate possible problems with your server’s network card, your Internet routers, processes hogging the resources of your server, and anything else which could result in a network connection being broken.</p>

SMTP Status Codes	What the message may mean
<p><b>446 – The maximum hop count was exceeded for the message</b></p> <p><b>(also called SMTP Error 4.4.6)</b></p>	<p><b>SMTP Error 446 :</b> The maximum hop count was exceeded for your message. The most likely cause of this error status code is that your message is looping internally on your server, internally between two of your organisation's servers, or, sometimes, looping between your server and the recipient's server.</p>
<p><b>447 – Your outgoing message timed out.</b></p> <p><b>(also called SMTP Error 4.4.7)</b></p>	<p><b>SMTP Error 447 :</b> Your outgoing message timed out because of problems with the receiving server who objected to your message. Typically there is a problem with the message header (such as too many recipients, in most cases, or a protocol timeout between the two servers).</p>
<p><b>449 – Routing error</b></p> <p><b>(also called SMTP Error 4.4.9)</b></p>	<p><b>SMTP Error 449 :</b> This is a Microsoft Exchange Server specific error code. As per Microsoft's documentation this error code is returned when either of the following conditions occurs : <i>an SMTP connector is configured to use DNS without a smart host and also uses a non-SMTP address space (e.g. X.400), or A message was sent to a recipient who was identified as a member of a routing group that was deleted.</i></p> <p>Microsoft recommends using the <b>WinRoute</b> tool to troubleshoot this error (Microsoft Knowledgebase article 281382)</p>
<p><b>450 – Requested action not taken – The mailbox was unavailable at the remote end. A secondary SMTP error code may follow "450" to refine the reason for the failure to transmit the message, e.g. "SMTP Error 450</b></p> <p><b>(also called SMTP Error 4.5.0)</b></p>	<p><b>SMTP Error 450 :</b> The server could not access the mailbox to deliver the message. This could be caused by a process on the remote server <i>tidying up the mailbox</i>, or the remote mailbox could be corrupt, or the remote mailbox may be stored on another server which is currently offline, or the network connection went down while sending, or the remote mail server does not want to accept mail from your server for some reason (IP address, blacklisting, etc..).</p> <p><b>In general SMTP Error 450 is a transient error at the remote end (the destination), or at one of the routers or servers en route to the remote end, and should induce your mail server to retry after it's preset retry interval.</b> Example of an SMTP Error 450 reply message : <i>"450 Please try again later"</i>, or a classic Novell GroupWise 450 status message : <i>"The message that you sent has been delayed. The reason given for the delay: 450 Host down (relay.clara.net)"</i>.</p> <p><u>SMTP Error 450 is often followed by a second SMTP error code to refine the reason for the email not reaching its destination.</u> For example : <i>"SMTP Error 450 5.2.3 Msg Size greater than allowed by Remote Host"</i>. When that is the case and If the error message is not as clearly worded as in this example, then simply search this document for the secondary error code. In this case searching this document for SMTP Error 523 or SMTP Error 5.2.3 would yield an explanation identical to the wording above.</p>

SMTP Status Codes	What the message may mean
<p data-bbox="272 327 619 412"><b>451 – Requested action aborted – Local error in processing.</b></p> <p data-bbox="272 488 619 517"><b>(also called SMTP Error 4.5.1)</b></p>	<p data-bbox="684 327 1326 533"><b>SMTP Error 451 :</b> The action has been aborted by the ISP's server. "<b>Local</b>" refers to the ISP's server. This error is usually due to overloading at the ISP from too many messages or transient failures. Typically some [hopefully] temporary event prevents the successful sending of the message. The next attempt to send by your server may prove successful.</p> <p data-bbox="684 568 1326 835"><b>If this error keeps occurring to the point that it has effectively lost its <i>transient</i> nature and has become ..... <i>frequent (!)</i>, <u>then the problem is at your end</u></b> and you should check your own mail server (if you email out of a corporate network), communications on your side (router, server network card), or inform your ISP if your mail server relays through your ISP or if you are a home user emailing out through Outlook, Outlook Express, Windows Mail, or similar email program.</p> <p data-bbox="684 871 1326 1048">Example of typical SMTP Error 451 return messages : "SMTP error 451 Unable to complete command, DNS not available or timed out" or "451 Domain of sender address does not resolve" or "451 Error getting LDAP results in map", or "451 4.7.1 Greylisting in action, please come back in 00:02:00 [minutes]".</p>

SMTP Status Codes	What the message may mean
<p data-bbox="272 327 624 412"><b>452 – Requested action not taken – Insufficient storage.</b></p> <p data-bbox="272 488 616 517">(also called SMTP Error 4.5.2)</p>	<p data-bbox="684 327 1326 775"><b>SMTP Error 452 :</b> The ISP server's disk system has run out of storage space, so the action had to be cancelled. Unless you are with an ISP which is so slack that they have not implemented <b>Disk Full Alerts</b>, this error usually indicates that your ISP's mail server is overloaded from too many messages. This can happen even to the best ISPs when, for example, there have been problems and none of the ISP's customers could send mail; as soon as the problems are fixed there is almost always a situation where thousands of users and organizations are trying to send mail all at the same time, and those numbers can occasionally result in the ISP's mail servers' hard disks temporarily filling up, with SMTP Error 452 being the result. The next attempt to send by your server may prove successful.</p> <p data-bbox="684 808 1326 1290"><b>SMTP Error 452 :</b> Most ISPs mail servers impose a maximum number of concurrent connections that client's mail servers can attempt to make, and they usually also have a limit on the number of messages that are sent per connection. With business customers these maximums are rarely reached, if ever. Nevertheless, If you have a lot of messages queued up, for example as a result of the connection to your ISP going down for a significant amount of time (and you have hundreds of users in your organization, or it happened just as you were about to send that large mailshot!), there could be a situation where the output of messages from your server goes over the maximum number of messages per connection allowed by your ISP. This is another case where the ISP's server may issue a 452 SMTP error. As above, the next attempt to send by your server may prove successful.</p> <p data-bbox="684 1323 1326 1408"><b>SMTP Error 452 :</b> This error can also be indicative of a problem <u>on your own mail server</u>. Here is an example of an SMTP 452 error : <i>“452 Out of memory”</i></p>
<p data-bbox="272 1442 584 1527"><b>465 – Code Page unavailable on the recipient server</b></p> <p data-bbox="272 1552 616 1581">(also called SMTP Error 4.6.5)</p>	<p data-bbox="684 1442 1326 1615"><b>SMTP Error 465 :</b> This is an Exchange Server-specific error code. This error is returned by the recipient's server if the incoming email specifies a Code Page that is not installed on the recipient's server, normally because not all language files were installed on the server during either the installation of Windows or of Exchange Server.</p>

SMTP Status Codes	What the message may mean
<p>471 – This is a local error with the sending server and is often followed with “Please try again later”</p> <p>(also called SMTP Error 4.7.1)</p>	<p><b>SMTP Error 471 :</b> This is always a local error with your own mail server. <b>SMTP Error 471 (or 4.7.1) is usually tagged onto a primary SMTP error code</b>, for example “SMTP Error 450 4.7.1”, or “SMTP Error 451 4.7.1”, or “SMTP Error 550 4.7.1”; example : “451 4.7.1 Greylisting in action, please come back in 00:02:00 [minutes]”. In all the cases that we have seen SMTP Error 471 is usually caused by anti-spam or virus scanning software on your server (the sending server) getting into problems through a bug in the software, or because of a bad automatic update from the antivirus/anti-spam manufacturer, because of lack of memory on your server, or because of hard disk problems.</p>
<p>500 – Syntax error command not recognized.</p> <p>(also called SMTP Error 5.0.0)</p>	<p><b>SMTP Error 500 :</b> The last command sent by your server was not recognized as a valid SMTP or ESMTP command, or is not formatted in the way the server expected. This includes situations where the command is too long.</p> <p>Note that commands that are recognized, but not implemented, are handled by different status messages (see 502 and 504).</p>
<p>501 – Syntax error in parameters or arguments (e.g. invalid email address)</p> <p>Can sometimes also be indicative of communication problems</p> <p>(also called SMTP Error 5.0.1)</p>	<p><b>SMTP Error 501 :</b> The command was correct and recognised, but the parameters (the arguments, e.g. email address) were not valid.</p> <p>For example, the following email address will definitely give an SMTP Error 501 with most mail servers, happy\_larry@hotmail.com, as “\” is not allowed in email addresses, which makes this email address invalid.</p> <p><b>In the vast majority of cases SMTP Error 501 is caused by invalid email addresses.</b> For example, a typical return error message might be : “&lt;remote-server-ip-address&gt; does not like recipient. Remote host said: 501 Invalid Address”.</p> <p>In cases where the error is not caused by an invalid email address, an SMTP Error 501, particularly if repeated, can be indicative of communications problems, such as a noisy line, intermittent drops in network connections, etc...</p>
<p>502 – Command not implemented.</p> <p>(also called SMTP Error 5.0.2)</p>	<p><b>SMTP Error 502 :</b> The command or function issued by your mail server is valid but has not been activated (typically, it is not supported on this particular server).</p>

SMTP Status Codes	What the message may mean
<p><b>503 – Bad sequence of commands.</b></p> <p><i>or</i></p> <p><b>This mail server requires authentication</b></p> <p><b>(also called SMTP Error 5.0.3)</b></p>	<p><b>SMTP Error 503 :</b> In the original standards SMTP Status 503 indicates that the commands have been sent in the wrong order, for example your mail server has sent the “Hello” command before sending the “Mail” command. This can often be caused by a drop in network connection just as your server was sending a command, resulting in the ISP’s server not receiving it and consequently not understanding the command that followed it.</p> <p>Note : this error, particularly if repeated, can be indicative of communications problems, such as a noisy line, intermittent drops in network connections, etc...</p> <p>-----</p> <p><b>SMTP Reply Code 503</b> is nowadays more often an indicator that the SMTP server you are trying to use requires authentication and you tried to send a message without authentication (username + password). This SMTP Error 503 is permanent in that the SMTP server will not log any errors in its log and it will not retry – you will have to resend the email using authentication. Example of such an error : <i>“SMTP Error (state 13): 503 This mail server requires authentication when attempting to send to a non-local e-mail address. Please check your mail client settings or contact your administrator to verify that the domain or address is defined for this server.”.</i></p>
<p><b>504 – Command parameter not implemented.</b></p> <p><b>(also called SMTP Error 5.0.4)</b></p>	<p><b>SMTP Error 504 :</b> The command and parameter are both valid, but the parameter is not implemented on the ISP server, or an additional parameter or action is missing.</p> <p>For example, an often encountered SMTP Error 504 is : <i>“504 Need to authenticate first”.</i></p> <p>If you are receiving this error in a Microsoft <b>Exchange Server</b> environment where the error shows up in the <u>Application Log</u> as Event ID 7004 or 7010, then read this Microsoft Knowledgebase article <a href="http://support.microsoft.com/kb/843106">http://support.microsoft.com/kb/843106</a>.</p>
<p><b>510 – Bad Email Address</b></p> <p><b>(also called SMTP Error 5.1.0)</b></p>	<p><b>SMTP Error 510 :</b> Bad email address. This status code is generated by the sender’s local mail server.</p> <p>If the email was addressed internally, then it means that the addressee, as written in the email’s TO, CC, or BCC fields, does not exist in your organization’s email system.</p> <p>If the email was addressed externally, then the recipient’s email address was misspelt.</p>

SMTP Status Codes	What the message may mean
<p><b>511 – Bad Email Address</b></p> <p><b>(also called SMTP Error 5.1.1)</b></p>	<p><b>SMTP Error 511 :</b> Bad email address. This error is similar to error 510 and as with error 510, this status code is generated by the sender's local mail server.</p> <p>If the email was addressed internally, then it means that the addressee, as written in the email's TO, CC, or BCC fields, does not exist in your organization's email system.</p> <p>If the email was addressed externally, then the recipient's email address was misspelt.</p>
<p><b>512 – The host server for the recipient's domain name cannot be found (DNS error)</b></p> <p><b>(also called SMTP Error 5.1.2)</b></p>	<p><b>SMTP Error 512 :</b> This SMTP reply code is received when one of the servers on the way to the destination is unable to resolve the domain name of a recipient email address. Said differently : one of the servers on the way to the destination, including your server or your ISP, has a DNS problem or, possibly correctly, does not like one of the email addresses in the message's TO, CC, and BCC fields.</p> <p>The first check you should perform to resolve a 5.1.2 reply code is to check all the recipient email addresses for incorrect domain names (misspelt domain names, or, maybe, totally non-existent domain names) – remember, error code 512 is very specifically an error with the <b>domain name</b> of one of the recipient email addresses. You can call the recipient(s) or use the WHOIS tool of The Ultimate Troubleshooter. If all the recipient email addresses check out as regards the domain part of the email addresses, then one of the servers on the way to the recipient(s) has DNS problems – usually this will be one of the first 2 servers in the chain, your own mail server (or your network) or your ISP's mail server.</p> <p>Examples of typical SMTP error 512 messages : <i>“5.1.2 - Bad destination host 'DNS Hard Error looking up domain”, or “SMTP Error 550 5.1.2 Host unknown – host cannot be found”, or how about this fantastically informative error message “5.1.2 The message could not be delivered because the recipient's destination email system is unknown or invalid. Please check the address and try again, or contact your system administrator to verify connectivity to the email system of the recipient.”.</i></p> <p>-----</p> <p>In summary : <b>most SMTP error 512 conditions are caused by misspellings of the domain name part of a recipient email address.</b> However, with the proliferation of spam, error 512 is also often encountered by automatic “out-of-office” replies to junk mail because the domain names used by junk mail are often bogus domain names.</p>

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<p>513 – Address type is incorrect (most mail servers)</p> <p>or</p> <p>Relaying denied or Authentication required (a small percentage of mail servers)</p> <p>(also called SMTP Error 5.1.3)</p>	<p><b>SMTP Error 513 :</b> This status code (<u>from the sender's mail server</u>) is usually symptomatic, in an Exchange + Outlook environment, of the user's Outlook Contacts having been imported from another system or PST and where some of the addresses are not defined correctly. Or, in any environment it is simply that the end-user simply did enter the email address completely wrongly, such as copying it from a website and not replacing "at" with "@", e.g. : John.DoeatUCLA.edu (which should have been <a href="mailto:John.Doe@UCLA.edu">John.Doe@UCLA.edu</a>), or <a href="mailto:John.Doe@UCLA.edu">John.Doe@UCLA.edu</a>" (" , quotes, is not allowed in email addresses and is often included in error as a result of copying and pasting an email from somewhere).</p> <p>The user should check all the recipient addresses in the email, including those that were inserted from Contacts.</p> <p><b>Note :</b> the SMTP reply code 5.1.3 is often a secondary reply code. Some mail servers, for example, might reply "SMTP error 501 5.1.3 Invalid address", or "SMTP error 553 5.1.3 User address required !", or "SMTP error 501 5.1.3 Bad recipient address syntax", or "SMTP error 513 Relaying Denied - Can not send e-mails to some addresses", or this excellently informational Exchange Server 2007 error (the whole error message is in green below) :</p> <p><i>"SMTP error 550 5.1.3 STOREDRV.Submit; invalid recipient address.</i></p> <p><i>Delivery has failed to these recipients or distribution lists:</i></p> <p><i>The format of the recipient's e-mail address isn't valid. A valid address looks like this: <a href="mailto:username@microsoft.com">username@microsoft.com</a>. Microsoft Exchange will not try to redeliver this message for you. Please check the e-mail address and try sending the message again, or provide the following diagnostic text to your system administrator.</i></p> <p><i>5.1.3: The format of the recipient e-mail address is not valid. Valid SMTP e-mail addresses can contain only letters, numbers, hyphens, periods, and only one @ symbol. Troubleshooting: Verify that the SMTP address of the recipient is formatted correctly and resend the message."</i></p> <p>-----</p> <p><b>SMTP Error 513</b> is also used by a small percentage of mail servers to indicate a completely different error, namely that you need to authenticate to the mail server before being able to send your message (SMTP authentication). A typical error message might be : "SMTP error 553 Authentication is required to send mail as <a href="mailto:username@ispdomainname.com">username@ispdomainname.com</a>".</p> <p>In such cases you simply need to configure your mail server, or your email program to send emails with SMTP authentication.</p>

SMTP Status Codes	What the message may mean
<p><b>523 – The Recipient’s mailbox cannot receive messages this big</b></p> <p><b>(also called SMTP Error 5.2.3)</b></p>	<p><b>SMTP Status 523 :</b> This error will be received when the total size of the message you have sent (ie: message + all of its attachments) <b>exceeds</b> the size limits on the Recipient’s server. Many companies implement the good practice of configuring their servers with limits on the size of emails they can receive to prevent their systems running out of space as a result of a spam attack where the spam emails contain large attachments, or as a result of valid but not very technically savvy senders sending enormous scans (through not knowing that scanning at 1200dpi rather than the usually perfectly usable and acceptable 300dpi, will create humongous attachments).</p> <p>Check the size of the email you sent, and, specifically, the size of the attachments you included, and consider splitting your email into smaller emails. If that does not work, check with the Recipient the maximum size of email they can receive, and if that is still prohibitive then consider FTP arrangements between you and the recipient.</p> <p>SMTP Error 523 is often a <b>secondary</b> SMTP error code rather than a primary error code, as in the following examples : “SMTP Error 450 5.2.3 Message Size greater than allowed by Remote Host” or “SMTP Error 552 5.2.3 Data size exceeds maximum permitted” or “SMTP Error 552 5.2.3 Message exceeds maximum fixed size”, and so on ....</p>
<p><b>550 – Requested actions not taken as the mailbox is unavailable.</b></p> <p><b>(also called SMTP Error 5.5.0)</b></p>	<p><b>SMTP Error 550 :</b> This response can be caused by quite a few situations.</p> <p>-----</p> <p><b>SMTP Error 550</b> will be returned by many servers <b><u>if the recipient email address simply does not exist on the remote side</u></b> (you will often get “550 Invalid recipient” or “550 User account is unavailable” or “&lt;ip-address-of-remote-server&gt; does not like recipient - 550 Address rejected” or “550 No such user here” or “550 Not our Customer” or “550 Account not available” or “Remote host said : 550 – <a href="mailto:Barack.Obama@ThisCompany.com">Barack.Obama@ThisCompany.com</a>, this THISCOMPANY.COM Mailbox Does Not Exist – Giving up”). In this case the sender of the email needs to contact the recipient verbally to get the correct email address.</p> <p>-----</p> <p><b>SMTP Error 550 will sometimes also be returned by the recipient’s <u>anti-spam firewall</u></b> if, for example, the anti-spam firewall does not like the sender (typically because the sender needs to be whitelisted). A typical example of an SMTP Error 550 return message by an anti-spam firewall might be :</p> <p>240.240.240.240 does not like recipient. Remote host said: 550-Verification failed for</p>

SMTP Status Codes	What the message may mean
	<p><a href="mailto:John.Doe@YourDomain.com">John.Doe@YourDomain.com</a>  550-Previous (cached) callout verification failure  550 Sender verify failed  Giving up on 240.240.240.240.</p> <p>-----</p> <p><b>SMTP Error 550</b> will also be returned if the user's mailbox is not local and Mail Relay is not enabled, <u>or the sending address is invalid</u> (the latter is a way, by the remote server, to control spam).</p> <p>-----</p> <p>Other situations of <b>SMTP Error 550</b> include sending mail to <u>recipients outside of your domain where this is not allowed</u>.</p> <p>-----</p> <p><b>SMTP Error 550</b> is also returned when you are attempting to send through a server <u>which requires SMTP authentication</u> and you have not supplied credentials (ie. your mail server, or email program, is attempting to send without SMTP authentication)</p> <p>-----</p> <p>Yet another set of circumstances where an <b>SMTP error 550</b> might be issued include an incorrect <b>From</b> address when used <u>with an ISP where you can send mail only if the From address is from a domain that they host for you</u> (at the time of writing, September 2008, British Telecom in the UK is such an ISP – you have to notify them through a lengthy, ridiculous, and almost soul destroying procedure, involving proving that you own the domain, for them to allow you to send emails from a domain name that they do not host for you).</p> <p>-----</p> <p>Another case of <b>SMTP Error 550</b> is <u>when the recipient's server is down</u> (or cannot receive mail at this time) and the ISP's servers will retry periodically for a limited amount of time (this is often accompanied by a return mail from your ISP informing the sender of the email of just that situation).</p> <p>-----</p> <p>Another case of <b>SMTP Error 550</b> is when the recipient's server requires you to make a change to the <b>To</b> part of your email to achieve successful delivery of the email (some organizations configure their receiving mail servers in this way <u>when they have changed their domain name and want to force the senders to update his address books</u> – for example, <b>My-Great-Company.com</b> has changed its</p>

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	<p>domain to <b>MyGreatCompany.com</b> and you are still using the old domain name).</p> <p>-----</p> <p>Yet another set of circumstances when the <b>SMTP Error 550</b> is received is <b><u>when the recipient's mailbox has been suspended</u></b>. For instance, the QMAIL SMTP mail program has an endearing way of telling you about a mailbox that has been suspended : <i>"I'm afraid I wasn't able to deliver your message to the following addresses. This is a permanent error; I've given up. Sorry it didn't work out. &lt;email-address@email-domain&gt;: &lt;ip-address-of-remote-server&gt; does not like recipient. Remote host said: 550 [SUSPEND] Mailbox currently suspended - Please contact correspondent directly."</i></p> <p>-----</p> <p>Another circumstance of an <b>SMTP Error 550</b> is <b><u>when the recipient's mailbox has been disabled</u></b>. The typical reasons for this are the mailbox being full (the user needs to delete messages before new ones will be accepted) or the user not having paid a bill. An example of the reply you will receive is : <i>"550 mailbox temporarily disabled"</i></p>
<p><b>551 – User not local or invalid address – Relay denied.</b></p> <p><b>(also called SMTP Error 5.5.1)</b></p>	<p><b>SMTP Error 551</b> : If neither the sending mail address nor the recipient's address are locally hosted by the server, then the ISP's servers may refuse to relay the message on.</p> <p>Some ISPs implement this restriction to thwart spammers. In our view, here at AnswersThatWork, this is a lazy and incompetent method of fighting spam as most of the time it does nothing but inconvenience no-one other than the ISP's vast majority of considerate and law abiding users. In our experience this usually goes hand in hand with barely competent technical support. At the time of writing, 14-Sep-2008, a typical culprit for this is BT, British Telecom, in the UK. The way in which it manifests itself is as follows : you have a domain that is hosted by <b>CrystalTech.com</b> but your ISP is <b>DodgyISP.com</b> and you try to send emails from your domain to <b><u>WhatANiceBunchOfPeopleYouAre@yahoo.usa</u></b>. Neither your domain nor Yahoo.usa are hosted by <i>DodgyISP.com</i>, as a result your email is not accepted by <i>DodgyISP's</i> mail servers and your mail server is returned an SMTP Error 551. To correct the problem you have to call <i>DodgyISP.com</i> and ask them to enter your domain name as an <u>allowed sender</u>.</p>

SMTP Status Codes	What the message may mean
<p><b>552 – Requested mail actions aborted – Exceeded storage allocation.</b></p> <p><b>(also called SMTP Error 5.5.2)</b></p>	<p><b>SMTP Error 552 :</b> The recipient's mailbox has reached its maximum allowed size (this is often accompanied by a return mail from your ISP or mail server informing the sender of the email of just that situation).</p> <p>Example : "552 sorry, mailbox <a href="mailto:Alan@ThisCompany.com">Alan@ThisCompany.com</a> is over quota temporarily (#5.1.1)".</p> <p>-----</p> <p>Some mail servers have extended the scope of <b>SMTP Reply Code 552</b> by also including errors where the size of the incoming message exceeds the size limit specified by the Network Administrator, as in, for example, "SMTP Error 552 5.2.3 Message size exceeds fixed maximum message size (7000000)", which effectively says that the incoming message was larger than the 7MB limit (7,000,000 bytes) set by the Network Administrator of the recipient's mail server.</p>
<p><b>553 – Requested action not taken – Mailbox name invalid.</b></p> <p><b>(also called SMTP Error 5.5.3)</b></p>	<p><b>SMTP Error 553 :</b> There is an invalid email address in the "To", "CC", or "BCC" field of the email message.</p> <p>Here is a typical SMTP Error 553 response :</p> <p>"Hi. This is the QMAIL-send program at &lt;ip-address&gt;. I'm afraid I wasn't able to deliver your message to the following addresses. This is a permanent error; I've given up. Sorry it didn't work out. &lt;Email-address-you're-sending-to&gt; : &lt;remote-mail-server-ip&gt; does not like recipient. Remote host said: 553 5.3.0 &lt;Email-address-you're-sending-to&gt;. Addressee unknown. Giving up."</p> <p>-----</p> <p><b>SMTP Status 553</b> is also sometimes returned by an ISP mail server. When this happens this is almost always because you are trying to send through a specific ISP's SMTP server and yet you are <b>not</b> connected to the Internet through that ISP, e.g. you are connected to the Internet through a Comcast broadband connection but your email program (Outlook Express, Windows Mail, ...) is configured to send emails through the SMTP server of Tiscali. A typical such error message might be : "553 sorry, relaying denied from your location".</p>
<p><b>554 – Transaction failed.</b></p> <p><b>Nowadays SMTP status 554 is in most cases returned when the recipient server believes your email is spam or your IP address or ISP server has been blacklisted on one or more</b></p>	<p><b>SMTP Error 554 :</b> There was a permanent error trying to complete the mail transaction which will not be resolved by resending the message in its current form. Some change to the message and/or destination must be made for successful delivery.</p> <p>For instance, <b>Yahoo</b> often returns the following <b>if the recipient email address does not exist</b> on the Yahoo systems : "554 delivery error: This user doesn't have a Yahoo.com account". Another typical Yahoo SMTP Error 554 reply is : "554 delivery error: Sorry your message to</p>

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<p>Internet blacklists.</p> <p>or</p> <p>With Yahoo, on the other hand, this usually means the email address does not exist or has been disabled.</p> <p>or</p> <p>With IBM's Lotus Domino this is either a Domino bug or a Disk Full error</p> <p>(also called SMTP Error 5.5.4)</p>	<p><i>&lt;Email-Address&gt; cannot be delivered. This account has been disabled or discontinued".</i></p> <p>In the case of an <b>IBM Lotus Domino server</b> on the other hand, this is either a <b>disk full</b> error (the first thing to check), or a <b>Lotus Domino bug</b> which has appeared in various guises in many versions of Lotus Domino as far back as 2002. Eight years, Eight years and counting and IBM still suffer from this bug – the mind boggles ! Click on this link to read the latest IBM Knowledgebase article on this error at the time of writing : <a href="http://tinyurl.com/yqfgoov">http://tinyurl.com/yqfgoov</a>.</p> <p>-----</p> <p>In most other cases, however, a recipient mail server will return an SMTP REPLY 554 <b><u>when its anti-spam firewall does not like the sender's email address, or the sender's IP address, or the sender's ISP server (because, for example, they are listed in an RBL)</u></b> and where you will therefore either need to have the sender whitelist you in their anti-spam program/appliance, or, worse, you will need to take steps to have either your IP address or your ISP's servers (if you send mail through your ISP) de-listed from one or more RBLs (RBL = Realtime Blackhole List – also called Realtime Blacklist nowadays).</p> <p>For example, a 554 error returned by a <b>Comcast</b> server might look like this : <i>"Username@comcast.net SMTP error from remote mail server after initial connection : host mx2.comcast.net : 554 IMTA11.emeryville.ca.mail.comcast.net &lt;Your-server-IP-address&gt; was found on one or more DNSBLs, see <a href="http://help.comcast.net/content/faq/BL000010">http://help.comcast.net/content/faq/BL000010</a>",</i> where DNSBLs = DNS Blacklists. In this case, therefore, if you get such a message back it is telling you your IP address, or your ISP's mail server is listed on one of the anti-spam blacklist databases that Comcast uses to filter out spam on incoming emails to Comcast mailboxes – click the link provided in the error message to see how you may be able to un-blacklist yourself as far as Comcast is concerned.</p> <p>Here is another example from the <b>OZEMAIL ISP</b> in Australia, <i>"SMTP error from remote mail server after initial connection to host mx1.ozemail.com.au : 554 filter.ozemail.com.au"</i> – not very informative, as you can see, but the name of the server returning the SMTP reply 554 is what gives this away as OZEMAIL's anti-spam not liking you : <b>filter.ozemail.com.au</b>. <b>"Filter"</b> in the name of a recipient server is almost always an indication that that server is an anti-spam and antivirus server.</p> <p>And here is a <b>Twitter</b> example : <i>"SMTP error: Email Error: RCPT TO invalid mail server response: 554 5.7.1 : Recipient address rejected"</i>.</p>

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	<p>Note that SMTP Error 554 can also often be buried in the middle of SMTP Error 550 errors. Here is an example of a recipient mail server returning an SMTP Error 554 because its <b>Barracuda anti-spam</b> firewall appliance rejected the email (the cause, as shown below, is <u>Barracuda Reputation</u> which means your IP address or your ISP's server is blacklisted on Barracuda's RBL) :</p> <p><i>240.240.240.240 does not like recipient. Remote host said: 550-Verification failed for <a href="mailto:John.Doe@YourDomain.com">John.Doe@YourDomain.com</a> 550-Called: 250.250.250.250 550-Sent: RCPT TO:<a href="mailto:John.Doe@YourDomain.com">John.Doe@YourDomain.com</a> 550-Response: 554 : Service unavailable; Client host [server11.virgohosting.net] blocked using Barracuda Reputation; <a href="http://recipientdomain.barracudacentral.com/q.cgi?ip=230.230.230">http://recipientdomain.barracudacentral.com/q.cgi?ip=230.230.230</a> 550 Sender verify failed Giving up on 240.240.240.240</i></p>
<p><b>The following addresses had permanent delivery errors</b></p>	<p><b>“The following addresses had permanent delivery errors” / “The following address had permanent delivery errors”</b> : Either of these sentences are usually followed by one or more email address(es).</p> <p>The error message is effectively saying that the email addresses listed do not exist, or no longer exist (if you used to be able to email to them successfully). You need to get the sender to verbally verify with the recipient what his/her new email address is.</p>

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