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**SMTP Error Codes & SMTP Status Codes & SMTP**

**Reply Codes R eference 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”* or *“SMTP Error: Data not*

*accepted”* or *“SMTP Error: The following recipients failed”*. 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 ?) ? What does *“Data not accepted”* 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.

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**SMTP Status Codes What the message may mean**

**101 – Cannot open**

**connection**

**(also called SMTP Error 1.0.1)**

**SMTP Error 101 :** Typically your SMTP server or email

program is unable to even start an SMTP session. Typical

replies will be *“SMTP Error 101, Error opening connection”*

or *“SMTP Error 101, cannot open SMTP stream”*.

All *SMTP Error 101* 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.

**111 – Connection refused**

**(also called SMTP Error 1.1.1)**

**SMTP Error 111 :** Typically from Linux based email

systems such as SquirrelMail and Mailman. The message

will usually go like this : *“Connection refused, 111 Can’t*

*open SMTP stream”*.

All *SMTP Error 111* 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 **/etc/hosts not being world readable**, or **a**

**newly installed or reconfigured firewall** preventing

connection to the remote SMTP server, or **incorrect**

**hostnames and/or domains** (e.g. does your sending

hostname match your IP address in a reverse lookup?), or

**exim** not running. Telnet and logs should help you home

in on the problem.

**211 – System Status**

**message or System**

**Help Reply**

**(also called SMTP Error 2.1.1)**

**SMTP Error 211 :** 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.

**214 – Help Reply message**

**(also called SMTP Error 2.1.4)**

**SMTP Error 214 :** 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.

**220 – <*Server Name*>**

**service is running**

**(also called SMTP Error 2.2.0)**

**SMTP Status 220 :** 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 ***“Hi***

***There, I have just this second finished starting up – I***

***am ready to go and at your command”*** informational

message.

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**SMTP Status Codes What the message may mean**

**221 – The domain service is**

**closing the**

**transmission channel**

**(also called SMTP Error 2.2.1)**

**SMTP Error 221 :** 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.

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.

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”*.

**250 – Requested mail**

**action OK completed**

**(also called SMTP Error 2.5.0)**

**SMTP Status 250 :** 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.

250 is effectively a status code rather than an error code –

there is no such thing as an SMTP error 250.

**251 – User not local will**

**forward**

**(also called SMTP Error 2.5.1)**

**SMTP Status 251 :** 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 **RELAY** 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).

SMTP Error 251 is therefore more of an informational

message for technicians tracking how a message reached

its destination.

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**SMTP Status Codes What the message may mean**

**252 – Cannot VRFY (verify)**

**the user – the server**

**will accept the**

**message and attempt**

**to deliver it**

**(also called SMTP Error 2.5.2)**

**SMTP Status 252 :** The user account appears to be valid

but could not be verified, however the server will try do

deliver the message.

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.

**354 – Start mail input end**

**with <CRLF>.<CRLF>,**

**or, as a less cryptic**

**description – “FROM**

**and TO information**

**received, now please**

**provide message**

**body and mark its**

**end with**

**<CRLF>.<CRLF>”**

**(also called SMTP Error 3.5.4)**

**SMTP Error 354 :** This is normally in response to the

DATA command. The server has received the **From** and

**To** information and is now asking for the **“Message**

**Body”,** the main part of the message which should be

ended by two blank lines separated by a dot (period).

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 **<CRLF>.<CRLF>** (note the full stop between the two

Carriage\_Return-Line\_Feed’s).

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**SMTP Status Codes What the message may mean**

**420 – Timeout**

**communication**

**problem encountered**

**during transmission.**

**This is a Novell**

**GroupWise SMTP**

**error**

**(also called SMTP Error 4.2.0)**

**SMTP Error 420 :** In our experience only Novell

GroupWise servers use this error (we use GroupWise!).

You will get a GroupWise GWIA (GroupWise Internet

Agent) **420 TCP Write Error** or **420 TCP Read Error** 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

<Domain>\WPGATE\DEFER directory for processing at a

later time (as defined in ConsoleOne or GWIA.CFG).

**If you experience 420 errors only with specific**

**recipient then it is quite likely that the recipient’s antispam**

**firewall does not like your server**, 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.

**If you experience too many 420 errors with all email**

**communications, then you have a physical**

**communication problem somewhere.** This could be

your server’s network card, the network point that your

server is plugged into, your switch(es), your router(s),

your firewall, or your Internet line – problems caused by

routers with different MTU sizes 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 **Ethereal** or **Wireshark**, its successor, if

you’re running GroupWise on a Windows or Linux server;

on NetWare your only choice is *PacketScan* which you

can get here

**http://support.novell.com/docs/Readmes/InfoDocument/2967287.html**.

In the final analysis, if the tracing of packets, and the

changing of hardware does not help then do not discount a

slightly faulty hard disk being the cause of all your

problems (even if your RAID controller or your hard disk

testing software does not detect any problem!).

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**SMTP Status Codes What the message may mean**

**421 – <*Server name*>**

**Service not available**

**– the sending email**

**program should try**

**again later**

**(also called SMTP Error 4.2.1)**

**SMTP Error 421 :** The Mail transfer service is unavailable

because of a transient event. SMTP reply 421 can be

caused by many things but generally indicates that the mail

server which returns this status code is currently

unavailable but may be available later.

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.... **Note : “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.**

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.

**422 – The recipient’s**

**mailbox is over its**

**storage limit**

**(also called SMTP Error 4.2.2)**

**SMTP Error 422 :** 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).

**431 – The recipient’s mail**

**server is experiencing**

**a Disk Full condition**

**(also called SMTP Error 4.3.1)**

**SMTP Error 431 :** The recipient’s mail server is

experiencing a **Disk Full** error condition, or an **Out of**

**Memory** (too many file handles) error condition (Microsoft

Exchange).

**432 – The recipient’s**

**Exchange Server**

**incoming mail queue**

**has been stopped**

**(also called SMTP Error 4.3.2)**

**SMTP Error 432 :** 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.

**441 – The recipient’s server**

**is not responding**

**(also called SMTP Error 4.4.1)**

**SMTP Error 441 :** This is an error emanating from your

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.

**442 – The connection was**

**dropped during**

**transmission.**

**(also called SMTP Error 4.4.2)**

**SMTP Error 442 :** 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.

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**SMTP Status Codes What the message may mean**

**446 – The maximum hop**

**count was exceeded**

**for the message**

**(also called SMTP Error 4.4.6)**

**SMTP Error 446 :** 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.

**447 – Your outgoing**

**message timed out.**

**(also called SMTP Error 4.4.7)**

**SMTP Error 447 :** 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).

**449 – Routing error**

**(also called SMTP Error 4.4.9)**

**SMTP Error 449 :** 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 : *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.*

Microsoft recommends using the **WinRoute** tool to

troubleshoot this error (Microsoft Knowledgebase article

281382)

**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***

**(also called SMTP Error 4.5.0)**

**SMTP Error 450 :** The server could not access the

mailbox to deliver the message. This could be caused by

a process on the remote server *tidying up the mailbox*, 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..).

**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.** Example of an SMTP Error 450 reply message :

*“450 Please try again later”*, or a classic Novell GroupWise

450 status message : *“The message that you sent has*

*been delayed. The reason given for the delay: 450 Host*

*down (relay.clara.net)”.*

**SMTP Error 450** is often followed by a second SMTP error

code to refine the reason for the email not reaching its

destination. For example : *“SMTP Error 450 5.2.3 Msg*

*Size greater than allowed by Remote Host”*. 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.

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**SMTP Status Codes What the message may mean**

**451 – Requested action**

**aborted – Local error**

**in processing.**

or

**<IP\_Address> has**

**recently sent spam**

**(also called SMTP Error 4.5.1)**

**SMTP Error 451 :** The action has been aborted by the

ISP’s server. **“Local”** 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.

**If this error keeps occurring to the point that it has**

**effectively lost its *transient* nature and has become**

**..... *frequent (!!),* then the problem is at your end** 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.

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]”.*

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With the original SMTP standards having been invented

before spam because the scourge of the Internet, there are

no SMTP error codes dedicated to anti-spam errors. **As a**

**result, SMTP Error 451 is now increasingly also used**

**to indicate that a message has been rejected by the**

**remote server because of anti-spam measures.** A

typical error might be, for example : ***“SMTP error from***

***remote mail server after end of data, host***

***<host\_address>: 451 <ip\_address> has recently sent***

***spam. If you are not a spammer, please try later.”***.

If all anti-spam related SMTP 451 errors are as descriptive

as the one above, then the error itself will tell you what you

need to do. **As a general rule, however, you will most**

**times need to take some measures to have either your**

**server, or your ISP’s server, taken off some Internet**

**blacklist used by the recipient.**

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**SMTP Status Codes What the message may mean**

**452 – Requested action not**

**taken – Insufficient**

**storage.**

**(also called SMTP Error 4.5.2)**

**SMTP Error 452 :** 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 **Disk Full Alerts**, 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.

**SMTP Error 452 :** 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.

**SMTP Error 452 :** This error can also be indicative of a

problem on your own mail server. Here is an example of

an SMTP 452 error : *“”452 Out of memory”*

**465 – Code Page**

**unavailable on the**

**recipient server**

**(also called SMTP Error 4.6.5)**

**SMTP Error 465 :** 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.

Update : in 2010 we are seeing other mail server

programs and web applications now using SMTP Error

465. For example the osTicket product will return

*“465 SMTP: Invalid response code received from server”* if

the SMTP server you are using in your configuration of

osTicket, requires **authentication** and you have set up the

authentication incorrectly.

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**SMTP Status Codes What the message may mean**

**471 – This is a local error**

**with the sending**

**server and is often**

**followed with *“Please***

***try again later”***

**(also called SMTP Error 4.7.1)**

**SMTP Error 471 :** This is always a local error with your

own mail server. **SMTP Error 471 (or 4.7.1) is usually**

**tagged onto a primary SMTP error code**, 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.

**500 – Syntax error**

**command not**

**recognized.**

**(also called SMTP Error 5.0.0)**

**SMTP Error 500 :** 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.

Note that commands that are recognized, but not

implemented, are handled by different status messages

(see 502 and 504).

**Note :** A *“500 unrecognized command”* server response

is often a case of antivirus software interfering with

incoming and/or outgoing SMTP communications. Read

your antivirus / firewall software documentation thoroughly

to solve the problem.

**501 – Syntax error in**

**parameters or**

**arguments (e.g.**

**invalid email address)**

**Can sometimes also**

**be indicative of**

**communication**

**problems**

**(also called SMTP Error 5.0.1)**

**SMTP Error 501 :** The command was correct and

recognised, but the parameters (the arguments, e.g. email

address) were not valid.

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.

**In the vast majority of cases SMTP Error 501 is caused**

**by invalid email addresses.** For example, a typical return

error message might be : *“<remote-server-ip-address>*

*does not like recipient. Remote host said: 501 Invalid*

*Address”*.

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...

**502 – Command not**

**implemented.**

**(also called SMTP Error 5.0.2)**

**SMTP Error 502 :** 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).

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**SMTP Status Codes What the message may mean**

**503 – Bad sequence of**

**commands.**

*or*

**This mail server**

**requires**

**authentication**

**(also called SMTP Error 5.0.3)**

**SMTP Error 503 :** 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.

Note : this error, particularly if repeated, can be indicative

of communications problems, such as a noisy line,

intermittent drops in network connections, etc...

------------------------------

**SMTP Reply Code 503** 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 : *“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.”*.

**504 – Command parameter**

**not implemented.**

**(also called SMTP Error 5.0.4)**

**SMTP Error 504 :** 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.

For example, an often encountered SMTP Error 504 is :

*“504 Need to authenticate first”*.

If you are receiving this error in a Microsoft

**Exchange Server** environment where the error shows up

in the Application Log as Event ID 7004 or 7010, then

read this Microsoft Knowledgebase article

http://support.microsoft.com/kb/843106.

**510 – Bad Email Address**

**(also called SMTP Error 5.1.0)**

**SMTP Error 510 :** Bad email address. This status code

is generated by the sender’s local mail server.

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.

If the email was addressed externally, then the recipient’s

email address was misspelt.

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**SMTP Status Codes What the message may mean**

**511 – Bad Email Address**

**(also called SMTP Error 5.1.1)**

**SMTP Error 511 :** 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.

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.

If the email was addressed externally, then the recipient’s

email address was misspelt.

**512 – The host server for**

**the recipient’s**

**domain name cannot**

**be found (DNS error)**

**(also called SMTP Error 5.1.2)**

**SMTP Error 512 :** 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.

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

**domain name** 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.

Examples of typical SMTP error 512 messages : *“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.”*.

--------------

In summary : **most SMTP error 512 conditions are**

**caused by misspellings of the domain name part of a**

**recipient email address**. 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.

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**SMTP Status Codes What the message may mean**

**513 – Address type is**

**incorrect (most mail**

**servers)**

or

**Relaying denied or**

**Authentication**

**required (a small**

**percentage of mail**

**servers)**

**(also called SMTP Error 5.1.3)**

**SMTP Error 513 :** This status code (from the sender’s

mail server) 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

John.Doe@UCLA.edu), or John.Doe@UCLA.edu” (“,

quotes, is not allowed in email addresses and is often

included in error as a result of copying and pasting an

email from somewhere).

The user should check all the recipient addresses in the

email, including those that were inserted from Contacts.

**Note :** 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) :

*”SMTP error 550 5.1.3 STOREDRV.Submit; invalid*

*recipient address.*

*Delivery has failed to these recipients or distribution lists:*

*The format of the recipient's e-mail address isn't valid. A*

*valid address looks like this: username@microsoft.com.*

*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.*

*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.”*

--------------

**SMTP Error 513** 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*

*username@ispdomainname.com”*.

In such cases you simply need to configure your mail

server, or your email program to send emails with SMTP

authentication.

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**SMTP Status Codes What the message may mean**

**523 – The Recipient’s**

**mailbox cannot**

**receive messages**

**this big**

**(also called SMTP Error 5.2.3)**

**SMTP Status 523 :** This error will be received when the

total size of the message you have sent (ie: message + all

of its attachments) **exceeds** 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).

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.

SMTP Error 523 is often a **secondary** 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 ....

**550 – Requested actions**

**not taken as the**

**mailbox is**

**unavailable.**

**(also called SMTP Error 5.5.0)**

**SMTP Error 550 :** This response can be caused by quite

a few situations.

--------------

**SMTP Error 550** will be returned by many servers **If the**

**recipient email address simply does not exist on the**

**remote side** (you will often get *“550 Invalid recipient”* or

*“550 User account is unavailable”* or *“<ip-address-ofremote-*

*server> 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 – Barack.Obama@ThisCompany.com, 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.

--------------

**SMTP Error 550 will sometimes also be returned by the**

**recipient’s anti-spam firewall** 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 :

*240.240.240.240 does not like recipient.*

*Remote host said: 550-Verification failed for*

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**SMTP Status Codes What the message may mean**

*John.Doe@YourDomain.com*

*550-Previous (cached) callout verification failure*

*550 Sender verify failed*

*Giving up on 240.240.240.240.*

--------------

**SMTP Error 550** will also be returned **if the user’s**

**mailbox is not local and Mail Relay** is not enabled, **or**

**the sending address is invalid** (the latter is a way, by the

remote server, to control spam).

--------------

Other situations of **SMTP Error 550** include sending mail

to **recipients outside of your domain where this is not**

**allowed**.

--------------

**SMTP Error 550** is also returned when you are attempting

to send through a server **which requires SMTP**

**authentication** and you have not supplied credentials (ie.

your mail server, or email program, is attempting to send

without SMTP authentication)

--------------

Yet another set of circumstances where an **SMTP error**

**550** might be issued include an incorrect **From** address

when used **with an ISP where you can send mail only if**

**the From address is from a domain that they host for**

**you** (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).

--------------

Another case of **SMTP Error 550** is **when the recipient’s**

**server is down** (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).

--------------

Another case of **SMTP Error 550** is when the recipient’s

server requires you to make a change to the **To** part of

your email to achieve successful delivery of the email

(some organizations configure their receiving mail servers

in this way when they have changed their domain name

and want to force the senders to update his address books

– for example, **My-Great-Company.com** has changed its

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domain to **MyGreatCompany.com** and you are still using

the old domain name).

--------------

Yet another set of circumstances when the **SMTP Error**

**550** is received is **when the recipient’s mailbox has**

**been suspended**. For instance, the QMAIL SMTP mail

program has an endearing way of telling you about a

mailbox that has been suspended : *“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. <email-address@email-domain>: <ip-address-ofremote-*

*server> does not like recipient. Remote host said:*

*550 [SUSPEND] Mailbox currently suspended - Please*

*contact correspondent directly.”*.

--------------

Another circumstance of an **SMTP Error 550** is **when the**

**recipient’s mailbox has been disabled**. 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 : *“550 mailbox temporarily disabled”*

**551 – User not local or**

**invalid address –**

**Relay denied.**

**(also called SMTP Error 5.5.1)**

**SMTP Error 551 :** 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.

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

**CrystalTech.com** but your ISP is **DodgyISP.com** and

you try to send emails from your domain to

**WhatANiceBunchOfPeopleYouAre@yahoo.usa**.

Neither your domain nor Yahoo.usa are hosted by

*DodgyISP.com*, as a result your email is not accepted by

*DodgyISP’s* mail servers and your mail server is returned

an SMTP Error 551. To correct the problem you have to

call *DodgyISP.com* and ask them to enter your domain

name as an allowed sender.

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**552 – Requested mail**

**actions aborted –**

**Exceeded storage**

**allocation.**

**(also called SMTP Error 5.5.2)**

**SMTP Error 552 :** 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).

Example : *“552 sorry, mailbox Alan@ThisCompany.com*

*is over quota temporarily (#5.1.1)”*.

--------------

Some mail servers have extended the scope of **SMTP**

**Reply Code 552** 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.

**553 – Requested action not**

**taken – Mailbox name**

**invalid.**

**(also called SMTP Error 5.5.3)**

**SMTP Error 553 :** There is an invalid email address in the

**“To“**, **“CC”**, or **“BCC”** field of the email message.

Here is a typical SMTP Error 553 response :

*”Hi. This is the QMAIL-send program at <ip-address>. 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. <Email-address-you’re-sending-to> :*

*<remote-mail-server-ip> does not like recipient. Remote*

*host said: 553 5.3.0 <Email-address-you’re-sending-to>.*

*Addressee unknown. Giving up.”*.

--------------

**SMTP Status 553** 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 **not** 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”*.

**554 – Transaction failed.**

**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**

**SMTP Error 554 :** 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.

For instance, **Yahoo** often returns the following **if the**

**recipient email address does not exist** 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*

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**Internet blacklists.**

**or**

**With Yahoo, on the**

**other hand, this**

**usually means the**

**email address does**

**not exist or has been**

**disabled.**

**or**

**With IBM’s Lotus**

**Domino this is either**

**a Domino bug or a**

**Disk Full error**

**(also called SMTP Error 5.5.4)**

*<Email-Address> cannot be delivered. This account has*

*been disabled or discontinued”*.

In the case of an **IBM Lotus Domino server** on the other

hand, this is either a **disk full** error (the first thing to

check), or a **Lotus Domino bug** 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 :

**http://tinyurl.com/ygfqoov**.

--------------

In most other cases, however, a recipient mail server will

return an SMTP REPLY 554 **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)** 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).

For example, a 554 error returned by a **Comcast** server

might look like this : *“Username@comcast.net SMTP error*

*from remote mail server after initial connection : host*

*mx2.comcast.net :*

*554 IMTA11.emeryville.ca.mail.comcast.net <Your-server-*

*IP-address> was found on one or more DNSBLs, see*

http://help.comcast.net/content/faq/BL000010*”*, 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.

Here is another example from the **OZEMAIL ISP** in

Australia, *“SMTP error from remote mail server after initial*

*connection to host mx1.ozemail.com.au :*

*554 filter.ozemail.com.au”* – 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 : **filter.ozemail.com.au**. **“Filter”** in the

name of a recipient server is almost always an indication

that that server is an anti-spam and antivirus server.

And here is a **Twitter** example : *“SMTP error: Email*

*Error: RCPT TO invalid mail server response:*

*554 5.7.1 : Recipient address rejected”.*

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**SMTP Status Codes What the message may mean**

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 **Barracuda anti-spam** firewall appliance rejected the

email (the cause, as shown below, is Barracuda

Reputation which means your IP address or your ISP’s

server is blacklisted on Barracuda’s RBL) :

*240.240.240.240 does not like recipient.*

*Remote host said: 550-Verification failed for*

*John.Doe@YourDomain.com*

*550-Called: 250.250.250.250*

*550-Sent: RCPT TO:John.Doe@YourDomain.com*

*550-Response:*

*554 : Service unavailable; Client host*

*[server11.virgohosting.net] blocked using Barracuda*

*Reputation;*

*http://recipientdomain.barracudacentral.com/q.cgi?ip=230.*

*230.230.230*

*550 Sender verify failed*

*Giving up on 240.240.240.240*

**The following addresses had**

**permanent delivery errors**

**“The following addresses had permanent delivery**

**errors”** / “**The following address had permanent**

**delivery errors” :** Either of these sentences are usually

followed by one or more email address(es).

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.

**Mailbox is inactive**

(The hosting ISP is having problems)

A typical error message might go like this : *“A message*

*that you sent could not be delivered to one or more of its*

*recipients. This is a permanent error. The following*

*address(es) failed : XXXXXX* ***Mailbox is inactive****”*.

**This error is almost always a problem at the hosting**

**ISP which hosts the POP box(es) of the recipient’s**

**email address or domain.** You need to inform the

recipient that there is a problem with their hosting

company. So, for example, if you are sending an email to

*John.Doe@clara.net* and you get the *“Mailbox is inactive”*

error, then you need to tell John Doe that his hosting ISP,

ClaraNET, are having problems with incoming emails and

that he should talk to them.

oooooooOOOOOOOooooooo