



NetVanta Unified Communications Technical Note

Configuring Authenticated and Encrypted SMTP Transmissions for NetVanta UC Server

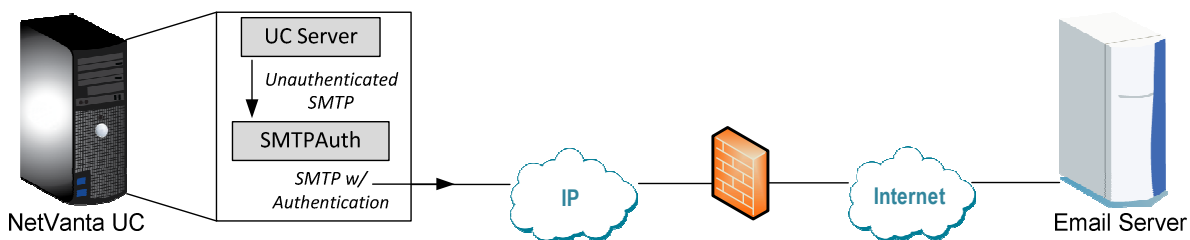
Overview

NetVanta UC server is capable of sending e-mail messages for a variety of purposes:

- Notification upon receipt of a new voice or fax message (using the Personal Assistant or Personal Business Assistant)
- As part of an automated attendant or Interactive Voice Response (IVR) service
- Exception report delivery

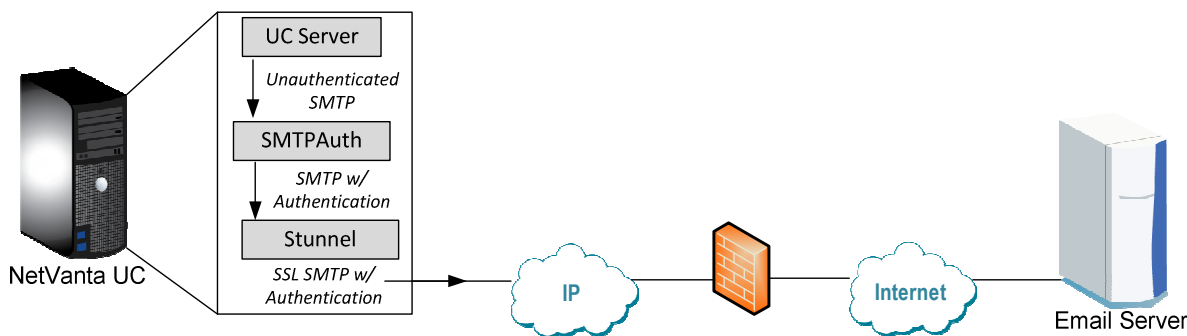
NetVanta UC server uses *unauthenticated* Simple Mail Transport Protocol (SMTP) to send e-mail messages, which means the request is not accompanied by a user name and password. Microsoft Exchange server can be configured to allow unauthenticated SMTP transmissions so this is not typically an issue; however, in some implementations SMTP authentication is required either because of company policy or because the email server cannot be configured to allow unauthenticated access.

A third-party open-source utility called *SMTPAuth* can be used as a relay-point (proxy) for outbound SMTP requests to provide the authentication (using a designated account) required for the email server. The following diagram illustrates how SMTPAuth can be implemented to support authenticated SMTP transmissions for NetVanta UC server:



Some email server applications require that SMTP transmissions are both authenticated and encrypted (sometimes referred to as SMTPS). A good example of this is Google Gmail which requires SMTP requests to be both authenticated and encrypted using SSL.

Since NetVanta UC server does not support encrypted SMTP transmissions, a third-party application must be used to encrypt the SMTP transmission. An open-source utility called *Stunnel* can be used as a relay-point (proxy) for outbound SMTP requests, either directly from NetVanta UC server or via proxy from SMTPAuth. The following diagram illustrates how SMTPAuth and Stunnel can be implemented to support authenticated and encrypted SMTP transmissions for NetVanta UC server:



Applicable Software Versions

NetVanta UC server (all editions):	4.6 and higher
SMTPAuth:	2.01
Stunnel:	4.24

Configuring SMTP Authentication without Encryption

The following instructions describe how to install and configure SMTPAuth **where SMTP transmissions do not have to be encrypted using SSL**. If SMTP messages must be encrypted before being sent to the SMTP server then see the following section called [Configuring SMTP Authentication with Encryption](#).

1. Navigate to <http://sourceforge.net/projects/smtpauth/files/SMTPAuth/>
2. Click on "SMTPAuth v2.01 FIXED", download the executable and install it on the UC server. Run SMTPAuth.
3. On the General tab, click the **Start SMTPAuth with Windows** drop-down list and select "for all users"
4. On the Accounts tab, click "Add":
 - o **Username/Password:** enter the user name and password used to authenticate with the SMTP server. This will be the account that all UC e-mail is sent on behalf of.
 - o Check "**Account active**"
 - o **SMTP-Server:** Enter the address of the SMTP server
 - o **Port:** SMTP server port accepting SMTP requests sent from UC server (e.g. 25)
 - o **Port (local):** <Leave the default value of 25>
5. On the "Windows Service" tab check "Use the Windows Service"
 - o Click **Install**
 - o Click **Run**
6. Minimize the application to the system tray, do not close it.

Configuring SMTP Authentication with Encryption

The following instructions describe how to install and configure SMTPAuth **where SMTP transmissions must be encrypted using SSL** (sometimes referred to as SSMTP). SMTPAuth does not provide SSL encryption functionality so it must be used in conjunction with another open source application called *Stunnel* to encrypt the SMTP message before it's sent to the SMTP server. This is useful for email servers like Gmail because they require both encrypted and authenticated SMTP. This is accomplished by using a "double hop" method, where NetVanta UC server sends the SMTP request to SMTPAuth, which forms an authenticated SMTP request and then sends it to Stunnel, which in turn encrypts the transmission to the email server.

Note: Installing SMTPAuth and Stunnel on the same server (e.g. UC server) means that the two applications must be configured to listen for SMTP requests on different ports. For example, you can configure SMTPAuth to listen for unauthenticated SMTP requests on port 26 and Stunnel on port 25.

Installing SMTPAuth

1. Navigate to <http://sourceforge.net/projects/smtpauth/files/SMTPAuth/>
2. Click on "SMTPAuth v2.01 FIXED", download the executable and install it on the UC server. Run SMTPAuth.
3. On the General tab:
 - Click the **Start SMTPAuth with Windows** drop-down list and select "for all users"
4. On the Accounts tab:
 - Click "Add"
 - Provide a new name for the account like "NetVanta UC"
 - **SMTP-Server:** Enter the address of the UC server
 - **Port:** Port that stunnel is using to listen for SMTP requests (e.g. 25) – see step 7 and the "Accept" parameter in the *stunnel.conf* file.
 - **Username/Password:** enter the user name and password used to authenticate with the SMTP server. This will be the account that all UC e-mail is sent on behalf of.
 - **Port (local):** Choose another port than 25 (e.g. 26) – make sure this port is not used by another application!
 - Check "**Account active**"
 - Click **Save**
5. On the "Windows Service" tab:
 - Check "Use the Windows Service"
 - Click **Install**
 - Click **Run**
6. Click **Minimize** (to minimize the application to the system tray, do not close it)

Installing Stunnel

1. Using your web browser, navigate to <http://www.stunnel.org>
2. Locate the download page for the Windows binaries. At the time of writing, this could be done as follows:
 - In the left-hand navigation menu, click **Downloads**.
 - Click the link corresponding the closest site to your location (e.g. under **Home Site**).
3. Select a particular version to download (e.g., "*stunnel-<version#>-installer.exe*"), right-click on the desired version, then select **Save target as...** to save the file. You will be prompted to select a location to save the file; select an appropriate temporary location on the UC Server system.
4. When the download has completed, from the UC Server system, locate the downloaded file and double-click on it to run the installer. You may be prompted with a security warning to run the program. You will need to accept these warnings and run the program to install this tool.
5. Follow the instructions presented by the stunnel installer to properly install all components. These instructions rely on installing the **Start Menu Shortcuts**; do not unselect this install component.
6. From the Windows Start menu, navigate to *All Programs > Stunnel > Edit stunnel.conf* and add the following lines to the configuration file:

[gmail-smtp]

Client = yes

Accept = <UC_Server_IP_address>:25

Connect = <smtp_server_IP_address>:465

The *<UC_Server_IP_address>* value for the *Accept* parameter above needs to match the IP address for UC server.

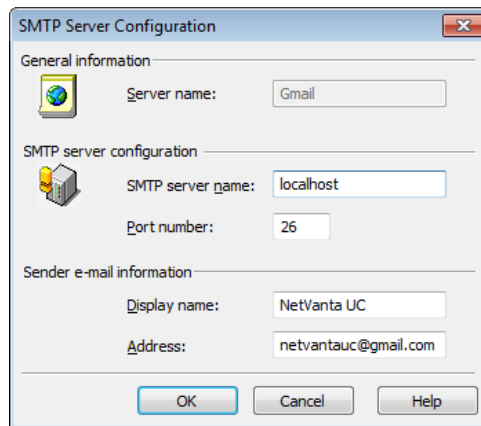
The *<smtp_server_IP_address>* value for the *Connect* parameter above needs to match the URL/IP and port that your SMTP server listens for requests. For example, for Gmail you would supply *smtp.gmail.com:465*; make sure that you use the URL/IP and port that corresponds to your email server listening for SMTP requests.

7. Save and close the file.
8. From the Windows Start menu, navigate to *All Programs > Stunnel* and select *Service install*
9. From the Windows Start menu, navigate to *All Programs > Stunnel* and select *Service start*

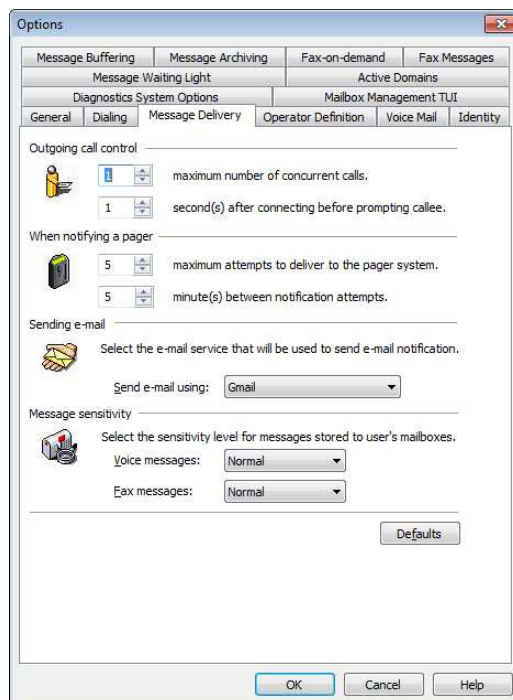
Configuring the NetVanta UC SMTP server

To configure an SMTP server with NetVanta UC server:

1. Open NetVanta UC Client as admin
2. Under the Administration tab navigate to **Servers**
3. Right-click in the contents pane and select New > SMTP...
 - a. **Server name:** A friendly name for the server (e.g. Gmail)
 - b. **SMTP server name:** the IP address or URL for the SMTP server (e.g. localhost)
 - c. **Port number:** the port number for the application listening for SMTP requests.
 - E.g. 25 (If SMTP messages are not being encrypted)
 - E.g. 26 (If SMTP messages are being encrypted)
 - d. **Display name:** the email sender display name (e.g. NetVanta UC)
 - e. **Address:** the email address of the sender (e.g. netvantauc@gmail.com)
4. Click OK



5. From the Menu, select *Tools > Options*
6. Select the *Message Delivery* tab
7. Under the *Sending e-mail* section, select the SMTP server name (configured in step 3a) from the drop-down list.
8. Click OK.



Testing SMTP Messages

A simple way to test if SMTP is working is to enable a user's Email Notification feature with a valid email address and then leave a voice message for that user. The voice message should be delivered as an e-mail to the address specified.

Support

Note: As SMTPAuth and stunnel are both third-party products ADTRAN cannot provide support for these applications directly. Please contact the third-party companies directly for support pertaining to issues with these applications.

Troubleshooting Tips

The following section provides tips for common issues encountered and suggestions for how to resolve them.

Emails don't appear to be sent/received

Review the Logs pane in NetVanta UC when connected as the admin user. An error will appear in the *System Errors and Warnings* section indicating that NetVanta UC has failed to send an email (on behalf of for whom the message is being sent):

- Log Entry: **Warning: Email delivery failed**
- User: <user >
- Date/Time: <now>
- Description: **Unable to deliver a message to user '<user>'**

If no error appears in the Logs pane then NetVanta UC has likely succeeded to send the message and something else has prevented that message from appearing in the recipient's mailbox. Verify that the message has not been filtered by a spam service on the receiving end.

If this error does appear in the Logs pane then you should examine the ADTRAN software logs located in `C:\ADTRANLogs\swlog.txt`. See the following section for details on what to look for in the logs for various failure scenarios.

Analyzing ADTRAN Logs - Successful SMTP Transmission

The following software log excerpt depicts a successful SMTP transmission scenario using both SMTPAuth and stunnel for encrypted and authenticated SMTP transmissions to a Google Gmail SMTP server. Note that NetVanta UC sends the SMTP transmission request to port 26 since this is the port on which SMTPAuth is listening.

```
CAServer NetStream DEBUG_TRACE (PNetworkStream::Connect) Attempting to convert hostname 'localhost' to numeric IP address
CAServer NetStream DEBUG_TRACE (PNetworkStream::Connect) Failed to convert to numeric IP address, looking up host name 'localhost'
CAServer NetStream DEBUG_TRACE (PNetworkStream::Connect) Successful host name lookup
CAServer NetStream INFORMATION (PNetworkStream::Connect) Connected to 'localhost:26'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Connected to server 'localhost', ready response was 'SMTPAuth ready'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Sending HELO greeting
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Command sent 'HELO gmail.com'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Received response errorCode=250 errorString='2.7.0 Accepted'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Sending sender address '<netvantauc@gmail.com>'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Command sent 'MAIL FROM:<netvantauc@gmail.com>'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Received response errorCode=250 errorString='2.1.0 OK z7sm16018844igb.3'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Sending 1 recipients
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) [001] '<user@company.com>'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Command sent 'RCPT TO:<user@company.com>'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Received response errorCode=250 errorString='2.1.5 OK z7sm16018844igb.3'
CAServer SMTPSendMail DEBUG_TRACE (SMTPSendMail) Sending message data
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Command sent 'DATA'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Received response errorCode=354 errorString=' Go ahead z7sm16018844igb.3'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Command sent '
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Received response errorCode=250 errorString='2.0.0 OK 1340219714 z7sm160188'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Disconnecting from server
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Command sent 'QUIT'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Received response errorCode=221 errorString='2.0.0 closing connection z7sm1'
CAServer FileSystemUtilities DEBUG_TRACE (FileSystemUtilities::RemoveFile) Attempting to delete file C:\Users\netvantauc.ADTRAN\AppData\Local\Temp\CA22E069BE.TMP
CAServer LclMgr DEBUG_TRACE (MSMTPManager::SendMessage) SMTPSendMail() returned 0
```

Analyzing ADTRAN Logs – Failed SMTP Transmission, Scenario 1

The following software log excerpt depicts a failed SMTP transmission scenario. In this scenario, NetVanta UC was able to connect to port 26 but the SMTP server did not respond.

```
CAServer NetStream DEBUG_TRACE (PNetworkStream::Connect) Attempting to convert hostname '10.10.10.254' to numeric IP address
CAServer NetStream DEBUG_TRACE (PNetworkStream::Connect) Converted address
CAServer NetStream INFORMATION (PNetworkStream::Connect) Connected to '10.10.10.254:26'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Did not receive ready response from server, errorCode=550, errorString=""
CAServer FileSystemUtilities DEBUG_TRACE (FileSystemUtilities::RemoveFile) Attempting to delete file C:\Users\netvantauc.ADTRAN\AppData\Local\Temp\CA22E0880A.TMP
CAServer LclMgr DEBUG_TRACE (MSMTPManager::SendMessage) SMTPSendMail() returned 1
```

This may be because of the following issues:

1. The SMTP server is not reachable.
 - Ensure that you can ping the SMTP server address from the NetVanta UC machine. If you cannot ping the SMTP server then correct your network issues and try again.
2. Stunnel must be running or configured correctly (only for SMTP connections that require encryption)
 - Ensure that the Stunnel configuration is correct according to section

Installing Stunnel

- Ensure that the Stunnel service is installed and running – use the Windows Start menu shortcuts in the Stunnel folder to install and start the Stunnel service.
- Ensure that port 25 is not in use by another application.
 - From a command prompt, type `netstat -a -o > output.txt`
 - Open the output.txt file and search for 25 and make note of the corresponding process ID
 - Open Windows Task Manager, click on the *Processes* tab, select *View | Select Columns...* and check the box beside *PID (Process Identifier)*
 - Sort the processes by PID and verify that the process ID in the output.txt file belongs to *stunnel.exe*. If the process that is bound to port 25 is not *stunnel.exe* then you will need to stop that other application and restart stunnel from the Windows Start menu.

Analyzing ADTRAN Logs – Failed SMTP Transmission, Scenario 2

The following software log excerpt depicts a failed SMTP transmission scenario. In this scenario, NetVanta UC connected to port 25 and the SMTP server responded but requested authentication.

```
CAServer NetStream DEBUG_TRACE (PNetworkStream::Connect) Attempting to convert hostname '10.10.10.254' to numeric IP address
CAServer NetStream DEBUG_TRACE (PNetworkStream::Connect) Converted address
CAServer NetStream INFORMATION (PNetworkStream::Connect) Connected to '10.10.10.254:25'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Connected to server '10.10.10.254', ready response was 'mx.google.com ESMTP z7sm159853'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Sending HELO greeting
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Command sent 'HELO gmail.com'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Received response errorCode=250 errorString='mx.google.com at your service'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Sending sender address '<netvantauc@gmail.com>'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Command sent 'MAIL FROM:<netvantauc@gmail.com>'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Received response errorCode=530 errorString='5.5.1 Authentication Required.'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Failed to send sender address, errorCode=530, errorString='5.5.1 Authentication Required.'
CAServer SMTPSendMail DEBUG_LOW (SMTPSendMail) Disconnecting from server
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Command sent 'QUIT'
CAServer SMTPSendMail DEBUG_TRACE (DoCmd) Received response errorCode=221 errorString='2.0.0 closing connection z7sm1'
CAServer FileSystemUtilities DEBUG_TRACE (FileSystemUtilities::RemoveFile) Attempting to delete file C:\Users\netvantauc.ADTRAN\AppData\Local\Temp\CA22E06572.TMP
CAServer LclMgr DEBUG_TRACE (MSMTPManager::SendMessage) SMTPSendMail() returned 8
```

This may be because of the following issues:

1. NetVanta UC server is connecting to port 25, which is the typical SMTP server port. However, the SMTP server in this example is requesting authenticated SMTP which NetVanta UC server cannot provide directly. In this scenario, it's likely that NetVanta UC is connecting directly to stunnel and not to SMTPAuth (whose purpose is to provide the authentication on NetVanta UC's behalf). Verify the SMTP server configuration as outlined in [Configuring the NetVanta UC SMTP server](#) and that it is connecting to the port that SMTPAuth is listening for SMTP requests: the instructions recommend port 26.
2. The authentication parameters configured in SMTPAuth may not be correct. Verify that you can manually connect to the SMTP server using the supplied credentials to ensure that they are correct.