

4.16 Denali Email



Denali's Email module allows users to Send and Receive Email without ever leaving the Denali environment. The mechanisms for sending and receiving email are, however, very different so we will cover them separately here.

4.16.1 Sending Email

Denali uses the MailMessage and the SMTPClient classes included in the ASP.NET 2.0 Framework for sending e-mail. These classes are designed to work with the local Microsoft SMTP Service (included as a component of Windows 2000, and Windows 2003 Server) or any other mail server on your network. Before any email can be sent, the Denali Administrator must enter a sending Email server's information (hostname, port number, and authentication credentials – if required) into Denali's web.config file as shown below.


```
<configuration>
  <!-- Add the email settings to the <system.net> element -->
  <system.net>
    <mailSettings>
      <smtp>
        <network
          host="Hostname"
          port="portNumber"
          userName="username"
          password="password" />
        </smtp>
      </mailSettings>
    </system.net>

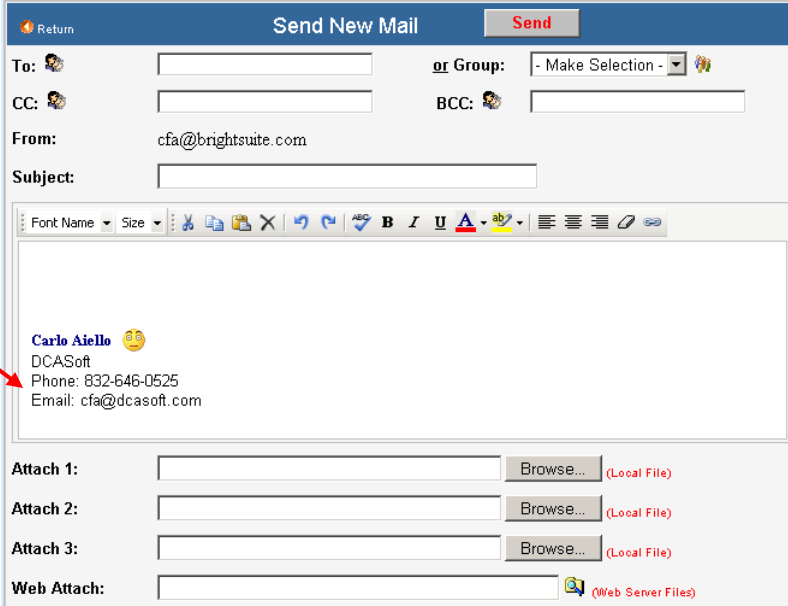
    <system.web>
      ...
    </system.web>
  </configuration>
```

The 4 items shown in red above must be replaced with your server's specific information. The server host designation is usually something like **mail.domain.com**. Specify your server's port number (usually 25) through the port attribute. Most external servers require authentication of some sort to combat spamming. The Username and Password attributes can be provided in the case where username/password authentication is required.

All Denali email will thereafter be sent using this email server – including those directly from the Email Module as well as items like calendar invitations, task assignments, and other item sent from the various Denali modules.

Sending New Mail

Users can send new email messages by clicking the **Send New** icon at the top of the Inbox Panel. The Send Email form is shown below. The fields are those typically found on most email client applications, and function in similar manners. You will notice that the **From:** field is already filled in with the sender's email address. The **Browse** buttons allow users to access file attachments from either their local drive(s) or the Denali docs files. Email recipients can be selected easily by using the all members icon . Establishing email groups also makes it particularly easy in Denali to send targeted email to a wide audience with minimal effort.

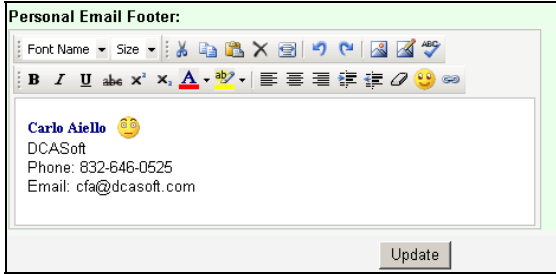


Personal Footer

The Email Editor is configured to send HTML formatted Email - so user's can chose text colors, fonts, and other rich-text options for their out going email messages. A spell-checker is also built-in to the form.

Personal Email "Footers"

Denali allows each member to enter a personal email "footer" using the HTML editor on their Member Profile page as shown below.



Sending Email: To be able to send an email in Denali you must first do 2 things:
1) Enter a valid "Sending" Email Server's information into the Denali web.config file as shown above.

2) Be sure there is a valid “**From:**” address shown on the **From:** line of the Email Editor. This means that all users must have a valid email address (no spaces in it) recorded in their Denali Directory profile before they can send an email.

Email Groups

We’ve just seen that email groups can be a good way to reach a wide targeted audience with minimum effort. Of course these groups must be populated in advance starting with the naming of new email groups which make sense for your organization. From the Main Denali Admin Panel **Create/Delete a New Email/IM Group** to access the screen shown below.

Add New Email / IM Group		
Group Name	<input type="text"/>	
Submit		
Edit / Delete Email / IM Group	View Members	Delete
Accounting		
Engineering		
Lab		
Legal		
Marketing		
R&D		
test group		

Email groups can be added or deleted at any time using the screen above. But how do we then populate these groups? This is where the Corporate Directory comes into play again. A Denali user’s profile in the Member Directory can include the user on one or more email groups. Once set in the Directory, the user’s name will be included in that email group and he/she will receive any email sent to that group. Again – user’s can be included on multiple email lists, and the directory profile can be changed at anytime to be included and deleted from groups.

Sent E-mail Messages

If the user’s primary receiving email account is an IMAP account, Denali will attempt to place a copy of the sent mail in the user’s IMAP “Sent Items” folder. If the user’s account is a POP3 account, Denali will attempt to create a database record of the sent email within Denali.

4.16.2 Receiving Email

The Microsoft SMTP service does the basic job of sending email, but does not support the Post Office Protocol (POP) or Internet Message Access Protocol (IMAP) services for receiving email. For receiving email, therefore, Denali utilizes licensed 3rd party POP3 and IMAP assemblies. These assemblies have been included in the Denali application, and handle all of the tasks involved in receiving a user’s incoming email.

POP3 and IMAP Protocols

POP3 and **IMAP** are two different email protocols. Both allow you to access your remote email accounts, and Denali supports both POP3 and IMAP protocols.

Post Office Protocol version 3 (POP3) is an email protocol used to retrieve email from a remote mail server. POP3 mail works best when you access your email accounts from a single computer. This is because POP3 systems will normally download the email messages to the local system only once - preventing re-access later from a different computer.

IMAP, or Internet message protocol, is a newer, more robust, mail protocol. With IMAP, email is stored on an IMAP server, and can be manipulated on the server without the need to transfer messages to a local machine or intranet server.

Connecting to an Email Server (POP3 or IMAP):

Before you can use Denali to download/read mail from an external mail server, you must first know the remote hostname or IP address of the POP3 or IMAP mail server. This will likely be something like mail.yourdomain.com. Along with this hostname (or IP address), you need to know your username/password for accessing your email account. These 3 items; hostname, username, and password must be recorded for each user in their Denali Directory profile so that Denali can access and download POP3/IMAP mail for each user.

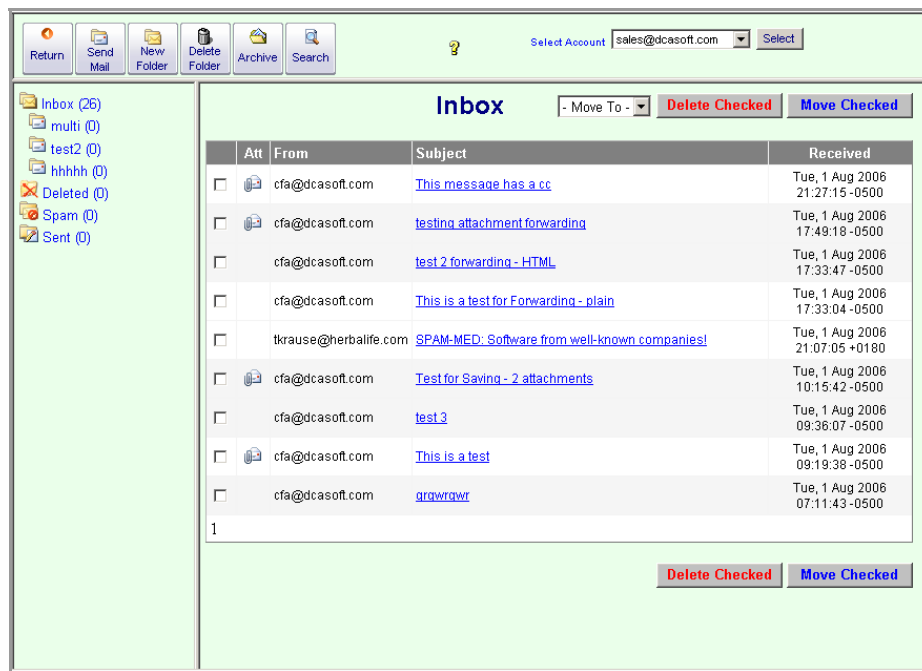
Member Email Accounts:

As mentioned above, each user must have the name of their remote email host and their account username and password recorded in the Member Directory. Actually each user can have up to 3 POP/IMAP mail accounts recorded in the Directory as shown below.

Email Account Settings: (To Retrieve Email)			
Mail Server <input type="text"/>	Username <input type="text"/>	Password <input type="text"/>	<input checked="" type="radio"/> POP <input type="radio"/> IMAP
Mail Server <input type="text"/>	Username <input type="text"/>	Password <input type="text"/>	<input checked="" type="radio"/> POP <input type="radio"/> IMAP
Mail Server <input type="text"/>	Username <input type="text"/>	Password <input type="text"/>	<input checked="" type="radio"/> POP <input type="radio"/> IMAP

The Email Inbox Panel

The Denali InBox panel is shown below. All Email functionality is controlled through this panel. Users must have a Level 3 or 4 security profile to use Denali Mail. The logic here is that sending and receiving email, especially externally, is an activity that can be abused. We have therefore treated this activity like uploading files to the web server which is also a Level 3 activity.



Creating and Deleting Email Folders

In addition to the Inbox, users can create any number of email folders as virtual sub-directories under the Inbox by clicking the New Folder Icon at the top of the Inbox Panel. Similarly – users can delete folders by clicking the Delete Folder Icon.

Managing Individual Email Messages

Users can use the Move Buttons in the Inbox frame to move individual email messages between their various folders. Users would first click the Check Box on the line next to each email they want to move, select a folder using the Move To.. pull-down box, and then click the Move button.

Deleting a message is similar in that the user would click the Check Box on the line next to each email and then click the Delete button. With deleting, however, all deleting messages first go into the Deleted Items folder. From there the messages can be permanently deleted individually or collectively using the Empty Trash Command.

Remote Mail Accounts

As discussed earlier in section 6.19.2, to receive email Denali utilizes licensed 3rd party POP3/IMAP mail assemblies which are included in Denali. Each user must have a valid POP3 or IMAP email account. These accounts are widely available and often free. Many ISP providers allow clients to configure a multitude of POP/IMAP mail accounts as part of their hosting arrangement. The second criteria for receiving email is to have

your POP/IMAP mail account data included in your Members Directory profile. Three fields must be completed in the member's profile:

- Remote email Host: ... something like **mail.yourdomain.com**
- Username:
- Password:

Be sure all users have full Read-Write-Modify permissions to the **Storage/maildata** directories so that Denali can store email attachments.

Blocking Email Attachments by Type

The Denali Administrator can block certain email attachment types that might be considered security threats (.exe's for instance) by adding the attachment type to a list included in the Denali web.config file. Each attachment's file extension type would be added or deleted from the web.config file's **denyattach** tag as shown below:

```
<add key="denyattach" value=".exe,.aspx,.dll" />
```

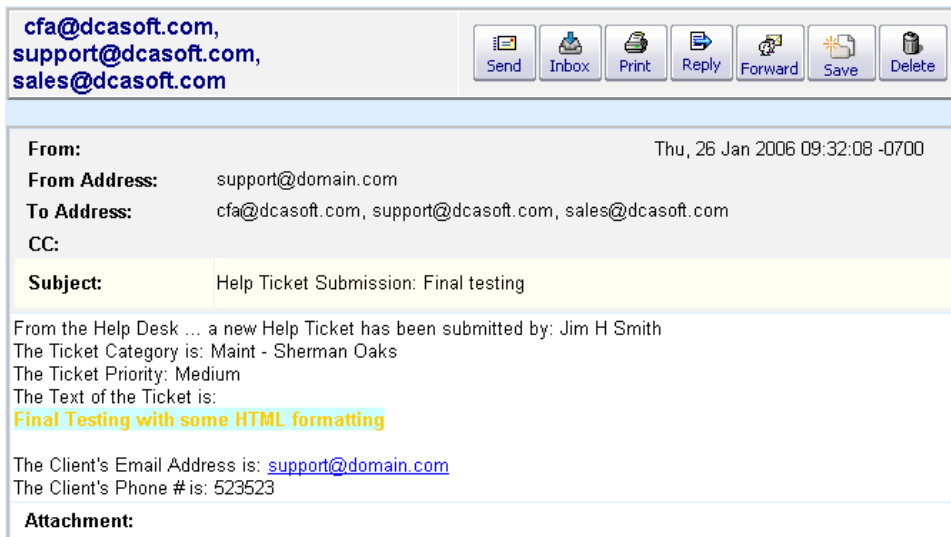
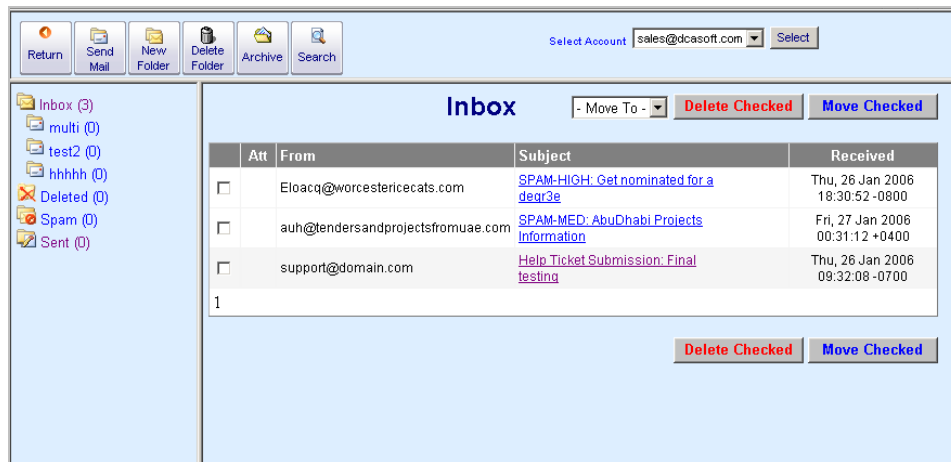
Each extension is separated by comma and as always is case sensitive. Denali's default tag is setup to block .exe, .aspx, and .dll extensions.

Spam Filtering - POP3 only

Members can use their My Profile page to record a list a "spam" filter words. When receiving email, Denali will then scan the incoming email subjects for these words and automatically route a matching emails to the Spam folder.

Email - Subjects containing these words (case sensitive) go to Spam Folder: (separate words by a comma)

Users can check their mailboxes in Denali by clicking **Get Mail** on the main console. A typical email message list in Denali is shown below.



Saving an Email as a Text File:

When viewing an email – members can elect to “Save” the email contents as a text file (.html) to their My Files folder. This is done by clicking the “Save” icon on the email display page as shown below:



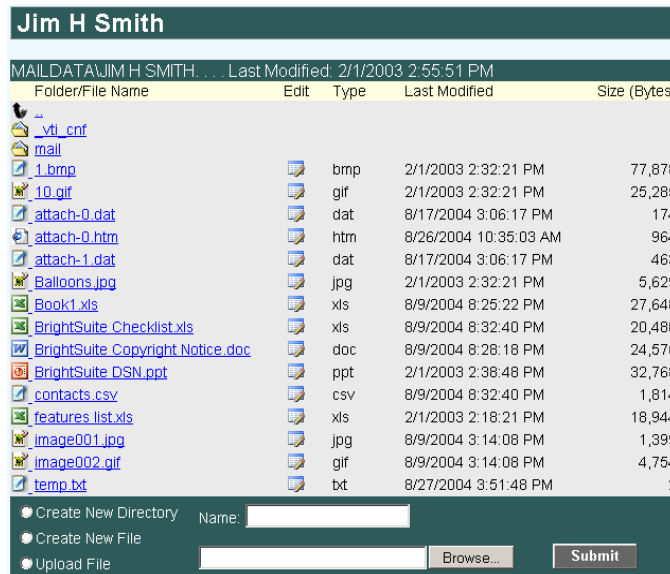
Email Archive:

When a user opens email in Denali, all attachments are automatically saved to a special email repository setup automatically in their name. The email archive for Jim H Smith for instance would be stored in the Denali Storage folder as: ***/Storage/maildata/JimHSmith/***

Attachments are stored in their native formats.

- **Email Repository Security** ⚠ As discussed in Section 4.0 and 4.4 - email file storage is not covered by normal Denali security – but instead must be covered by the security features of the IIS webserver, and the Windows Operating System itself. Email attachments are stored in the Denali **Storage/Maildata** folder. To avoid an unauthorized person typing an attachment file address into their browser address window – administrators should **disable Read Access** in IIS for the **Storage/Maildata** folder.

Denali Administrators can access the email archive folders through the Admin Panel.



6.19.3 Member Security Settings:

For new Members, the Email module has 2 overall levels of Access Permissions as shown below:

Email	?	<input checked="" type="radio"/> No Access	<input type="radio"/> Full Access
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These 2 choices can be further defined in terms of the starting named security profiles, and their allowable actions as shown in the chart below:

16) Email			
Access Permissions	No Access	No Access	Full Access
Profile Name	Guest, Assoc 0		Basic, Advanced & Admin 3
All Email Functions			<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 3