Microsoft Exchange 2000 Server

Microsoft® Exchange 2000 Server Mailbox Folder Structure

Technical Paper

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Introduction

The majority of a user's interaction with Microsoft® Exchange 2000 Server involves the use of Microsoft Outlook® to modify e-mail messages and appointments that are stored in the Exchange 2000 mailbox store. But Outlook and Exchange maintain many folders and hundreds of properties to support the complex operations that make Exchange a rich messaging platform.

This paper describes the folders that Outlook 2002 creates in the Exchange 2000 mailbox store. Several of these folders are visible in Outlook; however, a majority of the folders support functionality that the user does not directly control. These folders are not visible in Outlook, and as this paper describes, are visible only through a tool such as the Exchange Database View tool (mdbvu.exe), which is available on the Exchange 2000 compact disc. An administrator may want to use the Mdbvu tool to view or remove hidden folders in Exchange mailbox stores, for example, when temporary files in hidden folders cause mailbox stores to expand in size.

Not all of the folders described in this paper are required for Exchange and Outlook to function, but you will find most of the folders in any Exchange mailbox.

Mailbox Creation in Exchange 2000

User objects in Active Directory® directory service represent individual users. Attributes of the user object allow the user to access enterprise resources.

When an administrator creates a user object, the administrator has the ability to make the user object "mailbox-enabled." This means that the user can have a mailbox in a mailbox store on an Exchange server. Exchange does not immediately create a mailbox in the Exchange mailbox store when a new user is created in Active Directory. Instead, Active Directory stores the information about where the user's mailbox will be located with the user's alias and e-mail address. When a user logs on to his or her designated Exchange server for the first time, Exchange creates a mailbox in the Exchange mailbox store for the user.

Folder Structure in an Exchange 2000 Mailbox

Because Exchange supports client access by means of MAPI, Simple Mail Transfer Protocol (SMTP), Post Office Protocol version 3 (POP3), Internet Message Access Protocol version 4rev1 (IMAP4), and HTTP protocols, various e-mail clients can access an Exchange 2000 mailbox. These e-mail clients include the Exchange Client, Outlook 97 or later, Outlook Web Access, Outlook Express, and other clients that support the Internet standard e-mail protocols. The following section describes the folders that Exchange creates when a MAPI client accesses Outlook.

Exchange 2000 Mailbox Folders Created for MAPI Clients

After a MAPI client is authenticated and permitted to access the Exchange mailbox store, the following folders are created by default:

- Common Views
- Deferred Action
- Finder
- Schedule
- Shortcuts
- Spooler Queue
- Top of Information Store
- Views

The following sections describe each of the folders.

Common Views

If a user makes any changes to a default view in Outlook, the Common Views folder stores the updated view. The Common Views folder is empty until the user modifies a view.

Deferred Action

Certain rules require a specific client to establish a client session before the rule can take action. When a rule's condition is met, but the user does not log on with a client capable of executing that rule, the action specified in the rule is deferred until the user accesses the mailbox again. The Deferred Action folder stores the action in a deferred action message. When the user logs on with a client capable of processing the rules, all of the deferred actions that the client is capable of processing are carried out. After the client processes a deferred action, the deferred action message is deleted from the Deferred Action folder.

For example, a user configures a rule that moves messages sent to a distribution list from the Inbox to a local personal folder file (.pst file). If the Outlook user is not logged on to the server when a message sent to the distribution list arrives, the action is deferred until the user logs on to the mailbox again. To ensure that the rule's action is carried out promptly when the client accesses the mailbox, the action to move the message to a .pst file is stored in the Deferred Actions folder. When the Outlook user logs on to the mailbox again using a MAPI session, the message sent to the distribution list is moved to the local .pst file.

If an Outlook Web Access client accesses a mailbox that contains deferred action messages, none of the actions are processed because Outlook Web Access is not capable of processing client-side rules. In this case, all of the deferred actions remain in the mailbox until the user accesses the mailbox using a MAPI session.

Finder

Items exist in the Finder folder only while a user is viewing search results in Outlook. When a user initiates a search in Outlook (by clicking **Tools** and then clicking **Find**), Exchange creates a subfolder called Search Results in the Finder folder. Outlook copies messages that meet the search criteria into the Search Results folder as they are found. When the user closes the search results, the Search Results folder is automatically deleted along with its contents.

Schedule

The Schedule folder stores Schedule+ appointment information. Outlook converts information in the Schedule folder to Outlook appointment information and moves it to the Calendar folder in the Interpersonal Message (IPM) Subtree either automatically or upon user initiation.

Outlook does not store any other information in the Schedule folder. If a client using Schedule+ has never accessed the mailbox, this folder is empty.

Shortcuts

The Shortcuts folder contains messages that point to public folders that the user added to his or her Favorites in Outlook. Public folders added to Favorites in Outlook are available for synchronization in Outlook for offline use.

Spooler Queue

The MAPI spooler uses the Spooler Queue folder to facilitate message delivery.

Top of Information Store (IPM Subtree)

The Top of Information Store folder, which is also referred to as the IPM Subtree, stores the folders that are visible in the Outlook folder list. This folder stores most of the information that is directly entered by a user, such as e-mail messages, appointments, tasks, journal entries, and rules.

> **Note**   All of the IPM Subtree folders contain a subfolder called Associated Messages in Folder, which contains messages that support the functionality of the folder. For example, all Outlook folders store view information in the Associated Message in Folder subfolder. In addition, all folders, except the Contacts folder, store AutoArchive settings in the Associated Messages in Folder subfolder. These settings are identified by the message class PR_MESSAGE_CLASS of IPC.MS.Outlook.AgingProperties. Some folders store more information in the Associated Messages in Folder subfolder, such as the following folders:

- **Calendar**   The Calendar folder stores all appointment items, including recurring and non-recurring appointments.

- **Contacts**   The Contacts folder stores contact information. The exceptions are contacts that are stored as part of the Microsoft Windows® Address Book, which is stored in a separate .wab file in the client file system.

- **Deleted Items**   The Deleted Items folder stores messages that the user or a rule deleted. Messages remain in the Deleted Items folder until the user or an automated process permanently deletes them. For example, Outlook may be set to automatically empty the Deleted Items folder when the user exits the program.

- **Drafts**   The Drafts folder stores incomplete messages that are not ready to send. By default, Outlook (including Outlook 2002 and all previous versions) stores messages that the user saves without sending in the Drafts folder.

- **Inbox**   Outlook automatically stores messages delivered to the mailbox in the Inbox. The Inbox is the only folder in which the user can set rules to automatically activate upon the arrival of a message**.**

  > **Note**   Like other IPM Subtree folders, the Inbox contains an Associated Messages in Folder subfolder. This subfolder contains the following rules and views:

- **Rules**   Rules in the Associated Messages in Folder subfolder appear either by name or with the "cb: 40*pb" prefix. All rules have the PR_MESSAGE_CLASS of IPM.Rule.Message message class. The Associated Messages in Folder subfolder also contains the Outlook Rules Organizer and the Outlook Message Manager information store.
- **Views**   All view information that pertains directly to the Inbox is stored in the Associated Messages in Folder subfolder.
- **Journal**   The Journal folder stores all journal entries as messages with a message class of IPM.Activity.
- **Notes**   The Notes folder stores all notes as messages with a message class of IPM.StickyNote.
- **Outbox**   When the user sends a message, Outlook temporarily stores it in the Outbox folder until the server running Exchange can process the message.
- **Sent Items**   By default, Outlook copies and stores all messages the client sends in the Sent Items folder.

  Note   When a user uses voting buttons, the results are accumulated based on the messages stored in Sent Items. For example, when a client sends a message with voting buttons enabled, the message is saved in the Sent Items folder. As the originator of the message receives voting responses, Outlook compiles the results in the original message in the Sent Items folder. If the originator deletes the message from the Sent Items folder, all voting results are lost.
- **Tasks**   The Tasks folder stores all Tasks as messages with a message class of IPM.Task.
- **Views**   Users can change folder layout and colors to create custom views for easier folder viewing. The Views folder stores the configuration information required to instruct the client about the user's preference. View information is stored in messages with the message class of IPM.Microsoft.FolderDesign.NamedView.

Additional Folders Created for Outlook 2002 Clients

In addition to the folders that Exchange creates by default for MAPI clients, an Outlook 2002 client creates the following two folders that support free and busy data and reminder functionality:

- **Freebusy Data**   Outlook uses free and busy information to display meeting planner information and show the local user's availability.

  After the user creates the first appointment in the Outlook client, Outlook creates the Freebusy Data folder. Freebusy Data is the only folder that stores local free and busy information for the user. Several other folders support free and busy functionality.
- **Reminders**   The Reminders folder is a MAPI search folder that displays messages with reminders that were created by appointments or by follow-up flags. It is important to note that if the user empties the Reminders folder, Outlook removes all recurring and non-recurring appointments from the user's calendar as well as any messages that have reminders associated with them.

Additional Folders Created by Other Applications

Additional folders with various names may be present at the root folder of the mailbox because some third-party applications that integrate with Outlook may need to create temporary storage locations to store messages. These folders are not visible in Outlook. If the applications that create these folders do not remove the messages that they store in the folders, mailbox sizes could increase.

You can use the Mdbvu tool to remove messages or folders that are not visible in Outlook. Only administrators or those who are familiar with mailbox structure should use the Mdbvu tool to remove items from a mailbox.

Viewing Folders in the Mailbox Store Without Outlook

Several folders in the Exchange 2000 mailbox store are visible in Outlook. However, a majority of the folders support functionality that the user does not directly control. These folders are not visible in Outlook. For example, the information for free and busy publishing and view functionality is stored in folders that are hidden from the Outlook user interface. You can view folders that are not visible in Outlook by using the Mdbvu tool, which is available on the Exchange 2000 compact disc.

There is no installation utility for the Mdbvu tool. To use the Mdbvu tool, copy the necessary files from the Exchange Server CD-ROM in the \Support\Utils\I386 directory to any folder on the user's computer.
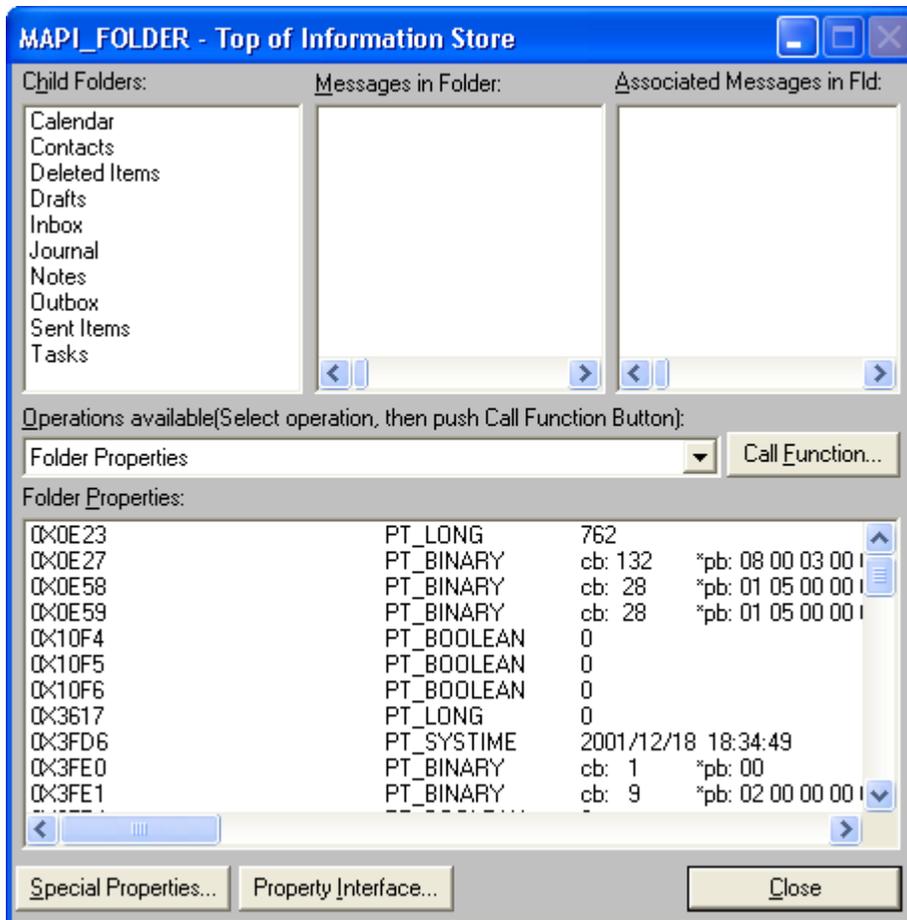
To view the IPM Subtree folders using the Mdbvu tool

1. Copy the following files to a computer on which Outlook is installed:
   - Mdbvu32.exe
   - Propvu32.dll
   - Statvu32.dll
   - Tbvlu32.dll
   - Xvport.dll

2. Verify the following information:
   - A profile exists for the user's mailbox
   - The profile is selected as the default profile
   - A user who has permission to access the user's mailbox is successfully logged on to the client computer

3. Ensure that Outlook is not currently in use on the computer.

4. Double-click **mdbvu32.exe**.

5. In the **MAPILogonEx(MAPI_LOGON_UI)** dialog box, click **OK**. (You do not need to set any flags.)

6. In the **MDB Viewer Test Application** dialog box, click **MBD**, and then click **OpenMessageStore**.

7. Click **Mailbox - '<*ProfileName*>'**, and then click **Open**.

8. In the **MDB Viewer Test Application** dialog box, click **MBD - Open Root Folder**.

9. In the **Child Folders** pane of the **MAPI_FOLDER - Root** dialog box, double-click **Top of Information Store**. The IPM Subtree folders will appear. For example,

the Outlook folders in Figure 1 are depicted in the Mdbvu tool as shown in Figure 2.
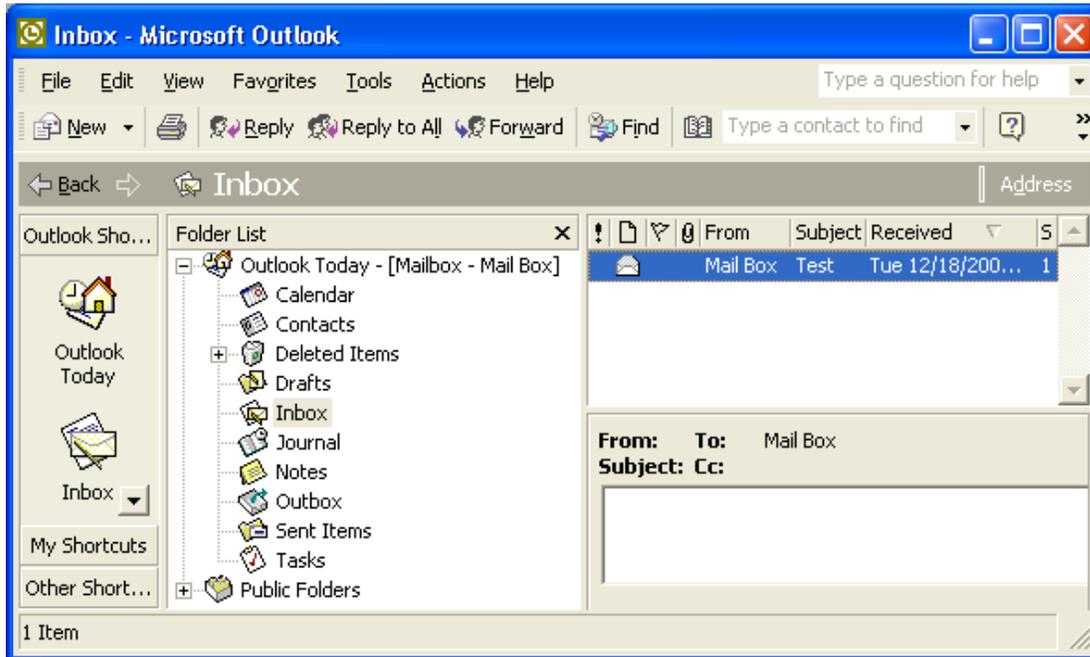
Figure 1   The IPM Subtree folders as they appear in Outlook

Figure 2   The IPM Subtree folders as they appear in the Mdbvu tool

Additional Resources

For more information:

- http://www.microsoft.com/exchange
- http://support.microsoft.com/office
- http://www.microsoft.com/support
- Additional information about the properties of common MAPI objects is available on MSDN® at http://msdn.microsoft.com/library/default.asp?url=/library/en-us/cdo/html/_olemsg_mapi_property_tags.asp.
- Additional information about Exchange properties is available on MSDN in the Microsoft Knowledge Base at http://support.microsoft.com/.

Appendix A. Property Tags for Outlook Folders

The entry ID of each of the special folders created by Outlook (Calendar, Contacts, Journal, Notes, Tasks, and Drafts) is stored as a property in the Inbox folder of the mailbox store. The same properties are also stored in the root folder of the mailbox store. Table 1 lists special folders and their corresponding property tags.

Table 1 Property Tags for Outlook Folders

Folder	Property ID	Property Type	Property Tag
Calendar	0x36D0	PT_BINARY	0x36D00102
Contacts	0x36D1	PT_BINARY	0x36D10102
Journal	0x36D2	PT_BINARY	0x36D20102
Notes	0x36D3	PT_BINARY	0x36D30102
Tasks	0x36D4	PT_BINARY	0x36D40102
Drafts	0x36D7	PT_BINARY	0x36D70102

For more information, see Microsoft Knowledge Base article Q171670, "Info: Entry IDs of Outlook Special Folders."

Did this paper help you? Please give us your feedback. On a scale of 1 (poor) to 5 (excellent), how would you rate this paper?

mailto:exchdocs@microsoft.com?subject=Feedback: Microsoft Exchange 2000 Mailbox Folder Structure

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