Receiving Email with Internet Message Access Protocol (IMAP4)

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Introduction

Internet Message Access Protocol (IMAP) and Post Office Protocol (POP3) are protocols used for email retrieval and they are in-use by almost every modern mail clients and servers. Previously, I have written an article about Post Office Protocol. This article will focus on what IMAP is, its features and the difference between these two protocols.

What is IMAP (Internet Message Access Protocol)?

IMAP (Internet Message Access Protocol) is a standard protocol used by an email client for accessing emails that are stored on a remote mail server. Email clients which use IMAP can use either port 143 to establish a non-secured connection, or port 993 if they require to connect securely via IMAP over SSL (IMAPS). Designed by Mark Crispin in 1986, IMAP has gone through several revisions and its latest version – IMAP Version 4 Revision 1 (IMAP4rev1) was defined by RFC 3501 in 2003.

The difference between IMAP and POP, and other Unique Features of the IMAP Protocol

IMAP supports both online and offline operation modes. It is an alternative method to POP3 for receiving email and was designed to address the weak points in POP as well as to provide more delivery features and email management. While POP3 email clients download, delete and store the messages offline, IMAP email clients generally store all their messages and folders centrally on the server and the client manages these remote mail messages by sending a series of commands to the server.

IMAP mail clients may appear to be managing the messages locally, but they are in fact accessing the messages online. A user can manage the same mailbox through multiple clients in any configured computer as long as there is an Internet connection and the mail server is running. By storing the mail messages online, a user does not have to worry that his email will be lost in the event of a system crash or stolen PC etc.

IMAP email accounts can also be configured to download a cached copy of the message for offline use. This is different from the POP3 protocol in that IMAP *copies* the message onto the mail client, whereas POP3 *moves* the email to the local client instead. With IMAP, the remote mail server will retain a master

copy of the email and POP3 will delete the server copy of the email after download. IMAP client users can safely delete the offline copy without affecting the master copy on the server.

A feature of the IMAP protocol are "flags" which allows mail clients to keep track of messages that are unread/read, replied to or deleted. By storing the flags on the remote server, different clients connected to the same mailbox could detect changes to the message state that were made by other clients.

Management of multiple mailboxes (also known as folders) on the remote server is supported. IMAP4 clients use this feature to keep the Inbox organized. Mailboxes can be created, renamed or deleted. Users can also move messages between mailboxes. A mail client using the IMAP protocol on one machine could create a mailbox on the remote server, which then becomes visible to all other mail programs configured with the same IMAP email account. As mailboxes are synced with all mail clients, moving and organizing messages around will be automatically visible to those clients. IMAP mailboxes can be subscribed and/or unsubscribed to keep only the important folders for easy content access which helps to keep the mails and folders organized. Unsubscribed folders are not deleted from the server but they will not be displayed or included in search from within the mail client.

The IMAP protocol allows clients to fetch and preview only the headers of the message which is beneficial to slow or limited data connections. Users can also decide to download (or not) large attachments over a slow connection, allowing them to save bandwidth on their data plans.

Over time, mail archives will grow in size on the server and IMAP users may need to be mindful of their email storage space as compared to those POP users. However, this has become less of an issue as advanced technology and shrinking storage cost result in email service providers like Gmail and Yahoo who provide ample storage space for their email clients, although increasingly large quantities of email with heavy attachments can quickly fill up the assigned storage space.

Advantages of IMAP:

- Email is available to any machine that has a client configured with the same IMAP account
- Email messages are not lost in the event of system crash or stolen PC as they are stored online
- Ability to set message status flags
- Remote mailbox management (list/create/rename/delete)
- Support for simultaneous update in shared folders over different clients
- Selective subscription of relevant mailboxes
- Freedom to preview only parts of the message without downloading the whole email
- Users can decide when to download attachments

Disadvantages of IMAP:

- New incoming mails will not be available if there is no data connection. Existing messages are usually not available offline if there are no cache copies downloaded
- Large amounts of email and attachments may fill up and hit the space limit designated to the IMAP account on the server

The Usage Applications of IMAP in SyncBackPro

2BrightSparks Pte. Ltd. has a backup and synchronization program called [SyncBackPro](#) that supports the use of IMAP to backup/restore data files to/from an email server as well as to back up a copy of email messages that are stored on the mail server.

Depending on the protocol used by the mail server, SyncBackPro users configure either POP3 or IMAP settings so that data can be stored on or retrieved from the remote server.

In addition, email messages stored on the POP3 or IMAP mail server could be backed up and stored as a copy locally within its own self-contained EML file containing the mail body and all attachments. Email backups are a one-way process only, and Restoration of emails back to the mail server is not supported as this feature is for local safekeeping in case of unforeseen disasters such as corruption or removal of email accounts on the server, etc.

Conclusion

With the various advantages over POP, IMAP is becoming increasingly popular. With multiple device support as well as bandwidth friendly features, IMAP is the ideal choice for mobile users of smartphones, laptops, tablets and other mobile devices.