E-Mail Presentation to SMMUG

What Are E-mail Protocols?

Email protocols are a method by which communication channels are established between two computers and e-mail is transferred between them. When an e-mail is transferred, a mail server and two computers are involved. One computer sends the mail and the other one receives it. The mail server stores the mail and lets the receiving device access it and download it if needed. There are four different mail protocols. These protocols differ in the way by which they establish connections and allow user access to e-mails.

POP3 (Post Office Protocol 3)

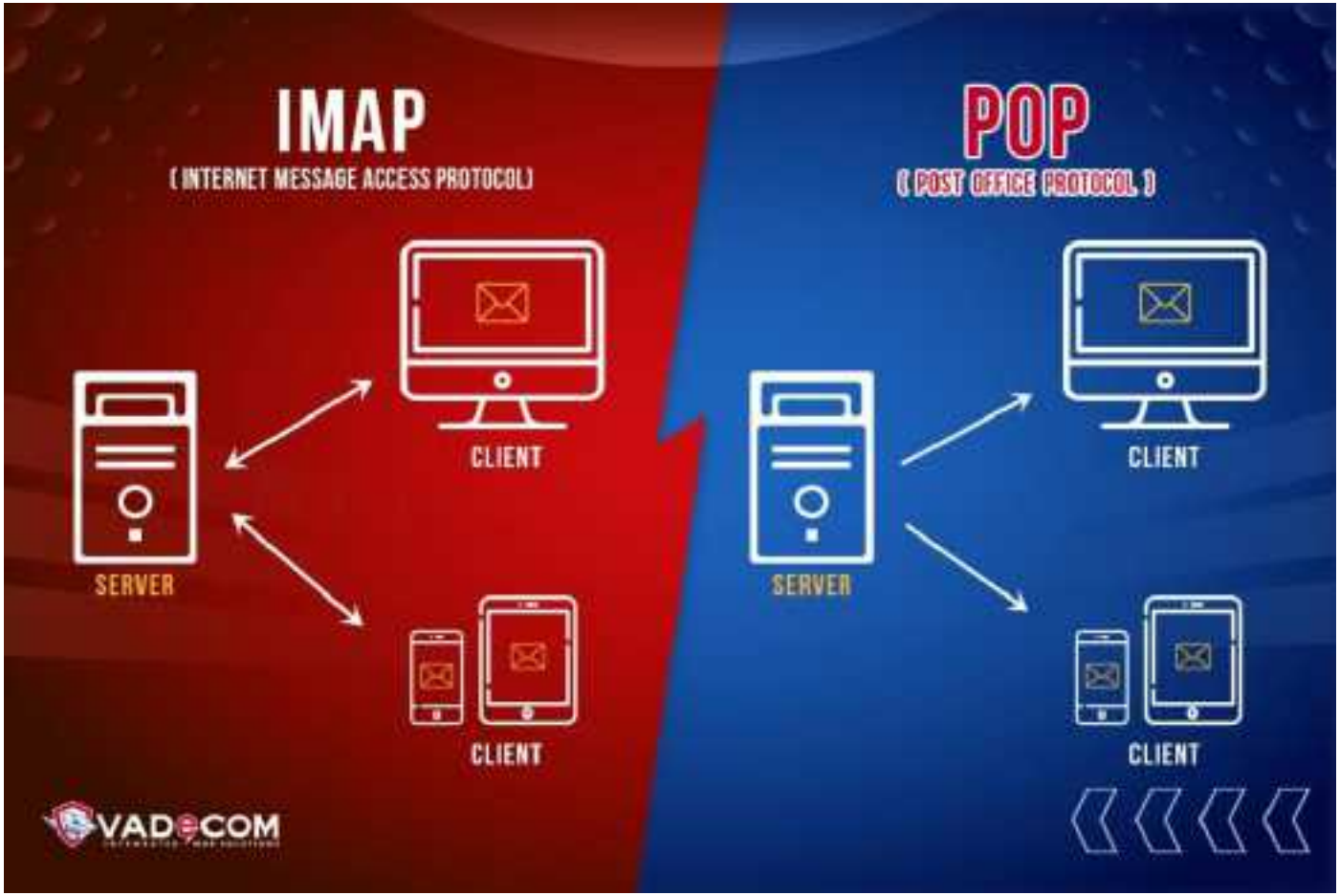
This is a simple, standardized protocol that allows users to access their mailboxes on the Internet and download messages to their computers. The simple design of POP3 allows casual email users who have a temporary Internet connection (dial-up access) to access emails. They can read their emails, draft new emails or reply to emails while they are offline, and can send these emails when they are back online. Yahoo! Mail (mail.yahoo.com) is an example of a mail server that uses POP3 protocol.

Email clients like Microsoft Outlook may be used to access emails and download them from mail.yahoo.com. Users may also access them on web browsers.

IMAP (Internet Message Access Protocol)

This is a standard protocol used for email transfer by users. Like POP3, it also supports both online and offline modes of email access. The email message is downloaded to the user's machine only when a specific request is made to read it. Users can download mails to their computers while keeping a copy on the server. The mails on the server are the primary copy and anything changed on the local machine is updated by what is on the server.

IMAP provides powerful search capability and search for emails on servers.
Users can also create new mailboxes which are shown as folders on the server and move messages between folders. This feature allows access to shared and public folders.
Gmail is an example of a mail server which uses IMAP protocol. Email clients like Microsoft Outlook may be used to access these emails directly on the server and the local machine after downloading.


IMAP
(INTERNET MESSAGE ACCESS PROTOCOL)
SERVER
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(POST OFFICE PROTOCOL)
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VADCOM

Outgoing e-mail: SMTP

POP3 and IMAP allow you to access an e-mail account so you can read and manage your incoming messages. SMTP (Simple Mail Transfer Protocol) enables you to send messages to other e-mail addresses. For an e-mail account to be fully functional, SMTP must also be working correctly. In other words, POP3 and IMAP provide “incoming” functionality, while SMTP provides “outgoing” functionality.

SMTP servers are the “post offices” of the internet, routing e-mail messages between senders and recipients. If the sender and recipient are valid and authenticated users, then messages are usually delivered normally. If a message is undeliverable, however, SMTP servers return the message to the sender, along with a reason why the delivery failed. For example, you have probably received a “message undeliverable” notification if you ever mistyped a recipient's e-mail address.

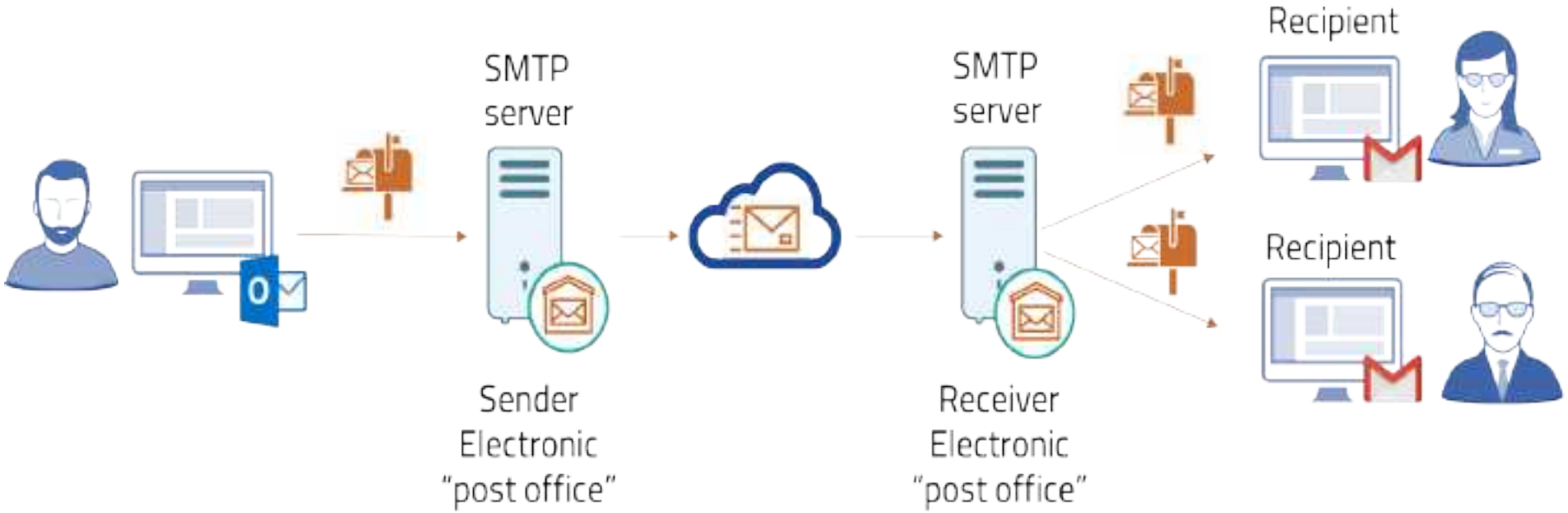
If you use webmail to access your account, you don't have to worry about setting up access to an SMTP server, because it is already configured for you. However, if you want to use a standalone client application such as Apple Mail or Outlook to manage e-mail, you must configure access to an SMTP server. Otherwise, the client does not know how or where to send messages.

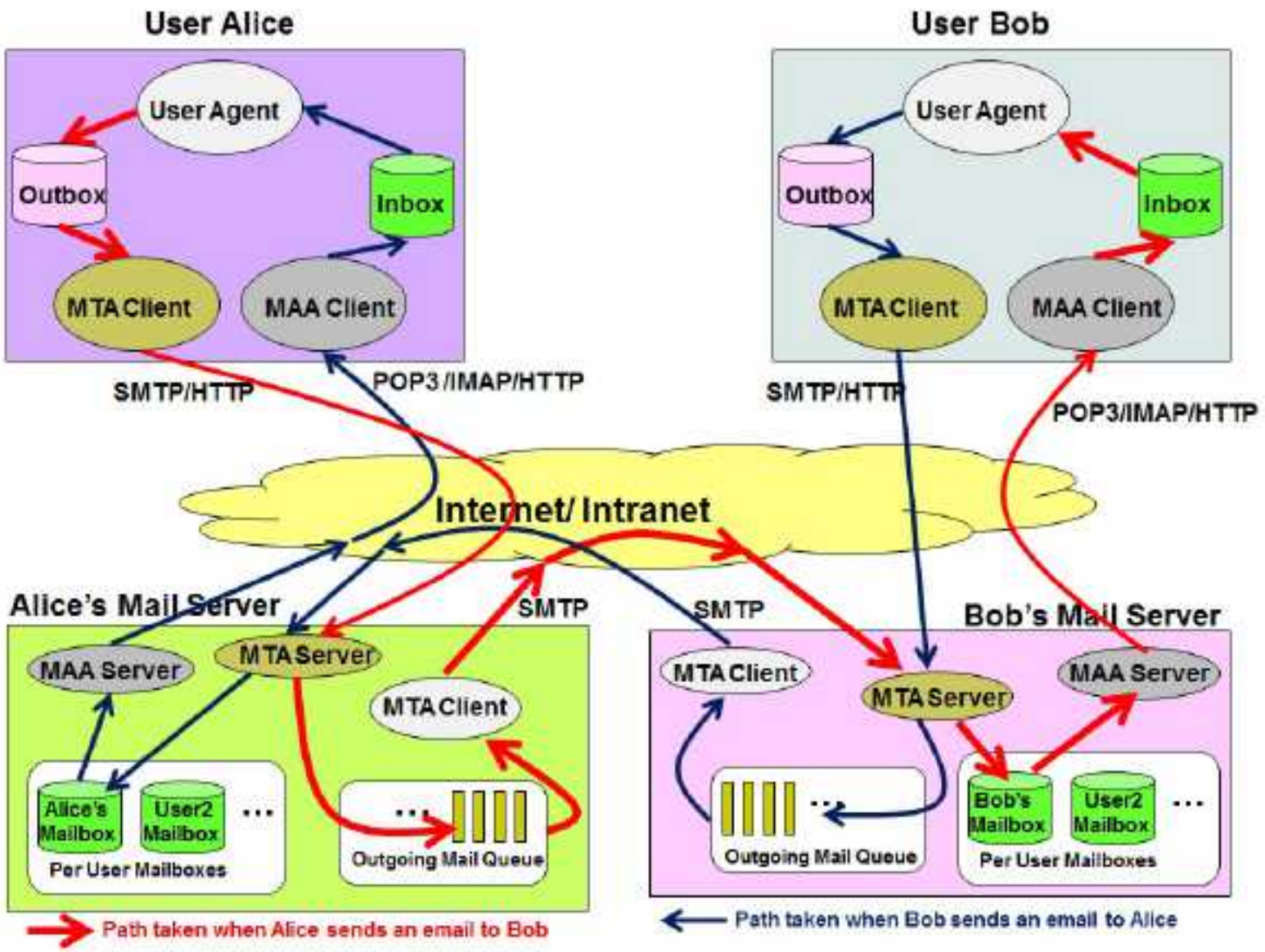
HTTP (Hyper text transfer protocol)

Even though HTTP is not used exclusively for mail transfer, it still plays a vital part for users who use Internet browsers for accessing their mails (both for sending and receiving).

Hotmail and Yahoo! use HTTP protocol for accessing emails through the Internet.

IMAP from the other primary email protocol in use, POP3. In POP3, email is delivered to the user's computer and manipulated locally. Depending on server settings, the email is usually deleted from the server computer after being transferred to the user.




User Alice
User Agent
Outbox
Inbox
MTA Client
MAA Client
SMTP/HTTP
POP3 /IMAP/HTTP
User Bob
User Agent
Outbox
Inbox
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MAA Client
SMTP/HTTP
POP3/IMAP/HTTP
Internet/ Intranet
Alice's Mail Server
MAA Server
MTA Server
MTA Client
Alice's Mailbox
User2 Mailbox
Per User Mailboxes
Outgoing Mail Queue
SMTP
SMTP
Bob's Mail Server
MTA Client
MTA Server
MAA Server
Outgoing Mail Queue
Bob's Mailbox
User2 Mailbox
Per User Mailboxes
Path taken when Alice sends an email to Bob
Path taken when Bob sends an email to Alice

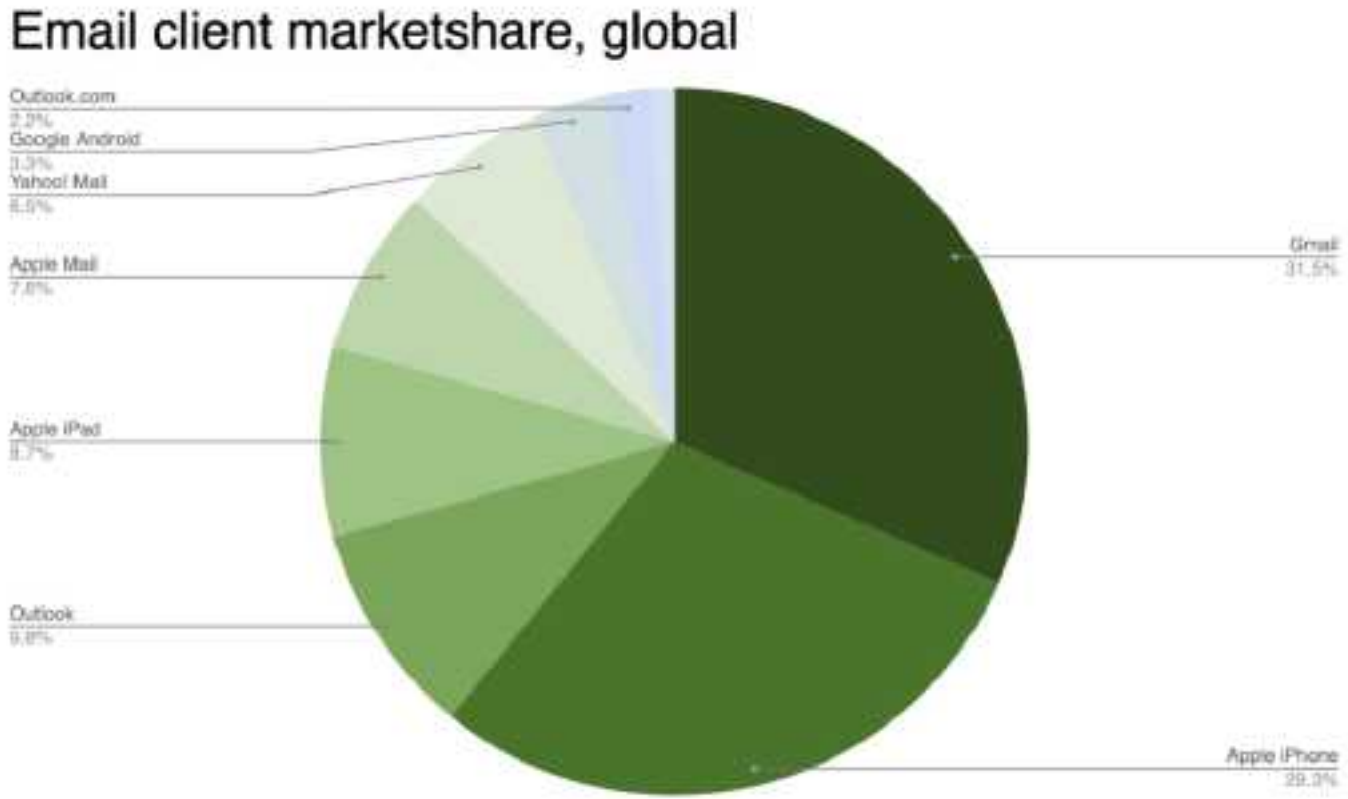
What is Exchange (MAPI)?

Microsoft developed Messaging API (MAPI) soon after the introduction of IMAP and POP. However, MAPI is far more than just an email protocol, and there are many technical differences between these protocols.

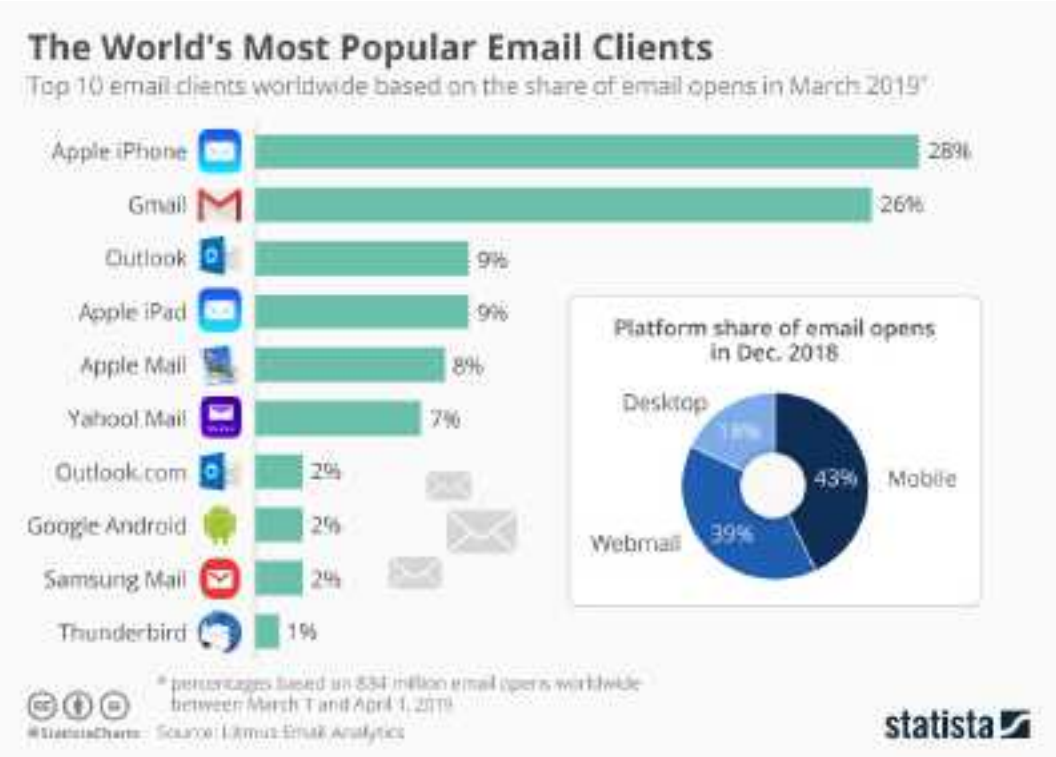
In simple terms, MAPI allows email clients and various other applications to connect with Microsoft Exchange servers. It can synchronize emails, contacts, and other data very efficiently. Microsoft Outlook is based on MAPI, as its entire system is highly dependent on communicating with the Exchange.

Microsoft has advertised these features as “Exchange ActiveSync.” A major benefit of this technology is that Microsoft users of different devices or any other smart device can benefit from the power of Microsoft Exchange.

E-Mail Clients



E-Mail Clients - Continued



E-Mail Providers (Services)