1906534 Ankit Roy

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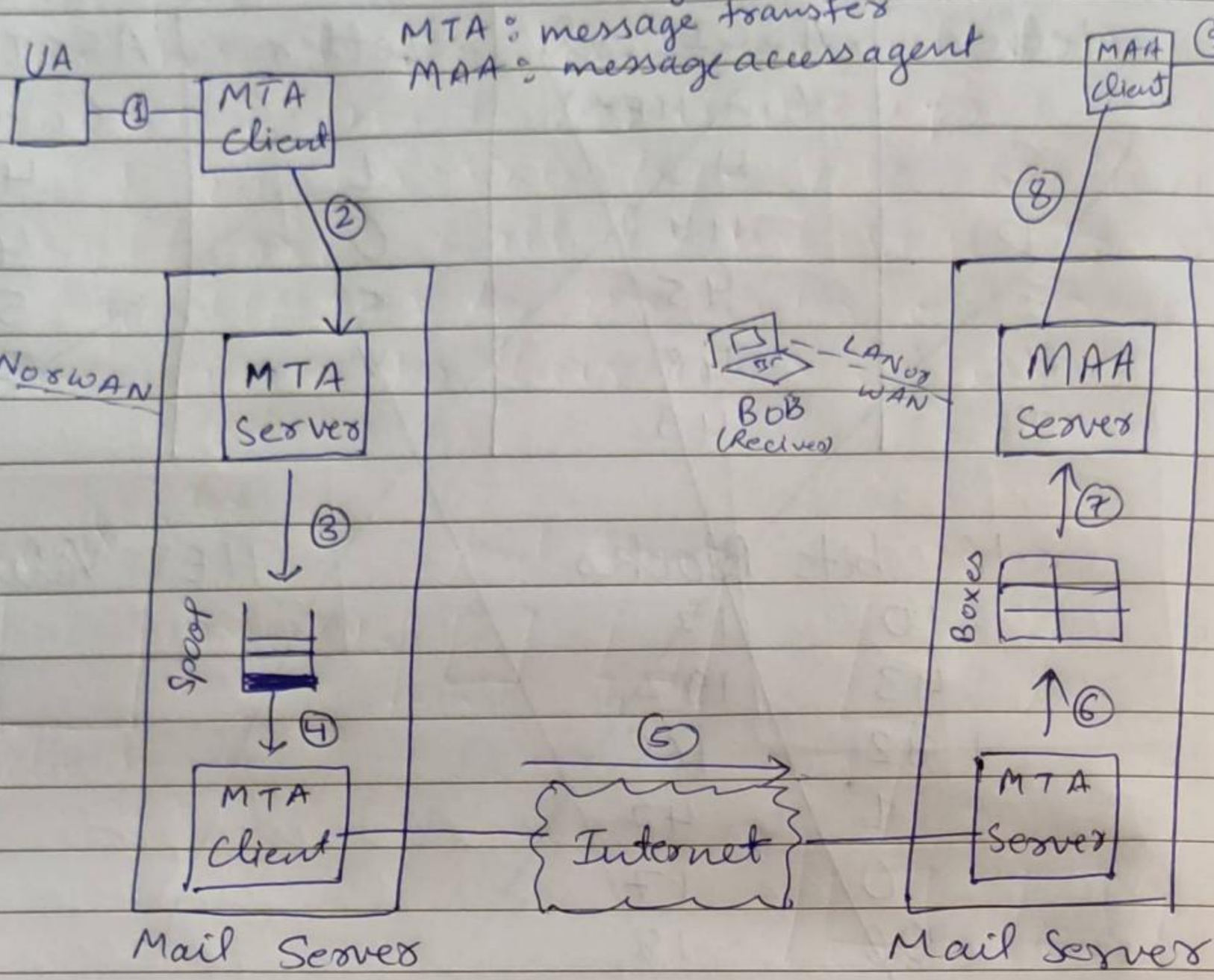
1 (a)

UA: user Agent
MTA: message transfer
MAA: message access agent



E-mail Communication Steps:

1. UA of client sends the e-mail to a MTA client.
2. MTA client program of Sender sends mail to Mail Server (Sender end). MTA Server program gets the mail.
3. MTA Server puts the e-mail in a Message Queue (Spool)
4. At Mail Server at sender end the e-mail is fetched from the Spool and using a MTA client program it is forwarded to the relevant MTA Server program running on the receiver mail Server.
5. MTA Server at receiver mail sever forwards the e-mail to the designated Mail-Box of the destination user.

6. Based on the user destination: bob@gmail.com the e-mail is PUT in to the mail box database.

7. MAA server fetches data from relevant Mail-box.

8. When the receiver comes online MAA server program running on the received mail - server forwards the mail to MAA client.

9. MAA client deliver the data to UA of the receiver
The electronic mail system needs two UAs, two pairs of MTAs (client and server) and a pair of MAAs (client and server).

(b) POP3 is a one way incoming mail protocol that downloads a copy of message from an email source to a local machine. Once the POST office protol completes the proces, it deletes the original data from the server's inbox.

IMAP is a two way incoming mail protocol that only downloads email headers instead of its entire content. As a result, the actual message are still kept on server after being fetched for viewing changes made on the email client to the lower, hence the two-way communication.

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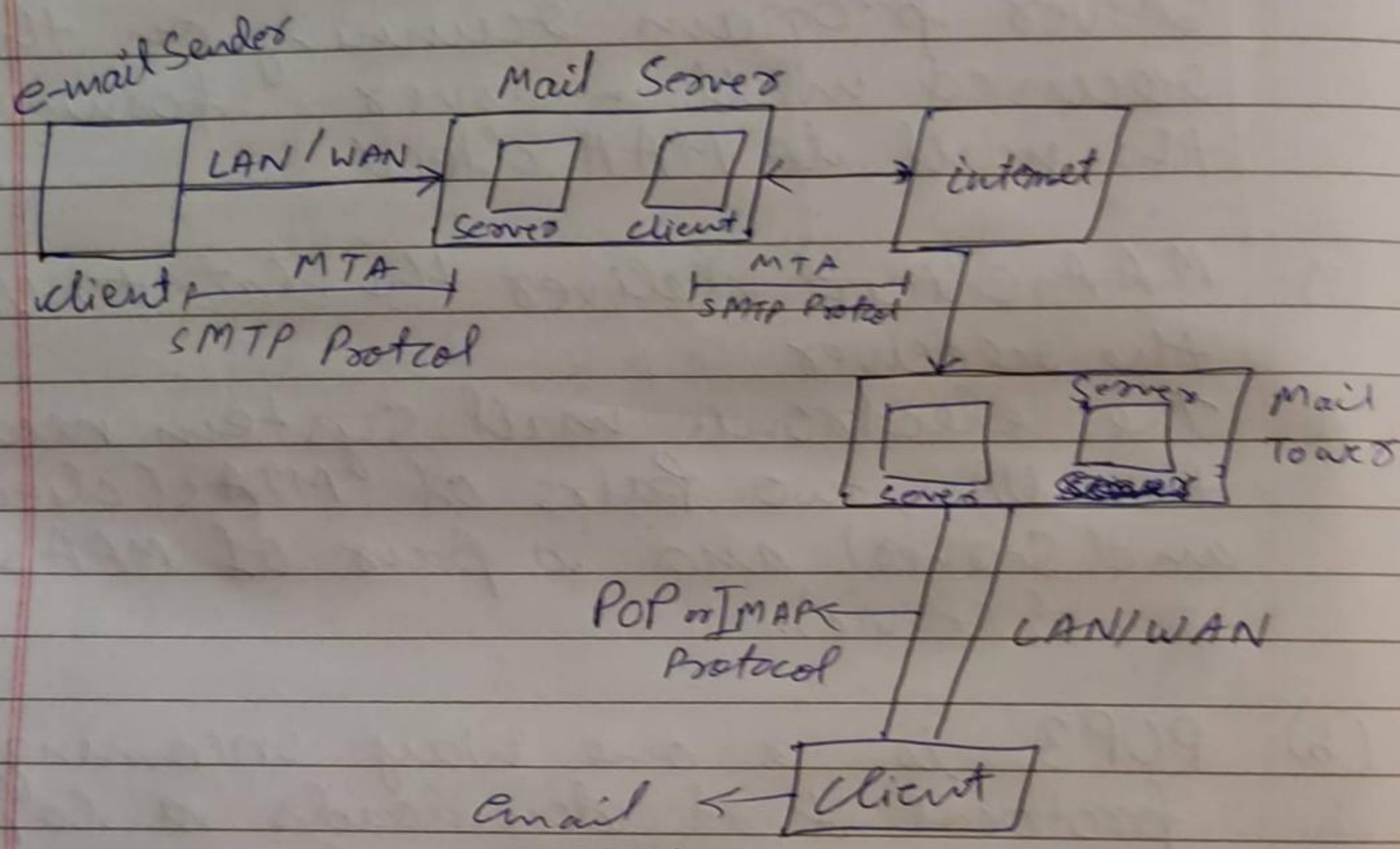
Simple Mail Transfer Protocol (SMTP) is used to send email from a local client to a recipient's address. It works side-by-side with a software called message Transfer Agent (MTA) to transfer electronic messages to their correct destinations.



An email message travels ~~through~~ through at least two main SMTP tower that belongs to the Sender & the receiver.

First, SMTP connects your client with your email provider's server. Next, it checks the email header for relevant information about the sender and the recipient's address.

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Once a destination is determined, the server will check the location of the domain associated with the address in the Domain Name System.

for e.g:- if you are trying to send a message to email.user@gmail.com, the server locates gmail.com and relays the message to that specific computer.

Then, the recipient's SMTP server delivers the message to the server's mail box until the intended user logs in to their email account. When that happens, either POP3 or IMAP will forward the new message to the recipient's email client so they can view it.