

MTA to MTA

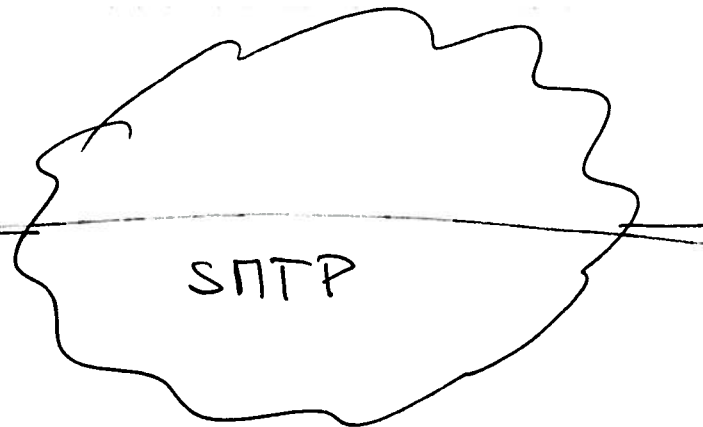
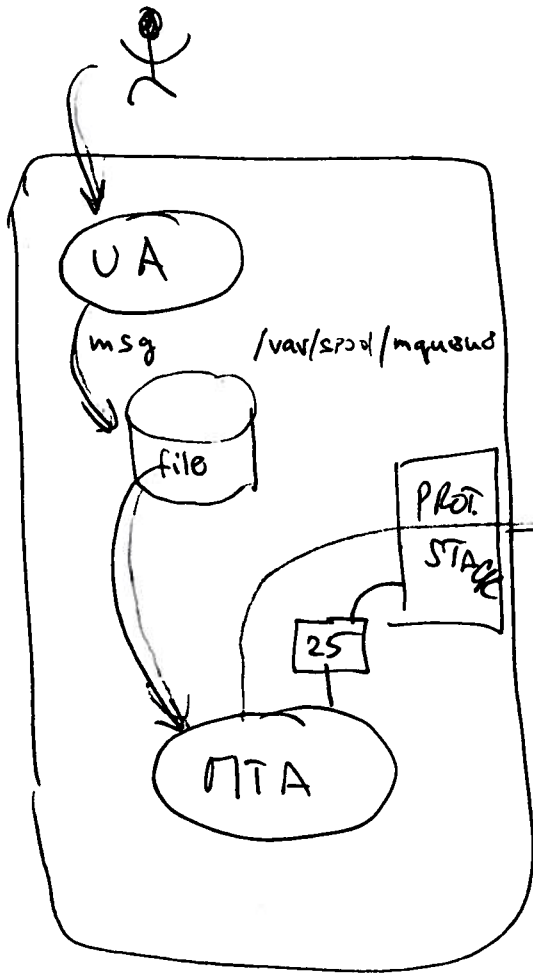
- ▶ Simple Mail Transfer Protocol (SMTP)
 - covers single hop
 - no encryption
 - no authentication
 - there was supposed to be a “not so simple” mail transfer protocol
 - some problems were addressed by ESMTP (extended SMTP) and other procedural methods

UA to MTA

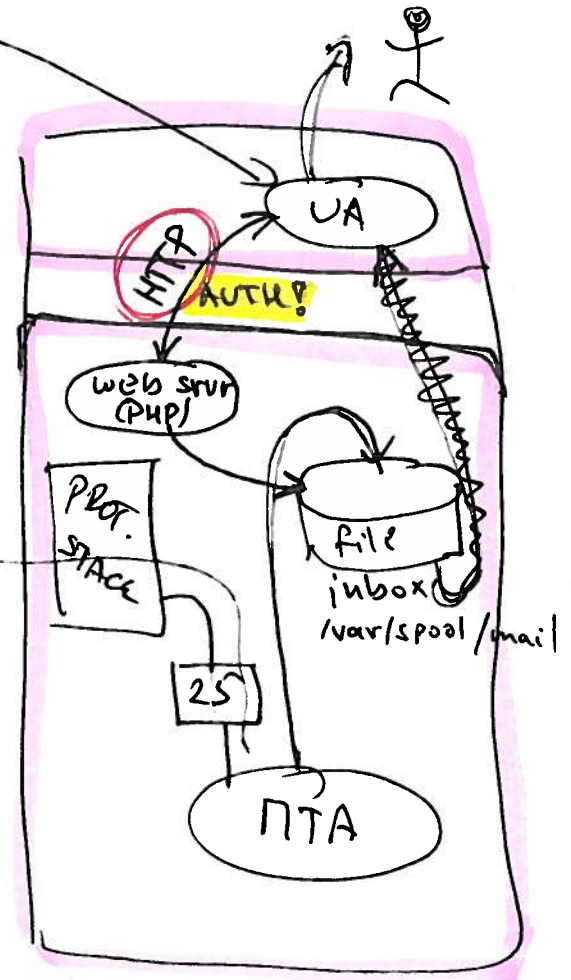
- ▶ UA and MTA on the same host (the old days)
 - UA and MTA communicate using files
 - use of host's authentication methods
- ▶ UA and MTA communicate over a network (today)
 - SMTP was not designed for this
 - sending mail: SMTP with authentication
 - retrieving mail: POP-3 and IMAP (include authentication)

EMAIL DELIVERY

CASE 2: WEB-BASED
MAIL CLIENT (^{browser}.js)
(e.g., Gmail, Outlook.com)



Simple mail
transfer protocol

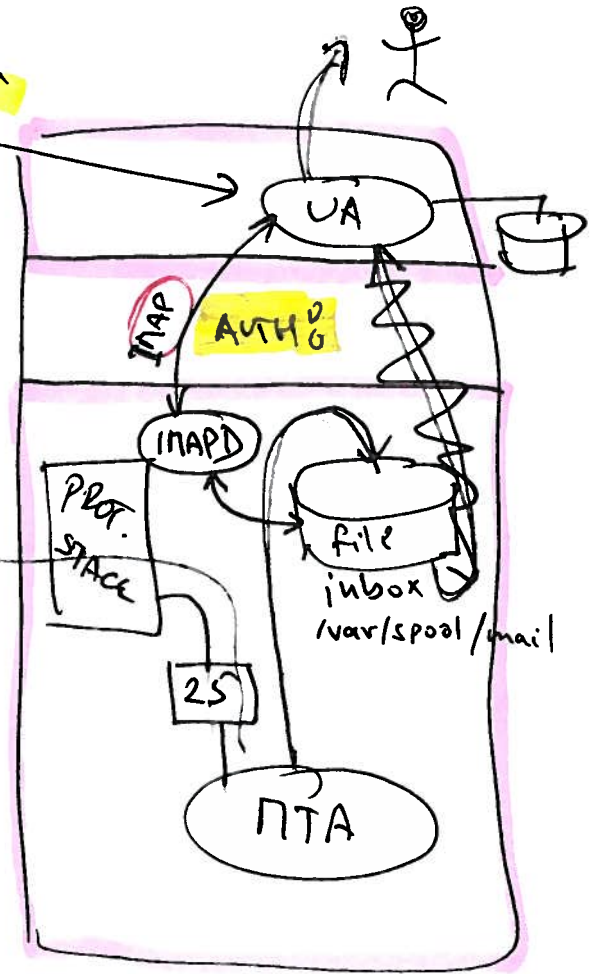
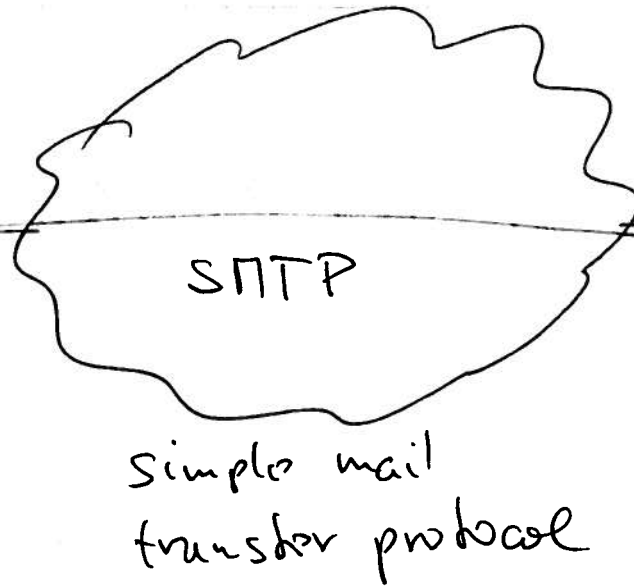
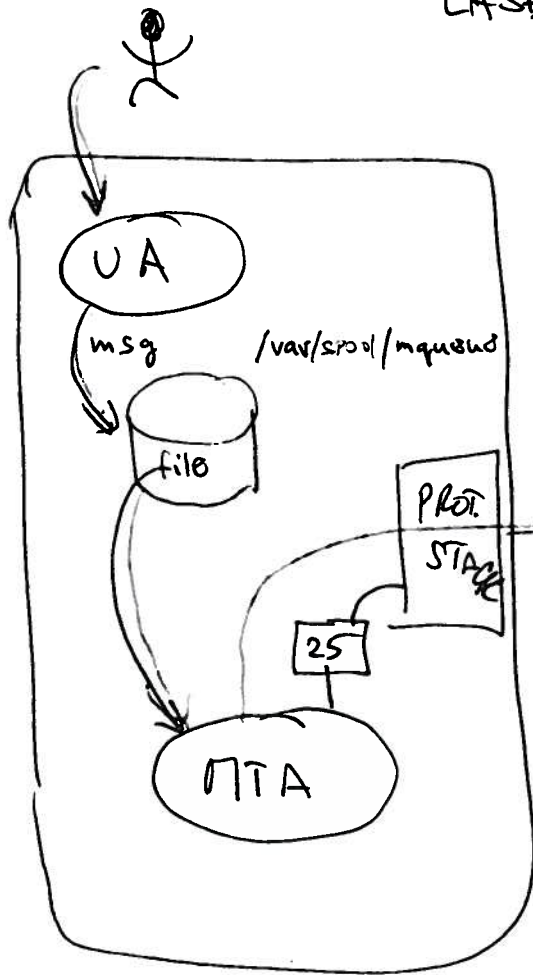


EMAIL DELIVERY

CASE 3: STANDALONE MAIL APPLICATION
(Thunderbird, Outlook, Apple Mail)

mail program

Thunderbird, Outlook, Apple Mail



PROTOCOLS: IMAP
POP-3
Exchange

MIME

- ▶ **Problem:** SMTP was designed to deliver limited length, English text
- ▶ **Solution:** MIME (Multipurpose Internet Mail Extensions)
 - make everything look like text
 - package it and mark it with content type so it can be unpacked and rendered on the receiving end

SMTP Server Actions

- ▶ SMTP server is deciding whether to accept an email message for delivery
 - **Local**: recognized user of the organization that runs the server:
 - by IP address
 - authenticated
 - **Global**: everyone else

To: From:	Local	Global
Local	Deliver	Deliver
Global	Deliver (with caution)	Deny (unless authenticated)