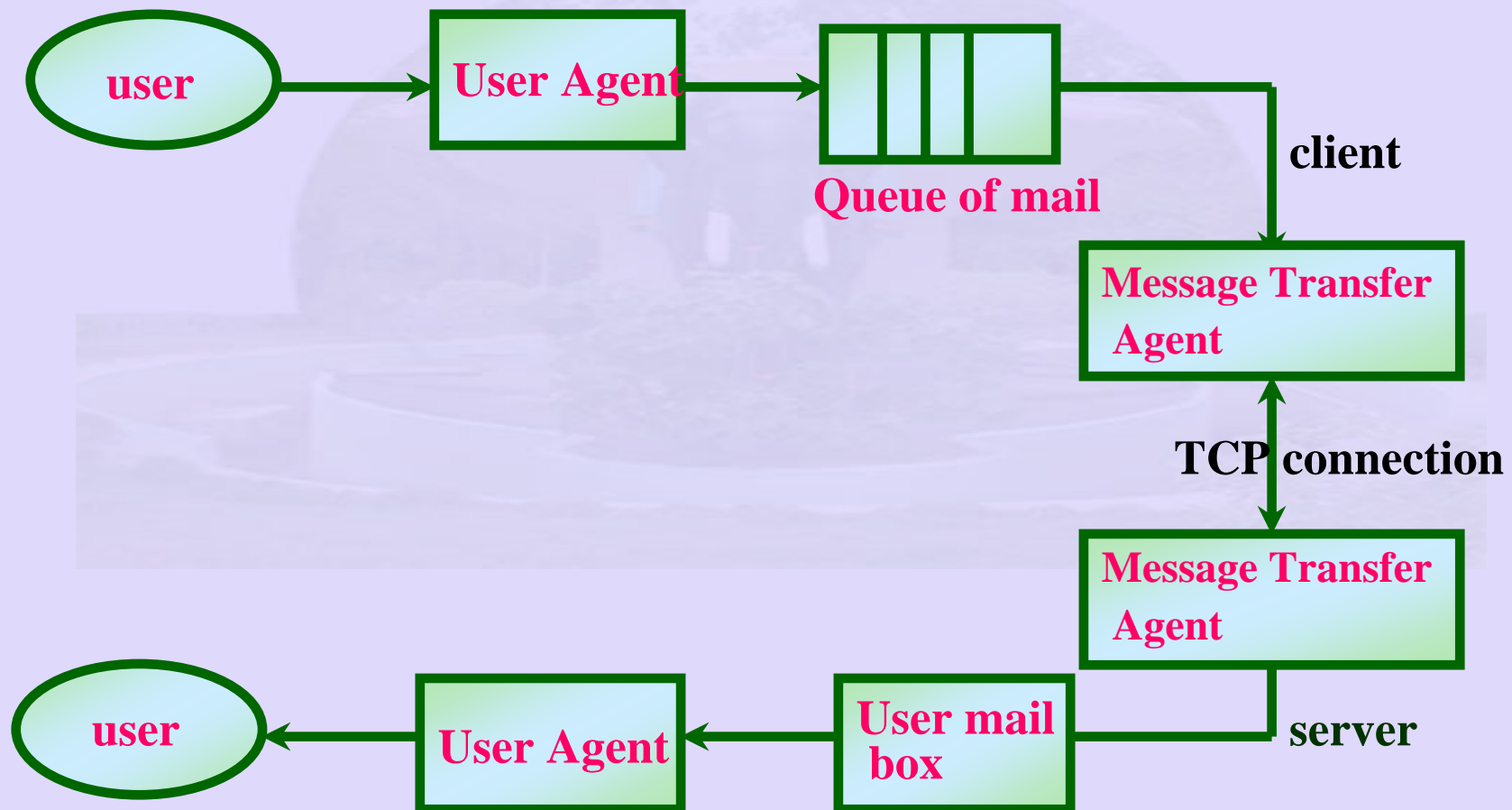


# Simple Mail Transfer Protocol (SMTP)

## Out line of Internet Electronic Mails



## SMTP (contd.)

- **User agent: mail, elm, pine**
- **Message Transfer Agent: Send mail**
- **Commands used to send mail:**
- **HELO, MAIL, RCPT, DATA, QUIT**
- **mail -v hema@tenet.res.in**

## SMTP (contd.)

- **HELO – Identify client**
- **MAIL From:  
hema@bharavi.iitm.ernet.in**
- **..... sender ok**
- **RCPT To: hema@tenet.res.in**
- **rcpt ok**

# SMTP (contd.)

- **DATA**
- **Enter mail end with a dot on a line by itself**
- **Mail accepted**
- **Quit**

# SMTP (contd.)

- **Additional Commands:**
  - **RSET** – about the current mail transaction
  - **VRFY** – Lets client ask the sender to verify recipients address without sending mail.
  - **NOOP** – From server respond with and ok
  - **EXPN** – Expand a mailing list

# SMTP (contd.)

- Message Format: (RFC 822)
  - header
  - body
  - Originally body – simple text
  - **MIME** extension – permits all sorts of text
  - <Msg Header>
  - Series of **CRLF**
  - Header separated from body by a blank line
  - **Header line:**
    - <**Type, Value**> pairs separated by a colon

# SMTP (contd.)

- Example

- To:

- Subject:

- From:

- CC:

- RFC 822 – Supports audio, video, images, word, docs etc

# SMTP (contd.)

- **MIME:** *Multipurpose Internet Mail Extensions*
- **MIME – Version:** Version of MIME being used
- **Content Description:**
  - A human readable description of what's in the message
- **Content Type:** Type of message
- **Example:** Still images: *image/gif, image/jpeg*



# SMTP ( contd.)

- **Text:**
  - **text/ rich text**
  - **marked up texts**
- **Application:**
  - **application/ postscripts**
  - **application/ network**
- **Also enables structuring of multipart type**
  - **- Message carrying more than one data type structures**

# SMTP (contd.)

- **Mechanism for encoding:**
  - **Email contains only ASCII**
  - **Encoding – base 64**
  - **Map three bytes of original into 4 ASCII characters**
  - **Each 6-bit maps to a valid ASCII character, lc, 10 digits + and /**

# SMTP (contd.)

- **Example:**
- **MIME – Version: 1.0**
- **Content Type: multipart/ mixed**
- **boundary = “ .....XYZ”**

# SMTP (contd.)

- **From:** hema@tenet.res.in
- **To:** 1Mtech@peacock.iitm.ernet.in
- **Date:** Tue, 23 Apr 2002 09:00:00 .....XYZ
- **Content – Type:** text/ plain; char set = us – ASCII
- **Content Transfer – Encoding:** 7 bit
- Here is the picture and draft report:
- hema
- .....XYZ
- **Content – Type:** image/ jpeg
- **Content Transfer – Encoding:** base 64

# SMTP (contd.)

**Unreadable encoding of picture**

.......XYZ

**Content Type: application/ postscripts:**

**name = “draft.ps”**

**Content Transfer – Encoding: 7 bit**

**Readable encoding of a PS document**



## SMTP (contd.)

- **Mail server: Example: lantana**
  - **Need mail on bhairavi**
- **Recipient machine must be up**
  - **Otherwise gateway delivers later**
- **User may use POP3 (Post Office Protocol)**
  - **Fetch mail from gateway to specific host**