ipls

Designing communications software for the IBM AS/400

X400,
a set of protocols of electronic messaging adapted to EDI.

Post Office (world)
= **MHS** (Message Handling System)

POST OFFICE (national)
= **MTS** (MessageTransfer System)

Post officee = **MTA** (Message Transfer Agent)

Transmitter / Recipient = UA (User Agent)
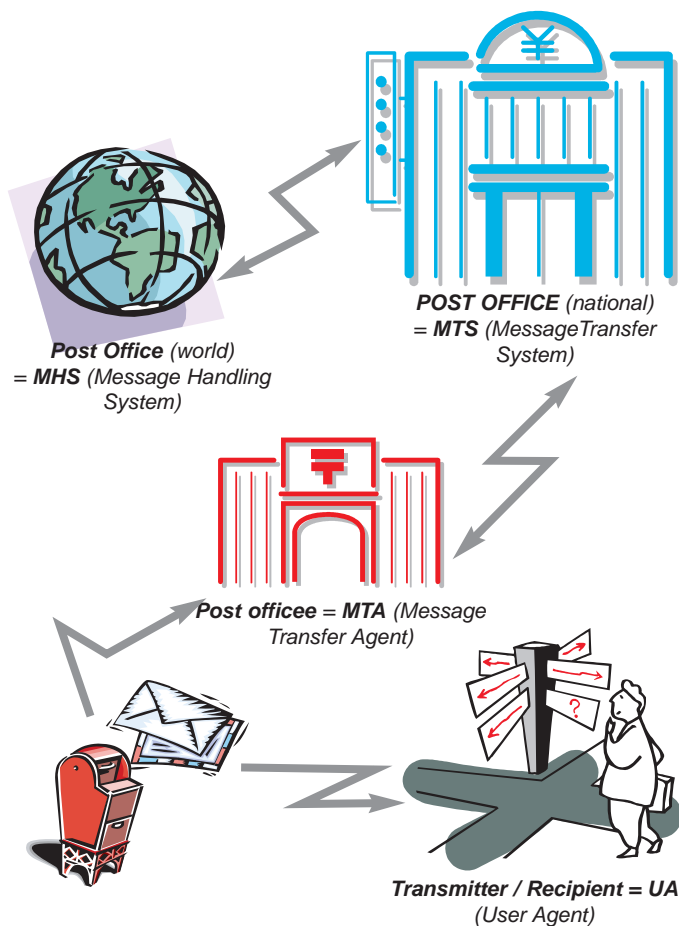
*To **illustrate the X400 standard,** let us take the example of the Post office; indeed, X400 standard presents services and protocols (average of transfers) based on the structure of the Post office.*

COMMUNICATION PROTOCOLS USED WITH X400

▲**P1** : protocol used to communicate from a MTA to a MTA. It can be compared to the address writen on the envelope which contains your letter and allowing to sort and rout the mail.

▲**P2** : protocol of interpersonal message handling. Used between two UA, it can be compared with the rules of letters presentation.

▲**P3** : protocol to access to the MTS, it is used for the communication from a MTA and MS or from a MTA and a UA.

▲**P7** : protocol used between a MTA and a UA not connected directly to a MTA. In fact, very similar to P3, except for a service of storage apart from the MTA and UA intervenes (by Message Store).

THE FUNCTIONAL MODEL OF X400

A Message Handling System (MHS) provides a generalized service of storage and forwarding for the messages between users of the message handling system.

The user of the Message Handling System can be a person or a data-processing application.

The Message Handling System operates if there is no point-to-point connection between the transmitter(s) (Originator) and the recipient of a message.

As regards X400 Message Handling System, all the actors being on the network, or in the country, or in the world, are to be taken into account.

TWO NEW CONCEPTS APPEAR:

1) Message Transfer System:
it is the set of the MTA which ensure the collection, the routing and the distribution of the mail. We can compare the MTS to the Post Office, which ensures this work in all the country (in collaboration with other Poste offices).

2) Message Handling System:
it is then about the MTS and all the user agents connected to this MTS. By analogy, one can compare it with all the population likely to receive a letter.

In the X400 message handling system, two sets of principal services are distincts:

▶ **the User Agent (UA):**
It enables you to do your mail, by selecting the documents, by writing the envelope and by possibly specifying complementary services (express mail, acknowledgement of delivery..). It is the equivalent of the sender or the recipient of a mail sent by the Poste office.

▶ **Message Transfer Agent (MTA) :**
It does the sorting, the routing and the distribution of letters. In France, it can be compared with the function of the Post Office.

BASIC SERVICE OF THE MESSAGE HANDLING X400

It provides the notification if a message were not transmitted. When a message cannot be transfered to a recipient, an acknowledgement of non delivery is generated and sent to the transmitter.

MESSAGE HANDLING SERVICE

It proposes as optional service the generation of acknowledgement of distribution. If the transmitter of a message asks for an acknowledgement of successful handing-over, a report of handing-over is sent back to the transmitter by the MTA which gave the message.

Additional requirements

- Connections:
  For X400 option,
  it should be known that certain private MTA does not accept connection in X32. It is then necessary to choose either for a X25 dedicated line(or Canal D Numéris) or a TCP/IP access.

Lines integral support

- Multi-lines:
  TBT/400 supports as many X25, X32, ISDN or TCP/IP lines that you wish to assign to it.
- Multi-circuits :
  TBT/400 manages as many concurrent communications that the available resources permit.
- Lines supervision:
  TBT/400 has an automatic procedure which periodically reviews the state of the lines and as an option, responds to operator messages.

Files functionalities

- TBT/400 uses, in transmission as well as in reception, several types of OS/400 files on all of the available networks:
  Physical files, source files, back-up files, spool files (in transmission).
- Access to files is done by transcodification, page codes management...

Automated installation

- TBT/400 has a procedure which ensures that the installation is effected in a minimum amount of time.

Directory functions

- Multi-protocols directory.
- Address cheking X25 and IP.
  Enforcement of access security.
- Access control to applications.
  Secure the applications.

Supervisory functions

Several supervisory services and monitoring of message exchanges are provided by TBT/400:
- Supervision menus.
- Messages Queues.
- Output Queues.
- OS/400 view.

Miscellaneous functionalities

- Integrated scheduler.
  files transmission, scanning, submission of jobs.
- Archives all received end transmited files.
- Automatic purge.
  Clean-up history files, remove the archived files, clean up the various OS/400 components.
- Dynamique menus management.
- A contextual and conceptual on-line help is provided for the differnets menus and commands.
- Integrated editor, similar to PDM, providing for message input and modification.

Gateways with translators or messaging software

TBT/400 provides a set of gateways to well-known AS/400 software packages which have communications needs. The available gateways are:
EDI400, EDITRADE, EDIBASE, GENEDI, OFFICE/400, OPEN400...

Evolutionary

Other communication modules can be added to communicate:
- with your partners *(Atlas440, Odette , FTP ,PeSIT, X400...)*
- in EDI *(Atlas400, Calvacom,Diva, GEIS, IBM GN,Allegro...)*
- with internal protocol - Telemaintenance *(TBT protocol)*
- by fax, telex...

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AX400-02/02

TBT/400
option X400
a set of protocols of electronic messging adapted to EDI