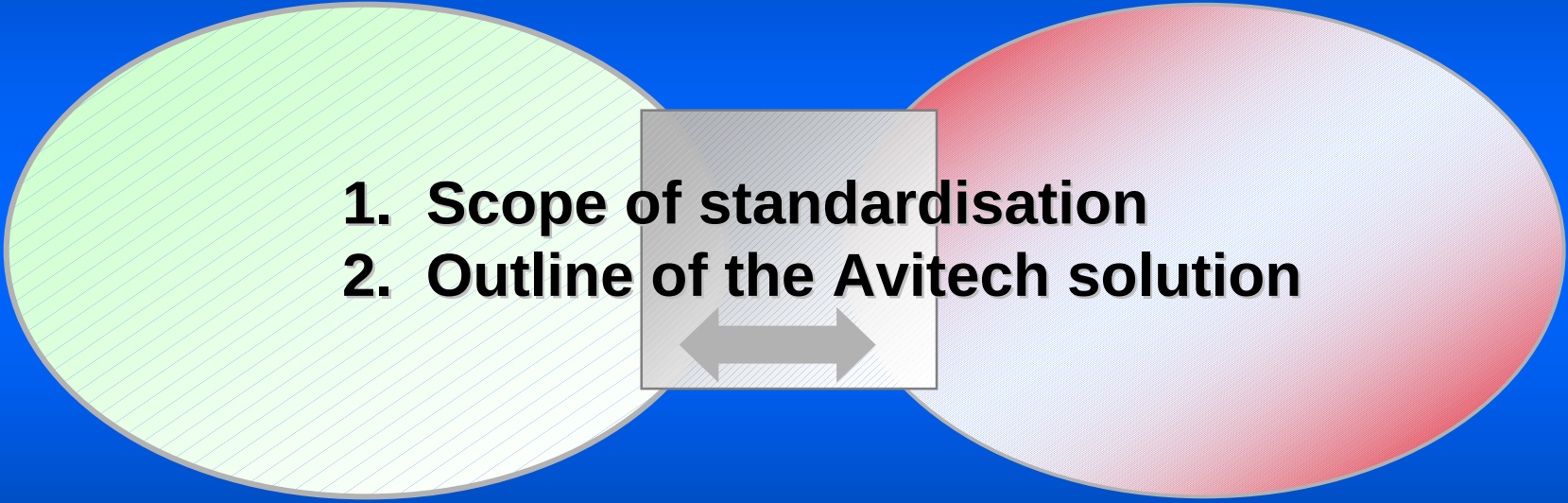
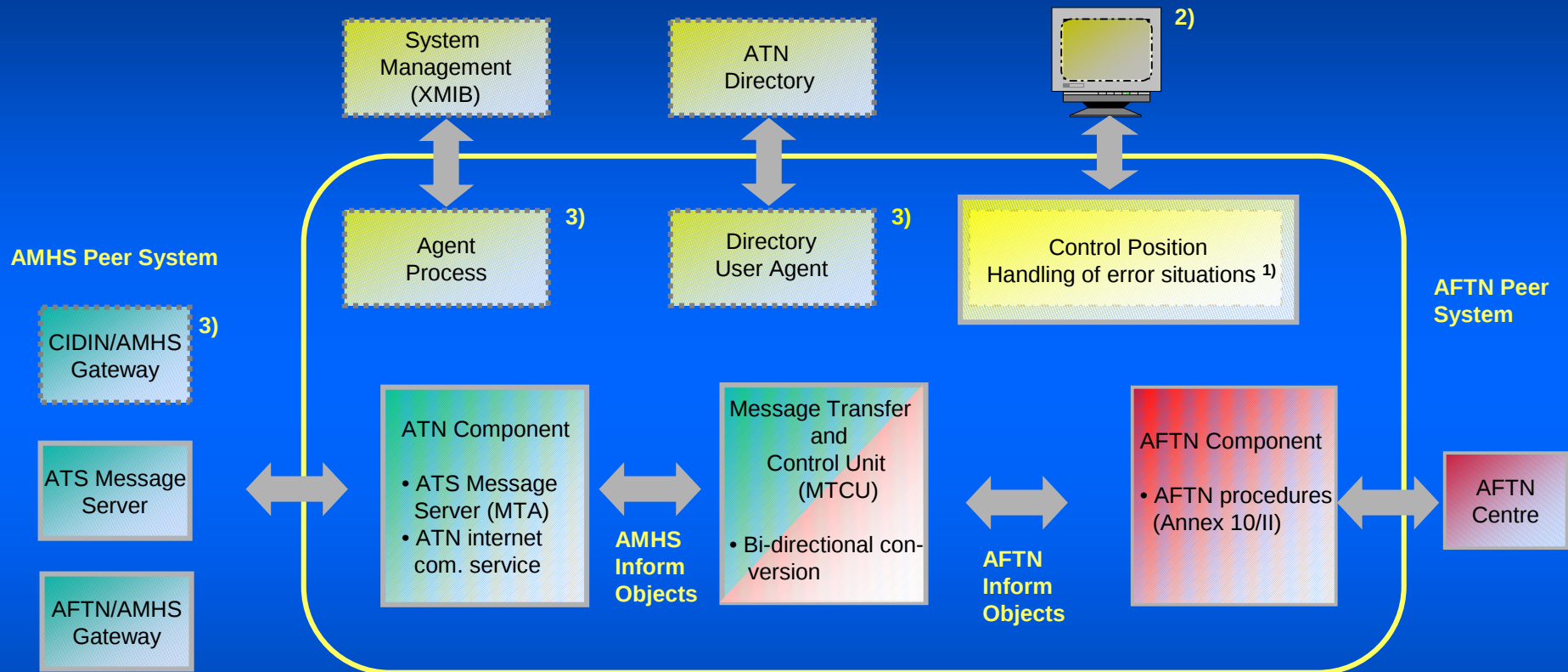


AFTN / AMHS Gateway

- 
1. Scope of standardisation
 2. Outline of the Avitech solution

AFTN/AMHS Gateway - Functional Model



AFTN Gateway - Handled Information Objects

The diagram illustrates the AFTN Gateway architecture and the flow of information objects. It is divided into three main sections: AMHS Information Objects on the left, the AFTN/AMHS Gateway in the center, and AFTN Information Objects on the right.

AMHS Information Objects (Left):

- Message (IPM)
- Message (IPN) Report (NDR)
- Report
- Probe

AFTN/AMHS Gateway (Center):

The gateway consists of three main components: ATN component, MTCU, and AFTN component. A Control Position is located at the top of the gateway.

AFTN Information Objects (Right):

- User Message
- Service Messages
 - SS Acknowledgement
 - Unknown Addressee
- Other service message
- CH message

Legend:

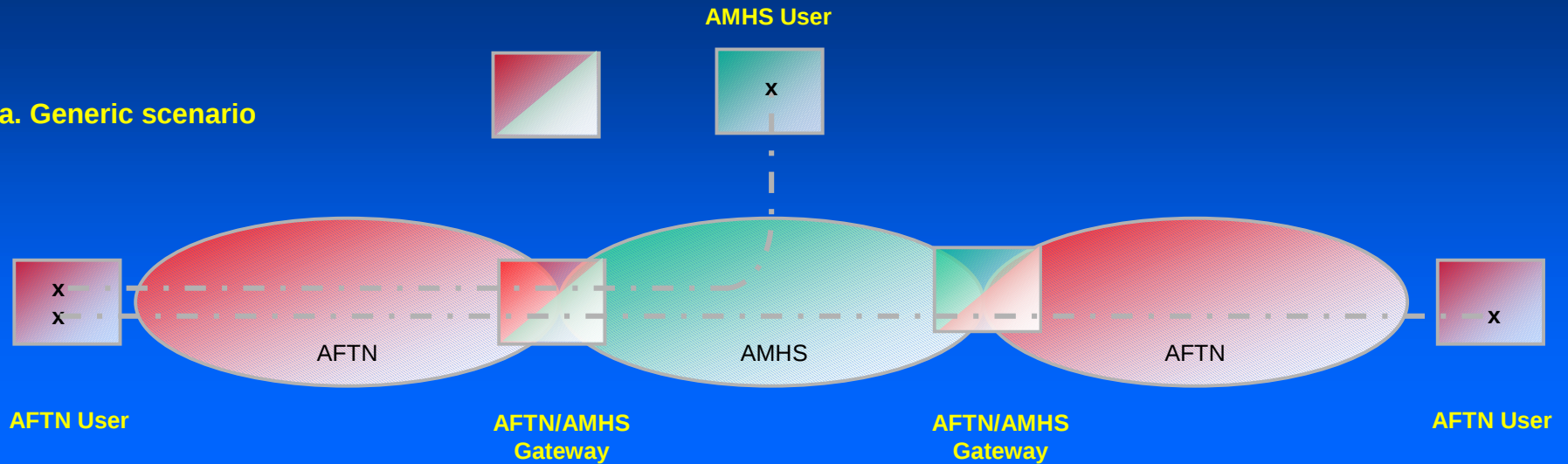
- 1) Report on error situation for appropriate action
- 2) Probe effects return of Report
- x Conversion
- Source / sink

Flow Details:

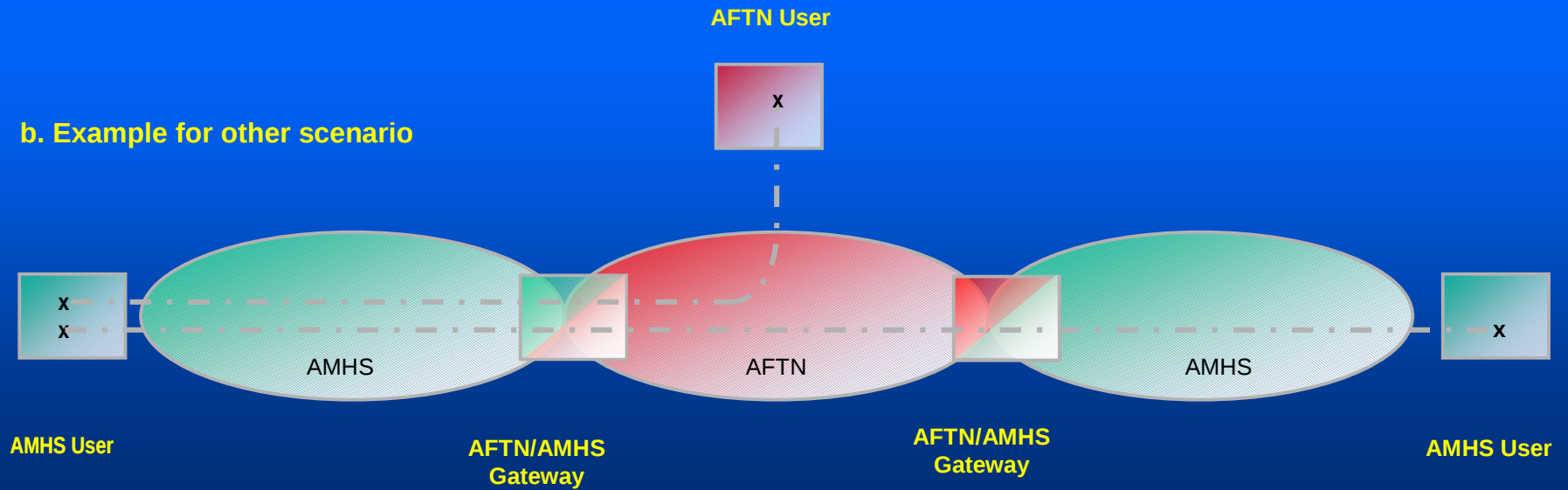
- Message (IPM) and Message (IPN) Report (NDR):** These objects are converted (x) into User Messages and Service Messages (SS Acknowledgement and Unknown Addressee) respectively.
- Report:** This object is converted (x) into an Other service message.
- Probe:** This object is converted (x) into a CH message.
- Control Position:** It receives reports (1) from the MTCU and AFTN component.
- MTCU:** It receives a report (2) from the ATN component and sends a report (1) to the Control Position.
- AFTN component:** It receives a report (1) from the MTCU and sends a report (1) to the Control Position.

AFTN / AMHS Gateway - Communication Scenarios

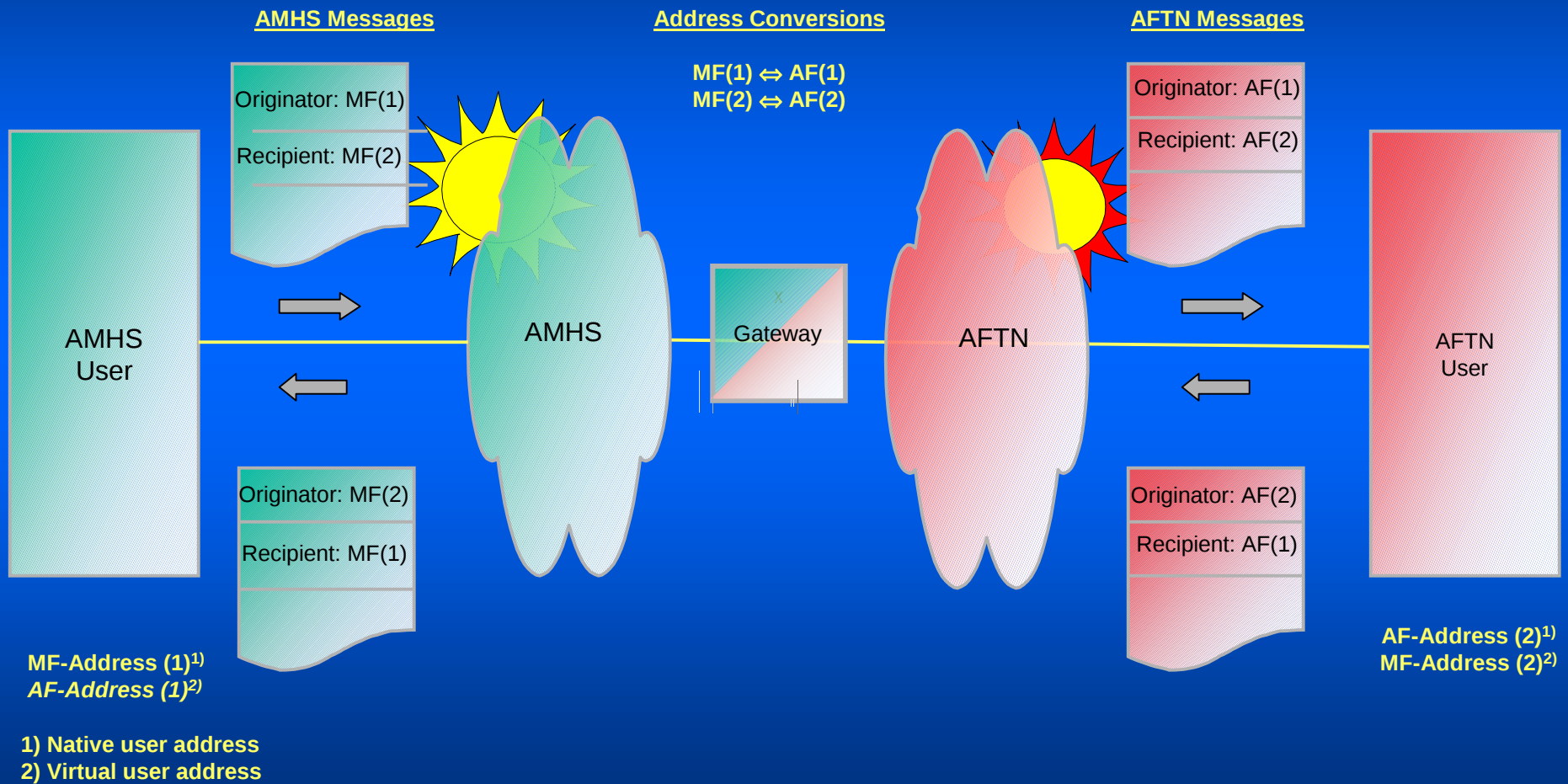
a. Generic scenario



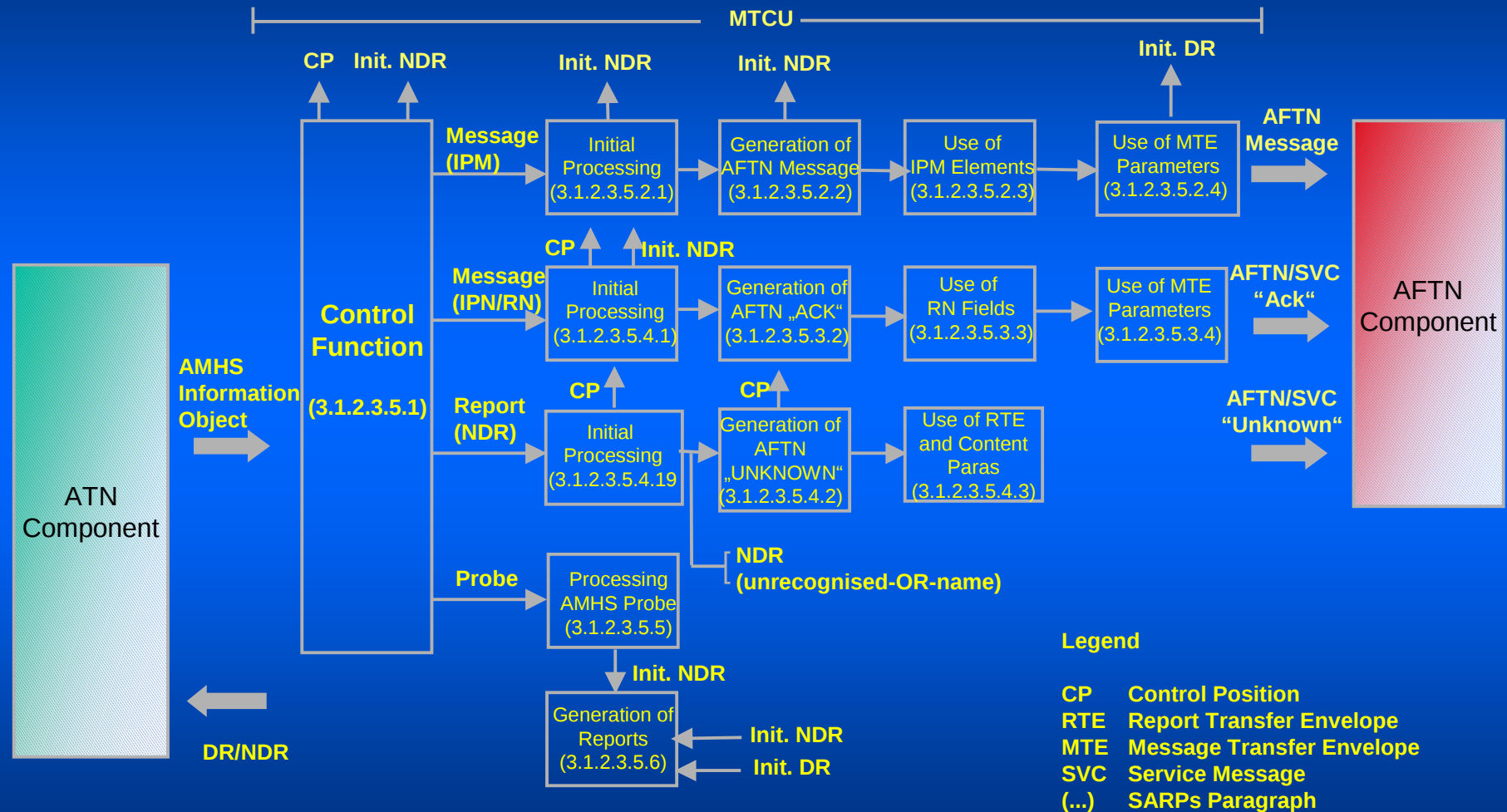
b. Example for other scenario



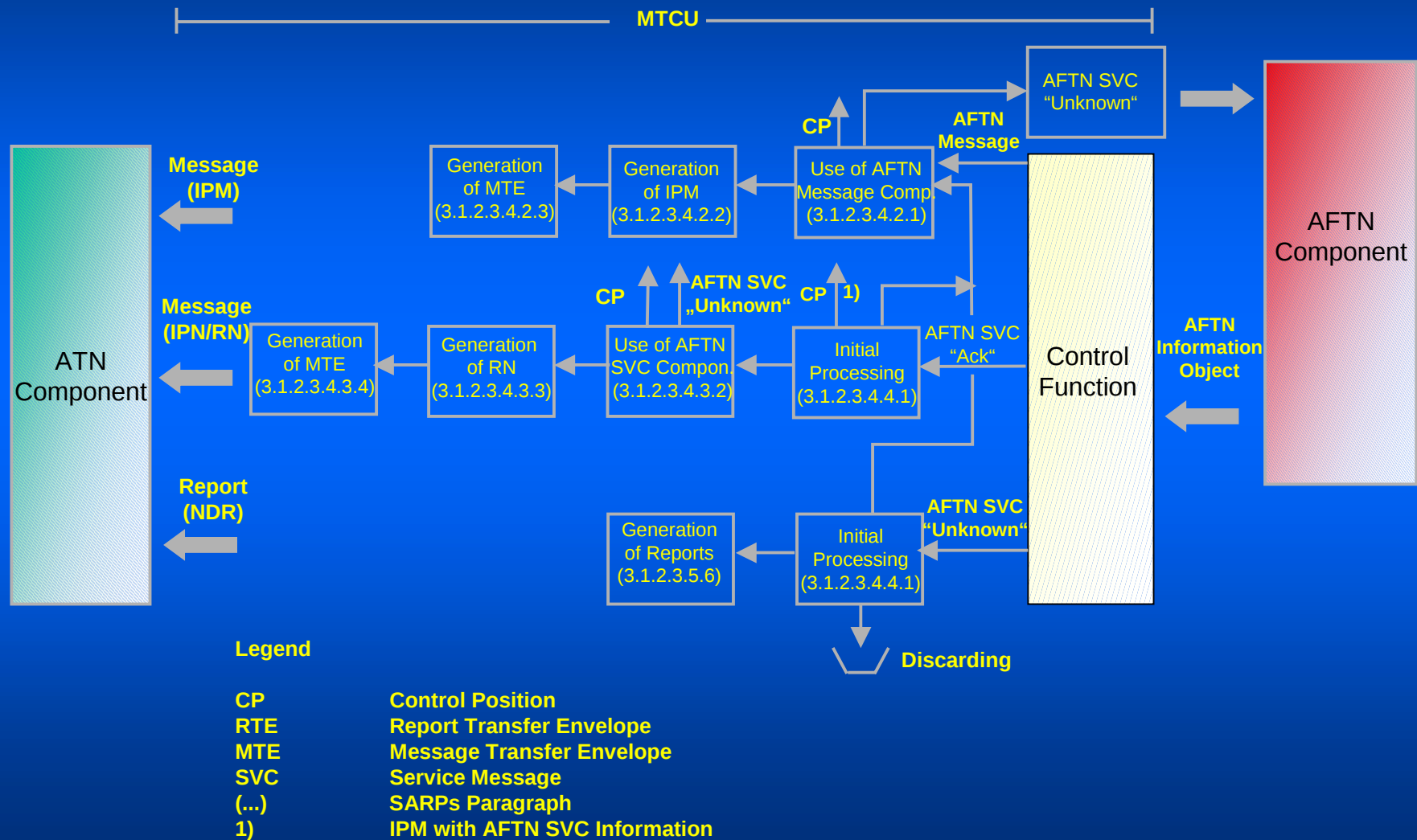
AFTN/AMHS Gateway - Addressing Concept



AFTN/AMHS Gateway - Structure of SARPs provision for AMHS to AFTN conversion



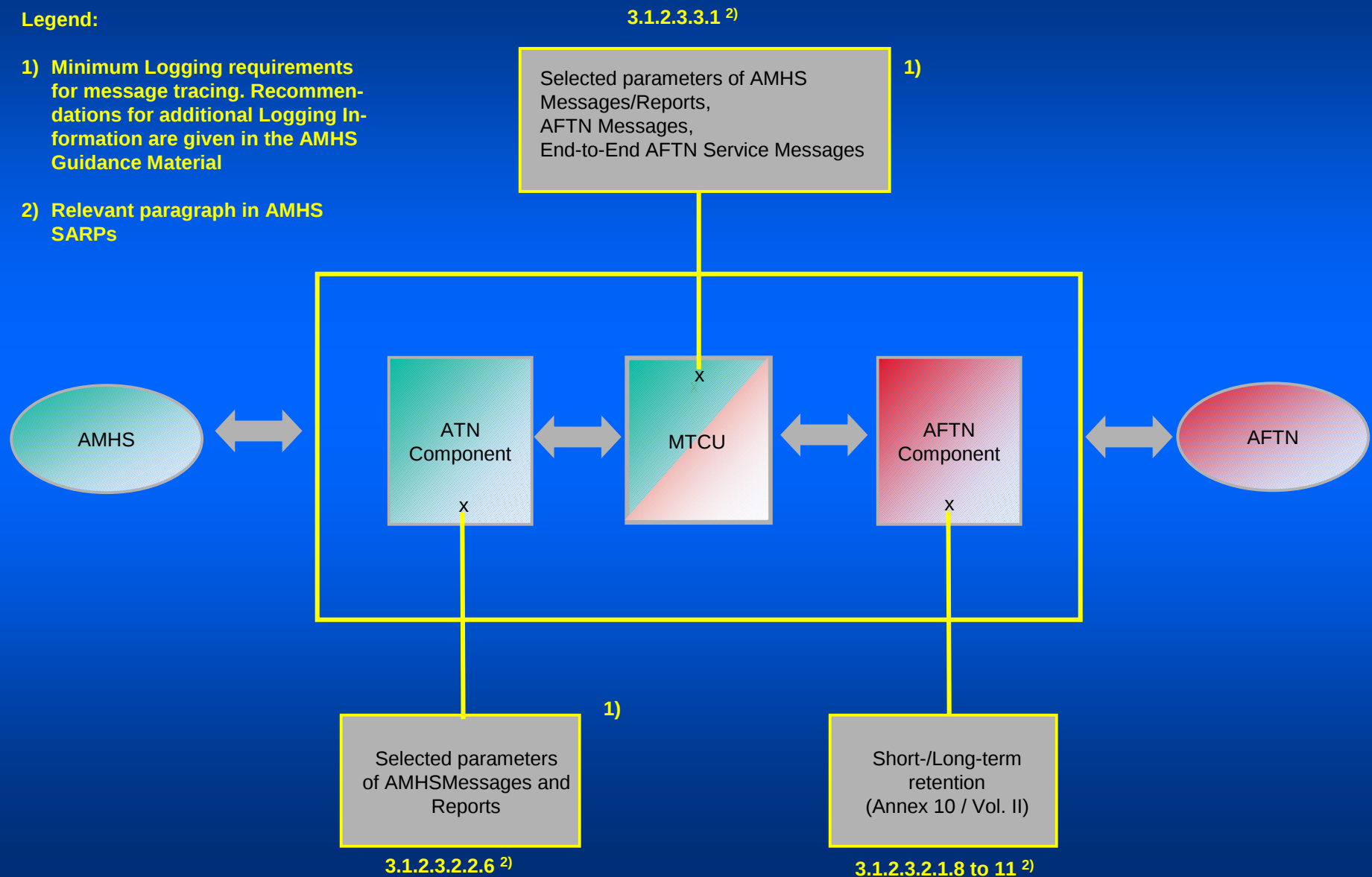
AFTN / AMHS Gateway - Structure of SARPs provision for AFTN to AMHS conversion



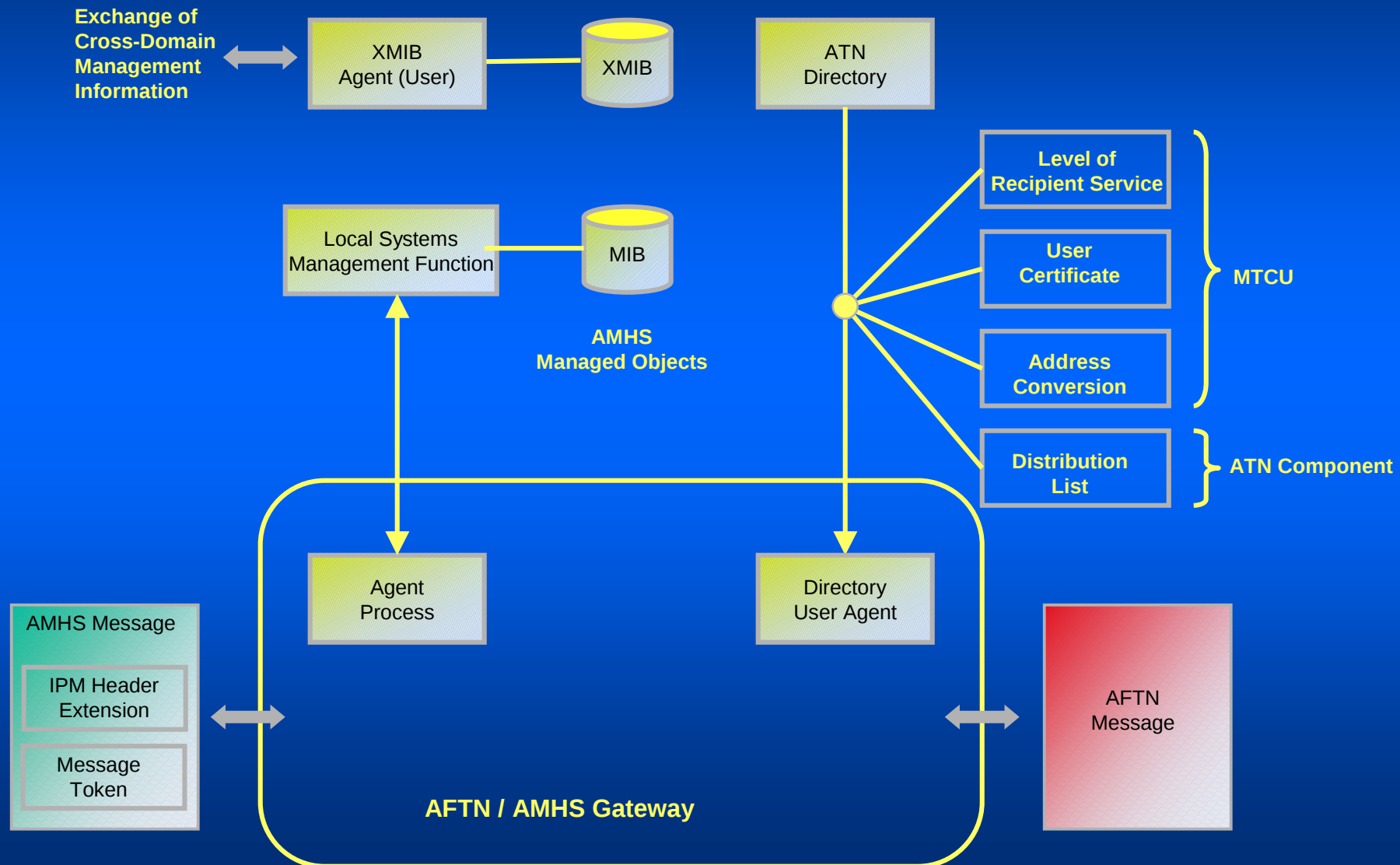
AFTN / AMHS Gateway - Scope of Traffic Logging

Legend:

- 1) Minimum Logging requirements for message tracing. Recommendations for additional Logging Information are given in the AMHS Guidance Material
- 2) Relevant paragraph in AMHS SARPs

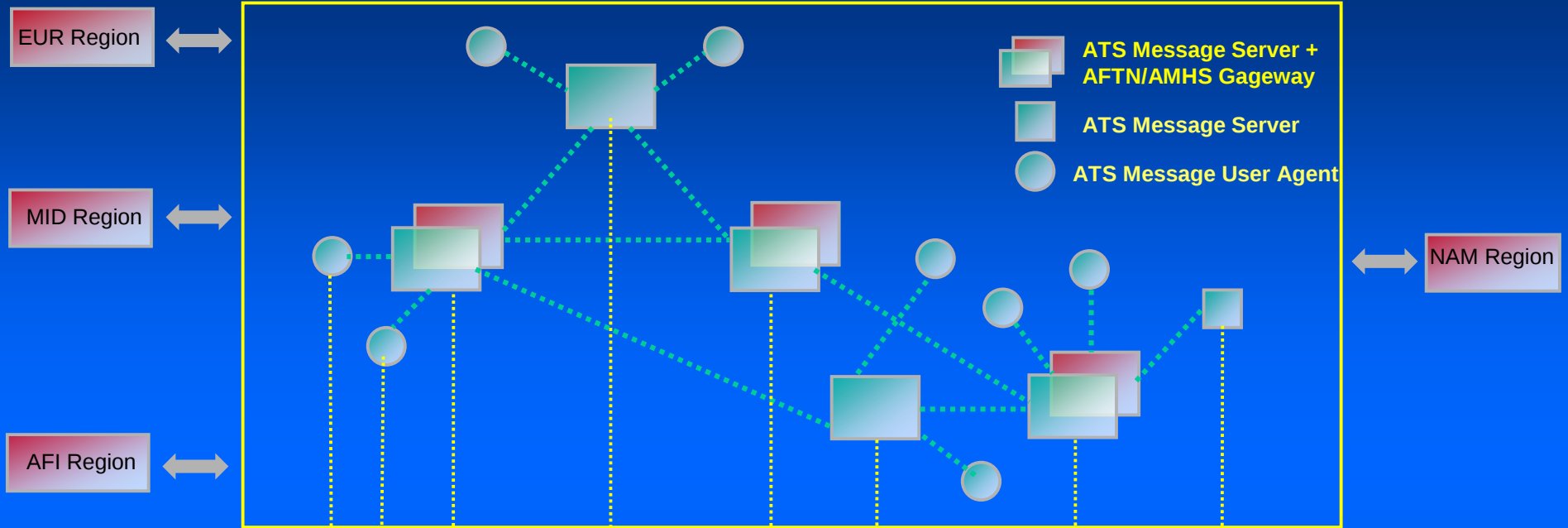


AFTN / AMHS Gateway - Support of Extended ATS Message Service

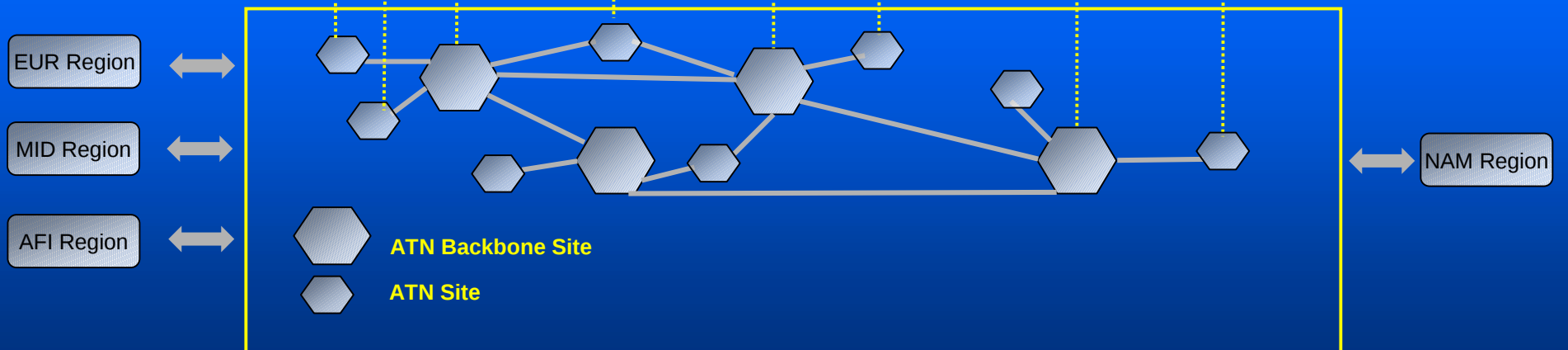


Asia / Pacific ATN Ground Transition Plan

AMHS Topology



ATN Internet Access



ATN Internet (Ground segment)

Study and Planning of AMHS communications in Europe (SPACE)

Objective:



Definition of a target European AMHS architecture in the SPACE Core area (AMHS Master plan)

Deliverables:



European AMHS addressing plan, technical design, Implementation plan and transition strategy, Final report and validation

Study teams:



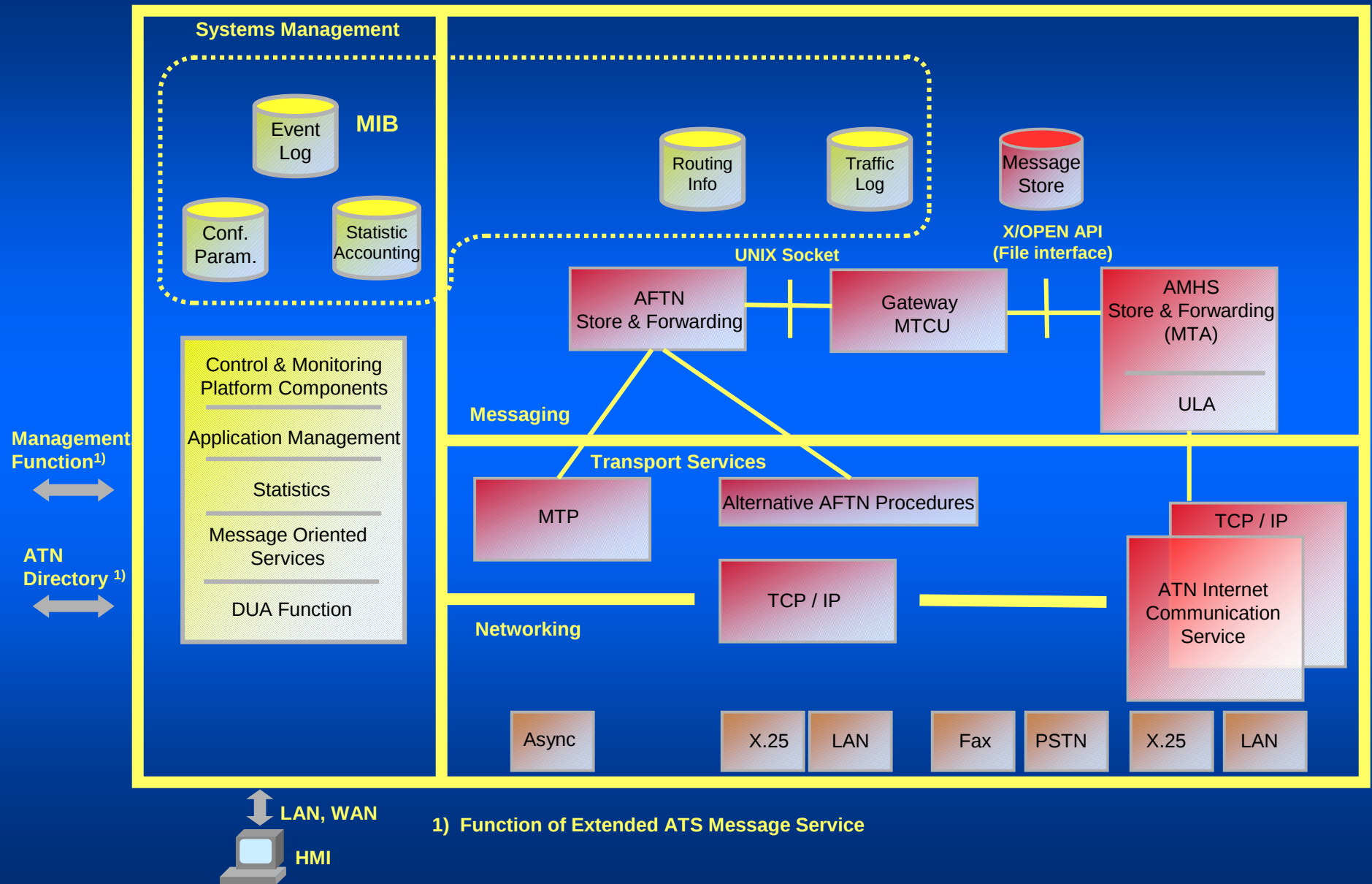
STNA - France (leader), Aena - Spain, DFS - Germany, Eurocontrol, NATS - United Kingdom

Study period:

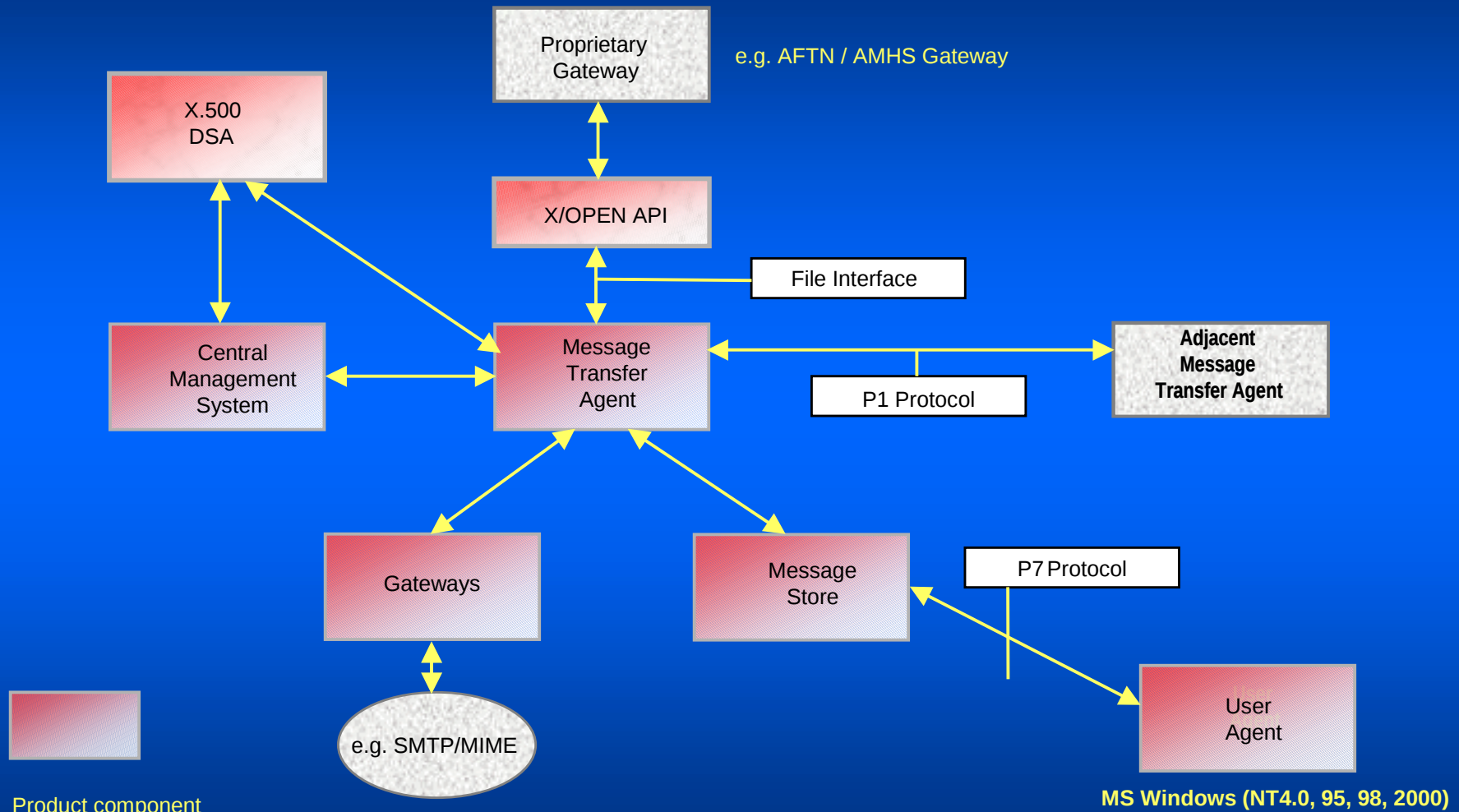


April 1998 to June 2002

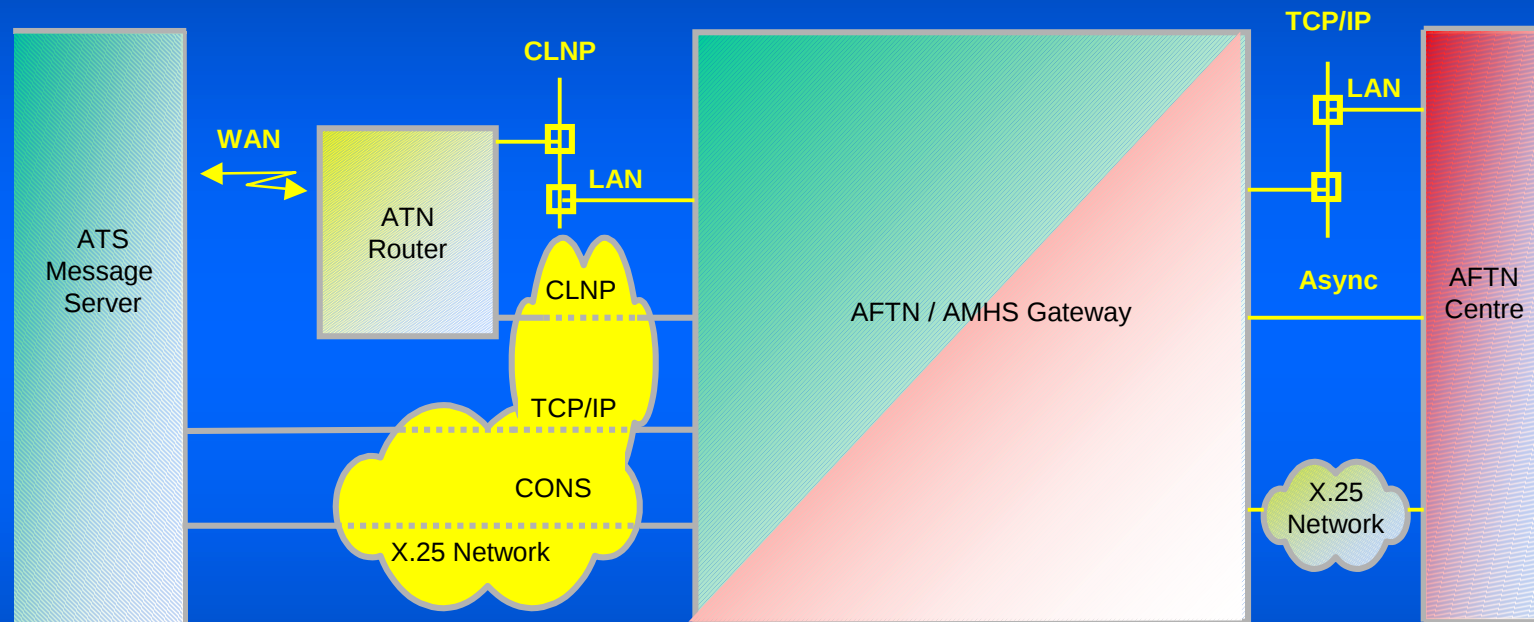
AFTN / AMHS Gateway Implementation - Building Blocks



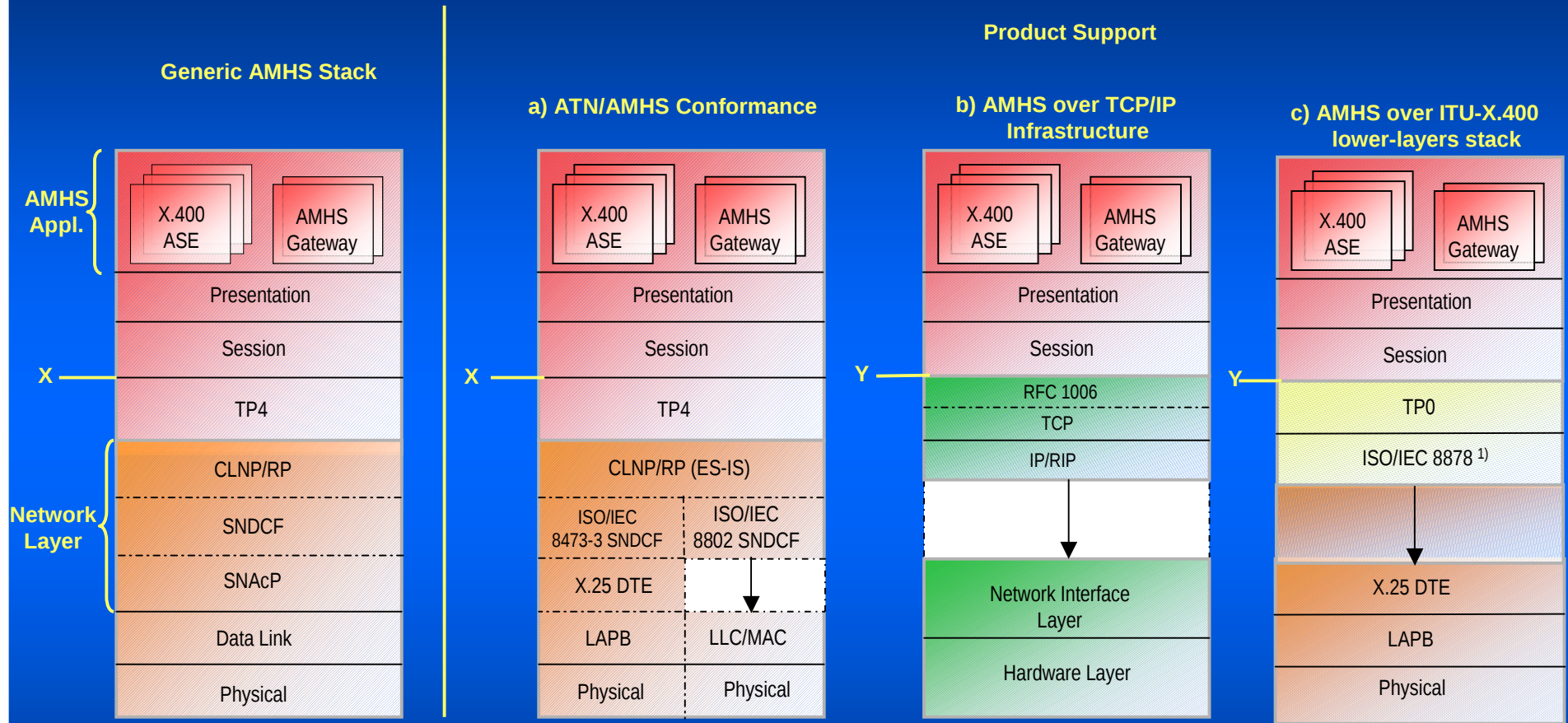
Scope of X.400 (MHS) Messaging Product



AFTN / AMHS Gateway - Networking Options

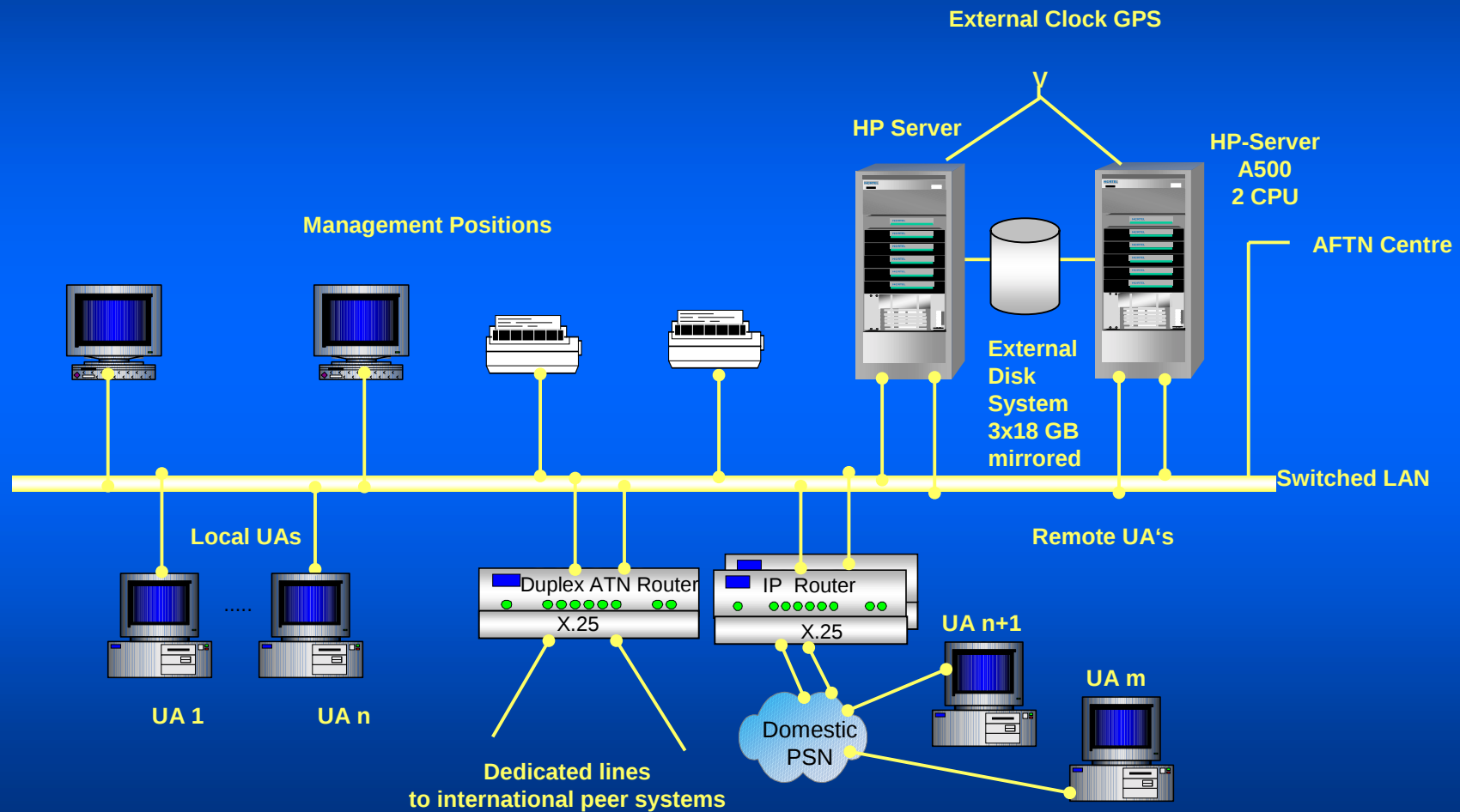


AFTN / AMHS Gateway Supported AMHS Transport Services

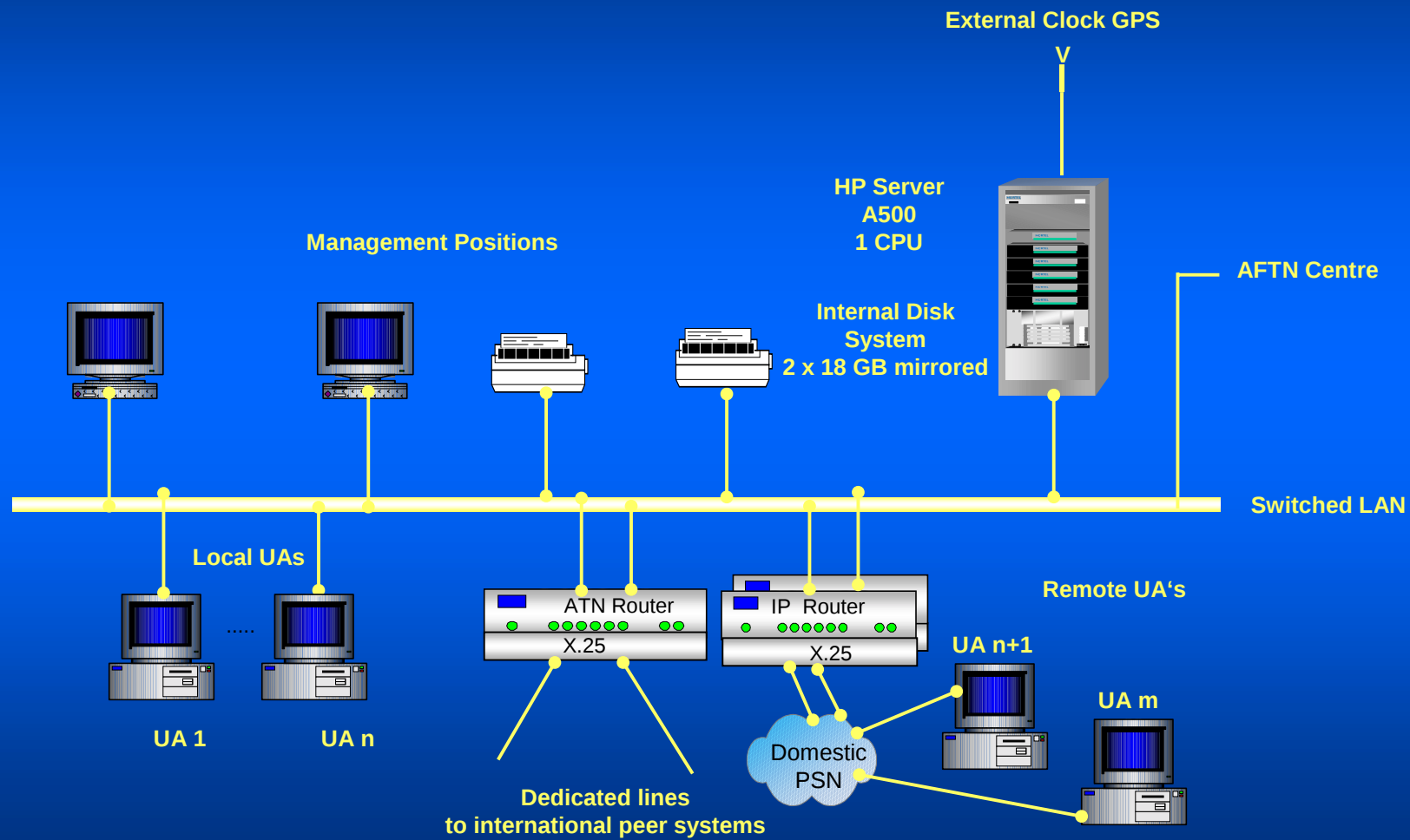


X ATN internet com. service
Y TSAP interface with TP0
1) OSI CONS over X.25

AFTN / AMHS Gateway - Dual / Redundant Configuration



AFTN / AMHS Gateway - One-Computer Configuration (Example)



Platform characteristics

Open Architecture

✧ The Avitech product family for message handling systems has a modular software structure, which allows easy customisation and flexible expansion.

High Reliability

✧ High reliability is achieved through a redundant layout of the most important hardware and software components, a cluster configuration of servers and mirrored disks.

Scalability

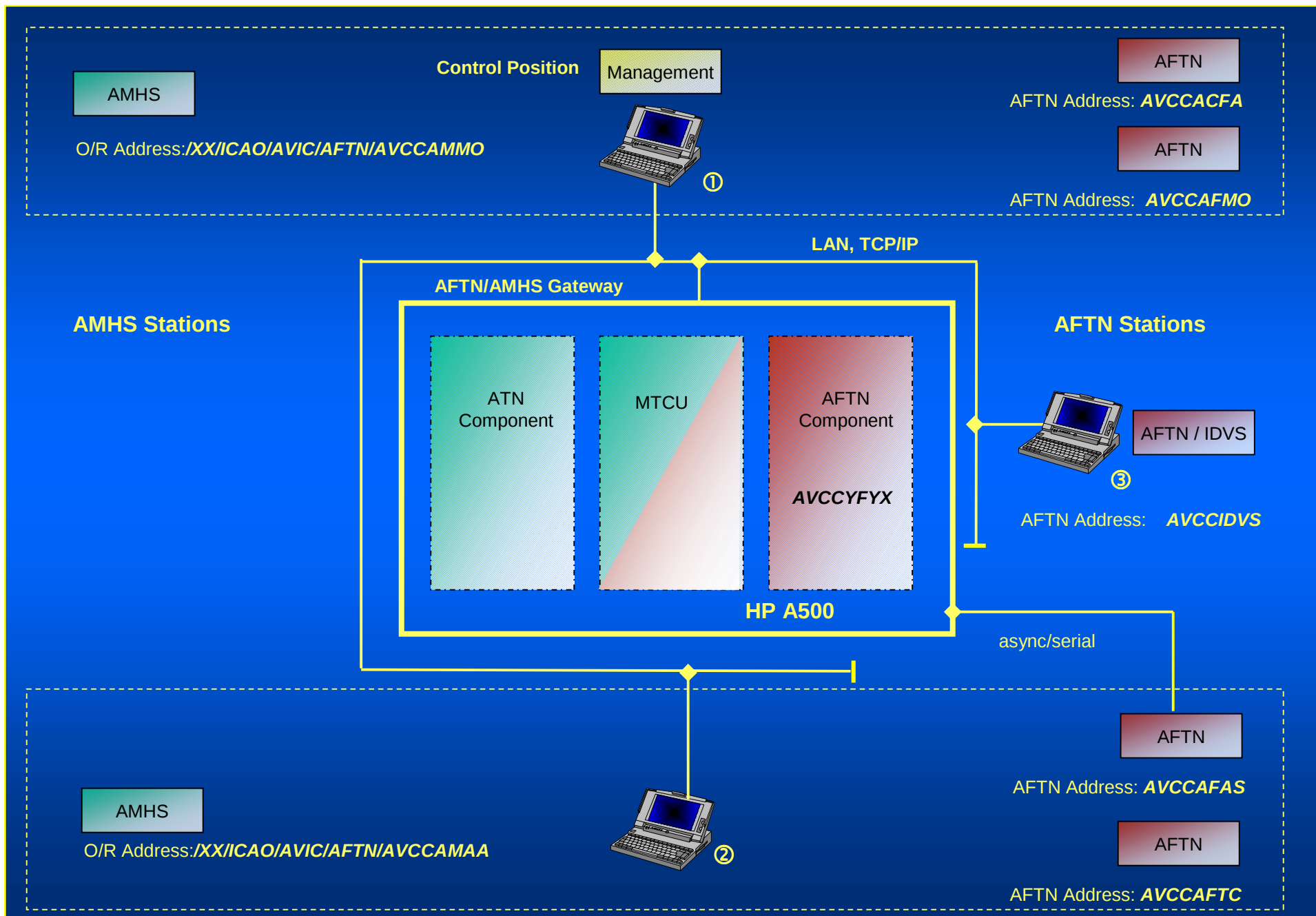
✧ The consequent use of industry standard hardware allows scalable solutions in terms of message throughput and line (interface) capacity.

Server/PC environment

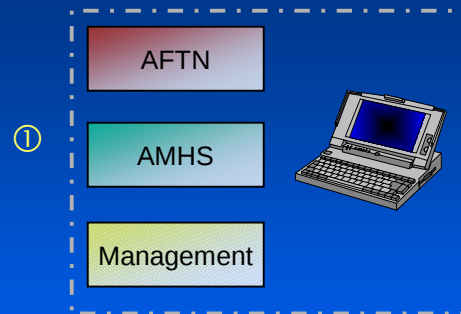
✧ Application on HP-UX, Solaris or Linux
✧ Supervisor terminals on Windows NT 4.0, 2000
✧ AFTN user terminals on Windows NT 4.0, 2000 , XP
✧ AMHS user terminals on Windows NT 4.0, 5, 98, 2000

Best of class suppliers

✧ Hardware from Hewlett-Packard, SUN and CISCO
✧ System Software from X.400 COTS manufacturers and Oracle (database)



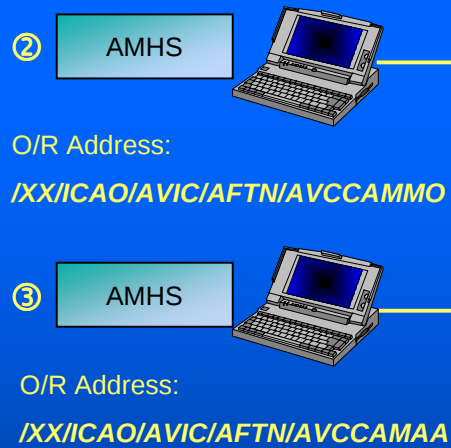
Control Position



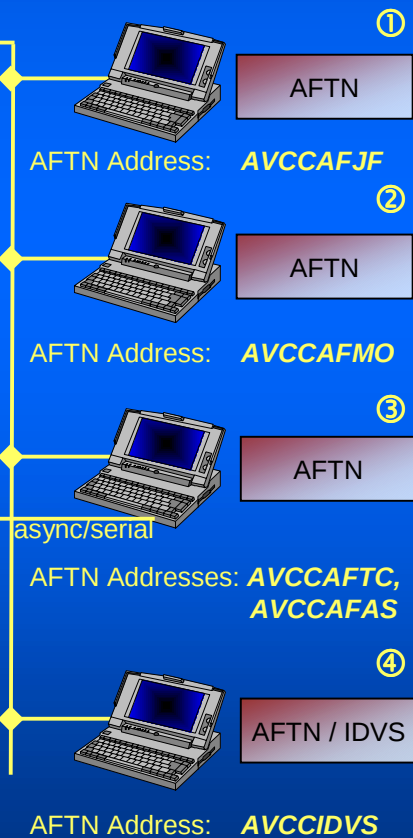
AFTN address AVCCACFA

O/R address
/XX/ICAO/AVIC/AFTN/AVCCAMJF

AMHS Stations

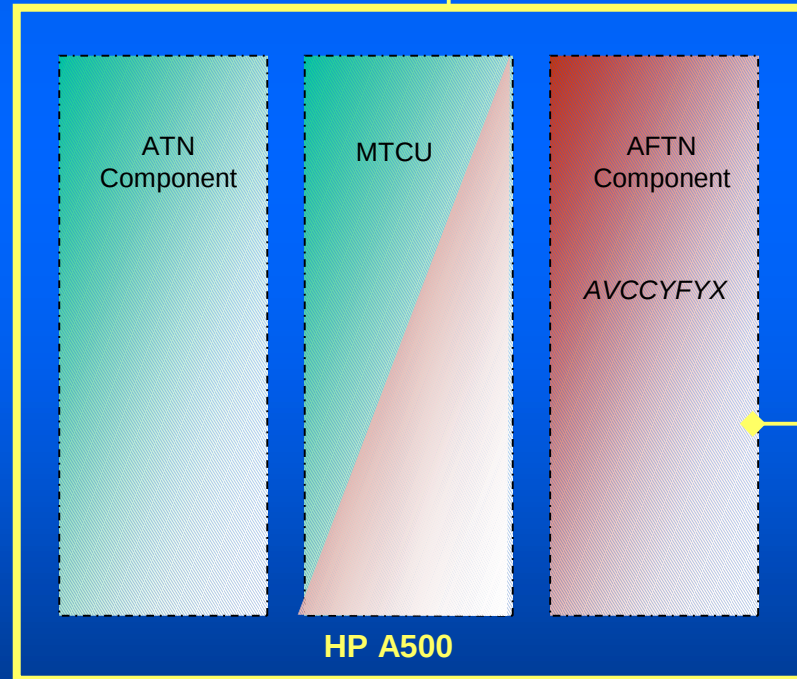


AFTN Stations



LAN, TCP/IP

AFTN/AMHS Gateway



③ Physical Terminal

AFTN / AMHS Gateway - Demo Configuration