

INTERNATIONAL TELECOMMUNICATION UNION

ITU-T RECOMMENDATION SUMMARY

Rec. No. : I.150 **Title :** B-ISDN asynchronous transfer mode functional characteristics

Study Group : XVIII - ISDN

Version : New **Date of adoption :** 1991 **Notes :**

Recommendation I.150 addresses specifically the functions of the ATM Layer. This Layer is common to all services including signalling and OAM.

ATM is the transfer mode solution for implementing a B-ISDN. It influences the standardization of digital hierarchies, multiplexing structures, switching and interfaces for broadband signals.

ATM is used in Recommendation I.150 for addressing a specific packet-oriented transfer mode which uses asynchronous time division multiplexing techniques. The multiplexed information flow is organized into blocks of a fixed size called cells. A cell consists of an information field and a header. The primary role of the header is to identify cells belonging to the same virtual channel within the asynchronous time division multiplex. Transfer capacity is assigned by negotiation and is based on the source requirements and the available capacity. Cell sequence integrity on a virtual channel connection is preserved by the ATM Layer.

ATM is a connection-oriented technique. Connection identifiers are assigned to each link of a connection when required and released when no longer needed. In general, signalling and user information are carried on separate ATM Layer connections.

ATM offers a flexible transfer capability common to all services, including connectionless services. Additional functionalities on top of the ATM Layer (e.g. in the ATM Adaptation Layer (AAL)) are provided to accommodate various services. The boundary between the ATM Layer and the AAL corresponds to the boundary between functions supported by the contents of the cell header and functions supported by AAL-specific information. The AAL-specific information is contained in the information field of the ATM cell.

The information field is transported transparently by the ATM Layer. No processing, e.g. error control, is performed on the information field at the ATM Layer.

The header and information field each consists of a fixed integer number of octets. The header size (5 octets) and the information field size (48 octets) remain constant at all reference points, including the User-network interface (UNI) and the Network-node interface (NNI), where the ATM technique is applied.

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