



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.634

Addendum 1
(09/98)

**SERIES X: DATA NETWORKS AND OPEN SYSTEM
COMMUNICATIONS**

OSI networking and system aspects – Efficiency

**Information technology – Open Systems
Interconnection – Transport Fast Byte Protocol**

Addendum 1: SDL specifications

ITU-T Recommendation X.634 – Addendum 1

(Previously CCITT Recommendation)

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For further details, please refer to ITU-T List of Recommendations.

ITU-T RECOMMENDATION X.634**INFORMATION TECHNOLOGY – OPEN SYSTEMS
INTERCONNECTION – TRANSPORT FAST BYTE PROTOCOL****ADDENDUM 1****SDL specifications****Summary**

This Addendum to Recommendation X.634 contains an SDL specification of the Transport Fast Byte Protocol description. The Transport Fast Byte Protocol eliminates the roundtrip delay associated with the establishment and release of a transport connection, and requires very low PCI overhead. The Transport Fast Byte Protocol is intended for use in situations in which enhancements to the network QoS are not required, and efficiency of operation (e.g. reduction of roundtrip delays on establishment and release) is of primary concern.

Source

Addendum to ITU-T Recommendation X.634, was prepared by ITU-T Study Group 7 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 25th of september 1998.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation the term *recognized operating agency (ROA)* includes any individual, company, corporation or governmental organization that operates a public correspondence service. The terms *Administration*, *ROA* and *public correspondence* are defined in the *Constitution of the ITU (Geneva, 1992)*.

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As of the date of approval of this Recommendation, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – TRANSPORT FAST BYTE PROTOCOL

ADDENDUM 1

SDL specifications

(Geneva, 1998)

Annex C

SDL specification of the Transport Fast Byte Protocol entity

C.1 The system and block structure of the Transport Fast Byte Protocol entity

The SDL system diagram of the Transport Fast Byte Protocol entity is shown in Figure C.1 and the SDL block structure in Figure C.2.

C.2 Interaction with Management and Control Planes

C.2.1 Management Plane

No interactions with the Management Plane are specified.

C.2.2 Control Plane

No interactions with the Control Plane are specified.

C.3 Procedure of the Transport Fast Byte Protocol entity

The SDL diagrams of the procedure of the Transport Fast Byte Protocol entity are given in this subclause. If there exists any difference between the prose description also given in this subclause and the SDL diagrams, the SDL diagrams take precedence. On the other hand, if there exists differences between the specification in this Annex and the one in clause 6/X.634, the specification in clause 6/X.634 take precedence.

NOTE – In the SDL diagrams of this subclause, the octets in all PDUs and SDUs, i.e. the TSDU, are numbered from "1" to at most "65535".

The operation of the Transport Fast Byte Protocol entity is modeled as a state machine consisting of the following states:

- **Idle:** Each Transport Fast Byte Protocol entity is conceptually initiated in the Idle state and returns to this state upon the release of a connection.
- **Outgoing Connection Pending:** A Transport Fast Byte Protocol entity requesting a connection with its peer is in the Outgoing Connection Pending state until it receives acknowledgment from its peer.
- **Incoming Connection Pending:** A Transport Fast Byte Protocol entity that has received a connection request from its peer and is waiting for its user's response is in the Incoming Connection Pending state.
- **Data Transfer Ready:** Upon successful completion of the connection establishment, both peer Transport Fast Byte Protocol entities will be in Data Transfer Ready state and data transfer can take place. No TSDU is currently reassembled.
- **Data Transfer RAS:** Some but not all information for a TSDU currently being reassembled has arrived and is being buffered.
- **Data Transfer Abort:** The maximum permissible length of a TSDU has been exceeded during reassembly. The Transport Fast Byte Protocol entity remains in this state until an end of a TSDU is received (EOT-bit).

The state transition diagram for the Transport Fast Byte Protocol entity is shown in Figure C.3.



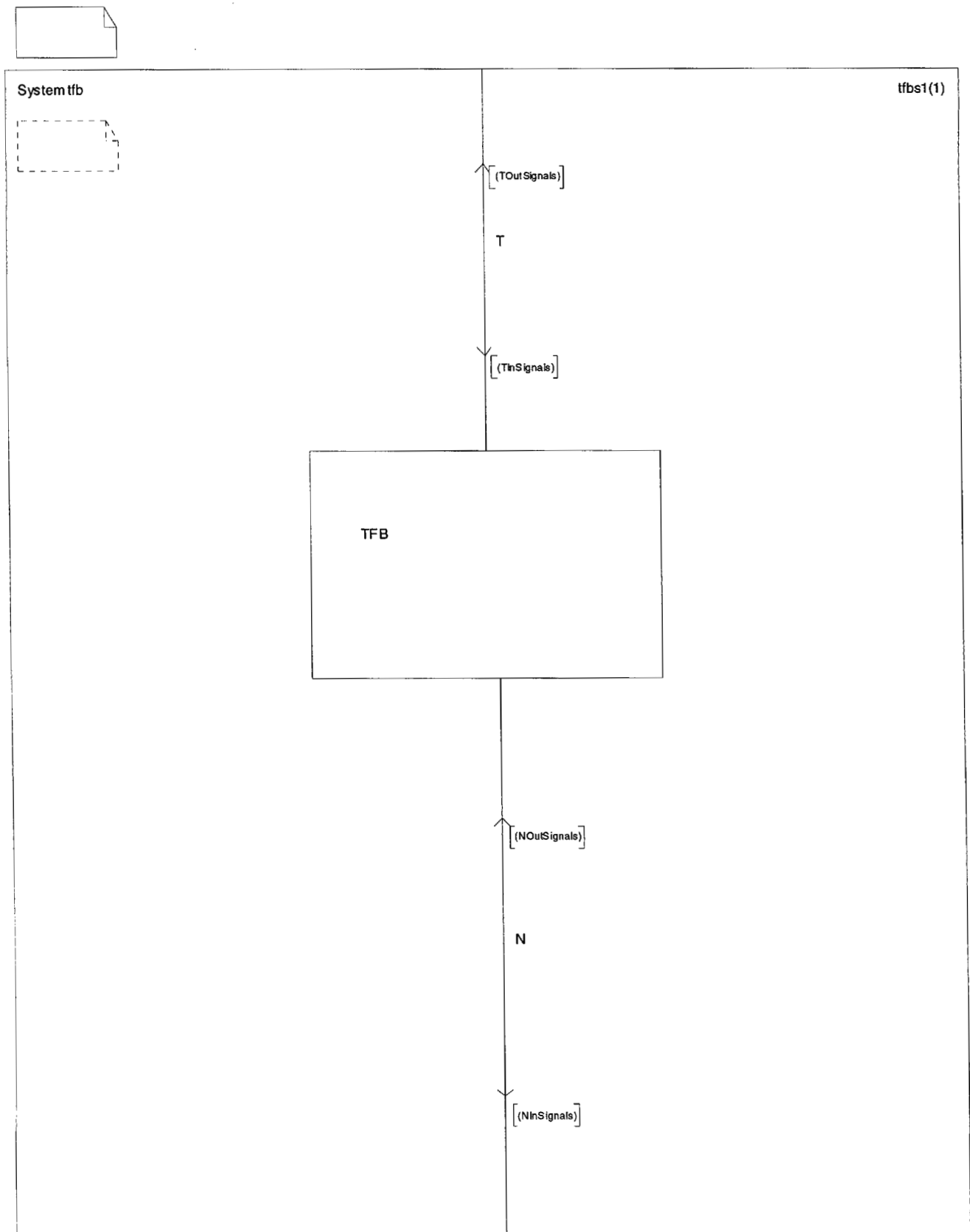


Figure C.1/X.634 – Transport Fast Byte system

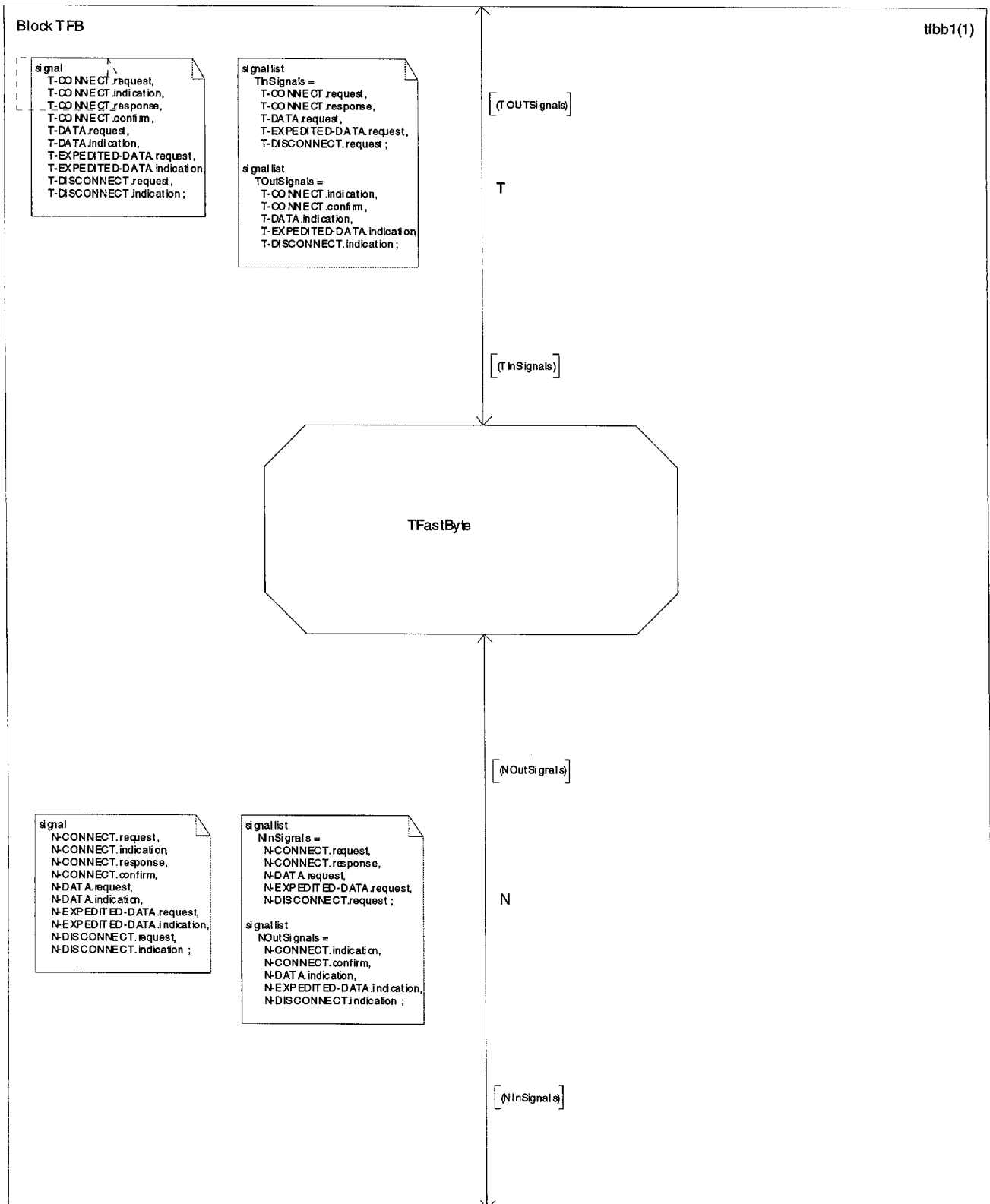


Figure C.2/X.634 – Transport Fast Byte block structure

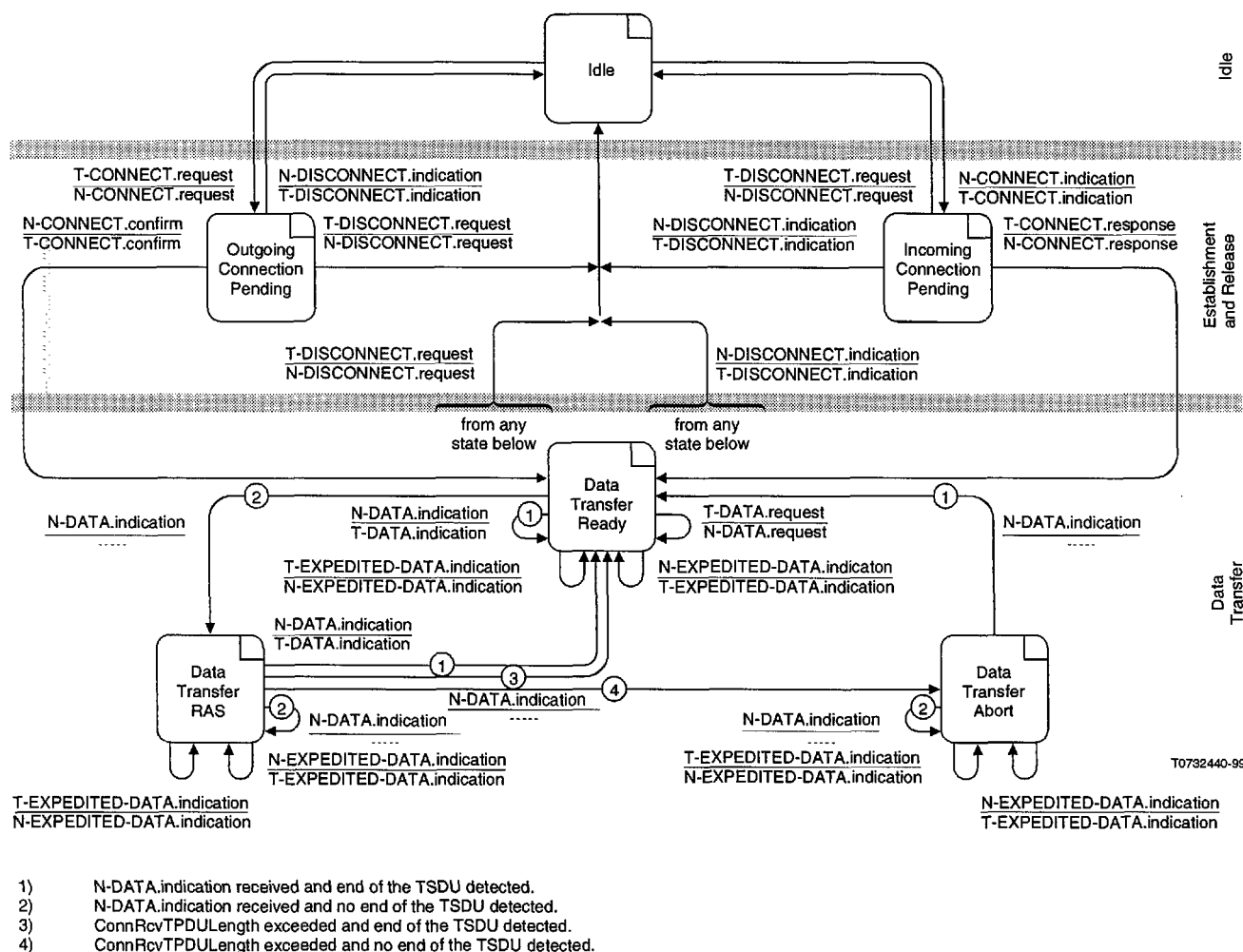


Figure C.3/X.634 – State transition diagram for the Transport Fast Byte Protocol entity

The description of the operations of the Transport Fast Byte Protocol entity make use of the following state variables:

CdAddr	A character string holding the "Called Address" as extracted out of a TPDU.
CgAddr	A character string holding the "Calling Address" as extracted out of a TPDU.
RsAddr	A character string holding the "Responding Address" as extracted out of a TPDU.
TPDU	An octet string holding the TPDU being constructed in the outgoing direction or the TPDU just having been received.
TSDU	An octet string holding the TSDU being reassembled in the incoming direction.
ptrRAS	An index into the variable TSDU indicating where to place the next information during reassembly.
ptrSEG	An index into the parameter TSUserData indicating where to extract data during segmentation.
ptrPDU	An index into the variable TPDU having been received indicating where to retrieve the next information during interpretation of the received TPDU.
lenPDU	The length of a TPDU having been received.
lenSDU	The (remaining) length of a TSDU being segmented.
len	Temporary variable holding the length of a character string.
EOTbit	A boolean variable being set to TRUE if the EOT-bit in the received TPDU has been set.
SndTPDULength	A temporary integer variable during connection establishment used for negotiation of the maximum size of a TPDU in the outgoing direction.
ConnSndTPDULength	An integer variable indicating the maximum size of a TPDU in the outgoing direction.