INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

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SERIES F: NON-TELEPHONE TELECOMMUNICATION SERVICES

Telematic services – Public facsimile service

Internet facsimile: Guidelines for the support of the communication of facsimile documents

ITU-T Recommendation F.185

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION F.185

INTERNET FACSIMILE: GUIDELINES FOR THE SUPPORT OF THE COMMUNICATION OF FACSIMILE DOCUMENTS

Summary

This Recommendation describes the guidelines for the support of the communication of facsimile documents (both Group 3 and Group 4) via the Internet in real-time or store-and-forward mode.

NOTE – Support for Group 4 is for further study.

Source

ITU-T Recommendation F.185 was prepared by ITU-T Study Group 8 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 18th of June 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 expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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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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Recommendation F.185

INTERNET FACSIMILE: GUIDELINES FOR THE SUPPORT OF THE COMMUNICATION OF FACSIMILE DOCUMENTS

(Geneva, 1998)

1 Scope

This Recommendation describes the guidelines for the support of the communication of facsimile documents (both Group 3 and Group 4) via the Internet in real-time or store-and-forward mode.

NOTE – Support for Group 4 is for further study.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

– ITU-T Recommendation T.4 (1996), *Standardization of Group 3 facsimile terminals for document transmission.*

– ITU-T Recommendation T.563 (1996), *Terminal characteristics for Group 4 facsimile apparatus.*

– ITU-T Recommendation T.37 (1998), *Procedures for the transfer of facsimile data via store-and-forward on the Internet.*

– ITU-T Recommendation T.38 (1998), *Procedures for real-time Group 3 facsimile communication over IP networks.*

3 Definitions and abbreviations

3.1 Definitions

This Recommendation defines the following terms:

3.1.1 Real-time session oriented Internet facsimile ("real-time")

Real-time session oriented Internet facsimile involves the transmission/reception of a facsimile in a single session such that confirmation of receipt is provided to the transmitting terminal prior to disconnection. Real-time session oriented communication over the Internet between two facsimile terminals conforming to the relevant ITU-T Recommendations is accomplished when:

1) the contents and sequence of standard messages exchanged between the sending and receiving terminals are preserved, as far as practicable;

2) the call duration using the Internet is comparable to that of a facsimile session using the GSTN/ISDN between the two terminals.

This definition is valid both for terminals connected directly to the Internet and for terminals using another network for access to the Internet.

3.1.2 Store-and-forward facsimile

3.1.2.1 This involves the transmission/reception of a facsimile other than in real-time. Such transmission/reception takes place via the store-and-forward mode on the Internet using Internet Email.

3.1.2.2 "Simple" mode store-and-forward facsimile communication over the Internet is accomplished when only the coded image is transmitted.

3.1.2.3 "Full" mode store-and-forward facsimile communication over the Internet between two facsimile terminals conforming to the relevant ITU-T Recommendations is accomplished when:

1) the capabilities of the terminals are exchanged;

2) an acknowledgement of receipt is exchanged between gateways and may be transferred from the receiving terminal to the sending terminal;

3) the contents of standard messages used by the transmitting terminal are preserved.

This definition is valid both for terminals connected directly to the Internet (Internet Aware Facsimile) and for terminals using another network for access to the Internet.

3.1.3 Standard facsimile terminal

A standard facsimile terminal is a system currently capable of sending and receiving facsimile documents in accordance with the relevant ITU-T Recommendations. Such a terminal has no capabilities to enable it to send or receive store-and-forward facsimile. A standard facsimile terminal may be connected to a gateway to provide the functionality of an Internet Aware Facsimile.

3.1.4 Gateway

A gateway provides access to the Internet for standard facsimile terminals. A gateway service is capable of accepting facsimile documents from, and capable of sending facsimile documents to, standard facsimile terminals.

The responsibilities of such gateways are for further study.

3.1.5 Email client

An Email client is a UA capable of sending and receiving Internet Email and capable of store-and-forward facsimile. Such a client may be an Email package conforming to the relevant Internet standards and the connection to the Internet may be via a local network or via a dial-up call over the GSTN or ISDN.

3.1.6 Internet Aware Facsimile terminal (IAF)

For store-and-forward facsimile, an Internet Aware Facsimile terminal combines the capabilities of a standard facsimile terminal and an Email client. For real-time facsimile, an Internet Aware Facsimile terminal has the capabilities of a standard facsimile terminal as well as having an IP address or domain name together with its GSTN address. In either mode, it is capable of sending and receiving facsimile documents via the appropriate network.

3.2 Abbreviations

This Recommendation uses the following abbreviations:

Email	Electronic Mail
Group 3	Terminal conforming to Recommendation T.4
Group 4	Terminal conforming to Recommendation T.563
GSTN	General Switched Telephone Network
IAF	Internet Aware Facsimile terminal
ISDN	Integrated Services Digital Network
UA	User Agent

4 Models for Internet access

The diagrams below show different methods of Internet access for PC Email clients, Internet Aware Facsimile terminals and standard facsimile terminals connected via a gateway. Such connections may be used for store-and-forward facsimile or real-time facsimile.

Figure 1 shows the methods for store-and-forward Internet facsimile and Figure 2 shows the methods for real-time Internet facsimile.

As an option, in case of communication difficulties with the real-time method, it is permitted to fall back to the store-and-forward mode.

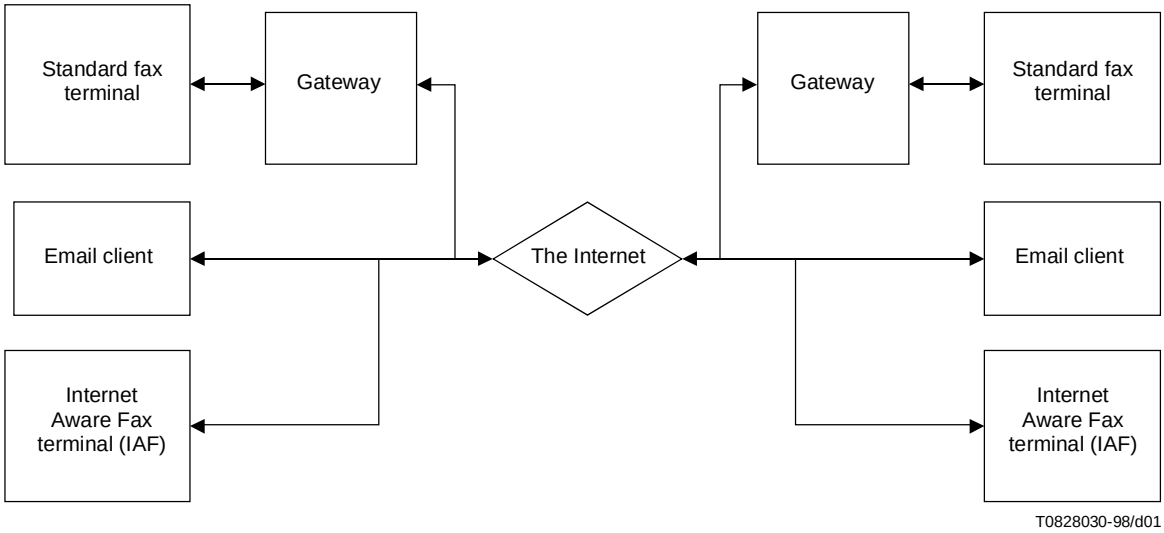

Figure 1/F.185 – Store-and-forward operation (T.37)

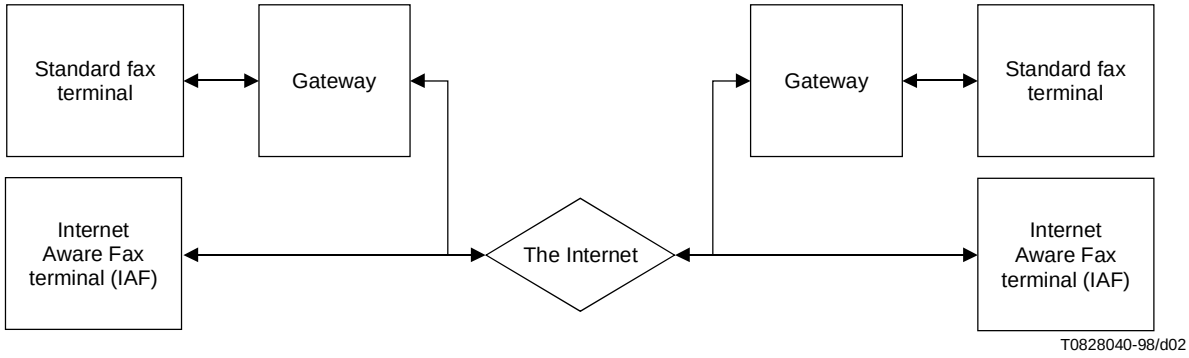

Figure 2/F.185 – Real-time operation (T.38)

5 General provisions

5.1 General

The essential characteristic of the guidelines for the support of the communication of facsimile documents over the Internet is that it provides a basic level of compatibility between all terminals supporting the capabilities.

The communication of facsimile documents via the GSTN or ISDN has a greater level of message privacy than via the Internet. The use of security enhancements on the Internet increases the level of message privacy.

5.2 Basic requirements

1) The basic level of compatibility is provided between any two terminals both nationally and internationally so that they may communicate image coded information to each other. This is to be achieved by requiring that terminals comply with the relevant ITU-T Recommendations as modified for transmission across the Internet.

2) It should be possible to extend the support of the communication of facsimile documents on the Internet to any number of countries.

3) It should enable the transport of the recipient terminal addressing information across the Internet.

4) To permit private use options, there shall be no technical limitation on the bit sequence of the user's information that may be transmitted.

5) A received Internet facsimile document can be printed or displayed as decided by the recipient and taking into account the terminal characteristics.

6) In the simple mode, terminal-to-terminal receipt acknowledgement need not be provided. In the full mode, terminal-to-terminal receipt acknowledgement shall be provided.

7) The receipt acknowledgement shall contain information to indicate successful receipt or an indication of any error. An example might be the rejection of a request to relay a store-and-forward facsimile document to a standard facsimile terminal.

8) It is intended that the support of communication of facsimile documents on the Internet should require no changes to the Recommendations for existing services or networks.

9) The intention is that the terminal's memory requirement is one page.

10) The intention is that the support of communication of facsimile documents on the Internet should not create additional difficulties for users, e.g. handling the reception of large volumes of unsolicited bulk advertising.

5.3 Standardized options

It is recognized that some users may need to use their facsimile terminals to communicate nationally and internationally using features that are not included in the basic requirements. A number of ITU-T standardized options have therefore been defined. However, the provision of any option may lead to some degree of incompatibility and the number of standardized options has been restricted to those features for which a clear international need can be foreseen.

In real-time, the sending terminal shall ensure the transmission of documents using only those options that have been indicated as being available at the receiving terminal. In the store-and-forward mode, the sending terminal shall ensure the transmission of documents using only those options that have been indicated as being available at the receiving terminal where these are known.

6 Network requirements

1) The support for the communication of facsimile documents over the Internet may be provided over all public networks using the appropriate ITU-T Recommendations for the network concerned.

2) Terminals on any public network which support the communication of facsimile documents over the Internet shall be able to communicate automatically with any other facsimile terminals.

7 Procedures for the transmission of documents

The technical procedures for support for the communication of facsimile documents over the Internet are given in Recommendations T.37 for store-and-forward and T.38 for real-time Group 3 documents.

8 Coding scheme

All image coding schemes defined in the ITU-T T-series Recommendations for use with standard facsimile terminals should be supported.

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