



STI 12

Edition 2/October 2000

Interface technical specifications
for France Telecom's network

Directive 1999/5/EC

Characteristics of Transfix backup via Numéris service access interfaces

Summary: This document gives a brief description of the Transfix backup via Numéris service, and describes the interfaces used to access this service.

Warning :

"Only the French text is authentic; therefore France Telecom accepts no responsibility or liability whatsoever with regard to any information or data referred to in this document".

France Telecom
6, Place d'Alleray
75505 Paris Cedex 15
France

<http://www.francetelecom.com>

Notice

Information enclosed in this document is at terminal equipment manufacturers' disposal, pursuant to Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

According to Directive 1999/5/EC and specially Article 4.2, France Telecom reserves the right to modify or complement the information contained in this document in order to update the interface technical specifications and to allow the creation of telecommunication terminal equipments capable of using the services provided by the corresponding interfaces.

France Telecom can be held responsible neither for non-operation or poor operation of a terminal equipment, if the equipment complies with this specification, nor for any damage resulting from the use or misuse of the information contained in this document, towards whoever it be.

Provision of these technical specifications results in no transfer of rights, no granting of license on any intellectual property right, belonging to France Telecom.

France Telecom holds exclusive rights on France Telecom brands mentioned in this document.

France Telecom further points out users' attention on the following points:

1. timer values are indicative and can be subject to modification,
2. due to various technical constraints, some services or service options may not be available on some interfaces,
3. the fact that a service not yet commercially open is described in this document can in no case be considered as a binding commitment on France Telecom part to actually open this service.

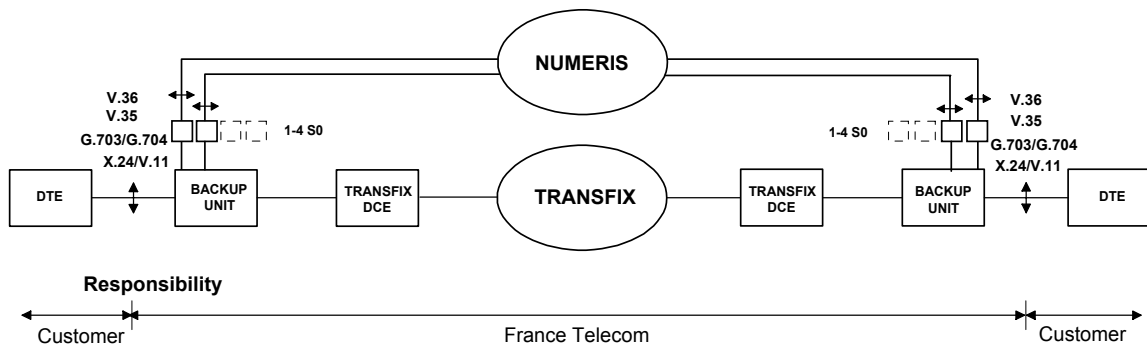
Table of contents

1. OVERVIEW OF THE SERVICE	1
1.1 DEFINITION OF THE SERVICE	1
1.2 BACKED-UP TRANSFIX LINKS: INTERFACES AND RATES.....	2
1.3 BACK-UP LINK ESTABLISHMENT MODES.....	2
2. TRANSFIX AND NUMERIS CONNECTIONS.....	3
2.1 TRANSFIX CONNECTION	3
2.2 NUMERIS CONNECTION	3
3. OPERATION OF THE BACKED-UP TRANSFIX LINK	3
3.1 DATA LINK OPERATION FUNCTIONS.....	3
3.2 X.24/V.11 INTERFACE.....	3
3.3 V.35 INTERFACE	3
3.3.1 V.36 interface	3
3.3.2 G.703/G.704 interface	4
4. TEST LOOPS.....	4
5. HISTORY.....	4

1. OVERVIEW OF THE SERVICE

1.1 DEFINITION OF THE SERVICE

The Transfix backup via Numéris¹ service is used to back up medium and high bit rate Transfix links for the rates 48, 56, 64, 128, 256, 384, 512, 768, 1024, 1920 and 1984 kbit/s, using between one and eight 64 kbit/s Numéris B-channels.



France Telecom provides, at each end of the Transfix link to be backed up, a backup unit between the customer data terminal equipment (DTE) and the Transfix data circuit terminating equipment (DCE), which is connected to one or more S0 interfaces of the Numéris basic rate accesses.

The customer supplies the connecting cable between the DTE and the backup unit and the 220 V power supply plug of the control unit.

In normal mode of operation, the Transfix link supports the data link, and the backup unit is transparent to the data exchanged between the DTE and the DCE.

If performance degradation occurs on the Transfix link, a back-up link is established via Numéris, and the data link is routed, via Numéris, on one or more (up to eight) B-channels.

¹ France Telecom ISDN

1.2 BACKED-UP TRANSFIX LINKS: INTERFACES AND RATES

The Transfix backup via Numéris is available for the Transfix and Transfix 2.0 range on the V.35 and V.36 interfaces for 64 kbit/s links, X.24/V.11 for rates of 64 to 1920 kbit/s and G.703/G.704 for rates of 256 to 1984 kbit/s.

The customer selects the back-up rate, which is independent of that of the link.

When the data link is established on:

- a) the **leased link**, the rate of the data link is identical to the rate offered on the Transfix interfaces,
- b) **Numéris**, the back-up rate is identical to or slightly lower than (depending on the interface) the nominal rate of the n Numéris B-channels (difference due to synchronisation).

Interface	Transfix rates (kbit/s)	No. Numéris basic rate accesses	No. B-channels	Numéris back-up rate
X.24/V.11	64	1	1	64 kbit/s
V.35, V.36	48, 56, 64	1	1	64 kbit/s
X.24/V.11	128 - 1920	1	2	126 kbit/s
X.24/V.11	256 - 1920	2	4	252 kbit/s
X.24/V.11	384 - 1920	3	6	378 kbit/s
X.24/V.11	512 - 1920	4	8	504 kbit/s
G.703/G.704	256 - 1984	2	4	256 kbit/s
G.703/G.704	384 - 1984	3	6	384 kbit/s
G.703/G.704	512 - 1984	4	8	512 kbit/s

For the V.35, V.36 and X.24/V.11 interfaces, the difference in rate (1/64) is due to the B-channel permanent synchronisation.

For the G.703/G.704 interface, B-channel synchronisation is carried out at the start of the Numéris connection; the back-up rate is identical to the nominal rate of the n Numéris B-channels.

1.3 BACK-UP LINK ESTABLISHMENT MODES

The Transfix backup via Numéris service uses automatic protection to back up the link to be protected.

In automatic protection mode, the backup unit monitors the state of the Transfix link on a permanent basis.

- ◆ When the Transfix link fails, a Numéris connection is automatically established and the data link switches to the back-up link.
- ◆ When the Transfix link is re-established, the data link automatically switches back to it, and the Numéris communication is released.

The Transfix backup via Numéris service as a whole can also be operated manually.

In manual protection mode, the customer controls the switch to Numéris and the return to Transfix.

The time ranges are set on installation, and constitute a schedule.

2. TRANSFIX AND NUMERIS CONNECTIONS

2.1 TRANSFIX CONNECTION

The general conditions for accessing the Transfix service are given in the Transfix interface technical specifications document (STI 10: Characteristics of Transfix leased link service access interfaces).

The Transfix backup via Numéris service, on one to eight B-channels, is offered on the V.35, V.36, X.24/V.11 and G.703/G.704 interfaces.

The connectors used on the connection interfaces comply with the technical specifications for accessing the Transfix service.

2.2 NUMERIS CONNECTION

Connection of the Transfix backup via Numéris service to Numéris is via the S0 interface of the Numéris basic rate accesses.

If a number of basic rate accesses are required, these are grouped.

3. OPERATION OF THE BACKED-UP TRANSFIX LINK

3.1 DATA LINK OPERATION FUNCTIONS

The following signalling transport function is not supported by this service:

Retransmission on the remote I circuit of the state of the local C circuit to the remote end on the X.24/V.11 interface.

3.2 X.24/V.11 INTERFACE

The functional characteristics of the circuits comply with the technical specifications for accessing the Transfix service, except the I circuit, in automatic protection mode:

- ◆ When data transmission is either via Transfix or via Numéris, the I circuit provided is closed.
- ◆ If the Transfix link fails and the Numéris back-up link cannot be established, the I circuit is provided open.

3.3 V.35 INTERFACE

The functional characteristics of the circuits comply with the technical specifications for accessing the Transfix service, except circuit 109, in automatic protection mode:

- ◆ When data transmission is either via Transfix or via Numéris, circuit 109 provided is closed.
- ◆ If the Transfix link fails and the Numéris back-up link cannot be established, circuit 109 is provided open.

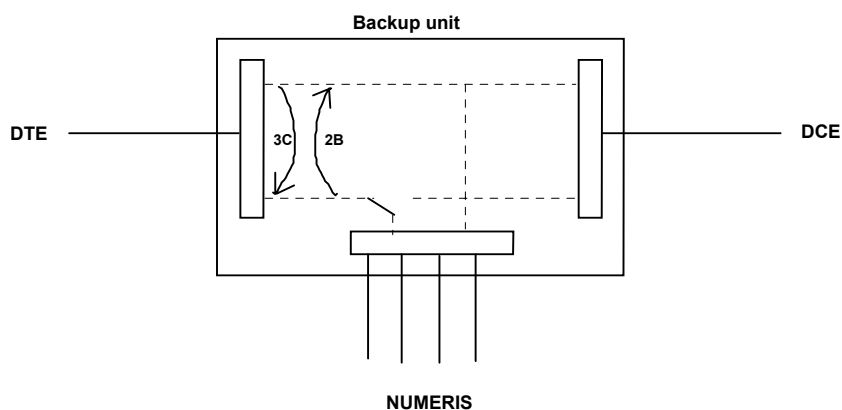
3.3.1 V.36 INTERFACE

The functional characteristics of the circuits comply with the technical specifications for accessing the Transfix service, except circuit 109, in automatic protection mode (operation identical to that for the V.35 interface).

3.3.2 G.703/G.704 INTERFACE

The functional characteristics of the circuits comply with the technical specifications for accessing the Transfix service.

4. TEST LOOPS



The loops on the Transfix DCE, described in STI 10, remain available on the links backed up by Numéris. "Backup unit" loops (loop 2b, loop 3c, and remote loop) are also provided.

5. HISTORY

Edition	Date	Comments
1	March 2000	First version
2	October 2000	Title changed and minor modifications made