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CCITT

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CONSULTATIVE COMMITTEE

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SERIES E: OVERALL NETWORK OPERATION, TELEPHONE SERVICE, SERVICE OPERATION AND HUMAN FACTORS

Operation, numbering, routing and mobile service – International operation – Operation of international telephone services

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International freephone service (IFS)

Reedition of CCITT Recommendation E.152 published in the Blue Book, Fascicle II.2 (1988)

NOTES

1 CCITT Recommendation E.152 was published in Fascicle II.2 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Recommendation E.152

INTERNATIONAL FREEPHONE SERVICE (IFS)

1 Preamble

This Recommendation deals in particular with provisions for the implementation, operation, management and tarification of the international automatic freephone service. An operator-assisted freephone service may also exist on a domestic basis in some countries[1)].

2 Definition

The **international freephone service (IFS)** enables a subscriber, in one country, to be allocated, through his own Administration, one or more special telephone numbers in one or more countries which allow users in this or these countries to call the subscriber free of charge. All service and call charges are paid by the subscriber to the service. In the short term, some countries may not be able to provide IFS completely free to the caller.

2.1 *Possible applications*

In most of its applications, IFS may be considered as a marketing tool able to help companies in one country to improve their business effectiveness in other countries.

These applications may include a wide range of activities as, for instance, direct sales, customer service, emergency lines, various kinds of reservations, testing new markets, communications with agents and employees, sorting leads for sales force and credit checking.

Through the use of the service, companies can derive the benefits of increased sales, customer satisfaction, reduced operating costs, increased profitability and competitive advantage.

3 Management

Under this heading are mentioned the guidelines for the practical day-to-day administrative procedures concerning service ordering, maintenance and data collection.

For the sake of clarity Administration A is the Administration which has the subscriber (Administration of destination of calls) and which is responsible for all relations with the subscriber. Administration B is the Administration responsible for the establishment of the freephone number in its country.

Each Administration should appoint a contact person responsible for all general matters relating to IFS.

3.1 *Service ordering*

3.1.1 *General procedure*

Administration A will originate the service order on behalf of the customer. The service order is converted to the format as illustrated in Annex A and sent via telefax (see Annex B), or mutually agreed telecommunications to Administration B. Administration B will verify the information on the Service Order Form (SOF) and programme the work necessary to activate the service on the date requested by the customer.

Each Administration should indicate one contact point for the exchange of service orders.

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1) The so-called “Country Direct” or “International Operator Direct Calling” (IODC) which is operated in some international relations is considered in another Recommendation.

3.1.2 *Interval preceding service initiation*

The Administrations should endeavour whenever possible to complete all stages of service provision within ten working days after the service order form is issued. The term "working days" should be defined bilaterally.

Steps:

1: Day 1 Request by Administration A for a freephone number

2: Day 2 Number assigned and Administration A advised

3: Day 3 Service order form issued (SOF)

4: Day 4 SOF reviewed and processed

5: Day 7 Service activation

6: Day 8 Testing

7: Day 10 Testing completed/Customer due date

Steps 1 and 2 may be optional.

3.1.3 *Pre-service order issuing requirements*

Administration A may have reason prior to the issue of a service order to request a freephone number assignment (for customer who wants a specific number and/or to verify the period of notice required for service initiation). A list of up to ten customer-preferred freephone numbers (within the range available) can be submitted. If the specified number and alternatives are not available, Administration B will allocate the next spare number and notify Administration A. Administration A can then request additional numbers if required.

This process will be accomplished by using the form in Annex B, or a similar one.

In normal circumstances Administration B will advise Administration A of the freephone number allocated within two days of receiving the request.

Administration B guarantees the reservation of a freephone number for two months. After this period Administration B reserves the right to cancel the reservation if another customer has made a request for it.

If no SOF is received after a number has been reserved for more than two months, Administration B may cancel the reservation. In all cases, Administration B should promptly notify Administration A about the cancellation of any reserved numbers.

3.1.4 *Preparation of service order form*

The form in Annex A which is detailed below will be used as the SOF by Administrations A and B. (Administrations may bilaterally agree to identify mandatory components of the SOF, such as "SOF Type", and so on.)

a) *Coordination number:* a reference number to identify the order.

b) *Date transmitted*

c) *SOF type:*

- *New:* a new service involving a new freephone number is established.
- *Change:* an existing service requires modification.
- *Disconnect:* an existing service is completely disconnected.
- *Suspend:* Administration B will disconnect service but hold the freephone number for 60 days.

d) *Pending SOF supplement:*

- *No.:* Indicate sequentially e.g., 001, 002, etc. The coordination number should be the same as that of the original SOF.
- *Modify:* To be used when information on the original SOF needs to be changed. The "Remarks" section should be used to indicate the exact information being modified.
- *Due date change:* To be used when the customer of Administration A cannot accept service on the original due date. It is important that Administration B does *not* activate the service when it cannot actually be used, or it becomes necessary, for any reason, to change the due date.
- *Cancel SOF:* This should be received prior to the due date and will cancel the SOF and all supplements pending. The cancel SOF should contain all the information on the original SOF.

e) *Administration A order number:* Administration A's service request number.

f) *Customer due date:* Typically up to ten working days may be required by Administration B for service initiation. Service will be considered to officially commence at the time and date that Administration A specified in the SOF. Note that service activation will take place three working days prior to the due date.

g) *Freephone number:* This should be filled in when a freephone number has been pre-assigned. If a customer will accept the next available freephone number, this area should be left blank.

h) *Activation time:* This should only be used where coordination of work is required to maintain an uninterrupted service to the customer (e.g., customer moves at specified time involving a change in terminating telephone number).

i) *Routing number:* Administration A's number for routing of incoming IFS calls.

j) *Subscriber access capabilities:* Indicate quantity of terminating lines. (Used for network management purposes, see § 5.4.)

k) *Administration B use only*

l) *Directory assistance:* Indicate "yes" if the customer of Administration A is to be included in the directory assistance system of Administration B.

m) *Directory listing:* If Administration B offers inclusions in telephone directories for foreign IFS subscribers, the desired listing should be indicated by Administration A in accordance with Administration B's format requirements, as typically shown below:

Format:

- use digits for number designations,
- use an ampersand (&) rather than "and",
- do not use punctuation,
- up to 50 alphanumeric characters.

n) *Additional directory listings:* If Administration B, directly or through an agency, offers additional listings in alphabetical and/or classified directories, Administration A should indicate whether its customer is interested in arranging for any additional listings.

Note – For items l-n, the details of how these are to be accomplished should be arranged for bilaterally.

o) *Remarks:* Enter any information pertinent to this order, e.g. notify immediately of assigned freephone number.

p) *Originator:* Name of Administration A's coordinator and contact number(s).

3.1.5 *Freephone number assignment*

The policy for freephone number assignment can be summarized as follows:

– The numbers will be those specified by Administration B.

– Customer requested numbers may be assigned if available.

– Reserved numbers are intended for the freephone subscriber's communication service, and are not to be resold or traded (for a fee). Any attempt to do so will result in Administration B reclaiming those numbers for reassignment.

– Administration B will not charge any additional fee for a customer requested number.

– Freephone subscribers have no legal claim to or propriety interest in any number and should be notified accordingly by Administration A.

– Freephone subscribers are not to promote their number unit before the customer due date.

– When an existing service is disconnected, Administration B number re-assignment policy will be followed.

– Administration B's should have the right to make a final decision on any freephone number issued.

3.1.6 *Directory assistance/listings*

Directory assistance in country B can be obtained at the option of the subscriber of Administration A. If subscribers wish to have their freephone number included in the directory assistance system, this must be specified in the SOF.

Details about listings should be subject to bilateral agreement.

3.1.7 *Access capabilities/line definition*

Administration A will indicate the actual number of access lines at the disposal of its subscriber. This may be used for network management purposes.

3.1.8 *Service authorization*

Both Administrations will activate the service a few days prior to the customer due date. This will allow proper testing and verification of the service before the customer defined due date.

3.1.9 *Pre-service testing*

Administration A will verify operation of the subsriber's access number and will perform pre-service testing during the days preceding the SOF due date.

Administration B will test the service on the day before the due date at the latest.

3.1.10 *Service order control*

As the originator and interface with the subscriber, Administration A should have overall control responsibilities to assure satisfactory completion of the service order and initiation of service.

3.1.11 *Abusive customers*

Administration B will notify Administration A of any unusual or abusive use of freephone calling by their subscribers. Administration A should attempt to correct the situation as quickly as possible (e.g., convince the subscriber to solve the problem).

In extreme cases, Administration B may wish to terminate service to a subscriber who has shown an inability or lack of desire to control his international freephone service.

Administration B will consult the Administration A prior to taking any action.

3.2 *Operating practices*

3.2.1 *Operations centres*

All problems should be reported to the operation centre appointed for each Administration. These centers do the pre-service testing, troubleshooting and service performance tracking.

3.2.2 *Pre-service testing*

Each new international freephone number will be tested through the subscriber number prior to the customer due date. On the customer due date, the routing number will be released to the customer, and a final call will be made from the originating country to the subscriber's access to finish the testing.

3.2.3 *Trouble situations*

Trouble in either the inbound or outbound service is reported to the operations centre.

For trouble in the inbound service, a simulated incoming international call is set up. If the call completes to the subscriber, the trouble is referred to Administration B for testing and resolution. If the call does not complete, the trouble is corrected as soon as possible.

For outbound calls, a test call will be made on the outbound side of the international switch. If the call does not complete, the trouble will be referred to Administration A for further testing.

3.3 *Data collection*

3.3.1 *Originating country performance data collection*

Statistical data from the freephone exchange will be utilized to provide a traffic figure for all outgoing calls.

Available data will be specified by bilateral agreement.

3.3.2 *Exchange of customer performance data*

There will be no charge for the exchange of such information between Administrations. If the reports are supplied to the subscriber, Administration A will decide on the charge and will not reimburse Administration B.

4 Customer's features

In principle, the basic IFS is operated as described under § 2 above. As an Administration option, subscribers may be offered wider possibilities for their business activities.

Some of the more possible features are described below.

4.1 *Universal freephone number*

This feature allows a customer to be allocated one special freephone number that is the same throughout the world while calls to this number, if required, can be routed to different destination accesses depending on the country or point of origin. For various reasons most countries currently have to allocate a restricted part of the national freephone numbering range for IFS. However, it may be possible to allocate the same numbering range for IFS within the national freephone range in each country, at least for the last digits of the freephone number. IFS subscribers should have the right to choose their freephone number from such a numbering range.

Annex C gives numbering ranges which can, as an example, be reserved for customers requesting universal freephone numbers (it is recognized however that several Administrations cannot in the short term apply this numbering scheme).

4.2 *Announcement for callers*

To inform the caller as an option (see § 5.2.2) of the unique character of the freephone number, an announcement may be given to him after assessing a freephone number. The announcement for IFS should be different from the announcement for IODC.

4.3 *Geographical zone call routing*

In general, the IFS number is related to a national terminal point (destination access) of the subscriber, so it is only possible to reach one such point from the whole of the originating country. In order to cover regional marketing districts within a country, it should be possible to choose smaller geographic areas of the country as points of origin for IFS calls.

4.3.1 *Module construction system of geographic service areas*

To enable this feature, the country has to be divided into geographic service areas, based on a module construction system, which follow traditional borders such as counties, linguistic areas, economic or political districts, or networks. Customers of the IFS must specify a destination access for all (or just a few) of these modules (geographic service areas), so that each module (service area) is related to one destination access. Depending on the geographic origin of the call, it will be routed to the predefined destination access of the IFS subscriber. Independent of the geographic origin, the caller always uses the same freephone number.

4.4 *Time-dependent call routing*

This feature enables IFS subscribers to route their traffic to alternate destination accesses at specified times of the day or days of the week. The destination access may vary depending on:

– time (hour – minute),

– day of the week (Su – Mo – Tu – Th – Fr – Sa),

– date (day – month – year).

4.4.1 *Timetable call routing*

The different applications of standard and daylight savings times by countries should be coordinated by the Administration providing the diversion capability.

4.4.2 *Date-dependent call routing*

Subscribers may require temporary changes in their periodic seven-day cycle for public holidays or business vacations. Therefore, the subscriber may request the date depending call routing. This is a specified routing that is different from that which would normally be scheduled for this specific date.

4.4.3 *Variable (follow-me) call routing*

Subscribers may also require temporary changes in their periodic seven-day cycle for special events or campaigns. The traffic will be routed to these alternative destination accesses by activation of the subscriber. This follow-me feature is intended for non-periodic routing changes.

4.4.4 *Activation of the follow-me number*

The subscriber may either activate the follow-me number by contacting the Administration's operational entity who will enter the proper request into the system on behalf of the subscriber, or the subscriber may interact with the system directly. In both cases, the traffic will then be routed to the alternative access instead of the destination access of the periodic routing program. It should be possible to also schedule the request for activation of the follow-me number in advance.

4.5 *Call completion on busy (traffic-dependent) call routing*

The aim of this feature is to have all calls completed in the most effective way when encountering an occupied number. This prevents ineffective seizure of network facilities, since all calls which encounter busy are stopped at, or close to, the origin. Therefore it is desirable to record the local seizure of the subscriber destination access on a real-time basis. Three subfeatures, depending on the amount/number of seizures within a specific period of time, are possible:

4.5.1 *Diversion of calls to alternative destination accesses*

This subfeature provides the capability to have call enquiries that encounter of busy after being translated to the corresponding destination access, to be routed to an alternative destination access of the subscriber. A series of alternative destination accesses may be defined. If none of these alternative accesses is available, the call will be routed to a recorded announcement or held in a queue.

4.5.2 *Queuing of calls*

This subfeature provides the capability to have call enquiries that encounter busy after being translated to all of the corresponding destination accesses, to be held in a queue until an access to the subscriber becomes available. The caller will receive a corresponding announcement. If one access is available, the call will be taken out of the queue on the FIFO principle (first in-first out) and routed to this access.

4.5.3 *Recorded announcement*

This subfeature provides the capability to route a call that cannot be completed to the subscriber access to a recorded announcement. This announcement can be customized or standard. Depending on the reason for non-successful call completion, different announcements can be defined:

– busy: announcement for normal traffic condition;

– overload: announcement for explosive traffic conditions.

4.6 *Subscriber statistics*

This feature provides the capability to give more information about the usage and seizure of the access to the subscriber than does his monthly bill.

4.6.1 *Real time information*

This information is given to the subscriber during the local call, e.g., on his equipment display. For example:

– freephone indicator showing if the incoming call is a freephone call which has to be paid by the subscriber;

– subscriber number of the caller;

– point of origin of the call;

– billing information of the local call.

Other information should be given to the subscriber via a visual display such as:

– usage of the access lines;

– number of calls in the queue of the network;

– accounting (billing) information of the last accounting period;

– number of seizures/call attempts: 15-minute cycle for the last 24 hours;

– number of successful calls: 1-hour cycle for the last 7-day cycle.

4.6.2 *Analysis by the Administration*

Data and information are postprocessed by the Administration and given to the subscriber as listings on a periodic (e.g., monthly) basis.

a) *List of calls*

All seizures within the specified period of time are registered and listed:

- beginning of seizure/call with date and time,
- subscriber number of the caller,
- point of origin of the call,
- call response time of the subscriber,
- duration of the call.

b) *Call attempt profile*

All call attempts within a specific period (e.g., 5-minute, 15-minute, 60-minute periods) are registered, sorted according to their origin, and listed.

4.7 *Directory assistance/listing service*

Directory ASSISTANCE in the country of origin can be obtained as an option for the IFS subscriber.

Directory LISTING in the country of origin can also be obtained as an option of the IFS subscriber. Because of the unique character of freephone numbers, special pages (e.g., green pages) should be created and published in each regional listing.

To comply with the goal of a unique symbol for the IFS, the manner of writing a freephone number in listings or advertisings should be the same within participating countries.

Details are to be defined by the Human Factors Group in the CCITT.

5 Operational and technical provisions

5.1 *General description*

Subscribers who are prepared to pay charges for incoming calls may take out one or several IFS subscriptions with their Administration on the basis of the following items:

- a specific IFS number,
- available options.

5.1.1 *IFS number*

This is the number to be dialled by callers abroad allowing them to call the IFS subscriber of Administration A. The assignment of this number will be a national matter in Administration B. In addition to the following requirements, the IFS routing number should support the identification of the specific destination Administration. It consists of:

5.1.1.1 *Characteristic, prefix for IFS: the IFS access code*

The access code has the following functions:

- it gives the service a unique identity,
- it inhibits charging of outgoing calls,
- it informs the caller of the free-of-charge character of the calling procedure,
- it routes the call towards a special exchange that can handle the IFS service.

5.1.1.2 *Subscriber's freephone number*

This number is allocated by the Administration of the subscriber's country (Administration A) from a given series proposed by the Administration of the country of origin of calls (Administration B). If the subscriber wishes IFS to be provided in several countries, he should be allocated a particular IFS number for each of them but, in the long term, the IFS number could be independent of the country of origin of calls (for common numbering range, see Annex C).

5.2 *Operational requirements*

In practice, the operational requirements mentioned below may be met in different parts of the total network involved with the provision of the service and much will depend on the way the service capability is implemented by an Administration.

5.2.1 *The country of destination (Administration A) should endeavour:*

- to establish the billing procedure for its IFS subscribers autonomously,
- to collect statistical data for international accounting procedures in each relation,
- to prevent fraud or duplicate collection attempts,
- to carry out traffic observations.

5.2.2 *The country of origin (Administration B) should endeavour:*

- to ensure the free-of-charge character of the call for the caller,
- to prevent fraud attempts,
- to monitor the network to avoid a massive number of calls (counter for limiting the number of calls),
- to carry out traffic observations,
- to allow calls to be placed from any public or private telephone station,
- to allow or forbid any call routing from a given access area, and
- as an option, to inform the caller of the IFS service by means of an announcement.

5.3 *Technical requirements*

It is desirable that potential capacities and service options should be similar in both directions for a given relation. However, Administrations will be free to incorporate features and functions that do not require changes or other support by other IFS Administrations, independent of when the other Administrations are able to provide the same feature.

5.3.1 *The country of origin (Administration B) should endeavour:*

a) to screen the IFS calls for validity;

b) to forbid charging of outgoing calls;

c) to route calls where applicable towards a special exchange devoted to IFS which should verify the validity of the IFS number and translate it into the routing number indicated by the destination Administration.

Administration B will be required to translate the dialled number into the format required by Administration A. This will normally be in the form of a routing number which will be used by Administration A to identify the called subscriber. This routing code should be kept confidential.

The structure of the routing number could consist of:

- the country code of the country of destination,
- the incoming IFS code for the country of destination,
- the country code (or prefix) of the country of origin,
- the specific number of the called subscriber;

d) to route the call after translation of the incoming number towards an outgoing international exchange;

e) to proceed with an efficient management of the network to allow regular traffic flow;

f) to prevent fraud.

Where a terminating Administration does not have terminating call processing (terminal billing) capabilities, the translation may be to a normal PSTN (public switched telephone network) number. The call will be delivered as a normal IDD (international direct dialling) call.

5.3.2 *The country of destination (Administration A) should endeavour:*

a) to identify the incoming IFS routing number for special handling as follows:

- validity verification of the received number,
- translation into the domestic number of the IFS subscriber,
- routing of the call on the domestic network,
- recording of call data for international billing and accounting purposes, and as an option,
- providing an announcement to inform the called subscriber of the type of call received,

b) to proceed with an efficient management of the network to avoid a massive number of calls;

c) to prevent fraud.

5.4 *Network management*

CCITT rules concerning the International Telephone Routing Plan also apply to IFS calls.

Moreover, Administrations should plan to provide network management facilities in their toll-free networks equivalent to that provided in their normal networks.

Advanced network management facilities may be required as IFS grows, to ensure that congestion resulting from heavy calling to one number does not adversely affect the IFS service or other mainstream services.

6 Quality of service

The quality of IFS should be a basic requirement in order to meet customer needs and achieve a satisfactory market growth.

Basic aspects to be ensured are listed below:

a) Telephone quality should be the same as for regular international telephone service.

b) Connection retention should be ensured; unwanted interruptions or excessive breaks of communication should not occur.

c) Calls should be set up in the shortest possible time in accordance with Recommendations of the E.400 Series.

d) Service activation should be provided in the shortest possible time; a period of 10 working days seems to be the goal.

e) Maintenance procedures should be set up in order to ensure an average time-to-repair as short as possible.

f) Clear billing information should be provided, on request, to the customer.

g) Service observation should be carried out in a planned manner in order to be sure that service quality requirements are guaranteed to the users (refer to Recommendations of the E.400 Series).

ANNEX A

(to Recommendation E.152)

Service order form for IFS

FROM	TO	COORDINATION No.
Administration A	Administration B	CC –
		. . . . .
		Date transmitted:
		. . . .
		Day Month Year

SOF type (mark one with an x)	New	Change	Disconnect	Suspend

Pending SOF supplement	No.	Modify (mark an x if yes)		Due date change (mark an x if yes)		Cancel SOF (mark an x if yes)	

Administration A . . . . . Customer due date: . . . .
Day Month Year

Service request number

Freephone number: . . . . . Activation time: . . . . . .

Routing number: . . . . . Access capabilities: . . . . . .

Administration B

Directory assistance of Administration B: Customer of Administration A to be included?	Yes	No
Directory listings of Administration B: Customer of Administration A to be included?	Yes	No
Additional listings: Do you wish to be contacted?	Yes	No

Listing: . . . . . .
. . . . . .

Customer name and address: . . . . . .
. . . . . .

Remarks: . . . . . .
. . . . . .

Coordinator: . . . . . Telephone No.: . . . . . .

ANNEX B

(to Recommendation E.152)

Fascimile message form

Date: ....

Day Month Year

FROM: Name: . . . . . .

Location: . . . . . .

(Administration A) Facsimile No.: . . . . . .

Contact/Information Tel. No.: . . . . . .

TO: Name: . . . . . .

Location: . . . . . .

(Administration B) Facsimile No.: . . . . . .

Contact/Information Tel. No.: . . . . . .

FREEPHONE NUMBER ASSIGNMENT REQUEST

Customer name: . . . . . .

1. . . . . .

2. . . . . .

3. . . . . .

Remarks:

. . . . . .

. . . . . .

. . . . . .

. . . . . .

. . . . . .

ANNEX C

(to Recommendation E.152)

Example of international freephone numbering range

Countries	Access code
A	066
B	11
CH	046 05
D	0130
DK	0430/0434 [a)]
E	900-OX
F	19 05 90
GB	0 800 89
GR	
I	1678
IRL	
L	
N	050
NL	06
S	020 XX
SF	9800

0000-0999	for IODC
1000-1099	for freephone service
2100-2199	
3200-3299	
4300-4399	
5400-5499	
6500-6599	
7600-7699	
8700-8799	
9900-9999	

J	
CDN	1 800 XXX
US	1 800 XXX

a) From May 1989: 800

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