
**Information technology —
Telecommunications and information
exchange between systems — Private
Integrated Services Network —
Specification, functional model and
information flows — Call intrusion
supplementary service**

ISO/IEC 14845:1996

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*Technologies de l'information — Télécommunications et échange
d'information entre systèmes — Réseau privé à intégration de services —
Spécification, modèle fonctionnel et débit d'information — Service
supplémentaire d'intrusion d'appel*



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Printed in Switzerland

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75% of the national bodies casting a vote.

International Standard ISO/IEC 14845 was prepared by ECMA (as Standard ECMA-202) and was adopted, under a special “fast-track procedure”, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by national bodies of ISO and IEC.

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Introduction

This International Standard is one of a series of International Standards defining services and signalling protocols applicable to Private Integrated Services Networks (PISNs). The series uses ISDN concepts as developed by ITU-T and conforms to the framework of International Standards for Open Systems Interconnection as defined by ISO/IEC.

This particular International Standard specifies the Call Intrusion supplementary service.

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Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional model and information flows - Call intrusion supplementary service

1 Scope

This International Standard specifies the Call Intrusion supplementary service (SS-CI), which is applicable to various basic services supported by Private Integrated Services Networks (PISN). Basic services are specified in ISO/IEC 11574.

Call Intrusion (SS-CI) is a supplementary service which, on request from the served user, enables the served user to establish communication with a busy called user (user B) by breaking into an established call between user B and a third user (user C).

Supplementary service specifications are produced in three stages, according to the method described in CCITT Recommendation I.130. This International Standard contains the stage 1 and stage 2 specifications of SS-CI. The stage 1 specification (clause 6) specifies the supplementary service as seen by users of PISNs. The stage 2 specification (clause 7) identifies the functional entities involved in the supplementary service and the information flows between them.

Note - For this International Standard, stage 2 does not consider the split of functionality between a functional terminal at user B and the local PINX. Terminal functions and local PINX functions at user B are included in the same Functional Entity.

2 Conformance

In order to conform to this International Standard, a stage 3 International Standard shall specify signalling protocols and equipment behaviour that are capable of being used in a PISN which supports the supplementary service specified in this International Standard. This means that, to claim conformance, a Stage 3 International Standard is required to be adequate for the support of those aspects of clause 6 (stage 1) and clause 7 (stage 2) which are relevant to the interface or equipment to which the Stage 3 International Standard applies.

3 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

- ISO/IEC 11571:1994, *Information technology - Telecommunications and information exchange between systems - Numbering and sub-addressing in private integrated services networks.*
- ISO/IEC 11574:1994, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Circuit-mode 64 kbit/s bearer services - Service description, functional capabilities and information flows.*
- ISO/IEC 11579-1:1994, *Information technology - Telecommunications and information exchange between systems - Private integrated services network - Part 1: Reference configuration for PISN Exchanges (PINX).*
- ISO/IEC 13863:1995, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional model and information flows - Path replacement additional network feature.*
- ISO/IEC 13864:1995, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional model and information flows - Name identification supplementary services.*
- ISO/IEC 13865:1995, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional model and information flows - Call transfer supplementary service.*
- ISO/IEC 13866:1995, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional model and information flows - Call completion supplementary services.*

- ISO/IEC 13872:1995, *Information technology - Telecommunications and information exchange between systems Private Integrated Services Network - Specification, functional model and information flows - Call diversion supplementary services.*
- ISO/IEC 14136:1995, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional models and information flows - Identification supplementary services.*
- ISO/IEC 14841:1996, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional model and information flows - Call offer supplementary service.*
- ISO/IEC 14842:1996, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional model and information flows - Do not disturb and do not disturb override supplementary services.*
- CCITT Rec. I.112:1988, *Vocabulary of terms for ISDNs (Blue Book).*
- CCITT Rec. I.130:1988, *Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN (Blue Book).*
- CCITT Rec. I.210:1988, *Principles of telecommunication services supported by an ISDN and the means to describe them (Blue Book).*
- CCITT Rec. I.221:1988, *Common specific characteristics of services, Definition of par. 3 "busy" in an ISDN (Blue Book).*
- CCITT Rec. Z.100:1988, *Specification and Description Language (Blue Book).*

4 Definitions

For the purposes of this International Standard, the following definitions apply.

4.1 External definitions <https://standards.iteh.ai/catalog/standards/sist/c4e3ca08-974b-49c3-bb59-ca55892cb8a/iso-iec-14845-1996>

This International Standard uses the following terms defined in other documents:

- Basic service (CCITT Rec. I.210)
- Calling Party Name (ISO/IEC 13864)
- Connection (CCITT Rec. I.112)
- Integrated Services Digital Network (CCITT Rec. I.112)
- Name (ISO/IEC 13864)
- Network Determined User Busy (CCITT Rec. I.221)
- Number (ISO/IEC 11571)
- Private Integrated Services Network (PISN) (ISO/IEC 11579-1)
- Private Integrated Services Network Exchange (PINX) (ISO/IEC 11579-1)
- Service (CCITT Rec. I.112)
- Signalling (CCITT Rec. I.112)
- Subaddress (ISO/IEC 11571)
- Supplementary Service (CCITT Rec. I.210)
- User (ISO/IEC 11574)
- User Determined User Busy (CCITT Rec. I.221)

This International Standard refers to the following basic call functional entity (FEs) defined in ISO/IEC 11574:

- Call Control (CC)
- Call Control Agent (CCA)

This International Standard refers to the following basic call inter-FE relationships defined in ISO/IEC 11574:

- r1
- r2
- r3

This International Standard refers to the following basic call information flows defined in ISO/IEC 11574:

- Disconnect request/indication
- Release request/indication
- Release response/confirmation
- Setup request/indication
- Setup response/confirmation.

This International Standard refers to the following basic call information flow service elements defined in ISO/IEC 11574:

- Destination Number
- Connection type.

This International Standard refers to the following information flow elements defined in ISO/IEC 14136:

- Originating number
- Originating subaddress.

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4.2 Other definitions

busy : A property of a user for whom either a Network Determined User Busy or User Determined User Busy condition exists.

conference type connection : A connection between the served user, user B and user C, where all users have user information connection with each other.

consultation : Invocation of SS-CI after the calling user has been informed that a call has failed because of busy at the destination.

consultation timer : A timer governing the time in which the calling user is allowed to request invocation of SS-CI after being informed that a call has failed because of busy at the destination. The duration of the timer is an implementation option.

established call : The active call that is selected for intruding on.

forced release : The release of the established call on request from the served user during the intrusion state.

immediate invocation : Invocation of SS-CI as part of the initial call set up.

impending intrusion state : The condition of an established call and an intruding call after provision of an impending intrusion warning notification and before establishment of communication between the served user and user B.

impending intrusion warning notification : A notification provided before communication is established between the served user and user B.

implementation option : An option for the implementor of the service to include or not to include in the service providing system.

intruding call : A call in which the served user requests SS-CI.

intrusion state : The condition of an established call after establishment of communication between the served user and user B and prior to termination of SS-CI or invocation of wait on busy.

intruding call connected notification : A notification provided on establishment of communication between the served user and user B.

isolation : The breaking of the user information connection to and from user C during the intrusion state.

path retention : The retaining of the network connection between the originating CC and the destination CC so that a supplementary service (such as SS-CI) can be invoked without establishing a new connection.

served user :The user who requests SS-CI.

time to intrusion : The duration of the impending intrusion state.

user B : The wanted user that is subject to the call intrusion.

user C : The other user in the established call.

wait on busy state : A state that can be entered from the intrusion state and in which the intruding call is disconnected from user B and is waiting for user B to answer the call.

5 List of acronyms

ANF	Additional Network Feature
CC	Call Control (functional entity)
CCA	Call Control Agent (functional entity)
CCBS	Call Completion to Busy Subscriber
CCNR	Call Completion No Reply
CD	Call Deflection
CFB	Call Forwarding Busy
CFNR	Call Forwarding No Reply
CFU	Call Forwarding Unconditional
CI	Call Intrusion
CICL	Call Intrusion Capability Level
CIPL	Call Intrusion Protection Level
CLIP	Calling Line Identification Presentation
CLIR	Calling/Connected Line Identification Restriction
CNIP	Calling Name Identification Presentation
CNIR	Calling/Connected Name Identification Restriction
CO	Call Offer
COLP	Connected Line Identification Presentation
CONP	Connected Name Identification Presentation
CT	Call Transfer
DND	Do Not Disturb
DNDO	Do Not Disturb Override
FE	Functional Entity
ISDN	Integrated Services Digital Network
NDUB	Network Determined User Busy
PINX	Private Integrated Services Network Exchange
PISN	Private Integrated Services Network
SDL	Specification and Description Language
SS	Supplementary Service
TE	Terminal Equipment
UDUB	User Determined User Busy
WOB	Wait On Busy

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6 SS-CI stage 1 specification

6.1 Description

6.1.1 General description

Call Intrusion (SS-CI) is a supplementary service which, on request from the served user, enables the served user to establish communication with a busy called user (user B) by breaking into an established call between user B and a third user (user C). On successful intrusion, user C is either connected in a conference type connection with the served user and user B or disconnected from user B (isolated).

An intrusion request is only accepted if the served user has a higher Call Intrusion Capability Level (CICL) than the Call Intrusion Protection Level (CIPL) of both user B and user C.

There are three implementation options that provide the served user with additional capabilities following successful intrusion:

- Forced release, allowing the served user to release the established call;
- Isolation, allowing the served user, if a conference type connection has been established, to isolate user C;
- Wait on busy, allowing the served user to cause a transition from the intrusion state to the wait on busy state.

6.1.2 Qualifications on applicability to telecommunication services

SS-CI is applicable to all basic services defined in ISO/IEC 11574.

6.2 Procedures

6.2.1 Provision/withdrawal

SS-CI shall be provided or withdrawn after pre-arrangement with the service provider.

SS-CI shall be provided on a per PISN number basis. For each PISN number, the supplementary service may be provided for those basic services for which it is considered meaningful (see 6.1.2) provided at that PISN number or for only some of these basic services provided at that PISN number.

A Call Intrusion Capability Level (CICL) shall be allocated to the served user. Call Intrusion Protection Levels (CIPLs) shall be allocated to potential individual users B and C within the PISN and to gateways to other networks (for use on behalf of users outside the PISN). The procedure by which CICL and CIPL are allocated is outside the scope of this International Standard.

CICL shall have a value in the range 1 (lowest capability) to 3 (highest capability). At least one of the CICL values shall be offered.

CIPL shall have a value in the range 0 (no protection) to 3 (total protection). CIPL values 0 and 3 shall be offered, and values 1 and 2 may, as an implementation option, be offered.

Note - It is not precluded that CIPL values can be variable, e.g. a user may have the possibility to change the CIPL value with a user procedure. CIPL values assigned to gateways may also be variable, e.g. depending on whether the gateway is used for an incoming or outgoing call to the PISN. The details of such capabilities are outside the scope of this International Standard.

At least one of the methods of invoking SS-CI (see 6.2.2.2.1) shall be supported. If both methods given in 6.2.2.2.1 are supported, then a user may be provided with one or both methods.

A number of implementation options concern features available to the served user during call intrusion. The served user may, at time of provision of SS-CI, be given the choice of being provided with some, all or none of these or the options may be generally available. These implementation options are: forced release, isolation, and wait on busy.

When these options are selectable on a per served user basis, they may be selectable separately for each basic service for which SS-CI is provided, or selectable only for all basic services for which SS-CI is provided.

6.2.2 Normal procedures

6.2.2.1 Activation/deactivation/registration/interrogation

SS-CI shall be activated by the service provider upon provision, and deactivated upon withdrawal.

Registration and interrogation shall not apply.

6.2.2.2 Invocation and operation

6.2.2.2.1 Methods of invoking SS-CI

There are two different ways to invoke SS-CI. A PISN shall offer one or both of these ways. These ways are:

- i) Consultation: the served user, on being informed that a call has failed because of busy at the destination, shall be able, within a defined period (consultation timer), to request SS-CI.
- ii) Immediate invocation: the served user shall be able to request SS-CI as part of the initial call set up.

6.2.2.2.2 Verification and selection of compatible call

If the consultation method is provided to the served user, the following procedure shall apply. If a call fails due to busy at the called user B and the PISN is not aware that intrusion is not allowed (e.g. because of insufficient CICL), the PISN shall notify the served user that the call has failed because of busy at the called user B and that intrusion may be possible. The served user may then request SS-CI.

If the immediate invocation method is provided to the served user, the served user may request SS-CI with the initial call set up.

For both invocation alternatives the following shall apply. Upon receiving an intrusion invocation request from the served user, the PISN shall check that the user B's number used by the served user, when requesting the service, is also a number involved in a compatible call in the active state. A called user's subaddress supplied by the served user shall not be taken into account when selecting a call to intrude on. Further, the PISN checks that the CIPL values of the users in the active call are lower than the CICL value of the served user. If user B's CIPL value is lower than the CICL value and user B has several compatible calls in the active state, the CIPL values of the other users in the calls shall be checked, in any order, until a CIPL value lower than the CICL value is found. A call that passes these checks shall be selected as the established call.

When the established call has been selected, the users in the established call may as an option be provided with an Impending intrusion warning notification and a short delay (not exceeding 10s) before the connection between the served user and user B is formed. If this notification is provided, it shall be sent to both users in the established call and optionally to the served user and the impending intrusion state shall be entered.

Note - The Impending intrusion warning notification can be accompanied by an in-band tone or announcement to user B and user C. An in-band tone or announcement can be given to the served user.

If no Impending intrusion warning notification is provided, the procedures of 6.2.2.2.4 for setting up the connection between the served user and user B shall apply immediately.

6.2.2.2.3 Actions during impending intrusion state

6.2.2.2.3.1 Impending intrusion state ends

A time period, time to intrusion (1-10 seconds, implementation option), after the Impending intrusion warning notification has been provided the impending intrusion state shall be terminated and the procedures of 6.2.2.2.4 for setting up the connection between the served user and user B shall apply.

6.2.2.2.3.2 Release of intruding call

If the served user releases the intruding call during the impending intrusion state, user B and user C shall each be notified that intrusion has terminated. SS-CI shall be terminated.

6.2.2.2.3.3 Release of established call

If user B or user C releases the established call, the served user shall be notified that intrusion is no longer applicable. SS-CI shall be terminated and the network shall attempt to present the call from the served user to user B and continue in accordance with basic call procedure.

6.2.2.2.4 Setting up the connection between served user, user B and user C

There are two different ways (implementation options) for the served user to be connected to user B. Either the network shall form a conference type connection between user B, user C and the served user, or the network shall isolate user C and connect the served user only to user B. In either case, when the connection has been established, the intrusion state shall be entered.

If the first option is implemented, the users in the established call shall be provided with an Intruding call connected notification when the served user is connected. The served user shall receive confirmation that the intrusion request has been accepted and that a conference type connection has been formed.

Note - The three users can also receive a superimposed in-band indication (e.g. a repeated tone) while the conference type connection exists.

If the latter option is implemented, user C shall be given a notification that isolation has occurred and user B shall be informed that user C has been isolated and that an intrusion has occurred. The served user shall receive confirmation that the intrusion request has been accepted and that isolation has occurred. The served user and user B shall be connected and no conference type connection shall be formed. The established call shall remain in progress but with the user information connection to user C broken.

Note - User C can also receive an in-band tone or announcement while isolated.

Note - The option selected can depend on the particular basic service being used.

6.2.2.2.5 Actions during intrusion state

6.2.2.2.5.1 Release of intruding call

If the served user releases the intruding call, the established call shall revert to the state that existed before the intrusion state, and the intrusion state shall be terminated. User B and user C shall be notified that the intrusion state has been terminated.

If user B releases the intruding call, the established call shall revert to the state that existed before the intrusion state, and the intrusion state shall be terminated. User C shall be notified that the intrusion state has terminated.

6.2.2.2.5.2 Release of the established call

If user B or user C releases the established call, the served user shall be notified that call intrusion has terminated. If user C releases the established call, user B shall be notified that intrusion has terminated. The intruding call shall become an ordinary call between user B and the served user.

6.2.2.2.5.3 Forced release

As an implementation option the served user may, during the intrusion state, request a forced release of user C. User C may be isolated or in a conference type connection when the request is made. A successful forced release shall be notified to the served user, to user B and to user C. The intruding call shall continue as an ordinary call between the served user and user B, the established call shall be released, and the intrusion state shall be terminated.

6.2.2.2.5.4 Isolation on request from served user

If a conference type connection is used, user C may (implementation option) be isolated from the conference type connection on request from the served user. If the request is accepted the served user shall receive confirmation and the established call shall be disconnected from user B, but not released. The served user shall be connected only to user B. The intrusion state shall continue and the ensuing situation shall be identical to the situation where isolation occurred when the intrusion state was entered. User C and user B shall be notified that user C has been isolated.

6.2.2.2.5.5 Transition from intrusion state to wait on busy state

As an implementation option it may be possible for the served user to request transition from the intrusion state to the wait on busy state. On acceptance of such a request, the served user shall receive a confirmation, the established call shall revert back to the state that existed before intrusion, user B shall be reconnected to user C if isolated, the intruding call shall be disconnected from user B and the intrusion state shall be terminated. The intruding call shall not be released but shall enter the wait on busy state. User B shall be notified that the intrusion has terminated and wait on busy has been invoked. User C shall be notified that the intrusion has terminated.

6.2.2.2.6 Actions during wait on busy state

6.2.2.2.6.1 Served user releases

If the served user releases during the wait on busy state, user B shall be notified and SS-CI terminated.

6.2.2.2.6.2 User B answers the waiting call

If user B answers the waiting call, SS-CI shall be terminated, and the served user shall be notified and connected to user B. The call shall become an ordinary call between user B and the served user.

6.2.2.2.6.3 Re-intrusion request

When the network receives a request for re-intrusion, the network shall verify the request and select an established call in accordance with 6.2.2.2.2 and set up the connection in accordance with 6.2.2.2.3 (if applicable) and 6.2.2.2.4.

6.2.2.2.6.4 User B becomes not busy

If the PISN detects that the necessary resources have become available, it shall transfer an incoming call indication to user B. If user B starts alerting, the served user shall receive an appropriate indication.

6.2.3 Exceptional procedures

6.2.3.1 Activation/deactivation/registration/interrogation

Not applicable.

6.2.3.2 Invocation and operation

If the served user requests invocation of SS-CI as part of the initial call request, and immediate invocation is not provided to the served user, then the request shall be ignored and the call shall proceed as if the request had not been made.

If a SS-CI or re-intrusion request is rejected, the served user shall be informed, and may be given an indication of the reason for the rejection. Possible reasons to reject a SS-CI or re-intrusion request are e.g.:

- served user has a lower or equal CICL compared with user B's and/or user C's CIPL value;
- user B is busy but not involved in a compatible call in the active state;
- temporary lack of resources;
- the established call is already being intruded upon;
- the established call is intruding on another call.

If SS-CI is requested and user B is found to be not busy, the call shall be treated as a normal incoming call to user B.

If a forced release, isolate or wait on busy request from the served user is denied by the PISN, the served user shall be notified and may be given an indication for the reason of the denial. The intrusion state shall remain.

If an intrusion request from the wait on busy state is rejected, the wait on busy state shall remain.

If consultation applies to the call, the call shall be released either if the served user does not request invocation within the defined time period (consultation timer) or if the served user requests invocation within the defined time period (consultation timer) and this request is rejected.

Consultation shall not apply if the called user is busy and the PISN is aware that intrusion is not allowed. Basic call procedures shall apply.

6.3 Interactions with other supplementary services and ANFs

Interactions with other supplementary services and ANFs for which PISN-International Standards were available at the time of publication of this International Standard are specified below.

6.3.1 Calling Line Identification Presentation (SS-CLIP)

User B shall, as part of the intruding call, receive the Calling Line Identification of the served user, unless Calling Line Identification Restriction (CLIR) applies and user B has no override capability.

No indication of the served user's identity shall be provided to user C.

6.3.2 Connected Line Identification Presentation (SS-COLP)

The served user shall receive the Connected Line Identification of user B when the intrusion state is entered, unless CLIR applies.

The served user shall not receive the Connected Line Identification of user C.

6.3.3 Calling/Connected Line Identification Restriction (SS-CLIR)

When CLIR is invoked at the served user, Calling Line Identification shall not be presented to user B, unless user B has an override capability.

When CLIR is invoked at user B, Connected Line Identification shall not be presented to the served user, unless the served user has an override capability.

6.3.4 Calling Name Identification Presentation (SS-CNIP)

User B shall, as part of the intruding call, receive the Calling Name Identification of the served user, unless Calling Name Identification Restriction applies and user B has no override capability.

No indication of the served user's name shall be provided to user C.

6.3.5 Connected Name Identification Presentation (SS-CONP)

The served user shall receive the Connected Name Identification of user B when the intrusion state is entered, unless CNIR applies.

The served user shall not receive the Connected Name Identification of user C.

6.3.6 Calling/Connected Name Identification Restriction (SS-CNIR)

When CNIR is invoked at user B, Connected Name Identification shall not be presented to the served user, unless the served user has an override capability.

When CNIR is invoked at the served user, Calling Name Identification shall not be presented to user B, unless user B has an override capability.

6.3.7 Completion of Calls to Busy Subscriber (SS-CCBS)

SS-CCBS requested by the served user while in the intrusion state shall be rejected.

While in the wait on busy state, the served user may be able to invoke SS-CCBS.

While in the wait on busy state the intruding call shall have priority over any SS-CCBS request against that same user B, when resources at that user B become available.

Note -If a call fails because of busy at the destination, either SS-CI or SS-CCBS or both can be applied.

6.3.8 Completion of Calls on No Reply (SS-CCNR)

No interaction.

6.3.9 Call Transfer (SS-CT)

The served user shall not be able to invoke SS-CT during the impending intrusion state or the intrusion state. It shall be possible for a served user, during the wait on busy state, to invoke call transfer for transferring a third user to user B provided that the call between the served user and the third user is in the active state. However, it shall not be possible to transfer two calls both of which are in the wait on busy state. Transfer during the wait on busy state shall operate in a similar manner to call transfer during the alerting state, except that the wait on busy state shall continue. The third user may be notified that the call is waiting for a busy called user. If user B subsequently enters an alerting phase and a notification that the call is waiting at a busy called user has been given to the third user, the third user shall be notified that user B is alerting. If user B subsequently answers the call and a notification that the call is waiting at a busy called user has been given to the third user, the third user shall be notified that user B has answered.

During the impending intrusion state or the intrusion state, user B shall not be able to transfer an established or intruding call. During the wait on busy state, user B shall not be able to transfer an intruding call.

A user C may be able to transfer an established call in the intrusion state and the impending intrusion state. If transfer occurs, the user that becomes connected to user B shall become the new user C. If transfer occurs during the impending intrusion state, the new user C shall receive an impending intrusion warning notification. If transfer occurs during intrusion state, the new user C shall receive an intruding call connected notification or a notification that isolation has occurred, as appropriate.

6.3.10 Call Forwarding Unconditional (SS-CFU)

SS-CI, if invoked, shall be applied to a busy user that has been forwarded to as a result of one or more invocations of SS-CFU, provided neither SS-CFNR nor Call Deflection from Alert has taken place.

6.3.11 Call Forwarding Busy (SS-CFB)

If SS-CI is requested as part of the initial call set up, and if the called user is busy and has SS-CFB active, the call shall be forwarded. If the call is forwarded to a user who is also busy, SS-CI shall be applied to the forwarded to user. If the call undergoes more than one diversion, at least one of which is SS-CFB, but none of which is either SS-CFNR or Call Deflection from Alert, then SS-CI shall be applied to the final diverted-to user if that user is busy.

If the calling user is informed that a call has failed because of busy at the destination, and if SS-CI is subsequently invoked, SS-CI shall be applied to the SS-CFB forwarding user or to the SS-CFB forwarded to user. If the call has undergone more than one diversion, at least one of which is SS-CFB, but none of which is either SS-CFNR or Call Deflection from Alert, then SS-CI shall be applied either to the first SS-CFB forwarding user or to the final diverted-to user. Choice between the two is an implementation option. An implementation may permit the calling user to make the choice.

6.3.12 Call Forwarding No Reply (SS-CFNR)

SS-CI, if invoked, shall not be applied to a busy user arrived at as a result of one or more diversions, at least one of which is SS-CFNR. The procedures of SS-CFNR shall apply.

A wait on busy call that is alerting user B shall not be subject to SS-CFNR.