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SECTOR DE NORMALIZACIÓN
DE LAS TELECOMUNICACIONES
DE LA UIT

SERIE Q: CONMUTACIÓN Y SEÑALIZACIÓN

Especificaciones del sistema de señalización N.° 7 – Especificaciones de las pruebas

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Servicios suplementarios de la parte usuario de la red digital de servicios integrados (ISUP'97) – Estructura de las sucesiones de pruebas abstractas y finalidades de las pruebas

Recomendación UIT-T Q.785.2

(Anteriormente Recomendación del CCITT)

RECOMENDACIONES UIT-T DE LA SERIE Q

CONMUTACIÓN Y SEÑALIZACIÓN

SEÑALIZACIÓN EN EL SERVICIO MANUAL INTERNACIONAL	Q.1–Q.3
EXPLOTACIÓN INTERNACIONAL SEMIAUTOMÁTICA Y AUTOMÁTICA	Q.4–Q.59
FUNCIONES Y FLUJOS DE INFORMACIÓN PARA SERVICIOS DE LA RDSI	Q.60–Q.99
CLÁUSULAS APLICABLES A TODOS LOS SISTEMAS NORMALIZADOS DEL UIT-T	Q.100–Q.119
ESPECIFICACIONES DE LOS SISTEMAS DE SEÑALIZACIÓN N.° 4 Y N.° 5	Q.120–Q.249
ESPECIFICACIONES DEL SISTEMA DE SEÑALIZACIÓN N.° 6	Q.250–Q.309
ESPECIFICACIONES DEL SISTEMA DE SEÑALIZACIÓN R1	Q.310–Q.399
ESPECIFICACIONES DEL SISTEMA DE SEÑALIZACIÓN R2	Q.400–Q.499
CENTRALES DIGITALES	Q.500–Q.599
INTERFUNCIONAMIENTO DE LOS SISTEMAS DE SEÑALIZACIÓN	Q.600–Q.699
ESPECIFICACIONES DEL SISTEMA DE SEÑALIZACIÓN N.° 7	Q.700–Q.849
Generalidades	Q.700
Parte transferencia de mensajes	Q.701–Q.709
Parte control de la conexión de señalización	Q.711–Q.719
Parte usuario de telefonía	Q.720–Q.729
Servicios suplementarios de la RDSI	Q.730–Q.739
Parte usuario de datos	Q.740–Q.749
Gestión del sistema de señalización N.° 7	Q.750–Q.759
Parte usuario de la RDSI	Q.760–Q.769
Parte aplicación de capacidades de transacción	Q.770–Q.779
Especificaciones de las pruebas	**Q.780–Q.799**
Interfaz Q3	Q.800–Q.849
SISTEMA DE SEÑALIZACIÓN DIGITAL DE ABONADO N.° 1	Q.850–Q.999
RED MÓVIL TERRESTRE PÚBLICA	Q.1000–Q.1099
INTERFUNCIONAMIENTO CON SISTEMAS MÓVILES POR SATÉLITE	Q.1100–Q.1199
RED INTELIGENTE	Q.1200–Q.1699
REQUISITOS Y PROTOCOLOS DE SEÑALIZACIÓN PARA LA RED IMT-2000	Q.1700–Q.1799
RED DIGITAL DE SERVICIOS INTEGRADOS DE BANDA ANCHA (RDSI-BA)	Q.2000–Q.2999

Para más información, véase la Lista de Recomendaciones del UIT-T.

RECOMENDACIÓN UIT-T Q.785.2

SERVICIOS SUPLEMENTARIOS DE LA PARTE USUARIO DE LA RED DIGITAL DE SERVICIOS INTEGRADOS (ISUP'97) – ESTRUCTURA DE LAS SUCESIONES DE PRUEBAS ABSTRACTAS Y FINALIDADES DE LAS PRUEBAS

Resumen

Esta Recomendación constituye la especificación de pruebas de conformidad para los servicios suplementarios ISUP'97. Esta Recomendación presenta una sucesión de pruebas abstractas (ATS), escrita en TTCN (notación combinada arborescente y tabular). La parte principal de esta Recomendación presenta los requisitos relativos al método de pruebas elegido, a los convenios utilizados en la ATS, a la estructura de la sucesión de pruebas y la finalidad de las pruebas. Los anexos presentan las declaraciones de conformidad de implementación de protocolo (PICS), la información suplementaria de implementación de protocolo para pruebas (PIXIT), el informe de pruebas de conformidad de protocolo (PCTR) y la ATS para los servicios suplementarios ISUP'97, estando este último disponible por medios electrónicos.

Esta Recomendación incluye material electrónico que contiene sucesiones de pruebas abstractas para la versión 2 de la ISUP para servicios suplementarios tanto en forma gráfica como en forma procesable por ordenador.

Orígenes

La Recomendación UIT-T Q.785.2 ha sido preparada por la Comisión de Estudio 11 (1997-2000) del UIT-T y fue aprobada por el procedimiento de la Resolución N.° 1 de la CMNT el 15 de marzo de 1999.

PREFACIO

La UIT (Unión Internacional de Telecomunicaciones) es el organismo especializado de las Naciones Unidas en el campo de las telecomunicaciones. El UIT-T (Sector de Normalización de las Telecomunicaciones de la UIT) es un órgano permanente de la UIT. Este órgano estudia los aspectos técnicos, de explotación y tarifarios y publica Recomendaciones sobre los mismos, con miras a la normalización de las telecomunicaciones en el plano mundial.

La Conferencia Mundial de Normalización de las Telecomunicaciones (CMNT), que se celebra cada cuatro años, establece los temas que han de estudiar las Comisiones de Estudio del UIT-T, que a su vez producen Recomendaciones sobre dichos temas.

La aprobación de Recomendaciones por los Miembros del UIT-T es el objeto del procedimiento establecido en la Resolución N.° 1 de la CMNT.

En ciertos sectores de la tecnología de la información que corresponden a la esfera de competencia del UIT-T, se preparan las normas necesarias en colaboración con la ISO y la CEI.

NOTA

En esta Recomendación, la expresión *empresa de explotación reconocida (EER)* designa a toda persona, compañía, empresa u organización gubernamental que explote un servicio de correspondencia pública. Los términos *Administración, EER* y *correspondencia pública* están definidos en la *Constitución de la UIT (Ginebra, 1992)*.

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ÍNDICE

		Página
1	Alcance	1
2	Referencias	2
3	Definiciones	4
4	Abreviaturas	5
5	Implementación sometida a prueba y métodos de prueba	9
5.1	Identificación del sistema y de la implementación sometidos a prueba	9
5.2	ATM y configuración de pruebas para la ISUP'97	10
	5.2.1 Centrales intermedias	10
	5.2.2 Centrales locales	12
	5.2.3 Aspectos director-subordinado en la configuración de pruebas	15
6	Estructura de la sucesión de pruebas (TSS, *test suite structure*)	16
7	Finalidad de las pruebas (TP, *test purposes*)	18
7.1	Introducción	18
	7.1.1 Convenio de denominación de la finalidad de las pruebas (TP)	18
	7.1.2 Origen de la definición de finalidad de las pruebas	19
	7.1.3 Estructura de la finalidad de las pruebas	19
7.2	Finalidad de las pruebas para los servicios suplementarios	19
	7.2.1 Presentación de la identificación de la línea llamante (CLIP, *calling line identification presentation*)	20
	7.2.2 Restricción de la identificación de la línea llamante (CLIR, *calling line identification restriction*)	27
	7.2.3 Presentación de la identificación de la línea conectada (COLP, *connected line identification presentation*)	32
	7.2.4 Restricción de la identificación de la línea conectada (COLR, *connected line identification restriction*)	46
	7.2.5 Portabilidad de terminal (TP, *terminal portability*)	56
	7.2.6 Señalización de usuario a usuario (UUS, *user-to-user signalling*)	61
	7.2.7 Grupo cerrado de usuarios (CUG, *closed user group*)	109
	7.2.8 Subdireccionamiento (SUB, *sub-addressing*)	120
	7.2.9 Identificación de llamadas malintencionadas (MCID, *malicious call identification*)	122
	7.2.10 Comunicación conferencia, con inclusión (CONF, *conference call, add-on*)	129
	7.2.11 Transferencia explícita de llamada (ECT, *explicit call transfer*)	145
	7.2.12 Desviación de llamada (CFB, CFNR, CFU, CD, *call diversion*)	173
	7.2.13 Retención de llamadas (HOLD, *call hold*)	208

Página

7.2.14 Llamada en espera (CW, *call waiting*) 214
7.2.15 Compleción de llamadas a abonado ocupado (CCBS, *completion of calls to busy subscriber*) 218
7.2.16 Servicio tripartito (3PTY, *three party service*) 246
7.2.17 Compleción de llamadas en caso de ausencia de respuesta (CCNR, *completion of calls on no reply*) 255

8 Cobertura de las pruebas 282

9 Conformidad con la especificación de formulario PICS 283

Anexo A – Formulario de PICS para servicios suplementarios de la parte usuario RDSI (ISUP)'97 283

A.1 Instructions for completing the PICS proforma 283
A.1.1 Purposes and structure 283
A.1.2 Abbreviations and conventions 283

A.2 Identification of the implementation 285
A.2.1 Date of the statement 285
A.2.2 Implementation under test (IUT) identification 285
A.2.3 System under test (SUT) identification 285
A.2.4 Product supplier 285
A.2.5 Client 285
A.2.6 ICS contact person 285

A.3 Identification of the reference specification 286

A.4 PICS proforma tables 286
A.4.1 Global statement of conformance 286
A.4.2 Roles 286
A.4.3 Capabilities 286

Anexo B – Formulario de PIXIT para servicios suplementarios de la parte usuario RDSI (ISUP)'97 297

B.1 Identification summary 297

B.2 Abstract test suite summary 297

B.3 Test laboratory 297

B.4 Client identification 297

B.5 System under test 298

B.6 Ancillary protocols 298

B.7 Protocol information for ISUP 298
B.7.1 Protocol identification 298
B.7.2 IUT information – PIXIT proforma tables 298

Página

Anexo C – Formulario de informe de pruebas de conformidad de protocolo (PCTR) para servicios suplementarios de la parte usuario RDSI (ISUP)'97 305

C.1 Identification summary 305

C.1.1 Protocol conformance test report 305

C.1.2 IUT identification 305

C.1.3 Testing environment 305

C.1.4 Limits and reservation 306

C.1.5 Comments 306

C.2 IUT Conformance status 306

C.3 Static conformance summary 306

C.4 Dynamic conformance summary 306

C.5 Static conformance review report 306

C.6 Test campaign report 307

C.7 Observations 324

Anexo D – ATS para servicios suplementarios de la parte usuario RDSI (ISUP)'97 325

Soporte lógico

Sucesión de pruebas abstractas para la versión 2 de la ISUP para servicios suplementarios

- STMRE.pdf (forma gráfica en formato pdf)
- STMRE.MP (forma procesable por ordenador)

Recomendación Q.785.2

SERVICIOS SUPLEMENTARIOS DE LA PARTE USUARIO DE LA RED DIGITAL DE SERVICIOS INTEGRADOS (ISUP'97) – ESTRUCTURA DE LAS SUCESIONES DE PRUEBAS ABSTRACTAS Y FINALIDADES DE LAS PRUEBAS[1]

(Ginebra, 1999)

1 Alcance

La presente Recomendación constituye la especificación de pruebas de conformidad para los servicios suplementarios ISUP'97 definidos en [1] a [20]. Esta Recomendación presenta una sucesión de pruebas abstractas (ATS, *abstract test suite*) para los servicios suplementarios ISUP'97, escrita en notación combinada arborescente y tabular (TTCN, *tree and tabular combined notation*), véase [29]. Esta Recomendación se aplica únicamente a centrales que tienen implementada la especificación de protocolo ISUP'97. Es válida para las pruebas de validación de todo tipo de centrales definidas en la especificación de protocolo ISUP'97. Esta Recomendación no considera las pruebas de compatibilidad.

La parte principal del texto de esta Recomendación presenta los requisitos relativos al método de pruebas elegido, a los convenios utilizados en la ATS, a la estructura de la sucesión de pruebas y las finalidades de las pruebas (TSS & TP, *test suite structure and test purposes*) para los servicios suplementarios ISUP'97.

Los anexos presentan las declaraciones de conformidad de implementación de protocolo (PICS), la información suplementaria de implementación de protocolo para pruebas (PIXIT), el informe de pruebas de conformidad de protocolo (PCTR, *protocol conformance test report*) y la ATS para los servicios suplementarios ISUP'97, estando este último disponible por medios electrónicos.

El anexo A proporciona el formulario de declaración de conformidad de implementación de protocolo (PICS) para los servicios suplementarios ISUP'97, definido de conformidad con los requisitos pertinentes y de acuerdo con las directrices indicadas en ISO/CEI 9646-7 [31]. Esta declaración, de la que se han implementado las capacidades y opciones de una especificación de telecomunicación, es necesario para evaluar la conformidad de una determinada implementación.

El suministrador de una implementación que dice cumplir la especificación de referencia de los servicios suplementarios ISUP'97 [1] a [20] debe completar una copia del formulario de PICS proporcionado en el anexo A.

El anexo B proporciona el formulario de información suplementaria de implementación de protocolo para pruebas (PIXIT), necesario para la preparación de las pruebas.

El anexo C proporciona el formulario del informe de pruebas de conformidad de protocolo (PCTR), utilizado para evaluar los resultados de la campaña de pruebas.

El anexo D explica cómo obtener la ATS real, que se entrega sólo en formato electrónico.

NOTA – El texto de las secciones (TTCN e ICS), subcláusula 7.2.1 hasta el final de la cláusula 7, y los anexos A a D se proporciona en formato electrónico.

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[1] Esta Recomendación incluye adjunto la sucesión de pruebas abstractas para la versión 2 de la ISUP en forma gráfica y procesable por ordenador.

2 Referencias

La presente especificación ATS incorpora mediante referencias fechadas y sin fechar, disposiciones provenientes de otras publicaciones. Estas referencias normativas se citan en los lugares apropiados en el texto y las publicaciones se enumeran a continuación. Para las referencias fechadas, las enmiendas subsiguientes o las revisiones de cualquiera de estas publicaciones son aplicables a esta ATS y a parte de la especificación de formulario PIXIT únicamente cuando se incorporan mediante enmiendas o revisiones. Para las referencias sin fechar se aplica la última edición de la publicación referenciada.

[1] Recomendación UIT-T Q.730 (1997), *Servicios suplementarios de la parte usuario de RDSI*.

[2] Recomendación UIT-T Q.731.1 (1996), *Descripción de la etapa 3 para los servicios suplementarios de identificación de número que utilizan el sistema de señalización N.º 7: Marcación directa de extensiones*.

[3] Recomendación UIT-T Q.731.3 (1993), *Descripción de la etapa 3 para los servicios suplementarios de identificación de número que utilizan el sistema de señalización N.º 7: Presentación de la identificación de la línea llamante*.

[4] Recomendación UIT-T Q.731.4 (1993), *Descripción de la etapa 3 para los servicios suplementarios de identificación de número que utilizan el sistema de señalización N.º 7: Restricción de la identificación de la línea llamante*.

[5] Recomendación UIT-T Q.731.5 (1993), *Descripción de la etapa 3 para los servicios suplementarios de identificación de número que utilizan el sistema de señalización N.º 7: Presentación de la identificación de la línea conectada*.

[6] Recomendación UIT-T Q.731.6 (1993), *Descripción de la etapa 3 para los servicios suplementarios de identificación de número que utilizan el sistema de señalización N.º 7: Restricción de la identificación de la línea conectada*.

[7] Recomendación UIT-T Q.731.7 (1997), *Descripción de la etapa 3 para los servicios suplementarios de identificación de número que utilizan el sistema de señalización N.º 7: Identificación de llamadas malintencionadas*.

[8] Recomendación CCITT Q.731.8 (1992), *Descripción de la etapa 3 para los servicios suplementarios de identificación de número que utilizan el sistema de señalización N.º 7: Subdireccionamiento*.

[9] Recomendación UIT-T Q.732.2 (1996), *Descripción de la etapa 3 para los servicios suplementarios de ofrecimiento de llamadas que utilizan el sistema de señalización N.º 7: Servicios de desviación de llamadas: Reenvío de llamadas en caso de ocupado – Reenvío de llamadas en caso de ausencia de respuesta – Reenvío de llamadas incondicional – Reflexión de llamadas*.

[10] Recomendación UIT-T Q.732.7 (1996), *Descripción de la etapa 3 para los servicios suplementarios de ofrecimiento de llamadas que utilizan el sistema de señalización N.º 7: Transferencia explícita de llamadas*.

[11] Recomendación CCITT Q.733.1 (1992), *Descripción de la etapa 3 de los servicios suplementarios de compleción de llamadas que utilizan el sistema de señalización N.º 7: Llamada en espera*.

[12] Recomendación UIT-T Q.733.2 (1993), *Descripción de la etapa 3 de los servicios suplementarios de compleción de llamadas que utilizan el sistema de señalización N.º 7: Retención de llamadas*.

[13] Recomendación UIT-T Q.733.3 (1997), *Descripción de la etapa 3 de los servicios suplementarios de compleción de llamadas que utilizan el sistema de señalización N.º 7: Compleción de llamadas a abonados ocupados*.

[14] Recomendación UIT-T Q.733.4 (1993), *Descripción de la etapa 3 de los servicios suplementarios de compleción de llamadas que utilizan el sistema de señalización N.º 7: Portabilidad del terminal*.

[15] Recomendación UIT-T Q.734.1 (1993), *Descripción de la etapa 3 para los servicios suplementarios multipartitos que utilizan el sistema de señalización N.º 7: Comunicación conferencia*.

[16] Recomendación UIT-T Q.734.2 (1996), *Descripción de la etapa 3 para los servicios suplementarios multipartitos que utilizan el sistema de señalización N.º 7: Servicio tripartito*.

[17] Recomendación UIT-T Q.735.1 (1993), *Descripción de la etapa 3 de los servicios suplementarios con comunidad de intereses que utilizan el sistema de señalización N.º 7: Grupo cerrado de usuarios*.

[18] Recomendación UIT-T Q.735.3 (1993), *Descripción de la etapa 3 de los servicios suplementarios con comunidad de intereses que utilizan el sistema de señalización N.º 7: Precedencia con apropiación multinivel*.

[19] Recomendación UIT-T Q.735.6 (1996), *Descripción de la etapa 3 de los servicios suplementarios con comunidad de intereses que utilizan el sistema de señalización N.º 7: Servicio de red virtual global*.

[20] Recomendación UIT-T Q.737.1 (1997), *Descripción de la etapa 3 para los servicios suplementarios de transferencia de información adicional que utilizan el sistema de señalización N.º 7: Señalización de usuario a usuario*.

[21] Recomendación UIT-T Q.761 (1997), *Sistema de señalización N.º 7 – Descripción funcional de la parte usuario de la RDSI*.

[22] Recomendación UIT-T Q.762 (1997), *Sistema de señalización N.º 7 – Funciones generales de los mensajes y señales de la parte usuario de la RDSI*.

[23] Recomendación UIT-T Q.763 (1997), *Sistema de señalización N.º 7 – Formatos y códigos de la parte usuario de la RDSI*.

[24] Recomendación UIT-T Q.764 (1997), *Sistema de señalización N.º 7 – Procedimientos de señalización de la parte usuario de la RDSI*.

[25] Recomendación UIT-T Q.850 (1998), *Utilización de los elementos de información causa y ubicación en el sistema de señalización digital de abonado N.º 1 y en la parte usuario de RDSI del sistema de señalización N.º 7*.

[26] Recomendación CCITT Q.767 (1991), *Aplicación de la parte usuario RDSI del sistema de señalización N.º 7 para las interconexiones RDSI internacionales*.

[27] ISO/CEI 9646-1:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 1: General concepts*.

[28] ISO/CEI 9646-2:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 2: Abstract Test Suite specification*.

[29] ISO/CEI 9646-3:1998, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 3: The Tree and Tabular Combined Notation (TTCN)*.

[30] ISO/CEI 9646-5:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 5: Requirements on test laboratories and clients for the conformance assessment process*.

[31] ISO/CEI 9646-7:1995, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 7: Implementation Conformance Statements*.

[32] Recomendación UIT-T Q.784.1 (1996), *Especificación de las pruebas de la parte usuario de la red digital de servicios integrados para llamadas básicas: Validación y compatibilidad de los protocolos de la parte usuario de RDSI versión 1992 y la Recomendación Q.767*.

[33] Recomendación UIT-T Q.788 (1997), *Especificaciones de las pruebas de compatibilidad de interfaz usuario-red a interfaz usuario-red para el interfuncionamiento de accesos RDSI, no RDSI e indeterminados a través de la parte usuario de la red digital de servicios integrados internacional*.

[34] Recomendación UIT-T E.164 (1997), *Plan internacional de numeración de telecomunicaciones públicas*.

3 Definiciones

En esta Recomendación se definen los términos siguientes:

- términos definidos en la especificación de referencia [1] a [24] de la parte usuario de la RDSI;
- términos definidos en ISO/CEI 9646-1 [27], ISO/CEI 9646-3 [29] y en ISO/CEI 9646-7 [31].

En particular, son aplicables las definiciones siguientes:

3.1 caso de prueba abstracta (ATC, *abstract test case*): Especificación completa e independiente de las acciones requeridas para alcanzar un objetivo de prueba específico, definida al nivel de abstracción de un determinado método de pruebas abstractas, que se inicia y se termina en un estado de prueba estable (véase en 3.3.3 [27]).

3.2 método de pruebas abstractas (ATM, *abstract test method*): Descripción de la manera de probar una IUT con un nivel de abstracción apropiado, para conseguir que la descripción sea independiente de toda realización particular de un medio de pruebas, pero lo suficientemente detallada como para poder especificar pruebas para este método (véase en 3.3.5 [27]).

3.3 sucesión de pruebas abstractas (ATS, *abstract test suite*): Sucesión de pruebas compuesta de casos de pruebas abstractas (véase en 3.3.6 [27]).

3.4 implementación sometida a prueba (IUT, *implementation under test*): Implementación de uno o más protocolos OSI en una relación con un usuario/proveedor adyacente, que forma parte de un sistema abierto real que se está estudiando mediante pruebas (véase en 3.3.43 [27]).

3.5 número RDSI: Número conforme con la numeración y estructura especificada en la Recomendación CCITT E.164 [34].

3.6 medio de pruebas (MOT, *means of testing*): Combinación de equipos y procedimientos que pueden realizar la derivación, selección, parametrización y ejecución de los casos de prueba, de conformidad con una ATS normalizada de referencia y que puede producir un registro de conformidad (véase en 3.3.54 [27]).

3.7 formulario de PICS: Documento, en forma de cuestionario, que cuando se completa para una implementación o un sistema constituye el formulario de PICS.

3.8 formulario de PIXIT: Documento, en forma de cuestionario, que cuando se completa para el IUT constituye el formulario de PIXIT.

3.9 punto de control y observación: Punto dentro de un entorno de prueba donde se controla y observa la ocurrencia de los sucesos de prueba según se han definido en un método de pruebas abstractas (véase en 3.3.64 [27]).

3.10 condición previa a la prueba: Establecimiento o estado de la IUT que no puede lograrse mediante estímulos desde el entorno de pruebas.

3.11 declaración de conformidad de implementación de protocolo (PICS, *protocol implementation conformance statement*): Declaración realizada por el suministrador de un protocolo que declara cumplir una especificación determinada, en la que se establece qué capacidades se han implementado (véase en 3.3.39 y 3.3.80 [27]).

3.12 información suplementaria de implementación de protocolo para pruebas (PIXIT, *protocol implementation extra information for testing*): Declaración realizada por un suministrador o implementador de una IUT (protocolo) que incluye o hace referencia a toda la información relativa a la IUT y a su entorno de pruebas, que permitirá al laboratorio de pruebas realizar una sucesión de pruebas adecuada a la IUT (véase en 3.3.41 y 3.3.81 [27]).

3.13 sistema sometido a prueba (SUT, *system under test*): Sistema abierto real en que reside la IUT (véase en 3.3.103 [27]).

3.14 usuario: Entidad de protocolo de acceso en el lado usuario de la interfaz usuario-red en el que es aplicable un punto de referencia T o un punto de referencia coincidente S y T.

4 Abreviaturas

En esta Recomendación se utilizan las siguientes siglas.

3PTY Servicio tripartito (*three party service*)

ASE Elemento de servicio de aplicación (*application service element*)

ASP Primitiva de servicio abstracta (*abstract service primitive*)

ATC Caso de prueba abstracta (*abstract test case*)

ATM Método de pruebas abstractas (*abstract test method*)

ATS Sucesión de pruebas abstractas (*abstract test suite*)

CCBS Compleción de llamadas a abonado ocupado (*completion of calls to busy subscriber*)

CD Reflexión de llamada (*call deflection*)

CDIV Servicios de desviación de llamada (*call diversion service*)

CFB Reenvío de llamada en caso de ocupado (*call forwarding busy*)

CFNR Reenvío de llamada en caso de ausencia de respuesta (*call forwarding no reply*)

CFU Reenvío de llamada incondicional (*call forwarding unconditional*)

CIC Código de identificación de circuito (*circuit identification code*)

CLI Identidad de la línea llamante (*calling line identity*)

CLIP Presentación de la identificación de la línea llamante (*calling line identification presentation*)

CLIR Restricción de la identificación de la línea llamante (*calling line identification restriction*)

CntrlE Central directora (*controlling exchange*)

COL Identidad de la línea conectada (*connected line identity*)

COLP	Presentación de la identificación de la línea conectada (*connected line identification presentation*)
COLR	Restricción de la identificación de la línea conectada (*connected line identification restriction*)
CONF	Comunicación conferencia, con inclusión (*conference call, add-on*)
CUG	Grupo cerrado de usuarios (*closed user group*)
CW	Llamada en espera (*call waiting*)
DDI	Marcación directa de extensiones (*direct dialling-in*)
DLE	Central local de destino (*destination local exchange*)
DSS1	Sistema de señalización digital de abonado N.º 1 (*digital subscriber signalling system No. 1*)
ECT	Transferencia explícita de llamada (*explicit call transfer*)
HOLD	Retención de llamadas (*call HOLD*)
ICS	Declaración de conformidad de implementación (*implementation conformance statement*)
InatE	Central internacional (*international exchange*)
IncIE	Central internacional de llegada (*incoming international exchange*)
IntermE	Central intermedia (*intermediate exchange*)
ISC	Centro de conmutación internacional (*international switching centre*)
ISUP	Parte de usuario de la RDSI (*ISDN user part*)
ITE	Central internacional de tránsito (*international transit exchange*)
IUT	Implementación sometida a prueba (*implementation under test*)
IWorkE	Central de interfuncionamiento (*interworking exchange*)
LAPD	Protocolo de acceso de enlace por el canal D (*link access protocol for the D-channel*)
LT	Probador inferior (*lower tester*)
MCID	Identificación de llamadas malintencionadas (*malicious call identification*)
MIC	Modulación por impulsos codificados
MOT	Medio de pruebas (*means of testing*)
MSN	Números múltiples de abonado (*multiple subscriber number*)
MTC	Componente principal de pruebas (*main test component*)
MTP	Parte transferencia de mensajes (*message transfer part*)
NE	Central nacional (*national exchange*)
NNI	Interfaz red-red (*network-network interface*)
NTE	Central de tránsito nacional (*national transit exchange*)
OLE	Central local de origen (*originating local exchange*)
OutIE	Central internacional de salida (*outgoing international exchange*)
PCO	Punto de control y observación (*point of control and observation*)
PCTR	Informe de pruebas de conformidad de protocolo (*protocol conformance test report*)

PDU Unidad de datos de protocolo (*protocol data unit*)

PICS Declaración de conformidad de implementación de protocolo (*protocol implementation conformance statement*)

PIXIT Información suplementaria de implementación de protocolo para pruebas (*protocol implementation extra information for testing*)

PTC Componente de prueba en paralelo (*parallel test component*)

RDSI Red digital de servicios integrados

RTPC Red telefónica pública conmutada

SCCP Parte control de la conexión de señalización (*signalling connection control part*)

SCS Declaración de conformidad de sistema (*system conformance statement*)

SP Punto de señalización (*signalling point*)

SUB Subdireccionamiento (*sub-addressing*)

SUT Sistema sometido a prueba (*system under test*)

TCAP Parte aplicación de capacidad de transacción (*transaction capabilites application part*)

TCP Procedimiento de coordinación de pruebas (*test coordination procedure*)

TP Portabilidad de terminal (*terminal portability*)

TP Finalidad de las pruebas (dependiente del contexto) [*test purpose* (*context dependent*)]

TSS Estructura de la sucesión de pruebas (*test suite structure*)

TSS y TP Estructura de la sucesión de pruebas y finalidades de las pruebas (*test suite structure and test purposes*)

TTCN Notación combinada arborescente y tabular (*tree and tabular combined notation*)

UNI Interfaz usuario-red (*user-network interface*)

UT Probador superior (*upper tester*)

UUS Señalización de usuario a usuario (*user-to-user signalling*)

UUS1 Servicio 1 de señalización de usuario a usuario (*user-to-user signalling service 1*)

UUS2 Servicio 2 de señalización de usuario a usuario (*user-to-user signalling service 2*)

UUS3 Servicio 3 de señalización de usuario a usuario (*user-to-user signalling service 3*)

Las siglas de los mensajes ISUP se encuentran en el cuadro 1/Q.762 [22].

Las siguientes siglas son aplicables para los parámetros y los valores de parámetro de la ISUP.

addCgPN Número adicional de la parte llamante (*additional calling party number*)

addConNb Número conectado adicional (*additional connected number*)

AdSg Señales de dirección (*address signals*)

APRI Indicador de presentación restringida de dirección (*address presentation restricted indicator*)

ATP Parámetro de transporte de acceso (*access transport parameter*)

BCI Indicador de llamada hacia atrás (*backward call indicator*)

CC Indicativo de país (*country code*)

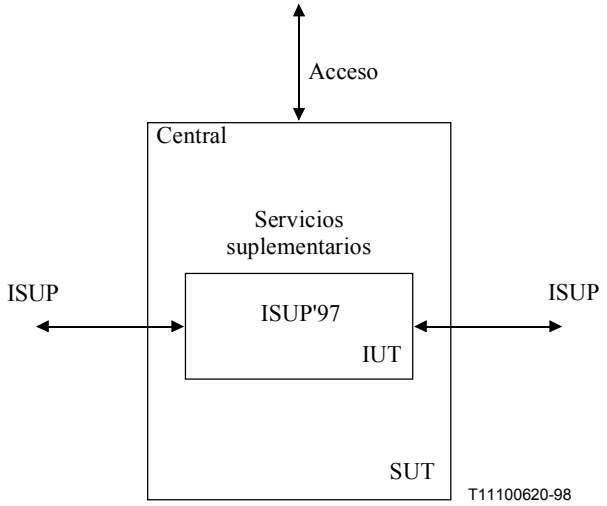
CCBSpar Parámetro CCBS (CCBS *parameter*)

CDInf	Información de desviación de llamada (*call diversion information*)
CDmo	Puede producirse desviación de llamada (*call diversion may occur*)
CdPSI	Indicador de estado de la parte llamada (*called party's status indicator*)
CgPN	Número de la parte llamante (*calling party number*)
CHInf	Información del historial de la llamada (*call history information*)
ConNb	Número conectado (*connected number*)
CTNb	Número de transferencia de llamada (*call transfer number*)
CTRef	Referencia de transferencia de llamada (*call transfer reference*)
CUGIC	Código de enclavamiento CUG (CUG *interlock code*)
FCI	Indicadores de llamadas hacia adelante (*forward call indicator*)
GenNb	Número genérico (*generic number*)
GenNot	Notificación genérica (*generic notification*)
IA	Acceso entrante (*incoming access*)
ICB	Prohibición de llamadas entrantes (*incoming calls barred*)
IPI	Indicador de preferencia ISUP (ISUP *preference indicator*)
LOPInd	Indicadores de prevención de bucle (*loop prevention indicators*)
NoInd	Sin indicación (*no indication*)
NSO	Opción de notificación de suscripción (*notification subscription option*)
OA	Acceso saliente (*outgoing access*)
OBCI	Indicadores de llamada hacia atrás facultativos (*optional backward call indicators*)
OFCI	Indicadores de llamada hacia adelante facultativos (*optional forward call indicators*)
OriCdNb	Número llamado original (*original called number*)
PDC	Contador de retardo de propagación (*propagation delay counter*)
RgInd	Indicador redireccionante (*redirecting indicator*)
RgNb	Número redireccionante (*redirecting number*)
RnCnt	Contador de redireccionamiento (*redirection number*)
RnInf	Información de redireccionamiento (*redirection information*)
RnNb	Número de redireccionamiento (*redirection number*)
RnNbRes	Restricción de número de redireccionamiento (*redirection number restriction*)
RnReas	Motivo de redireccionamiento (*redirection reason*)
ScrI	Indicación de verificación (*screening indicator*)
ServAct	Activación del servicio (*service activation*)
USI	Información de servicio de usuario (*user service information*)
USIp	Información de servicio de usuario prima (*user service information prime*)
UUInd	Indicadores de usuario a usuario (*user-to-user indicators*)
UUInf	Información de usuario a usuario (*user-to-user information*)

5 Implementación sometida a prueba y métodos de prueba

5.1 Identificación del sistema y de la implementación sometidos a prueba

El sistema sometido a prueba (SUT) es una central. La implementación sometida a prueba (IUT) es la implementación ISUP'97 en esa central, fundamentalmente la parte responsable de la funcionalidad de servicios suplementarios, como se muestra en la figura 1.



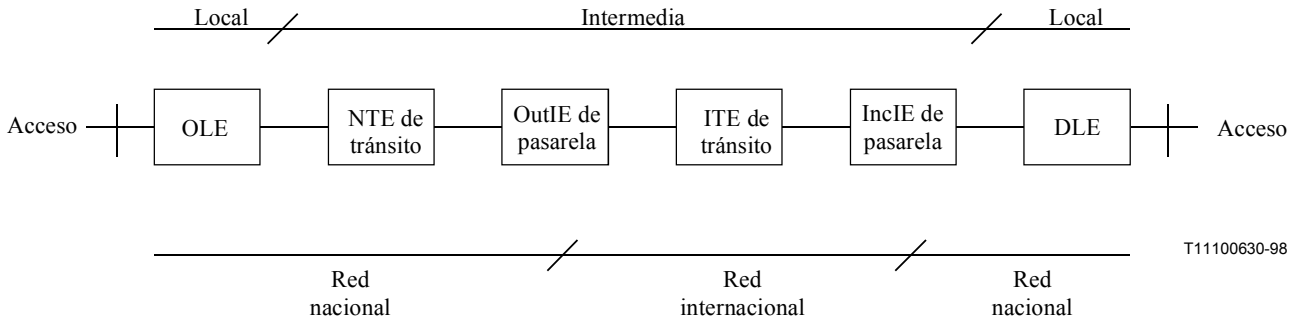
ISUP Parte de usuario de la RDSI
IUT Implementación sometida a prueba
SUT Sistema sometido a prueba

Figura 1/Q.785.2

Se puede ver el protocolo de señalización ISUP en el enlace SS N.º 7 de la interfaz red-red (NNI, *network-network interface*). Los efectos de los procedimientos de señalización de la parte de usuario RDSI se pueden ver en los circuitos controlados por la ISUP en la NNI.

La implementación ISUP tendrá que interfuncionar en algunas centrales con el sistema de señalización de acceso en la interfaz usuario-red (UNI, *user-network interface*) lo que supone tratamiento de llamadas para el establecimiento de conexiones de extremo a extremo.

En la figura 2 se pueden identificar a partir de la norma de referencia ISUP diversos tipos de centrales (o de cometidos).



OLE Central local de origen
NTE Central de tránsito nacional
OutIE Central internacional de salida
ITE Central de tránsito internacional
IncIE Central internacional de entrada
DLE Central local de destino

Figura 2/Q.785.2 – Cometidos de las centrales

Las centrales se pueden dividir en dos grupos principales según su funcionalidad: centrales locales, en las que se originan y terminan las llamadas y centrales intermedias, con funcionalidad de tránsito. Las centrales locales son nacionales, es decir pertenecen a una red nacional. Las centrales intermedias son nacionales o internacionales. Las centrales intermedias internacionales permitirán el acceso a la red internacional y a las centrales de pasarela (de entrada o de salida), también denominadas centros de conmutación internacional (ISC, *international switching centres*). Una particularidad de algunos servicios suplementarios, por ejemplo los servicios de desviación de llamadas, es que una central local no sólo origina y finaliza una llamada sino que también puede mediar entre dos centrales locales en extremos lejanos.

Los cometidos de las centrales se resumen en el cuadro 1.

Cuadro 1/Q.785.2 – Cometidos de las centrales

	Central local	**Central intermedia**	
		Nacional	**Internacional**
Central local de origen	OLE		
Central de tránsito		NTE	ITE
Central de pasarela de entrada			IncIE
Central de pasarela de salida			OutIE
Central local de destino	DLE		

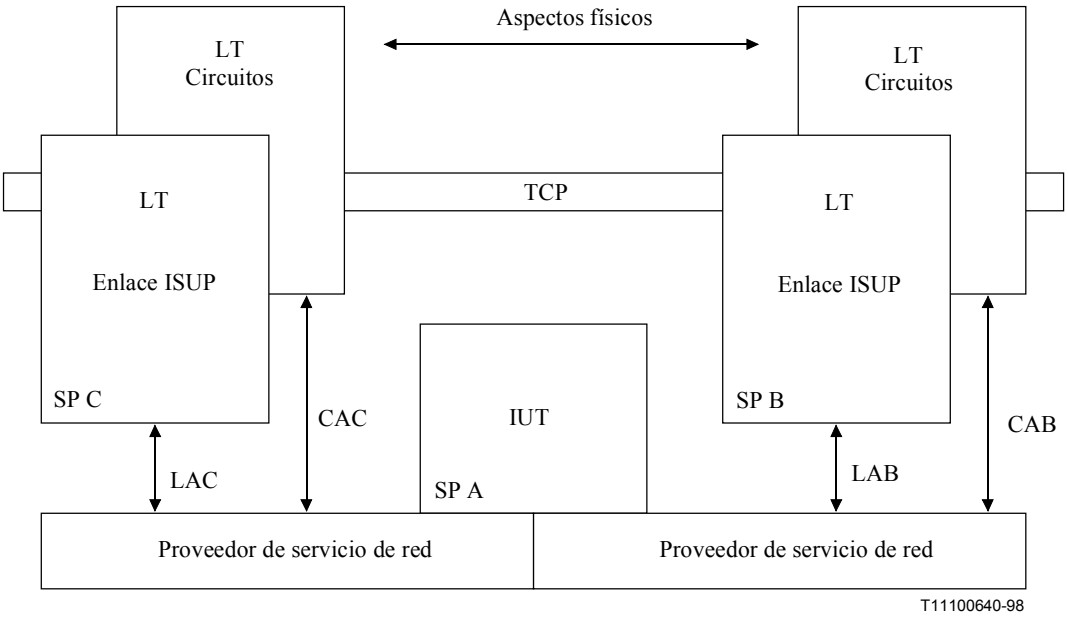
5.2 ATM y configuración de pruebas para la ISUP'97

El método de pruebas abstractas (ATM) elegido para la especificación de las pruebas de los servicios suplementarios ISUP'97 es el método de pruebas distribuidas multipartitas. El ATM se define a un nivel adecuado de abstracción de forma que se puedan especificar los casos de pruebas adecuadamente, sin añadir restricciones a la implementación sometida a prueba. Las arquitecturas de pruebas se describen en las siguientes subcláusulas.

La ATS se escribe en TTCN concurrente.

5.2.1 Centrales intermedias

La configuración propuesta para probar centrales intermedias se muestra en la figura 3. Para probar las funcionalidades y los protocolos de centrales de tránsito y de pasarela es preciso considerar el extremo entrante y el saliente del SUT.



IUT Implementación sometida a prueba
LT Probador inferior
PCO Punto de control y observación
SP Punto de señalización
TCP Procedimientos de coordinación de las pruebas
LAB PCO para el enlace de señalización AB
CAB PCO para circuitos AB
LAC PCO para el enlace de señalización AC
CAC PCO para circuitos AC

Figura 3/Q.785.2 – Método de pruebas ISUP para centrales intermedias

La IUT se observa y controla desde dos enlaces de señalización mediante circuitos ISUP asociados. Los puntos de control y observación (PCO, *points of control and observation*) están etiquetados como LAB y CAB en un extremo, y como LAC y CAC en el otro.

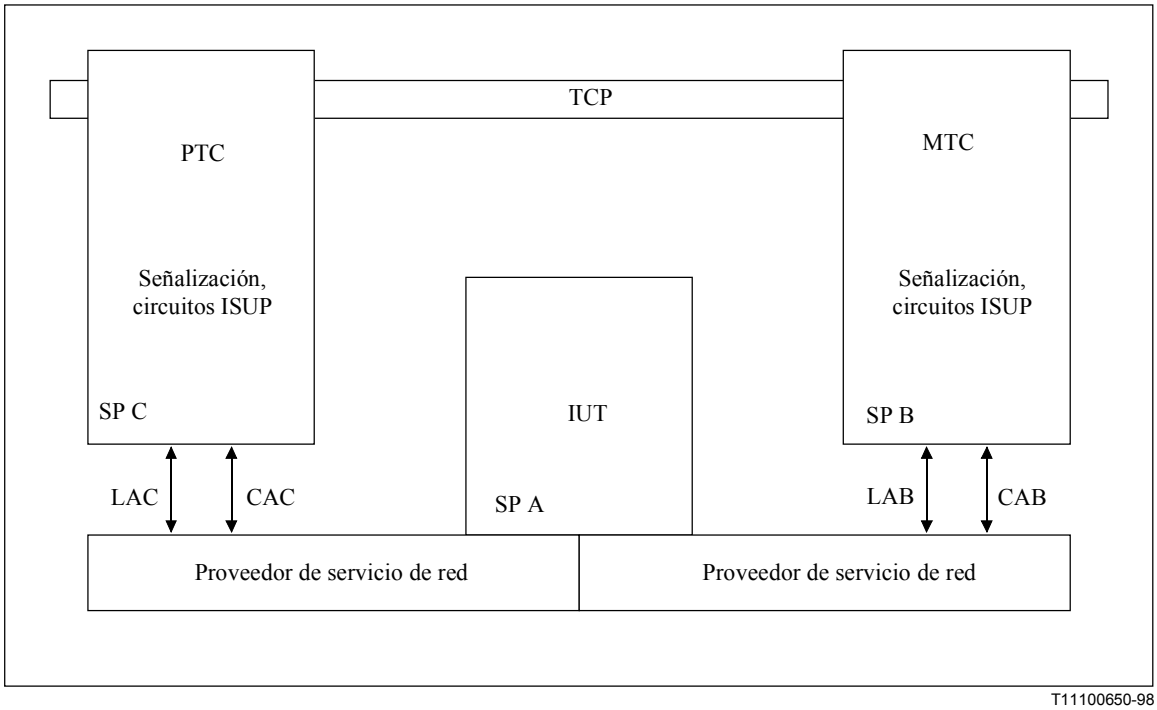
Los PCO LAB y LAC los utilizan los probadores inferiores (LT, *lower testers*) para controlar el enlace de señalización ISUP, mientras que los PCO CAB y CAC los utilizan los probadores inferiores para observar eventos relativos a circuitos, como conectividad, comprobación de control de ecos, tono de alarma, etc.

Las PDU de la ISUP a enviar y observar en el extremo del PCO LAB permiten la definición de las limitaciones de la PDU y su codificación hasta el nivel binario.

El proveedor de servicios de red subyacente es un protocolo de la parte de transferencia de mensajes (MTP, *message transfert part*), como se especifica en las Recomendaciones Q.701 a 707.

La figura 4 muestra la configuración real utilizada para centrales intermedias, con un componente de pruebas principal (MTC, *main testing component*), responsable de la interfaz A-B y un componente de pruebas en paralelo subordinado (PTC, *parallel testing component*), responsable de la interfaz C-A.

Los procedimientos de coordinación de las pruebas (TCP, *test coordination procedures*) permiten la comunicación entre los probadores. Los componentes de prueba están en su mayoría coordinados implícitamente (de forma asíncrona); los TCP sólo se utilizan cuando es necesario para obtener el veredicto del componente de prueba en paralelo.



IUT Implementación sometida a prueba
MTC Componente de pruebas principal
PCO Punto de control y observación
PTC Componente de pruebas en paralelo
SP Punto de señalización
LAB PCO para el enlace de señalización AB
CAB PCO de circuito en la interfaz AB
LAC PCO para el enlace de señalización AC
CAC PCO de circuito en la interfaz AC
TCP Procedimientos de coordinación de las pruebas

Figura 4/Q.785.2 – Configuración de pruebas ISUP para centrales intermedias

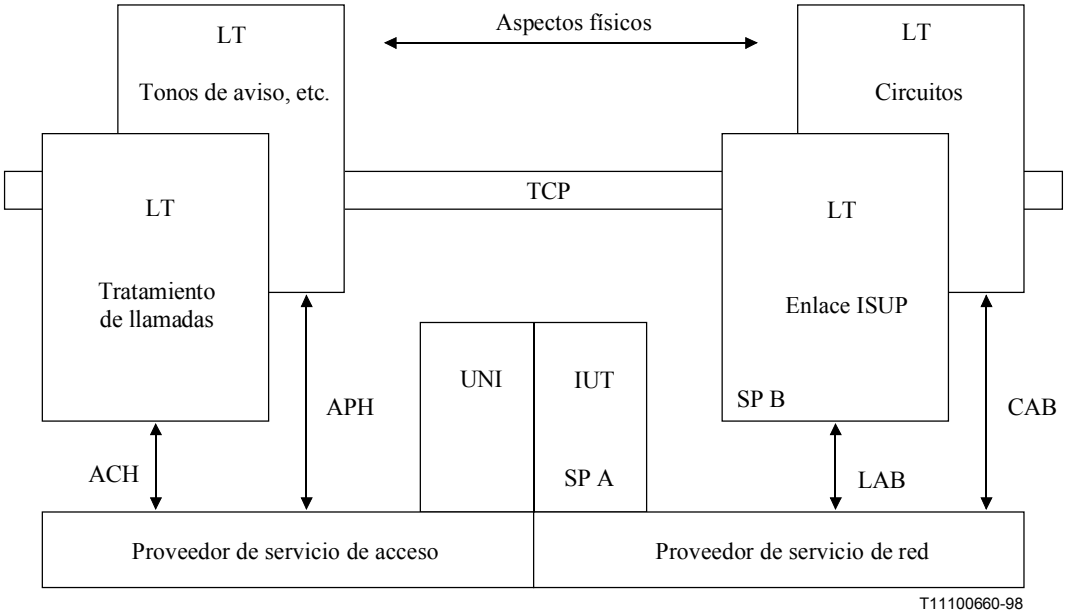
5.2.2 Centrales locales

Cuando se prueba una central local como se especifica en la norma de referencia, resulta difícil sino imposible, observar sólo las PDU de la ISUP, si hay que considerar y utilizar, para asignar veredictos, funcionalidades como conectividad, tonos y avisos, etc., asociados con eventos de protocolo. La norma de referencia se refiere a menudo a acciones o eventos iniciados u observados por el usuario llamante o llamado.

Se precisa un punto de control y observación (PCO) desde la ISUP (IUT) al extremo de acceso, es decir, para simular la central local y originar la llamada (enviar un IAM). Se precisa otro PCO para comprobar la conectividad o los tonos generados por la central local.

No existe interfaz entre la ISUP (la IUT) y el extremo de acceso. Para fines de pruebas prácticas, la elección natural es la interfaz de acceso. Es por lo tanto razonable utilizar la interfaz de acceso (por ejemplo, la interfaz de acceso de usuario DSS1) como PCO y utilizar los convenios de denominación existentes para las primitivas de servicios abstractos (ASP, *abstract service primitives*) para su uso en este PCO.

La figura 5 presenta una configuración de pruebas multipartita para centrales locales. En esta figura, cada probador tiene un único PCO. El PCO para el acceso utiliza el proveedor de servicio de acceso subyacente (por ejemplo, LAPD, en el caso de DSS1) para observar eventos de acceso y estimular a la ISUP a través del acceso. La implementación ISUP (IUT) no puede probarse sin utilizar la interfaz usuario-red (UNI, *user-network interface*).



IUT	Implementación sometida a prueba	USI	Interfaz usuario-red
LT	Probador inferior	LAB	PCO para el enlace de señalización AB
PCO	Punto de control y observación	CAB	PCO para los circuitos AB
TCP	Procedimientos de coordinación de las pruebas	ACH	PCO de señalización de accesos (canal D)
SP	Punto de señalización	APH	PCO de circuito físico de acceso (canal B)

Figura 5/Q.785.2 – Método de pruebas ISUP para centrales de origen/destino

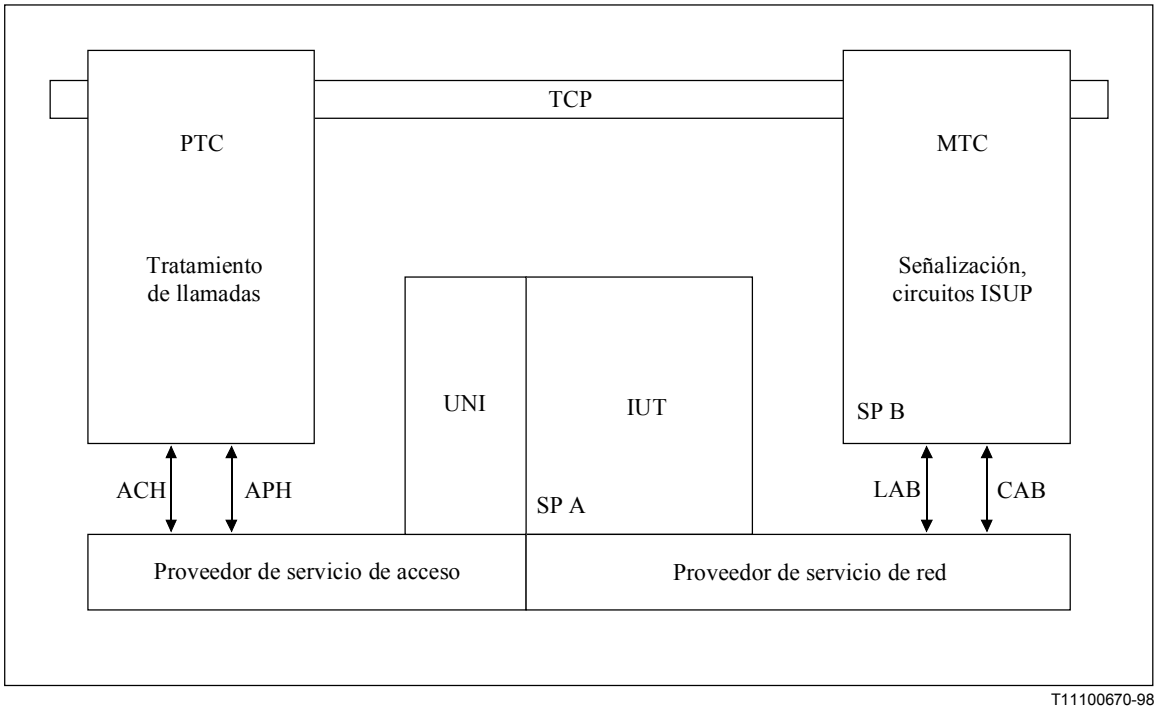
En la parte de la derecha hay dos PCO como en la configuración de pruebas presentada en la subcláusula anterior. El LT que controla el enlace de señalización ISUP utiliza el PCO LAB, mientras que otro LT que controla los canales de tráfico (para observar eventos relativos a circuitos, como conectividad, tono de alerta, etc.) utiliza el PCO CAB.

Las PDU de la ISUP que se envían y observan en el extremo del PCO LAB permiten especificar y codificar hasta el nivel binario las limitaciones PDU.

En el extremo de acceso hay dos PCO y dos LT similares a los del extremo de red. El PCO ACH se utiliza para observar y controlar los eventos de tratamiento de llamadas, mientras que el APH se utiliza para controlar y observar aspectos físicos (por ejemplo, tonos y avisos).

Las PDU de acceso que se envían y examinan en el PCO ACH se eligen a un nivel adecuado de abstracción. Para las ASP de acceso se han utilizado nombres de primitivas similares a DSS1, mientras que no se han codificado a nivel binario las limitaciones de las PDU de acceso. Para centrales locales no se pueden descartar los aspectos de acceso, ampliando así de alguna manera el ámbito de las pruebas ISUP.

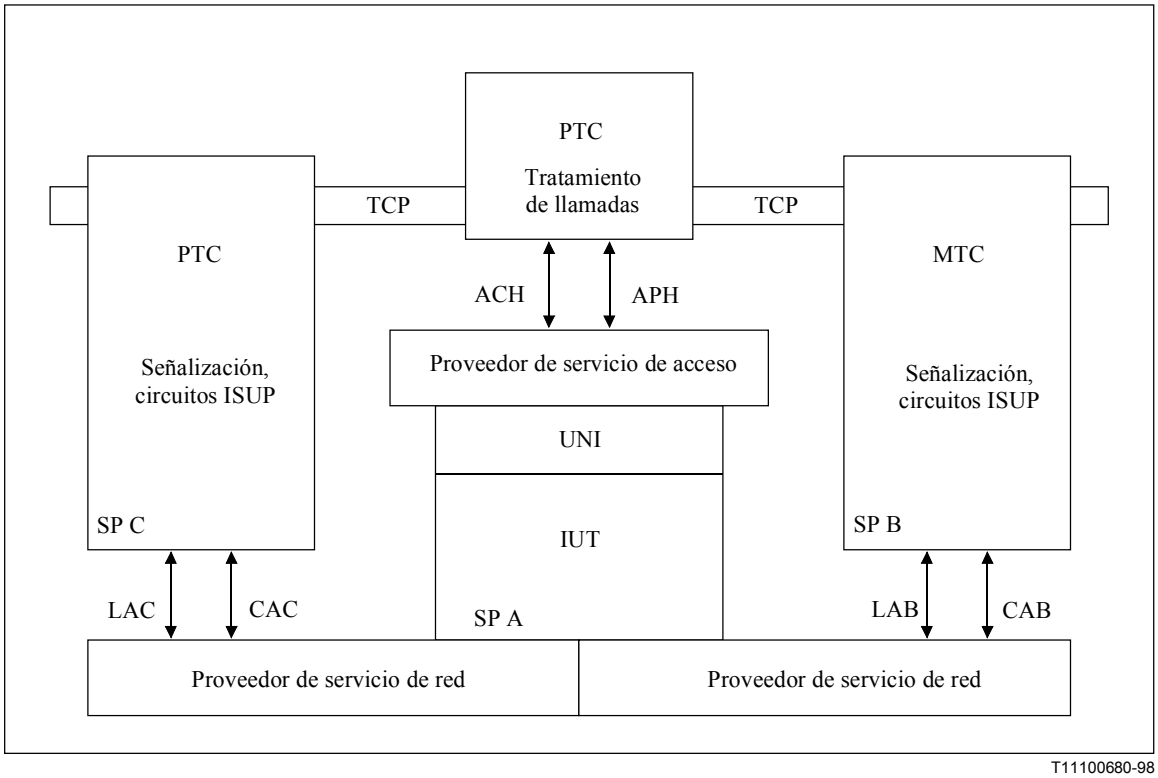
La figura 6 muestra la configuración real utilizada para centrales locales, con un componente de pruebas director (MTC, *master testing component*), responsable de la interfaz A-B y un componente de pruebas subordinado en paralelo (PTC), responsable de la interfaz de acceso UNI. El PCO de mantenimiento está integrado en el MTC, por razones de simplicidad.



IUT Implementación sometida a prueba
MTC Componente principal de pruebas
PCO Punto de control y observación
PTC Componente de pruebas en paralelo
SP Punto de señalización
UNI Interfaz usuario-red
LAB PCO para el enlace de señalización AB
CAB PCO de circuitos en la interfaz AB
ACH PCO de tratamiento de llamadas de acceso (canal D)
APH PCO del circuito físico de acceso (canal B)
TCP Procedimientos de coordinación de las pruebas

Figura 6/Q.785.2 – Configuración mixta de pruebas ISUP para centrales locales

Éstos son casos de prueba para centrales locales para algunos servicios suplementarios en los que se utiliza una configuración mixta. Esta configuración se presenta en la figura 7 y se puede deducir a partir de las configuraciones presentadas en las figuras 4 y 6.



IUT Implementación sometida a prueba
MTC Componente principal de pruebas
PCO Punto de control y observación
PTC Componente de pruebas en paralelo
SP Punto de señalización
UNI Interfaz usuario-red

LAB PCO para el enlace de señalización AB
CAB PCO de circuitos en la interfaz AB
LAC PCO para el enlace de señalización AC
CAC PCO de circuitos en la interfaz AC
ACH PCO de tratamiento de llamadas de acceso (canal D)
APH PCO del circuito físico de acceso (canal B)
TCP Procedimientos de coordinación de las pruebas

Figura 7/Q.785.2 – Configuración mixta de pruebas ISUP para centrales locales

En esta configuración la componente principal de pruebas situada a la derecha supervisa dos componentes de pruebas en paralelo: un PTC de la ISUP y un PTC de acceso. La central local en este caso es una central que proporciona servicio al usuario que activó el servicio suplementario.

5.2.3 Aspectos director-subordinado en la configuración de pruebas

Las figuras 4, 6 y 7 muestran los componentes de pruebas lógicos de la configuración de pruebas adoptada. El componente de pruebas principal se sitúa a la derecha de la IUT, mientras que a la izquierda hay distintos componentes de pruebas en paralelo: ISUP (figura 4), acceso (figura 6) o ambos (figura 7).

La ATS se escribe de manera que se elija la configuración adecuada, en función del cometido de la central a probar.

El componente de pruebas principal de la derecha puede ser una ISUP internacional o nacional y se puede configurar de forma que puedan funcionar cualquiera de las dos, en función de las respuestas dadas a las preguntas del PIXIT.

El componente de pruebas en paralelo de la izquierda puede ser de cualquier tipo: puede ser una ISUP internacional o nacional, un sistema de señalización de acceso o una parte de usuario distinta de la ISUP. En el momento de la ejecución de las pruebas se eligirá exactamente una de estas configuraciones, en función de la información proporcionada en los PICS y PIXIT.

Para centrales de pasarela se presupone por defecto que la llamada se ha establecido a partir del PTC de la izquierda hacia el MTC de la derecha. Así, para una central internacional de salida la red nacional se sitúa a la izquierda y la red internacional a la derecha. Para centrales internacionales de entrada la red internacional se sitúa a la izquierda y la red nacional a la derecha.

El flujo de mensajes en los casos de pruebas está diseñado de tal manera que el veredicto se asigna observando el comportamiento del lado derecho. El lado izquierdo en este caso actuará principalmente como un aceptador de estímulos subordinado. Existen sin embargo casos de prueba en los que se precisa el comportamiento esperado en ambos lados para asignar un veredicto.

6 Estructura de la sucesión de pruebas (TSS, *test suite structure*)

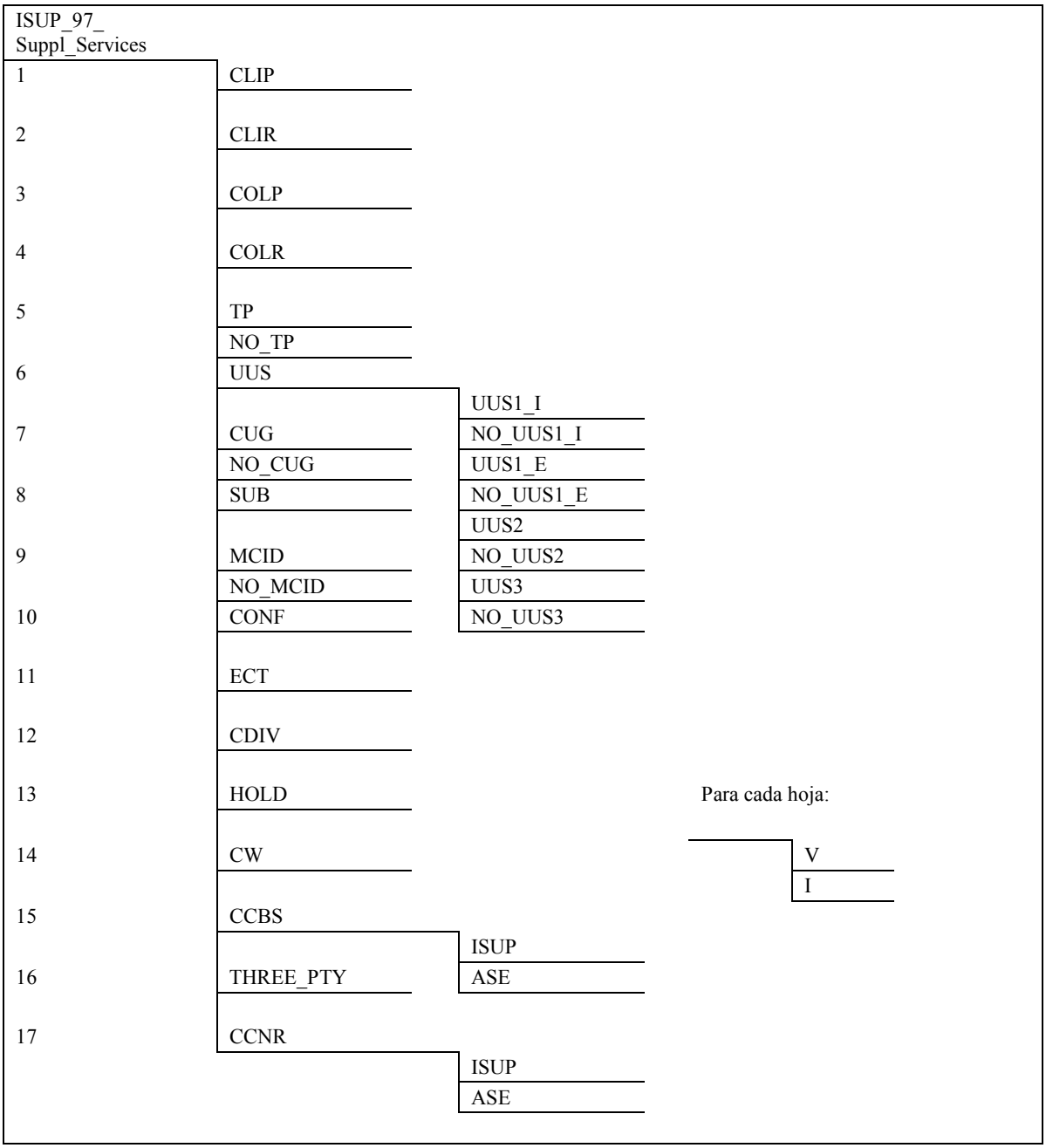


Figura 8/Q.785.2 – Estructura de la sucesión de pruebas

Los convenios para la denominación de la estructura de sucesión de pruebas (TSS) son:

CLIP	Presentación de la identificación de la línea llamante (*calling line identification presentation*)
CLIR	Restricción de la identificación de la línea llamante (*calling line identification restriction*)
COLP	Presentación de la identificación de la línea conectada (*connected line identification presentation*)
COLR	Restricción de la identificación de la línea conectada (*connected line identification restriction*)
TP	Portabilidad del terminal (*terminal portability*)
NO_TP	Portabilidad del terminal no soportada (*terminal portability not supported*)
UUS	Señalización de usuario a usuario (*user-to-user signalling*)
UUS1_I	Servicio 1 de señalización de usuario a usuario implícito (*user-to-user signalling service 1 implicit*)
NO_UUS1_I	Servicio 1 de señalización de usuario a usuario implícito no soportado (*user-to-user signalling service 1 implicit not supported*)
UUS1_E	Servicio 1 de señalización de usuario a usuario explícito (*user-to-user signalling service 1 explicit*)
NO_UUS1_E	Servicio 1 de señalización de usuario a usuario explícito no soportado (*user-to-user signalling service 1 explicit not supported*)
UUS2	Servicio 2 de señalización de usuario a usuario (*user-to-user signalling service 2*)
NO_UUS2	Servicio 2 de señalización de usuario a usuario no soportado (*user-to-user signalling service 2 not supported*)
UUS3	Servicio 3 de señalización de usuario a usuario (*user-to-user signalling service 3*)
NO_UUS3	Servicio 3 de señalización de usuario a usuario no soportado (*user-to-user signalling service 3 not supported*)
CUG	Grupo cerrado de usuarios (*closed user group*)
NO_CUG	Grupo cerrado de usuarios no soportado (*closed user group not supported*)
SUB	Subdireccionamiento (*sub-addressing*)
MCID	Identificación de llamadas malintencionadas (*malicious call identification*)
NO_MCID	Identificación de llamadas malintencionadas no soportado (*malicious call identification not supported*)
CONF	Comunicación conferencia, con incorporaciones (*conference call, add-on*)
ECT	Transferencia de llamadas explícita (*explicit call transfer*)
CDIV	Servicios de desviación de llamada (*call diversion services*)
CFB	Reenvío de llamada en caso de ocupado (*call forwarding busy*)
CFNR	Reenvío de llamada en caso de ausencia de respuesta (*call forwarding no reply*)
CFU	Reenvío de llamada incondicional (*call forwarding unconditional*)

CD	Reflexión de llamada (*call deflection*)
HOLD	Retención de llamada (*call hold*)
CW	Llamada en espera (*call waiting*)
CCBS	Compleción de llamadas a abonado ocupado (*completion of calls to busy subscriber*)
CCBS_ISUP	CCBS – protocolo ISUP (*CCBS – ISUP protocol*)
CCBS_ASE	CCBS – elemento de servicio de aplicación (*CCBS – application service element*)
THREE_PTY	Servicio tripartito (*three party service*)
CCNR	Compleción de llamadas en caso de ausencia de respuesta (*completion of calls no reply*)
CCNR_ISUP	CCNR-Protocolo ISUP (*CCNR – ISUP protocol*)
CCNR_ASE	CCNR-Elemento de servicio de aplicación (*CCNR – application service element*)
V	Estímulo con comportamiento válido (*valid behaviour stimulus*)
I	Estímulo inoportuno (*inopportune stimulus*)

7 Finalidad de las pruebas (TP, *test purposes*)

7.1 Introducción

Se define una finalidad de las pruebas (TP) para cada requisito de prueba.

7.1.1 Convenio de denominación de la finalidad de las pruebas (TP)

Las finalidades de las pruebas se numeran de forma creciente dentro de cada grupo. Los grupos se organizan según la TSS hasta el penúltimo nivel. La clasificación en grupos V/I se realiza incluyendo V o I en el nombre del caso de prueba. Se añaden calificadores adicionales, en forma de letras de casos inferiores para identificar variantes en una clase de pruebas genérica, véase el cuadro 2 siguiente.

Cuadro 2/Q.785.2 – Esquema de convenio para la denominación del identificador TP

Identificador:		**ISS_{<TC>}_<group>_<N>_<n>_{<n>}_{<a>}**
ISS	=	**Servicios suplementarios ISUP '97**
{<TC>}	=	Designación utilizada para los casos de prueba ASE (por ejemplo CCBS): TC: Capacidades de transacción
<grupo>	=	Un carácter que representa al grupo de pruebas: V: Estímulo válido I: Estímulo inoportuno
<N>	=	Número secuencial para los servicios suplementarios de conformidad con la estructura de la secuencia de pruebas
<n>	=	Número secuencial utilizado dentro del grupo
{<n>}	=	Número adicional facultativo utilizado (por ejemplo para UUS)
{<a>}	=	Carácter facultativo de caso inferior que distingue las pruebas con el mismo número de referencia

7.1.2 Origen de la definición de finalidad de las pruebas

Las finalidades de las pruebas incluyen aspectos de pruebas de validación y se desarrollaron en ETSI.

7.1.3 Estructura de la finalidad de las pruebas

La estructura de las finalidades de las pruebas se solapa con la estructura de la sucesión de pruebas (TSS).

Las finalidades de las pruebas que comprueban el comportamiento normal se han agrupado en el grupo de comportamiento **V** – válido.

Las finalidades de las pruebas que comprueban el comportamiento de la IUT en situaciones que no son de operación normal se han agrupado en el grupo de estímulos inoportunos – **I**.

Las finalidades de las pruebas para la entidad de servicio de aplicación (ASE, *application service entity*) definidas para algunos servicios suplementarios (CCBS) se han marcado con la designación **TC** – capacidades de transacción.

7.2 Finalidad de las pruebas para los servicios suplementarios

Todas las finalidades de las pruebas siguientes pertenecen al grupo principal servicios suplementarios ISUP'97 (ISUP_97_Suppl_Services). Cada finalidad de las pruebas se presenta en un cuadro separado. La primera fila del cuadro incluye los puntos siguientes:

TSS	Identificador en la estructura de la sucesión de pruebas (grupo de pruebas/identificador de subgrupo)
TP	Identificador de la finalidad de las pruebas
Referencia ISUP'97	Referencia del requisito según la norma ISUP [1] a [24] que ha generado la finalidad de las pruebas
Expresión de selección	Criterio de selección para la finalidad de las pruebas en función del cometido de la central y de las respuestas a las preguntas especificadas en el PICS. Si las preguntas del PICS se refieren a prestaciones de los procedimientos de control de llamadas básico (véase [32]) estarán precedidos por el identificador "BCall". Todas las demás preguntas PICS se refieren a prestaciones específicas de los servicios suplementarios (véase el anexo A). Si no se especifica una expresión de selección, el TP es válido para todos los cometidos de las centrales.
Referencia Q.788	Si existe una finalidad de las pruebas definida en la Recomendación Q.788 [33] que considera el comportamiento esperado de la finalidad de las pruebas definido a continuación, la referencia de la prueba se indica en este lugar. Puesto que las finalidades de las pruebas definidas en la Recomendación Q.788 describen pruebas de extremo a extremo de UNI (interfaz usuario-red) a UNI, es posible que se haga referencia a una única prueba Q.788 mediante varias finalidades en la especificación de pruebas. Además, algunas finalidades de las pruebas definidas no tienen referencia a la Recomendación Q.788 y por lo tanto se utiliza la palabra "ninguno" en la casilla de referencia Q.788.

La fila siguiente define la propia finalidad de la prueba, con un *título* en *cursiva* y un cuerpo de texto.

Los nombres de **mensajes** y **parámetros** ISUP se destacan en **negrita** para facilitar su lectura.

Para comprobar el comportamiento especificado de algunas finalidades de las pruebas, se debe cumplir una condición de pruebas de requisito especial. Si es precisa dicha condición, se presenta después de la finalidad de las pruebas con el encabezamiento "condiciones previas a las pruebas".

Para cada finalidad se presenta la parte esencial del diagrama de la secuencia de mensajes. Si existen diversos supuestos para los diagramas de secuencias de mensajes implicados en la finalidad de las pruebas, las variantes se presentan haciendo distinción de los diferentes casos. Estos diagramas de secuencias de mensajes se presentan utilizando un origen no proporcional para el alineamiento adecuado de las flechas en el diagrama. Por claridad se incluyen comentarios en los diagramas de secuencias de mensajes.

Se presenta información adicional de interés durante la ejecución/implementación de los casos de prueba por debajo de una línea continua después de los diagramas de secuencias de mensajes.

7.2.1 Presentación de la identificación de la línea llamante (CLIP, *calling line identification presentation*)

TSS CLIP/	TP ISS_V_1_1	ISUP'97 reference 3.5.2.1.1; Table 3.1/Q.731	Selection expression OLE	Q.788 reference 2.1.1

Test purpose

Calling party number (network provided)

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "network provided" and the presentation restricted indicator set to "presentation allowed".

```
access          SPA                SPB
------setup----->  -------IAM------>
 :
```

```
1. Set up a call from the access without calling party number or invalid
calling party number (not accepted by the network).
```

TSS CLIP/	TP ISS_V_1_2	ISUP'97 reference 3.5.2.1.1; Table 3.1/Q.731	Selection expression OLE AND PICS A.3/8 (SUB)	Q.788 reference 2.1.2

Test purpose

Calling party number (network provided) with calling sub-address

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "network provided" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions

Arrange the data in the IUT so that the calling party has subscribed to the sub-addressing supplementary service.

```
access          SPA                SPB
 ------setup----->  -------IAM------>
  :
```

1. Set up a call from the access without calling party number or wrong calling party number (not accepted by the network) and with a calling sub-address.

TSS CLIP/	TP ISS_V_1_3	ISUP'97 reference 3.5.2.1.1; Table 3.1/Q.731	Selection expression OLE	Q.788 reference None

Test purpose

Calling party number (user provided, verified and passed)

To verify that the IUT can successfully originate a call having the **calling party number** with the screening indicator set to "user provided, verified and passed".

```
access          SPA                SPB
 ------setup----->  -------IAM------>
  :
```

1. Set up a call from the access with a correct calling party number (within range).

TSS CLIP/	TP ISS_V_1_4	ISUP'97 reference 3.5.2.1.1; Table 3.1/Q.731	Selection expression OLE AND PICS A.3/8 (SUB)	Q.788 reference 2.1.3

Test purpose

Calling party number (user provided, verified and passed) with calling sub-address

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "user provided, verified and passed" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions

Arrange the data in the IUT so that the calling party has subscribed to the sub-addressing supplementary service.

```
access          SPA                SPB
 ------setup----->  -------IAM------>
  :
```

1. Set up a call from the access with a correct calling party number (within range) and with a calling sub-address.

TSS CLIP/	TP ISS_V_1_5	ISUP'97 reference 3.5.2.1.1; Table 3.1/Q.731	Selection expression OLE	Q.788 reference None

Test purpose

Calling party number (user provided, not verified)

To verify that the IUT can successfully originate a call having a default **calling party number** with the screening indicator set to "network provided" and a **generic number** containing the additional calling party number with the screening indicator set to "user provided, not verified".

Pre-test conditions

Arrange the data in the IUT so that there is a special arrangement from the access signalling system regarding an additional calling party number.

```
access          SPA                SPB
 ------setup----->  -------IAM------>
  :
```

1. Set up a call from the access with a special calling party number.

TSS CLIP/	TP ISS_V_1_6	ISUP'97 reference 3.5.2.1.1; Table 3.1/Q.731	Selection expression OLE AND PICS A.3/8 (SUB)	Q.788 reference 2.1.4

Test purpose

Calling party number (user provided, not verified) with calling sub-address

To verify that the IUT can successfully originate a call having a default **calling party number** with the screening indicator set to "network provided", a **generic number** containing the additional calling party number with the screening indicator set to "user provided, not verified" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional calling party number and that the calling party has subscribed to the sub-addressing supplementary service.

```
access          SPA                SPB
 ------setup----->  -------IAM------>
  :
```

1. Set up a call from the access with a special calling party number and a calling sub-address.

TSS CLIP/	TP ISS_V_1_7	ISUP'97 reference 3.4; 3.5.2.2.1/Q.731	Selection expression Transit	Q.788 reference None

Test purpose

Passing on the calling party number and the generic number

To verify that a **calling party number** and additional calling party number in the **generic number** can be successfully transferred to the succeeding exchange.

```
Case a)
SPC              SPA               SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. CgPN only.

```
Case b)
SPC              SPA               SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. CgPN and addCgPN in GenNb.

TSS CLIP/	TP ISS_V_1_8	ISUP'97 reference 3.5.2.3.1/Q.731	Selection expression OutIE AND PICS A.4/1	Q.788 reference None

Test purpose

Discarding the calling party number in case of bilateral agreements

To verify that the **calling party number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation allowed".

NOTE – This bilateral agreement prohibits the transferral of the calling party number in any case. The test with the address presentation restricted indicator set to "presentation restricted" is a CLIR test.

Pre-test conditions

Arrange the data in IUT so that the calling party number is discarded.

```
SPC              SPA               SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIP/	TP ISS_V_1_9	ISUP'97 reference 3.5.2.3.1/Q.731	Selection expression OutIE AND PICS A.4/2	Q.788 reference None

Test purpose

Discarding the additional calling party number in case of bilateral agreements

To verify that the additional calling party number in the **generic number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation allowed".

NOTE – This bilateral agreement prohibits the transferral of the calling party number in any case. The test with the address presentation restricted indicator set to "presentation restricted" is a CLIR test.

Pre-test conditions

Arrange the data in IUT so that the additional calling party number in the generic number is discarded.

```
SPC               SPA                SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIP/	TP ISS_V_1_10	ISUP'97 reference 3.5.2.3.1/Q.731	Selection expression OutIE	Q.788 reference None

Test purpose

Discarding the calling party number, if the address is marked not available

To verify that the **calling party number** is omitted, if the address presentation restricted indicator is set to "address not available".

```
SPC               SPA                SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIP/	TP ISS_V_1_11	ISUP'97 reference 3.5.2.3.1/Q.731	Selection expression OutIE	Q.788 reference None

Test purpose

Discarding the additional calling party number, if no calling party number is received

To verify that if the **calling party number** is not sent, then an additional calling party number in a **generic number** will be omitted.

```
SPC               SPA                SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIP/	TP ISS_V_1_12	ISUP'97 reference 3.5.2.3.1/Q.731	Selection expression OutIE	Q.788 reference None

Test purpose

Converting the calling party number to international format

To verify that the IUT can convert the **calling party number** into an international number, setting the nature of address indicator to "international number" and can pass on the address presentation restricted indicator and the screening indicator transparently.

```
SPC               SPA                SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIP/	TP ISS_V_1_13	ISUP'97 reference 3.5.2.3.1/Q.731	Selection expression OutIE	Q.788 reference None

Test purpose

Converting the additional calling party number to international format

To verify that the IUT can convert the additional calling party number in the **generic number** into an international number, if the numbering plan indicator is "ISDN Telephony", setting the nature of address indicator to "international number" and can pass on the address presentation restricted indicator and the screening indicator transparently.

```
SPC               SPA                SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIP/	TP ISS_I_1_14	ISUP'97 reference 3.5.2.3.2/Q.731	Selection expression OutIE	Q.788 reference None

Test purpose

Discarding an incomplete calling party number

To verify that the **calling party number** is discarded, if it is received with the calling party number incomplete indicator set to "incomplete".

```
SPC               SPA                SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIP/	TP ISS_V_1_15	ISUP'97 reference 3.5.2.4.1/Q.731	Selection expression IncIE	Q.788 reference None

Test purpose

Converting the calling party number to national format, if necessary

To verify that the country code in the address signals of the **calling party number** is removed if it is the network's own country code. The nature of address indicator shall be set to "national (significant) number". The address presentation restricted indicator shall be transferred transparently.

```
SPC International SPA  National   SPB
 -------IAM------> -------IAM------>
  :
 ____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
```

TSS CLIP/	TP ISS_V_1_16	ISUP'97 reference 3.5.2.4.1/Q.731	Selection expression IncIE	Q.788 reference None

Test purpose

Converting the additional calling party number to national format, if necessary

To verify that the country code in the address signals of the **generic number** coded as an "additional calling party number", if the numbering plan indicator is "ISDN Telephony" is removed if it is the network's own country code. The nature of address indicator shall be set to "national (significant) number". The address presentation restricted indicator shall be transferred transparently.

```
SPC               SPA                SPB
 -------IAM------> -------IAM------>
  :
 ____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
```

TSS CLIP/	TP ISS_I_1_17	ISUP'97 reference 3.5.2.4.1/Q.731	Selection expression IncIE AND PICS A.4/4	Q.788 reference None

Test purpose

Adding a prefix to an international calling party number

To verify that a prefix is added to the **calling party number** and the nature of address indicator is set to "unknown".

NOTE – The coding "unknown" is a national option (@).

```
SPC               SPA                SPB
 -------IAM------> -------IAM------>
  :
 ____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
```

TSS CLIP/	TP ISS_I_1_18	ISUP'97 reference 3.5.2.4.2/Q.731	Selection expression IncIE AND PICS A.4/5	Q.788 reference None

Test purpose

Handling of address presentation restricted indicator set to "address not available"

To verify that the screening indicator shall be set to "network provided" if the address presentation restricted indicator in **calling party number** is set to "address not available".

NOTE – The coding "address not available" is a national option (@).

```
SPC                SPA                SPB
 -------IAM------> -------IAM------>
  :
 ____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
```

TSS CLIP/	TP ISS_V_1_19	ISUP'97 reference 3.6.10.1/Q.731	Selection expression DLE AND (PICS A.3/12 OR PICS A.3/13 OR PICS A.3/14 OR PICS A.3/15)	Q.788 reference None

Test purpose

CLIP – interaction with call diversions

To verify that a call diverting exchange shall also forward the **calling party number** and the **generic number** containing the additional calling party number.

Pre-test conditions

Arrange the data in the IUT such that the called user has subscribed to CLIP and has activated a call diversion service (CFB, CFNR, CFU or CD).

```
SPC                SPA                SPB
 -------IAM------> -------IAM------>
  :
 ____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
```

7.2.2 Restricción de la identificación de la línea llamante (CLIR, *calling line identification restriction*)

TSS CLIR/	TP ISS_V_2_1	ISUP'97 reference 4.5.2.1.1/Q.731	Selection expression OLE	Q.788 reference 2.1.5

Test purpose

Restricted calling party number (network provided)

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "network provided" and the address presentation restricted indicator set to "presentation restricted".

Pre-test conditions

Arrange the data in the IUT so that the calling party has subscribed CLIR.

```
access            SPA                SPB
 ------setup----->  -------IAM------>
 :
 ____________________________________________________________________
1. Set up a call from the access without calling party number or wrong calling
party number (not accepted by the network).
```

TSS CLIR/	TP ISS_V_2_2	ISUP'97 reference 4.5.2.1.1/Q.731	Selection expression OLE AND PICS A.3/8 (SUB)	Q.788 reference 2.1.6

Test purpose

Restricted calling party number (network provided) with calling sub-address

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "network provided", the address presentation restricted indicator set to "presentation restricted" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions

Arrange the data in the IUT so that the calling party has subscribed to CLIR and SUB.

```
access          SPA                SPB
 ------setup----->  -------IAM------>
  :
```

1. Set up a call from the access without calling party number or wrong calling party number (not accepted by the network) and with a calling sub-address.

TSS CLIR/	TP ISS_V_2_3	ISUP'97 reference 4.5.2.1.1/Q.731	Selection expression OLE	Q.788 reference None

Test purpose

Restricted calling party number (user provided, verified and passed)

To verify that the IUT can successfully originate a call having the **calling party number** with the screening indicator set to "user provided, verified and passed" and the address presentation restricted indicator set to "presentation restricted".

Pre-test conditions

Arrange the data in the IUT so that the calling party has subscribed CLIR.

```
access          SPA                SPB
 ------setup----->  -------IAM------>
  :
```

1. Set up a call from the access with a correct calling party number (within range).

TSS CLIR/	TP ISS_V_2_4	ISUP'97 reference 4.5.2.1.1/Q.731	Selection expression OLE AND PICS A.3/8 (SUB)	Q.788 reference 2.1.7

Test purpose

Restricted calling party number (user provided, verified and passed) with calling sub-address

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "user provided, verified and passed", the address presentation restricted indicator set to "presentation restricted" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions

Arrange the data in the IUT so that the calling party has subscribed to CLIR and SUB.

```
access           SPA                SPB
 ------setup----->  -------IAM------>
  :
```

```
1. Set up a call from the access with a correct calling party number (within
range) and with a calling sub-address.
```

TSS CLIR/	TP ISS_V_2_5	ISUP'97 reference 4.5.2.1.1/Q.731	Selection expression OLE	Q.788 reference None

Test purpose

Restricted calling party number (user provided, not verified)

To verify that the IUT can successfully originate a call having a default **calling party number** with the screening indicator set to "network provided" and a **generic number** containing the additional calling party number with the screening indicator set to "user provided, not verified", both having the address presentation restricted indicator set to "presentation restricted".

Pre-test conditions

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional calling party number and that the calling party has subscribed to CLIR.

```
access          SPA                SPB
 ------setup----->  -------IAM------>
  :
```

```
1. Set up a call from the access with a special calling party number.
```

TSS CLIR/	TP ISS_V_2_6	ISUP'97 reference 4.5.2.1.1/Q.731	Selection expression OLE AND PICS A.3/8 (SUB)	Q.788 reference 2.1.8

Test purpose

Restricted calling party number (user provided, not verified) with calling sub-address

To verify that the IUT can successfully originate a call having a default **calling party number** with the screening indicator set to "network provided", a **generic number** containing the additional calling party number with the screening indicator set to "user provided, not verified", both having the address presentation restricted indicator set to "presentation restricted" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional calling party number and that the calling party has subscribed to CLIR and SUB.

```
access          SPA                SPB
 ------setup----->  -------IAM------>
  :
```

```
1. Set up a call from the access with a special calling party number and a
calling sub-address.
```

TSS CLIR/	TP ISS_V_2_7	ISUP'97 reference 4.5.2.2.1/Q.731	Selection expression Transit	Q.788 reference None

Test purpose

Conveying the information relating to CLIR

To verify that the address presentation restricted indicator in the **calling party number** and in the **generic number** are transferred successfully to the succeeding exchange.

```
Case a)

SPC              SPA                SPB
 -------IAM------> -------IAM------>
  :
```

```
1. The PTC will initiate a call set up with the expected parameters.
2. CgPN only.
```

```
Case b)

SPC              SPA                SPB
 -------IAM------> -------IAM------>
  :
```

```
1. The PTC will initiate a call set up with the expected parameters.
2. CgPN and addCgPN in GenNb.
```

TSS CLIR/	TP ISS_V_2_8	ISUP'97 reference 3.5.2.3.1; 4.5.2.3.2; 4.6.5/Q.731	Selection expression OutIE AND PICS A.5/1	Q.788 reference None

Test purpose

Discarding the calling party number if the presentation is restricted

To verify that the **calling party number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation restricted".

Pre-test conditions

Arrange the data in IUT so that the calling party number is discarded.

```
SPC               SPA                SPB
 -------IAM------> -------IAM------>
  :
```

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIR/	TP ISS_V_2_9	ISUP'97 reference 3.5.2.3.1; 4.5.2.3.2; 4.6.5/Q.731	Selection expression OutIE AND PICS A.5/2	Q.788 reference None

Test purpose

Discarding the additional calling party number if the presentation is restricted

To verify that the additional calling party number in the **generic number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation restricted".

Pre-test conditions

Arrange the data in IUT so that the additional calling party number is discarded.

```
SPC               SPA                SPB

 -------IAM------> -------IAM------>

  :
```

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIR/	TP ISS_V_2_10	ISUP'97 reference 4.6.20/Q.731	Selection expression DLE AND PICS A.3/9 (MCID)	Q.788 reference None

Test purpose

Presentation of the address – interaction with MCID

To verify that the information conveyed in an incoming call (especially the **calling party number** and the additional calling party number in the **generic number**) is registered in the network regardless of whether the calling user has activated the CLIR service or not, if the called user has MCID activated.

Pre-test conditions

Arrange the data in the IUT such that the called user has activated the MCID supplementary service on a permanent basis.

```
access         SPA             SPB
 <-----setup---- <-----IAM------
  :
```

1. Set up a call to the access with CgPN and addCgPN in the GenNb.

TSS CLIR/	TP ISS_V_2_11	ISUP'97 reference 4.2.1/Q.731	Selection expression DLE	Q.788 reference None

Test purpose

Presentation of the address – called party has override category

To verify that the **calling party number** and the additional calling party number in the **generic number** are passed to the access regardless of whether the calling user has activated the CLIR service or not if the called user has the override category.

Pre-test conditions

Arrange the data in the IUT such that the called user has the override category.

```
access         SPA             SPB
 <-----setup---- <-----IAM------
  :
```

1. Set up a call to the access with CgPN and addCgPN in the GenNb.

7.2.3 Presentación de la identificación de la línea conectada (COLP, *connected line identification presentation*)

TSS COLP/	TP ISS_V_3_1	ISUP'97 reference 5.5.2.1.1/Q.731	Selection expression OLE	Q.788 reference 2.3.1

Test purpose

Initiate COLP request

To verify that the exchange can initiate successfully a call requesting the COLP service in the **optional forward call indicators**.

Pre-test conditions

Arrange the data in the IUT such that the calling party subscribes to COLP.

```
access          SPA             SPB
 ------setup----> ------IAM------>
 :
```

1. Set up a call from the access with a COLP request.

TSS COLP/	TP ISS_V_3_2	ISUP'97 reference 5.5.2.2.1/Q.731	Selection expression Transit	Q.788 reference None

Test purpose

Passing on information relating to COLP

To verify that the IUT passes on transparently the information related to the COLP supplementary service in the **optional forward call indicators** (forward direction) and the **connected number** (backward direction).

```
Case a)
 SPC                SPA                SPB
 --------IAM-------> --------IAM------->
 <-------ACM-------- <-------ACM--------
           ... ringing tone ...
 <-------ANM-------- <-------ANM--------
  :
```

1. The PTC will initiate a call set up with the expected parameters.

```
Case b)
 SPC                SPA                SPB
 <-------IAM-------- <-------IAM--------
 --------ACM-------> --------ACM------->
           ... ringing tone ...
 --------ANM-------> --------ANM------->
  :
```

1. The PTC will assist a call set up with the expected parameters.

```
Case c)
 SPC                SPA                SPB
 <-------IAM-------- <-------IAM--------
 --------CON-------> --------CON------->
  :
```

1. The PTC will assist a call set up with the expected parameters.

TSS COLP/	TP ISS_V_3_3	ISUP'97 reference 5.5.2.3.1/Q.731	Selection expression OutIE	Q.788 reference None

Test purpose

Converting the connected number to national format, if necessary

To verify that the country code in the address signals of the **connected number** is removed if it is the network's own country code. The nature of address indicator shall be set to "national (significant) number", the address presentation restricted indicator and the screening indicator shall be transferred transparently.

```
Case a)
 SPC                SPA                SPB
 --------IAM-------> --------IAM------->
 <-------ACM-------- <-------ACM--------
            ... ringing tone ...
 <-------ANM-------- <-------ANM--------
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb to be passed on having AdSg: TSP_Nb_B with own country code.

```
Case b)
 SPC                SPA                 SPB
 --------IAM-------> --------IAM------->
 <-------CON-------- <-------CON--------
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb to be passed on having AdSg: TSP_Nb_B with own country code.

TSS COLP/	TP ISS_V_3_4	ISUP'97 reference 5.5.2.3.1/Q.731	Selection expression OutIE	Q.788 reference None

Test purpose

Converting the additional connected number to national format, if necessary

To verify that the country code in the address signals of the **generic number** coded as an "additional connected number", if the numbering plan indicator is "ISDN Telephony" is removed if it is the network's own country code. The nature of address indicator shall be set to "national (significant) number", the address presentation restricted indicator and the screening indicator shall be transferred transparently.

```
Case a)
 SPC                SPA                   SPB
 --------IAM------>  --------IAM------->
 <-------ACM-------  <-------ACM--------
              ... ringing tone ...
 <-------ANM-------  <-------ANM--------
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb: TSP_Nb_B_default and addConNb in GenNb: TSP_GenNb_B to be passed on, both international numbers with the network"s own country code.

```
Case b)
 SPC    National   SPA  International  SPB
 --------IAM------>  --------IAM------->
 <-------CON-------  <-------CON--------
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb: TSP_Nb_B_default and addConNb in GenNb: TSP_GenNb_B to be passed on, both international numbers with the network"s own country code.

TSS COLP/	TP ISS_I_3_5	ISUP'97 reference 5.5.2.3.1/Q.731	Selection expression OutIE AND PICS A.6/1	Q.788 reference None

Test purpose

Adding a prefix to an international connected number

To verify that a prefix is added to the **connected number** and the nature of address indicator is set to "unknown".

NOTE – The coding "unknown" is a national option (@).

```
Case a)
 SPC                SPA                  SPB
 --------IAM------>   -------IAM------>
 <-------ACM-------   <------ACM-------
               ... ringing tone ...
 <-------ANM-------   <------ANM-------
  :
_____________________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide an international ConNb with a different country code than the
incoming network (foreign CC).

Case b)
 SPC                SPA                  SPB
 --------IAM------>   -------IAM------->
 <-------CON-------   <------CON--------
  :
_____________________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide an international ConNb with a different country code than the
incoming network (foreign CC).
```

TSS COLP/	TP ISS_V_3_6	ISUP'97 reference 5.5.2.4.1/Q.731	Selection expression IncIE AND PICS A.6/2	Q.788 reference None

Test purpose

Discarding the connected number in case of bilateral agreements

To verify that the **connected number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation allowed".

NOTE – This bilateral agreement prohibits the transferral of the connected number in any case. The test with the address presentation restricted indicator set to "presentation restricted" is a COLR test.

Pre-test conditions

Arrange the data in the IUT so that the connected number is discarded.

```
Case a)
 SPC                SPA                 SPB
 --------IAM------>   --------IAM------>
 <-------ACM-------   <-------ACM-------
           ... ringing tone ...
 <-------ANM-------   <-------ANM-------
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb to be discarded.

```
Case b)
 SPC                 SPA                 SPB
 --------IAM------>   --------IAM------->
 <-------CON-------   <-------CON--------
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb to be discarded.

TSS COLP/	TP ISS_V_3_7	ISUP'97 reference 5.5.2.4.1/Q.731	Selection expression IncIE AND PICS A.6/3	Q.788 reference None

Test purpose

Discarding the additional connected number in case of bilateral agreements

To verify that the additional connected number in the **generic number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation allowed".

NOTE – This bilateral agreement prohibits the transferral of the additional connected number in the generic number in any case. The test with the address presentation restricted indicator set to "presentation restricted" is a COLR test.

Pre-test conditions

Arrange the data in the IUT so that the additional connected number in the generic number is discarded.

```
Case a)
 SPC                 SPA                 SPB
 --------IAM------>   --------IAM------>
 <-------ACM-------   <-------ACM-------
            ... ringing tone ...
 <-------ANM-------   <-------ANM-------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb and addConNb in the GenNb to be discarded.

Case b)
 SPC                 SPA                 SPB
 --------IAM------>   --------IAM------->
 <-------CON-------   <-------CON--------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb and addConNb in the GenNb to be discarded.
```

TSS COLP/	TP ISS_V_3_8	ISUP'97 reference 5.5.2.4.1/Q.731	Selection expression IncIE AND PICS A.6/4	Q.788 reference 2.3.9

Test purpose

Resetting the address signals of the connected number, if they are not to be sent

To verify that for a **connected number** which is not to be released to the originating network the setting of the address presentation restricted indicator can be changed from "presentation allowed" to "address not available", and that the address signals are reset.

```
Case a)
 SPC                 SPA                 SPB
 --------IAM------>   --------IAM------>
 <-------ACM-------   <-------ACM-------
            ... ringing tone ...
 <-------ANM-------   <-------ANM-------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb to be reset ("address not available").

Case b)
 SPC                 SPA                 SPB
 --------IAM------>   --------IAM------->
 <-------CON-------   <-------CON--------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide ConNb to be reset ("address not available").
```

TSS COLP/	TP ISS_V_3_9	ISUP'97 reference 5.5.2.4.1/Q.731	Selection expression IncIE	Q.788 reference None

Test purpose

Converting the connected number to international format

To verify that the exchange can convert the **connected number** into an international number, setting the nature of address indicator to "international number" and can pass on the address presentation restricted indicator and the screening indicator transparently.

```
Case a)
 SPC                 SPA                 SPB
 --------IAM------>   --------IAM------>
 <-------ACM-------   <-------ACM-------
           ... ringing tone ...
 <-------ANM-------   <-------ANM-------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide national (significant) ConNb.

Case b)
 SPC                 SPA                 SPB
 --------IAM------>   --------IAM------->
 <-------CON-------   <-------CON--------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide national (significant) ConNb.
```

TSS COLP/	TP ISS_I_3_10	ISUP'97 reference 5.5.2.5.1/Q.731	Selection expression	Q.788 reference 2.3.8

Test purpose

Handling unrequested COL

To verify that the call can be successfully set up if the IUT receives an unsolicited COL.

```
Case a)
 access             SPA                 SPB
 -------setup-------> --------IAM-------->
 <------alert-------- <-------ACM--------
            ... ringing tone ...
 <------connect------ <-------ANM--------
  :
```

1. Set up a call from the access without a COLP request.
2. No COL request is issued.
3. Verdict is "pass" if the call is correctly set up.

```
Case b)
 access             SPA                 SPB
 --------setup------>   --------IAM------->
 <------connect------   <-------CON--------
  :
```

1. Set up a call from the access without a COLP request.
2. No COL request is issued.
3. Verdict is "pass" if the call is correctly set up.

```
Case c)
SPC                SPA                 SPB
 <-------IAM--------  <-------IAM--------
 --------ACM------->  --------ACM------->
            ... ringing tone ...
 --------ANM------->  --------ANM------->
  :
```

1. The PTC will assist a call set up with the expected parameters.
2. No COL request is sent.
3. Verdict is "pass" if the call set up continues.

```
Case d)
SPC                SPA                 SPB
 <-------IAM--------  <-------IAM--------
 --------CON------->  --------CON------->
  :
```

1. The PTC will assist a call set up with the expected parameters.
2. No COL request is sent.
3. Verdict is "pass" if the call set up continues.

TSS COLP/	TP ISS_V_3_11	ISUP'97 reference 5.5.2.5.1 i)/Q.731	Selection expression DLE	Q.788 reference None

Test purpose

Connected number (user provided, verified and passed)

To verify that the IUT can provide a **connected number** with the screening indicator set to "user provided, verified and passed", if the user provided COL is valid.

```
Case a)
 access              SPA                 SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
          ... ringing tone ...
 ------connect-----> --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access provides valid COL.

```
Case b)
 access              SPA                 SPB
 <------setup------- <-------IAM--------
 ------connect-----> --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access provides valid COL.

TSS COLP/	TP ISS_V_3_12	ISUP'97 reference 5.5.2.5.1 i)/Q.731	Selection expression DLE AND PICS A.3/8 (SUB)	Q.788 reference 2.3.3

Test purpose

Connected number (user provided, verified and passed) with connected sub-address

To verify that the IUT can provide a **connected number** with the screening indicator set to "user provided, verified and passed", if the user provided COL is valid and an **access transport** parameter containing the connected sub-address.

Pre-test conditions

Arrange the data in the IUT so that the connected party has subscribed to SUB.

```
Case a)
access             SPA                 SPB
 <------setup------ <-------IAM--------
 -------alert-----> --------ACM------->
        ... ringing tone ...
 ------connect----> --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access provides valid COL with sub-address.

```
Case b)
 access            SPA                 SPB
 <------setup------ <-------IAM--------
 ------connect----> --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access provides valid COL with sub-address.

TSS COLP/	TP ISS_V_3_13	ISUP'97 reference 5.5.2.5.1 ii)/Q.731	Selection expression DLE	Q.788 reference None

Test purpose

Connected number (network provided)

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided", if the user provided COL is not valid.

```
Case a)
 access             SPA                SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
             ... ringing tone ...
 ------connect-----> --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access provides invalid COL.
2. ScrI set to "network provided" is implicit.

```
Case b)
 access             SPA                SPB
 <------setup------- <-------IAM--------
 ------connect-----> --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access provides invalid COL.
2. ScrI set to "network provided" is implicit.

TSS COLP/	TP ISS_V_3_14	ISUP'97 reference 5.5.2.5.1 ii)/Q.731	Selection expression DLE AND PICS A.3/8 (SUB)	Q.788 reference 2.3.2

Test purpose

Connected number (network provided) with connected sub-address

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided", if the user provided COL is not valid and an **access transport** parameter containing the connected sub-address.

Pre-test conditions

Arrange the data in the IUT so that the connected party has subscribed to SUB.

```
Case a)
 access             SPA                SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
          ... ringing tone ...
 ------connect-----> --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access provides invalid COL with sub-address.

```
Case b)
 access             SPA                SPB
 <------setup------ <-------IAM--------
 ------connect----> --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access provides valid COL with sub-address.

TSS COLP/	TP ISS_V_3_15	ISUP'97 reference 5.5.2.5.1 iii)/Q.731	Selection expression DLE	Q.788 reference None

Test purpose

Connected number (user provided, not verified)

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided" and a **generic number** containing the additional connected number with the screening indicator set to "user provided, not verified".

Pre-test conditions

Arrange the data in the IUT so that there is a special arrangement from the access signalling system regarding an additional connected number.

```
Case a)
 access            SPA                SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
           ... ringing tone ...
 ------connect-----> --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access provides special COL.

```
Case b)
 access            SPA                SPB
 <------setup------- <-------IAM--------
 ------connect-----> --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access provides special COL.

TSS COLP/	TP ISS_V_3_16	ISUP'97 reference 5.5.2.5.1 iii)/Q.731	Selection expression DLE AND PICS A.3/8 (SUB)	Q.788 reference 2.3.4

Test purpose

Connected number (user provided, not verified) with connected sub-address

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided", a **generic number** containing the additional connected number with the screening indicator set to "user provided, not verified" and an **access transport** parameter containing the connected sub-address.

Pre-test conditions

Arrange the data in the IUT so that there is a special arrangement from the access signalling system regarding an additional connected number and that the connected party has subscribed to the sub-addressing supplementary service.

```
Case a)
 access            SPA                SPB
 <------setup------ <-------IAM--------
 -------alert-----> --------ACM------->
          ... ringing tone ...
 ------connect----> --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access provides special COL with sub-address.

```
Case b)
 access            SPA                SPB
 <------setup------ <-------IAM--------
 ------connect----> --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access provides special COL with sub-address.

TSS COLP/	TP ISS_V_3_17	ISUP'97 reference 5.5.2.5.1/Q.731	Selection expression DLE AND NOT PICS A.6/5	Q.788 reference None

Test purpose

COL cannot be transferred

To verify that the address presentation restricted indicator in the **connected number** in **ANM** or in **CON** is set to "presentation restricted" or "address not available" and that the screening indicator shall be set to "network provided" if the COL cannot be transferred.

Pre-test conditions

Arrange the data in the IUT so that no COL can be transferred.

```
Case a)
 access            SPA                SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
           ... ringing tone ...
 ------connect-----> --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access doesn't provide the COL.
2. "address not available" ConNb.
3. restricted ConNb.

```
Case b)
 access            SPA                SPB
 <------setup------ <-------IAM--------
 ------connect----> --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access doesn't provide the COL.
2. "address not available" ConNb.
3. restricted ConNb.

TSS COLP/	TP ISS_V_3_18	ISUP'97 reference 5.6.14/Q.731	Selection expression DLE	Q.788 reference None

Test purpose

COLP – interaction with MSN

To verify that an exchange with MSN can provide the connected party multiple subscriber number or full ISDN number as the **connected number** on call answer.

Pre-test conditions

Arrange the data in the IUT such that the called user has activated the Multiple Subscriber Number (MSN) supplementary service.

```
Case a)
 access            SPA                SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
           ... ringing tone ...
 ------connect-----> --------ANM------->
  :
```

```
1. Set up a call to the access with a COLP request.
2. ConNb – full ISDN number; ConNb.AdSg: TSP_Nb_A
    ConNb2 – multiple subscriber number; ConNb2.AdSg: TSP_Nb_A_MSN
```

```
Case b)
 access           SPA                SPB
 <------setup------- <-------IAM--------
 ------connect-----> --------CON------->
  :
```

```
1. Set up a call to the access with a COLP request.
2. ConNb – full ISDN number; ConNb.AdSg: TSP_Nb_A
    ConNb2 – multiple subscriber number; ConNb2.AdSg: TSP_Nb_A_MSN
```

7.2.4 Restricción de la identificación de la línea conectada (COLR, *connected line identification restriction*)

TSS COLR/	TP ISS_V_4_1	ISUP'97 reference 6.5.2.1.1/Q.731	Selection expression OLE	Q.788 reference None

Test purpose

Presentation of restricted COL

To verify that a local exchange will not pass the information on to the access signalling system when a **connected number** is received in the ANM or CON and its address presentation restricted indicator is set to "presentation restricted", i.e. that presentation is denied on the user-network interface (UNI).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to COLP.

```
Case a)
access              SPA                 SPB
 -------setup------> --------IAM------->
 <------alert------- <-------ACM--------
            ... ringing tone ...
 <------connect----- <-------ANM--------
  :
```

1. Set up a call from the access with a COLP request.
2. The possible verdicts from observations on access are "failed" or "inconclusive".

```
Case b)
 SPC                 SPA                 SPB
  -------setup------> --------IAM------->
 <------connect------ <-------CON--------
  :
```

1. Set up a call from the access with a COLP request.
2. The possible verdicts from observations on access are "failed" or "inconclusive".

TSS COLR/	TP ISS_I_4_2	ISUP'97 reference 6.5.2.1.2/Q.731	Selection expression OLE	Q.788 reference None

Test purpose

Presentation of restricted COL to "override category" calling user

To verify that the received **connected number** and optionally the additional connected number in the **generic number** can be conveyed successfully to an "override category" calling user, if the called user has activated the Connected Line Presentation Restriction (COLR) supplementary service.

Pre-test conditions

Arrange the data in the IUT such that the calling user has an "override category".

```
Case a)
access              SPA                SPB
 -------setup------> --------IAM------->
 <------alert------- <-------ACM--------
            ... ringing tone ...
 <-----connect------ <-------ANM--------
  :
```

```
1. Set up a call from the access with a COLP request.
2. ConNb and addConNb in GenNb.
3. The possible verdicts from observations on access are "failed" or
"inconclusive".
```

```
Case b)
 SPC                SPA                SPB
 -------setup------> --------IAM------->
 <-----connect------ <-------CON--------
  :
```

```
1. Set up a call from the access with a COLP request.
2. The possible verdicts from observations on access are "failed" or
"inconclusive".
```

TSS COLR/	TP ISS_V_4_3	ISUP'97 reference 6.5.2.2.1/Q.731	Selection expression Transit	Q.788 reference None

Test purpose

Passing on information relating to COLR

To verify that the IUT shall pass transparently all information related to the COLR supplementary service in the address presentation restricted indicator of the **connected number** and optionally the additional connect number in the **generic number**.

```
Case a)
SPC                 SPA                  SPB
 <-------IAM--------  <-------IAM--------
 --------ACM------->  --------ACM------->
          ... ringing tone ...
 --------ANM------->  --------ANM------->
  :
```

1. The PTC will assist a call set up with the expected parameters.
2. ConNb.

```
Case b)
SPC                 SPA                  SPB
 <-------IAM--------  <-------IAM--------
 --------CON------->  --------CON------->
  :
```

1. The PTC will assist a call set up with the expected parameters.
2. ConNb.

```
Case c)
 SPC                 SPA                  SPB
 <-------IAM--------  <-------IAM--------
 --------ACM------->  --------ACM------->
            ... ringing tone ...
 --------ANM------->  --------ANM------->
  :
```

1. The PTC will assist a call set up with the expected parameters.
2. ConNb and addConNb in GenNb.

```
Case d)
 SPC                 SPA                  SPB
 <-------IAM--------  <-------IAM--------
 --------CON------->  --------CON------->
  :
```

1. The PTC will assist a call set up with the expected parameters.
2. ConNb and addConNb in GenNb.

TSS COLR/	TP ISS_V_4_4	ISUP'97 reference 6.5.2.4.1/Q.731	Selection expression IncIE AND PICS A.7/1	Q.788 reference None

Test purpose

Discarding the connected number if the presentation is restricted

To verify that the **connected number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation restricted".

Pre-test conditions

Arrange the data in IUT so that the connected number is discarded.

```
Case a)
 SPC                SPA                  SPB
 --------IAM------>  --------IAM------->
 <-------ACM-------  <-------ACM-------
           ... ringing tone ...
 <-------ANM-------  <-------ANM-------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide restricted ConNb to be discarded.

Case b)
 SPC                SPA                  SPB
 --------IAM------>  --------IAM------->
 <-------CON-------  <-------CON--------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide restricted ConNb to be discarded.
```

TSS COLR/	TP ISS_V_4_5	ISUP'97 reference 6.5.2.4.1/Q.731	Selection expression IncIE AND PICS A.7/2	Q.788 reference None

Test purpose

Discarding the additional connected number in the generic number if the presentation is restricted

To verify that the additional connected number in the **generic number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation restricted".

Pre-test conditions

Arrange the data in IUT so that the additional connected number in the generic number is discarded.

```
Case a)
 SPC                SPA                  SPB
 --------IAM------>  --------IAM------->
 <-------ACM-------  <-------ACM-------
           ... ringing tone ...
 <-------ANM-------  <-------ANM-------
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. Provide restricted ConNb and restricted addConNb in GenNb to be discarded.

```
Case b)
 SPC                SPA                  SPB
 --------IAM------>  --------IAM------->
 <-------CON-------  <-------CON--------
  :
```

1. The PTC will initiate a call set up with the expected parameters.
2. Provide restricted ConNb and restricted addConNb in GenNb to be discarded.

TSS COLR/	TP ISS_I_4_6	ISUP'97 reference 6.5.2.4.1/Q.731	Selection expression IncIE AND PICS A.7/3	Q.788 reference None

Test purpose

Resetting the address signals of the connected number, whose release is forbidden

To verify that for a **connected number** which is not to be released to the originating network the setting of the address presentation restricted indicator can be changed from "presentation restricted" to "address not available" and that the address signals are reset.

```
Case a)
 SPC                SPA                  SPB
 --------IAM------>   --------IAM------->
 <-------ACM-------   <-------ACM-------
            ... ringing tone ...
 <-------ANM-------   <-------ANM-------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide restricted ConNb to be reset.

Case b)
 SPC                SPA                  SPB
 --------IAM------>   --------IAM------->
 <-------CON-------   <-------CON--------
  :
_____________________________________________________________________
1. The PTC will initiate a call set up with the expected parameters.
2. Provide restricted ConNb to be reset.
```

TSS COLR/	TP ISS_V_4_7	ISUP'97 reference 6.5.2.5.1/Q.731	Selection expression DLE	Q.788 reference None

Test purpose

Restricted connected number (user provided, verified and passed)

To verify that the IUT can provide a **connected number** with the screening indicator set to "user provided, verified and passed" and with the address presentation restricted indicator set to "presentation restricted", if the user provided COL is valid.

Pre-test conditions

Arrange the data in the IUT so that the connected party has subscribed to COLR.

```
Case a)
 access             SPA                 SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
            ... ringing tone ...
 ------connect-----> --------ANM------->
  :
_____________________________________________________________________
1. Set up a call to the access with a COLP request, access provides valid COL.

Case b)
 access            SPA                 SPB
 <------setup------ <-------IAM--------
 ------connect----> --------CON------->
  :
_____________________________________________________________________
1. Set up a call to the access with a COLP request, access provides valid COL.
```

TSS COLR/	TP ISS_V_4_8	ISUP'97 reference 6.5.2.5.1/Q.731	Selection expression DLE AND PICS A.3/8 (SUB)	Q.788 reference 2.3.6

Test purpose

Restricted connected number (user provided, verified and passed) with connected sub-address

To verify that the IUT can provide a **connected number** with the screening indicator set to "user provided, verified and passed" and with the address presentation restricted indicator set to "presentation restricted", if the user provided COL is valid. Additionally, an **access transport** parameter containing the connected sub-address shall also be provided.

Pre-test conditions

Arrange the data in the IUT so that the connected party has subscribed to COLR and SUB.

```
Case a)
 access           SPA                 SPB
 <------setup------ <-------IAM--------
 -------alert-----> --------ACM------->
          ... ringing tone ...
 ------connect----> --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access provides valid COL with sub-address.

```
Case b)
 access            SPA                 SPB
 <------setup------- <-------IAM--------
 -------connect----> --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access provides valid COL with sub-address.

TSS COLR/	TP ISS_V_4_9	ISUP'97 reference 6.5.2.5.1/Q.731	Selection expression DLE	Q.788 reference None

Test purpose

Restricted connected number (network provided)

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided" and with the address presentation restricted indicator set to "presentation restricted", if the user provided COL is not valid.

Pre-test conditions

Arrange the data in the IUT so that the connected party has subscribed to the COLR.

```
Case a)
 access            SPA                 SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
           ... ringing tone ...
 ------connect----> --------ANM------->
  :
```

```
1. Set up a call to the access with a COLP request, access provides invalid
COL.
```

```
Case b)
 access            SPA                 SPB
 <------setup------- <-------IAM--------
 ------connect-----> --------CON------->
:
```

```
1. Set up a call to the access with a COLP request, access provides invalid
COL.
```

TSS COLR/	TP ISS_V_4_10	ISUP'97 reference 6.5.2.5.1/Q.731	Selection expression DLE AND PICS A.3/8 (SUB)	Q.788 reference 2.3.5

Test purpose

Restricted connected number (network provided) with connected sub-address

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided" and with the address presentation restricted indicator set to "presentation restricted", if the user provided COL is not valid. Additionally, an **access transport** parameter containing the connected sub-address shall also be provided.

Pre-test conditions

Arrange the data in the IUT so that the connected party has subscribed COLR and SUB.

```
Case a)
 access           SPA                 SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
          ... ringing tone ...
 ------connect-----> --------ANM------->
  :
_____________________________________________________________________
1. Set up a call to the access with a COLP request, access provides invalid
COL with sub-address.
2. ScrI "network provided" is implicit.
```

```
Case b)
 access           SPA                 SPB
 <------setup------ <-------IAM--------
 ------connect----> --------CON------->
  :
_____________________________________________________________________
1. Set up a call to the access with a COLP request, access provides invalid
COL with sub-address.
2. ScrI "network provided" is implicit.
```

TSS COLR/	TP ISS_V_4_11	ISUP'97 reference 6.5.2.5.1/Q.731	Selection expression DLE	Q.788 reference None

Test purpose

Restricted connected number (user provided, not verified)

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided" and a **generic number** containing the additional connected number with the screening indicator set to "user provided, not verified" – both having the address presentation restricted indicator set to "presentation restricted".

Pre-test conditions

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional connected number and that the connected party has subscribed to COLR.

```
Case a)
 access            SPA                 SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
            ... ringing tone ...
 ------connect-----> --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access provides special COL.

```
Case b)
 access            SPA                 SPB
 <------setup------- <-------IAM--------
 ------connect-----> --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access provides special COL.

TSS COLR/	TP ISS_V_4_12	ISUP'97 reference 6.5.2.5.1/Q.731	Selection expression DLE AND PICS A.3/8 (SUB)	Q.788 reference 2.3.5

Test purpose

Restricted connected number (user provided, not verified) with connected sub-address

To verify that the IUT can provide a default **calling party number** with the screening indicator set to "network provided", a **generic number** containing the additional connected number with the screening indicator set to "user provided, not verified" – both having the address presentation restricted indicator set to "presentation restricted" and additionally an **access transport** parameter containing the connected sub-address.

Pre-test conditions

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional connected number and that the connected party has subscribed to COLR and SUB.

```
Case a)
 access            SPA                 SPB
 <------setup-------  <-------IAM--------
 -------alert------>  --------ACM------->
            ... ringing tone ...
 ------connect----->  --------ANM------->
  :
```

1. Set up a call to the access with a COLP request, access provides special COL with sub-address.

```
Case b)
 access            SPA                 SPB
 <------setup-------  <-------IAM--------
 ------connect----->  --------CON------->
  :
```

1. Set up a call to the access with a COLP request, access provides special COL with sub-address.

7.2.5 Portabilidad de terminal (TP, *terminal portability*)

TSS TP/	TP ISS_V_5_1	ISUP'97 reference 4.5.2.1.1 a)/Q.733	Selection expression OLE	Q.788 reference 2.12.1

Test purpose

Terminal portability, requested by the calling party

To verify that the calling party can suspend and resume an outgoing call and that user initiated **SUS** and **RES** messages are sent to the succeeding exchange.

Pre-test conditions

Arrange the data in the IUT so that the calling party subscribes to the Terminal portability service.

```
 access           SPA                 SPB
 ------setup------->  -------IAM-------->
 <-----alert--------  <------ACM---------
            ... ringing tone ...
 <----connect-------  <------ANM---------
          ... check communication ...
 ----tp-suspend---->  -------SUS-------->
 -----tp-resume---->  -------RES-------->
:
```

1. Set up a call from SPA to SPB.
2. Suspend the call by the calling party (ISDN subscriber).
3. Resume the call by the calling party (ISDN subscriber).

TSS TP/	TP ISS_V_5_2	ISUP'97 reference 4.5.2.1.1 b)/Q.733	Selection expression OLE	Q.788 reference 2.12.1

Test purpose

Terminal portability, requested by the called party

To verify that IUT informs the calling party that a suspend and a resume have been requested by the called party upon receipt of user initiated **SUS** and **RES** messages.

```
 access            SPA                SPB
 -------setup------>  -------IAM------->
 <------alert-------  <------ACM--------
            ... ringing tone ...
 <-----connect------  <------ANM--------
          ... check communication ...
 <-----tp-suspend---  <------SUS--------
 <-----tp-resume----  <------RES--------
:
```

1. Set up a call from SPA to SPB.
2. Suspend the call by the called party (ISDN subscriber).
3. Resume the call by the called party (ISDN subscriber).

TSS TP/	TP ISS_I_5_3	ISUP'97 reference 4.5.2.1.2/Q.733	Selection expression Local	Q.788 reference 2.12.2

Test purpose

Terminal portability, requested by local served user, no Resume after Suspend

To verify that the call is released with cause #102 (recovery on timer expiry) by the IUT if timer T2 expires because the local served user does not resume the call.

Pre-test conditions

Arrange the data in the IUT so that the local user subscribes to the Terminal portability service.

```
 access             SPA                  SPB
 -------setup------->  -------IAM-------->
 <------alert--------  <------ACM---------
             ... ringing tone ...
 <-----connect-------  <------ANM---------
          ... check communication ...
 -----tp-suspend---->  -------SUS-------->
                                          |
                                          T2
 <-----disconnect----  -------REL-------->
                      <------RLC---------
:
```

1. Set up a call from SPA to SPB.
2. Suspend the call by the calling party (ISDN subscriber).
3. Check if the call is released with cause #102.

TSS TP/	TP ISS_V_5_4	ISUP'97 reference 4.5.2.1.1/Q.733	Selection expression Local	Q.788 reference None

Test purpose

Terminal portability, release suspended call

To verify that a suspended call can be released by the IUT, if the local user or the remote user releases the call.

```
Case a)
 access            SPA                 SPB
 -------setup------>  -------IAM------->
 <------alert-------  <------ACM--------
           ... ringing tone ...
 <-----connect------  <------ANM--------
        ... check communication ...
 -----tp-suspend--->  -------SUS------->
 -----disconnect--->  -------REL------->
```

1. Set up a call from SPA to SPB.
2. Suspend the call by the calling party (ISDN subscriber).
3. Release the suspended call by the local user.

```
Case b)
 access            SPA                 SPB
 -------setup------>  -------IAM-------->
 <------alert-------  <------ACM---------
            ... ringing tone ...
 <------connect-----  <------ANM---------
         ... check communication ...
 -----tp-suspend--->  -------SUS-------->
 <----disconnect----  <------REL---------
:
```

1. Set up a call from SPA to SPB.
2. Suspend the call by the calling party (ISDN subscriber).
3. Release the suspended call by the remote user.

TSS TP/	TP ISS_V_5_5	ISUP'97 reference 4.5.2.2.1 a); 4.5.2.3.1; 4.5.2.4.1/Q.733	Selection expression IntermE	Q.788 reference None

Test purpose

Terminal portability, requested by the calling party (transit call)

To verify that the **SUS** and **RES** messages are passed on transparently by the IUT, if the calling party requests the service.

```
 SPC              SPA                 SPB
 ------IAM-------> -------IAM------->
 <-----ACM-------- <------ACM--------
           ... ringing tone ...
 <-----ANM-------- <------ANM--------
       ... check communication ...
 ------SUS-------> -------SUS------->
 ------RES-------> -------RES------->
:
```

1. Set up a call from SPA to SPB.
2. Suspend the call by the calling party (ISDN subscriber).
3. Resume the call by the calling party (ISDN subscriber).

TSS TP/	TP ISS_V_5_6	ISUP'97 reference 4.5.2.2.1 b); 4.5.2.3.1; 4.5.2.4.1/Q.733	Selection expression IntermE	Q.788 reference None

Test purpose

Terminal portability, requested by the called party (transit call)

To verify that the **SUS** and **RES** messages are passed on transparently by the IUT, if the called party requests the service.

```
 SPC              SPA                 SPB
 <------IAM-------- <-------IAM--------
 -------ACM-------> --------ACM------->
           ... ringing tone ...
 -------ANM-------> -------ANM-------->
      ... check communication ...
 -------SUS-------> --------SUS------->
 -------RES-------> --------RES------->
:
```

```
1. Set up a call from the UNI at SPB.
2. The called party at UNI at SPC suspends the call (ISDN subscriber).
3. The called party at UNI at SPC resumes the call (ISDN subscriber).
```

TSS TP/	TP ISS_V_5_7	ISUP'97 reference 4.5.2.5.1 a)/Q.733	Selection expression DLE	Q.788 reference 2.12.1

Test purpose

Terminal portability, requested by the calling party

To verify that the IUT informs the called party that suspend and resume have been requested by the calling party upon receipt of user initiated **SUS** and **RES** messages.

```
access           SPA                 SPB
 <----setup------- <------IAM---------
 -----alert------> -------ACM-------->
          ... ringing tone ...
 -----connect----> -------ANM-------->
        ... check communication ...
 <---tp-suspend--- <------SUS---------
 <---tp-resume---- <------RES---------
 :
```

```
1. Set up a call from the UNI at SPB.
2. The calling party at SPB suspends the call (ISDN subscriber).
3. The calling party at SPB resumes the call (ISDN subscriber).
```

TSS TP/	TP ISS_V_5_8	ISUP'97 reference 4.5.2.5.1 b)/Q.733	Selection expression DLE	Q.788 reference 2.12.1

Test purpose

Terminal portability, requested by the called party

To verify that the called party can suspend and resume an incoming call and that user initiated **SUS** and **RES** messages are sent to the preceding exchange.

Pre-test conditions

Arrange the data in the IUT so that the called party subscribes to the Terminal portability service.

```
 access          SPA               SPB
<-----setup------  <-----IAM---------
------alert----->  ------ACM-------->
        ... ringing tone ...
-----connect---->  ------ANM-------->
      ... check communication ...
----tp-suspend-->  ------SUS-------->
----tp-resume--->  ------RES-------->
 :
```

```
1. Set up a call from the UNI at SPB.
2. The called party at UNI at SPA suspends the call (ISDN subscriber).
3. The called party at UNI at SPA resumes the call (ISDN subscriber).
```

TSS NO_TP/	TP ISS_I_5_9	ISUP'97 reference 4.5.2.3.2; 4.5.2.4.2/Q.733	Selection expression Gateway AND NOT PICS A.3/5 AND PICS A.8/1	Q.788 reference None

Test purpose

Terminal portability, national network does not support the service

To verify that the **SUS** and **RES** messages are discarded by the IUT without notification if the served user requests suspend and resume, but the national network does not support the Terminal portability service.

```
SPC              SPA                SPB
 <------IAM-------  <-----IAM--------
 -------ACM------>  ------ACM------->
          ... ringing tone ...
 -------ANM------>  ------ANM------->
        ... check communication ...
 -------SUS------>
                    Nothing is observed
 -------RES------>
:
```

```
1. Set up a call from the UNI at SPB.
```

TSS TP/	TP ISS_V_5_10	ISUP'97 reference 4.6.13.3/Q.733	Selection expression Local AND PICS A.9/8	Q.788 reference None

Test purpose

Terminal portability, request for UUS3 while call is suspended

To verify that a request for User-to-user signalling service 3 is rejected by the IUT if the call is currently suspended and if the IUT is the suspend controlling exchange.

Pre-test conditions

Arrange the data in the IUT so that the local user subscribes both to the Terminal portability service and to the User-to-user signalling service 3.

```
access              SPA                SPB
 <----setup--------  <-----IAM--------
 -----alert-------->  ------ACM------->
           ... ringing tone ...
 ----connect------>  ------ANM------->
        ... check communication ...
 ----tp-suspend--->  ------SUS------->
 ----UUS3-req----->  reject – nothing happens in the network
 ----tp-resume---->  ------RES------->
:
```

```
1. Set up a call from the UNI at SPB.
2. The called party suspends the call (ISDN subscriber).
3. The called party resumes the call (ISDN subscriber).
```

7.2.6 Señalización de usuario a usuario (UUS, *user-to-user signalling*)

7.2.6.1 Servicio 1 de señalización de usuario a usuario (UUS1, *user-to-user signalling service 1*)

TSS UUS/UUS1_I/	TP ISS_V_6_1_1	ISUP'97 reference 1.1.2.1/Q.737	Selection expression OLE AND PICS A.9/1	Q.788 reference None

Test purpose

32 octets user-to-user information

To verify that the IUT can successfully initiate a call having 32 octets of **user-to-user information** in the messages related to the set up or the release of the call.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
 access              SPA                  SPB
 ----setup(UUInf)---->  -----IAM(UUInf)---->
 <---alert(UUInf)-----  <----ACM(UUInf)-----
             ... ringing tone ...
 <--connect(UUInf)----  <----ANM(UUInf)-----
          ... check communication ...
  <---disc(UUInf)-----  <----REL(UUInf)-----
                        -------RLC--------->
```

```
1. Set up a call from UNI at SPA to SPB with 32 octets of user-to-user
information.
```

TSS UUS/UUS1_I/	TP ISS_V_6_1_2	ISUP'97 reference 1.1.5.2.1.1.1; 1.1.5.2.1.1.3; 1.1.5.2.2-4.1/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.15.1

Test purpose

UUS1 implicit – request

To verify that the IUT can successfully initiate/transit a call with an UUS 1 implicit request, having the **user-to-user information** parameter in the **IAM**, without the **user-to-user indicators** parameter.

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access              SPA                  SPB
 ----setup(UUInf)--->  ------IAM(UUInf)---->
 <---alert(UUInf)----  <-----ACM(UUInf)-----
             ... ringing tone ...
 <--connect(UUInf)---  <-----ANM(UUInf)-----
          ... check communication ...
 <---disc(UUInf)-----  <-----REL(UUInf)-----
                       -------RLC---------->
```

---

1. Set up a call from UNI at SPA to SPB with user-to-user information.

```
Case b)
SPC                  SPA                  SPB
 -----IAM(UUInf)---->  -----IAM(UUInf)---->
 <----ACM(UUInf)-----  <----ACM(UUInf)-----
              ... ringing tone ...
 <----ANM(UUInf)-----  <----ANM(UUInf)-----
             ... check communication ...
 <----REL(UUInf)-----  <----REL(UUInf)-----
 --------RLC-------->  -------RLC--------->
```

---

1. Set up a call from UNI at SPA to SPB with user-to-user information.

TSS UUS/UUS1_I/	TP ISS_I_6_1_3	ISUP'97 reference 1.1.5.2.5.2.3; 1.1.5.2.2-4.2/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.15.2

Test purpose

UUS1 implicit – discarded with indication received

To verify that the IUT can, after successfully initiating/transiting a call with an UUS1 implicit request, continue normal call set up if the first backward message is received with the **user-to-user indicators** set to "user-to-user information discarded by the network".

NOTE – The user-to-user information is discarded because the following network does not support it.

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access              SPA                    SPB
 ----setup(UUInf)---->  -----IAM(UUInf)----->
 <-------alert--------  <---ACM(UUInf disc)--
 :
```

1. Set up a call from UNI at SPA to SPB with user-to-user information.
2. First backward message with user-to-user indicators set to "UUInf discarded by the network".

```
Case b)
SPC                  SPA                    SPB
 -----IAM(UUInf)----->  -----IAM(UUInf)----->
 <---ACM(UUInf disc)--  <--ACM(UUInf disc)---
 :
```

1. Set up a call from UNI at SPA to SPB with user-to-user information.
2. First backward message with user-to-user indicators set to "UUInf discarded by the network".

TSS UUS/UUS1_I/	TP ISS_I_6_1_4	ISUP'97 reference 1.1.5.2.5.2.3; 1.1.5.2.3-5.2/Q.737	Selection expression OLE OR IntermE	Q.788 reference None

Test purpose

UUS1 implicit – discarded but no indication received

To verify that the IUT can successfully initiate/transit a call with an UUS1 implicit request, and complete the call if no indication is provided in the backward direction.

NOTE – The user-to-user information is discarded because:

1) the remote network is unable to pass the service 1 in any message.

2) the remote user may not be able to interpret incoming UUS information.

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access                SPA                SPB
 ----setup(UUInf)--->  -----IAM(UUInf)---->
 <-----alert---------  <-------ACM---------
           ... ringing tone ...
 <-----connect-------  <-------ANM---------
        ... check communication ...
 <-----disc----------  <-------REL---------
                       --------RLC-------->
```

1. Set up a call from UNI at SPA to SPB with user-to-user information.
2. No indication in the first backward message.

```
Case b)
SPC                 SPA                 SPB
 ----IAM(UUInf)----->  -----IAM(UUInf)---->
 <--ACM(UUInf disc)--  <-------ACM---------
           ... ringing tone ...
 <-------ANM---------  <-------ANM---------
         ... check communication ...
 <-------REL---------  <-------REL---------
 --------RLC-------->  --------RLC-------->
```

1. Set up a call from UNI at SPA to SPB with user-to-user information.
2. No indication regarding UUS1 in the first backward message.

TSS UUS/UUS1_I/	TP ISS_V_6_1_5	ISUP'97 reference 1.1.5.2.1.1.1; 1.1.5.2.1.1.3; 1.1.5.2.3-5.1/Q.737	Selection expression IntermE OR DLE	Q.788 reference 2.15.1

Test purpose

UUS1 implicit – acceptance

To verify that the IUT can successfully transit/accept a call with an UUS1 implicit request, and transfer/include the **user-to-user information** parameter in the **ACM**, **CPG, ANM, CON**, **SGM** or **REL** as implicit acceptance (no **user-to-user indicators**).

Pre-test conditions (in case of DLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
access                SPA                 SPB
 <----setup(UUInf)--- <-----IAM(UUInf)-----
 ----alert(UUInf)---> ------ACM(UUInf)---->
             ... ringing tone ...
 ---connect(UUInf)--> ------ANM(UUInf)---->
          ... check communication ...
 <----disc(UUInf)---- <-----REL(UUInf)-----
                      --------RLC--------->
```

1. Set up a call from UNI at SPB to SPA with user-to-user information.

```
Case b)
SPC                   SPA                 SPB
 <----IAM(UUInf)-----  <-----IAM(UUInf)----
 -----ACM(UUInf)---->  ------ACM(UUInf)--->
             ... ringing tone ...
 -----ANM(UUInf)---->  ------ANM(UUInf)--->
          ... check communication ...
 <----REL(UUInf)-----  <-----REL(UUInf)----
                       ---------RLC------->
```

1. Set up a call from UNI at SPB to SPA with user-to-user information.

TSS UUS/NO_UUS1_I/	TP ISS_I_6_1_6	ISUP'97 reference 1.1.5.2.5.2.3; 1.1.5.2.3-5.2/Q.737	Selection expression IntermE OR DLE	Q.788 reference 2.15.2

Test purpose

UUS1 implicit – discard with indication generated

To verify that the IUT can successfully transit/accept a call with an UUS1 implicit request and set the **user-to-user indicators** to "user-to-user information discarded by the network" in the first backward message, if the network is unable to support it.

NOTE – The user-to-user information is discarded because the network does not support it.

Pre-test conditions

Arrange the data in the IUT such that the network does not support the UUS1 service.

```
Case a)
access                SPA                    SPB
 <------setup---------  <-----IAM(UUInf)------
 -------alert-------->  -----ACM(UUInf disc)->
 :
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user information.
2. Check "user-to-user information discarded by the network" in the first
backward message (ACM).
```

```
Case b)
SPC                   SPA                    SPB
 <------IAM-----------  <-----IAM(UUInf)-----
 ---ACM(UUInf disc)-->  ---ACM(UUInf disc)-->
 :
```

```
1. Set up a call from UNI at SPB to SPC with user-to-user information.
2. Check "user-to-user information discarded by the network" in the first
backward message (ACM).
```

TSS UUS/UUS1_E/	TP ISS_V_6_1_7	ISUP'97 reference 1.1.5.2.1.1.2; 1.1.5.2.2-4.1/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.15.3

Test purpose

UUS1 explicit non-essential – request

To verify that the IUT can successfully initiate/transit a call with an UUS1 explicit non-essential request, by including/transferring the **user-to-user information** parameter and the **user-to-user indicators** in the **IAM** set to "request, not essential".

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access              SPA                     SPB
 ----setup(UUInf)---->  -----IAM(UUInf)----->  UUS1 explicit request
 <---alert(UUInf)-----  <----ACM(UUInf)------  UUS1 explicit response
          ... ringing tone ...
 <--connect(UUInf)----  <----ANM(UUInf)------
        ... check communication ...
  <---disc(UUInf)-----  <----REL(UUInf)------
                        --------RLC--------->
```

```
1. Set up a call from UNI at SPA to SPB with user-to-user information.
2. Check that the Service 1 field in the UUInd is set to "request, not
essential".
```

```
Case b)
 SPC                SPA                  SPB
 -----IAM(UUInf)--->  -----IAM(UUInf)----->  UUS1 explicit request
 <----ACM(UUInf)----  <----ACM(UUInf)------  UUS1 explicit response
           ... ringing tone ...
 <----CON(UUInf)----  <----ANM(UUInf)------
        ... check communication ...
 <----REL(UUInf)----  <----REL(UUInf)------
                      --------RLC--------->
```

```
1. Set up a call from UNI at SPA to SPB with user-to-user information and
user-to-user service indicators.
2. Check that the Service 1 field in the UUInd is set to "request, not
essential".
```

TSS UUS/UUS1_E/	TP ISS_I_6_1_8	ISUP'97 reference 1.1.5.2.5.2.3; 1.1.5.2.2-4.2/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.15.5

Test purpose

UUS1 explicit non-essential – explicit rejection received

To verify that the IUT can successfully initiate/transit a call with an UUS1 explicit non-essential request, and continue normal call set up if the UUS1 service is explicitly rejected (the **user-to-user indicators** parameter is received as "service not provided" in the **ACM** or **CPG** or **ANM** or **CON** or **REL**).

NOTE – The user-to-user information is discarded because:

1) the network is unable to pass the explicit service 1 in any message.

2) the remote user may not be able to interpret incoming UUS information.

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access              SPA                    SPB
 ----setup(UUInf)---->  -----IAM(UUInf)---->  UUS1 explicit request
 <---alert(UUInd)-----  <----ACM(UUInd)-----  UUS1 explicit response
           ... ringing tone ...
 <-----connect--------  <-------ANM---------
       ... check communication ...
 <-------disc---------  <-------REL---------
                        --------RLC-------->
_____________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user information and
user-to-user service indicators.
2. Check the Service 1 field in the UUInd is set to "request, not essential".
3. Send the response "Service not provided" in the ACM.


Case b)
 SPC                 SPA                    SPB
 -----IAM(UUInf)---->  ------IAM(UUInf)---->  UUS1 explicit request
 <----ACM(UUInd)-----  <-----ACM(UUInd)-----  UUS1 explicit response
            ... ringing tone ...
 <------CON----------  <-------ANM----------
        ... check communication ...
 <------REL----------  <-------REL----------
                       --------RLC--------->
_____________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user information and
user-to-user service indicators.
2. Check the Service 1 field in the UUInd is set to "request, not essential".
3. Send the response "Service not provided" in the ACM.
```

TSS UUS/UUS1_E/	TP ISS_I_6_1_9	ISUP'97 reference 1.1.5.2.5.2.3; 1.1.5.2.2-4.2/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.15.4

Test purpose

UUS1 explicit non-essential – implicit (no explicit) rejection received

To verify that the IUT can successfully initiate/transit a call with an UUS1 explicit non-essential request, and continue normal call set up if no indication is provided in the backward direction.

NOTE – The user-to-user information is discarded because:

1) the network is unable to pass the explicit service 1 in any message.

2) the remote user may not be able to interpret incoming UUS information.

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access              SPA                  SPB
 ----setup(UUInf)---->  -----IAM(UUInf)----->  UUS1 explicit request
 <---alert(UUInd)-----  <----ACM(UUInd)------  UUS1 explicit response
            ... ringing tone ...
 <------connect-------  <-------ANM----------
        ... check communication ...
 <-------disc---------  <-------REL----------
                        --------RLC--------->
_____________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user information and
user-to-user service indicators.
2. Check the Service 1 field in the UUInd is set to "request, not essential".
3. Send the response "no information" in the ACM.


Case b)
 SPC                 SPA                  SPB
 -----IAM(UUInf)---->  -----IAM(UUInf)----->  UUS1 explicit request
 <----ACM(UUInd)-----  <----ACM(UUInd)------  UUS1 explicit response
           ... ringing tone ...
 <-------CON---------  <------ANM-----------
         ... check communication ...
 <-------REL---------  <------REL-----------
                       -------RLC---------->
_____________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user information and
user-to-user service indicators.
2. Check the Service 1 field in the UUInd is set to "request, not essential".
3. Send the response "no information" in the ACM.
```

TSS UUS/UUS1_E/	TP ISS_I_6_1_10	ISUP'97 reference 1.1.5.2.2.2; Table 1-1/Q.737	Selection expression Gateway AND PICS A.9/5	Q.788 reference 2.15.5

Test purpose

UUS1 explicit non-essential rejection in Gateway

To verify that the UUS1 explicit non-essential service can be rejected and the **user-to-user indicators** are in the **ACM** or **CON** set to "service 1 not provided".

NOTE – The user-to-user service is rejected because:

1) the gateway received a **CFN** from the succeeding network (Note 3 Table 1-1).

2) the gateway has received **user-to-user information** in the **SGM** (Basic call PICS A.13/7) and the succeeding network does not support the segmentation procedure (Note 2 Table 1-1).

```
SPC                 SPA                  SPB
<----IAM(UUInf)-----  <----IAM(UUInf)----  UUS1 explicit request
-----CFN(UUInd)---->  -----ACM(UUInd)--->  UUS1 explicit response
            ... ringing tone ...
--------CON-------->  --------ANM------->
       ... check communication ...
<-------REL--------   <-------REL--------
                      --------RLC------->
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user information and
user-to-user service indicators.
2. The Service 1 field in the UUInd is set to "request, not essential".
3. Check the response "Service not provided" in the ACM.
```

TSS UUS/UUS1_E/	TP ISS_V_6_1_11	ISUP'97 reference 1.1.5.2.1.1.2; 1.1.5.2.3-5.1/Q.737	Selection expression IntermE OR DLE	Q.788 reference 2.15.3

Test purpose

UUS1 explicit non-essential – acceptance

To verify that the IUT can successfully transit/accept a call with an UUS1 explicit non-essential request, by transferring/including the **user-to-user indicators** parameter in the **ACM, CPG, ANM**, **CON** or **REL** set to "service provided".

Pre-test conditions (in case of DLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access                SPA                    SPB
 <-----setup(UUInf)----  <-----IAM(UUInf)-----  UUS1 explicit request
 ------alert(UUInf)--->  ------ACM(UUInf)---->  UUS1 explicit response
              ... ringing tone ...
 ----connect(UUInf)--->  ------ANM(UUInf)---->
           ... check communication ...
 <-----disc(UUInf)-----  <-----REL(UUInf)-----
                         ---------RLC-------->
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user information and
user-to-user service indicators.
2. The Service 1 field in the UUInd is set to "request, not essential".
3. Check the response "Service provided" in the ACM.
```

```
Case b)
 SPC                  SPA                    SPB
 <-----IAM(UUInf)-----  <-----IAM(UUInf)-----  UUS1 explicit request
 ------ACM(UUInd)---->  ------ACM(UUInd)---->  UUS1 explicit response
              ... ringing tone ...
 ------CON(UUInf)---->  ------ANM(UUInf)---->
         ... check communication ...
 <-----REL(UUInf)-----  <-----REL(UUInf)-----
                        --------RLC--------->
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user information and
user-to-user service indicators.
2. The Service 1 field in the UUInd is set to "request, not essential".
3. Check the response "Service provided" in the ACM.
```

TSS UUS/NO_UUS1_E/	TP ISS_I_6_1_12	ISUP'97 reference 1.1.5.2.5.2.2; 1.1.5.2.2-5.2/Q.737	Selection expression IntermE OR DLE	Q.788 reference 2.15.4

Test purpose

UUS1 explicit non-essential – implicit (no explicit) rejection sent

To verify that the IUT can transfer/accept a call with an UUS1 explicit non-essential request, and reject the service by not providing any **user-to-user indicators** parameter in the **ACM**, **CPG**, **ANM**, **CON** or **REL**.

NOTE – The network or the user cannot support UUS1.

Pre-test conditions (in case of DLE)

Arrange the data in the IUT so that the network cannot support UUS1.

```
Case a)
 access                SPA                   SPB
 <----setup(UUInf)----  <-----IAM(UUInf)----  UUS1 explicit request
 --------alert------->  --------ACM-------->
             ... ringing tone ...
 -------connect------>  --------ANM-------->
         ... check communication ...
 <-----disc-----------  <-------REL---------
                        --------RLC-------->
_____________________________________________________________________
1. Set up a call from UNI at SPB to SPA with user-to-user information and
user-to-user service indicators.
2. The Service 1 field in the UUInd is set to "request, not essential".
3. Check that there is no user-to-user indicators parameter in the ACM.


Case b)
 SPC                  SPA                   SPB
 <----IAM(UUInf)-----  <-----IAM(UUInf)-----  UUS1 explicit request
 --------ACM-------->  -------ACM---------->
             ... ringing tone ...
 --------CON-------->  -------ANM---------->
         ... check communication ...
 <-------REL---------  <------REL-----------
                       -------RLC---------->
_____________________________________________________________________
1. Set up a call from UNI at SPB to SPA with user-to-user information and
user-to-user service indicators.
2. The Service 1 field in the UUInd is set to "request, not essential".
3. Check that there is no user-to-user indicators parameter in the ACM.
```

TSS UUS/UUS1_E/	TP ISS_V_6_1_13	ISUP'97 reference 1.1.5.2.1.1.2; 1.1.5.2.2-5.1/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.15.3

Test purpose

UUS1 explicit essential – request

To verify that the IUT can successfully originate/transit a call having an UUS1 explicit essential request, by including/transferring in the **IAM** the **user-to-user information** parameter, the **user-to-user indicators** set to "request, essential" and the ISDN user part preference indicator in the **forward call indicators** set to "ISUP required all the way".

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access             SPA                   SPB
 ----setup(UUInf)--->  -----IAM(UUInf)---->  UUS1 explicit request
 <---alert(UUInf)----  <----ACM(UUInf)-----  UUS1 explicit response
            ... ringing tone ...
 <--connect(UUInf)---  <----ANM(UUInf)-----
       ... check communication ...
 <---disc(UUInf)-----  <----REL(UUInf)-----
                       -------RLC--------->
```

```
1. Set up a call from UNI at SPA to SPB with user-to-user information and
user-to-user service indicators.
2. Check that the Service 1 field in UUInd is set to "request, essential" and
the ISDN user part preference indicator in FCI is set to "ISUP required all
the way".
```

```
Case b)
 SPC                SPA                   SPB
 ----IAM(UUInf)----->  -----IAM(UUInf)---->  UUS1 explicit request
 <---ACM(UUInf)------  <----ACM(UUInf)-----  UUS1 explicit response
            ... ringing tone ...
 <---CON(UUInf)------  <----ANM(UUInf)-----
         ... check communication ...
  <---REL(UUInf)------ <-----REL(UUInf)----
                       --------RLC-------->
```

```
1. Set up a call from UNI at SPA to SPB with user-to-user information and
user-to-user service indicators.
2. Check that the Service 1 field in UUInd is set to "request, essential" and
the ISDN user part preference indicator in FCI is set to "ISUP required all
the way".
```

TSS UUS/UUS1_E/	TP ISS_I_6_1_14	ISUP'97 reference 1.1.5.2.5.2.2; 1.1.5.2.2-5.2/Q.737	Selection expression OLE OR Gateway	Q.788 reference None

Test purpose

UUS1 explicit essential – implicit rejection (no explicit acceptance received)

To verify that the service can be rejected if no indication (no **user-to-user indicators** parameter or the service 1 field in the **user-to-user indicators** set to "no information" or "not provided") is received in the first backward message (implicit rejection of service 1).

NOTE – The network does not understand the service 1 request. In this case the call should be released.

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access              SPA                    SPB
  ----setup(UUInf)---->  -----IAM(UUInf)---> UUS1 explicit request
  <-------alert--------  <------ACM---------
  ---------disc------->  -------REL-------->
                         <------RLC---------
```

1. Set up a call UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
2. Check that the Service 1 field in UUInd is set to "request, essential" and the ISDN user part preference indicator in FCI is set to "ISUP required all the way".
3. The call should be released with cause #29 or #69, because the user-to-user indicators parameter in the ACM is received with "no information" about the service 1.

```
Case b)
 SPC                 SPA                 SPB
  -----IAM(UUInf)-->  -----IAM(UUInf)-->  UUS1 explicit request
  <------ACM--------  <------ACM--------
  <------REL--------  -------REL------->
  -------RLC------->  <------RLC--------
```

1. Set up a call UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
2. Check that the Service 1 field in UUInd is set to "request, essential" and the ISDN user part preference indicator in FCI is set to "ISUP required all the way".
3. The call should be released with cause #29 or #69, because the user-to-user indicators parameter in the ACM is received with "no information" about the service 1.

TSS UUS/UUS1_E/	TP ISS_V_6_1_15	ISUP'97 reference 1.1.5.2.1.1.2; 1.1.5.2.2-5.1/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.15.3

Test purpose

UUS1 explicit essential – acceptance

To verify that the IUT can successfully complete a call with an UUS1 explicit essential request having the **user-to-user indicators** parameter in the **ACM**, **CPG**, **ANM**, **CON** or **REL** set to "service provided".

Pre-test conditions (in case of DLE)

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

```
Case a)
 access              SPA                    SPB
 <----setup(UUInf)----  <-----IAM(UUInf)------  UUS1 explicit request
 -----alert(UUInf)--->  ------ACM(UUInf)----->  UUS1 explicit response
              ... ringing tone ...
 ---connect(UUInf)--->  ------ANM(UUInf)----->
         ... check communication ...
 <---disc(UUInf)------  <-----REL(UUInf)------
                        ---------RLC--------->
```

1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
2. The Service 1 field in the UUInd is set to "request, essential".
3. Check the response "Service provided" in the ACM.

```
Case b)
 SPC                SPA                  SPB
 <----IAM(UUInf)-----  <----IAM(UUInf)-----  UUS1 explicit request
 -----ACM(UUInd)---->  -----ACM(UUInd)---->  UUS1 explicit response
             ... ringing tone ...
 ----CON(UUInf)----->  -----ANM(UUInf)---->
          ... check communication ...
 <---REL(UUInf)------  <----REL(UUInf)-----
                       --------RLC-------->
```

1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
2. The Service 1 field in the UUInd is set to "request, essential".
3. Check the response "Service provided" in the ACM.

TSS UUS/NO_UUS1_E/	TP ISS_I_6_1_16	ISUP'97 reference 1.1.5.2.5.2.2; 1.1.5.2.2-5.2/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.15.6; 2.15.7

Test purpose

UUS1 explicit essential – rejection

To verify that the service can be rejected with a **REL** having the **Cause value** 29 "facility rejected" or 69 "requested facility not implemented", either with diagnostics (specifying the name of the user-to-user indicator parameter).

NOTE – The network or the called user cannot support the service

```
Case a)
 access             SPA                   SPB
 <----setup(UUInf)---  <----IAM(UUInf)-----  UUS1 explicit request
 ----disc----------->  -------REL--------->
                       <------RLC----------
```

1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
2. The call should be released with cause #29 or #69.

```
Case b)
 SPC                SPA                   SPB
 <----IAM(UUInf)-----  <----IAM(UUInf)----  UUS1 explicit request
 ---------REL------->  -------REL-------->
 <--------RLC--------  <------RLC---------
```

1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
2. The call should be released with cause #29.

```
Case c)
 SPC                SPA                   SPB
 <----IAM(UUInf)-----  <-----IAM(UUInf)----  UUS1 explicit request
 ---------REL------->  -------REL--------->
 <--------RLC--------  <------RLC----------
```

1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
2. The call should be released with cause #69.

TSS UUS/UUS1_E/	TP ISS_V_6_1_17	ISUP'97 reference 1.1.6.13.2; 1.1.6.13.3/Q.737	Selection expression Local AND (PICS A.9/6 OR PICS A.9/8)	Q.788 reference None

Test purpose

UUS1 interaction with UUS2 (or UUS3) – successful request

To verify that more than one UUS supplementary service may be requested at call set up.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS2 (or UUS3) supplementary services.

```
Case a)
 access              SPA                SPB
 ----setup(UUInf)--->  -----IAM(UUInf)--->  UUS1, 2 explicit request
 <---alert(UUInf)----  <----ACM(UUInf)----  UUS1, 2 explicit response
             ... ringing tone ...
-----user info------>  ------USR--------->
<----user info-------  <-----USR----------
<---connect(UUInf)---  <----ANM(UUInf)----
           ... check communication ...
<----disc(UUInf)-----  <----REL(UUInf)----
                       ------RLC--------->
```

---

1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
2. Check that the Service 1, 2 fields in UUInd are set each to "request, not essential".
3. Support of Service 2

```
Case b)
 access               SPA                SPB
 <----setup(UUInf)----  <---IAM(UUInf)---- UUS1, 3 explicit request
 -----alert(UUInf)--->  ----ACM(UUInf)---> UUS1 explicit response
             ... ringing tone ...
------conn(UUInf)---->  ----ANM(UUInf)---> UUS3 explicit response
          ... check communication ...
<-----user info-------  <-----USR---------
------user info------>  ------USR-------->
<-----disc(UUInf)-----  <---REL(UUInf)----
                        ------RLC-------->
```

---

1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
2. The Service 1, 3 fields in UUInd are set each to "request, not essential"
3. Support of Service 3.

TSS UUS/UUS1_E/	TP ISS_V_6_1_18	ISUP'97 reference 1.1.6.13.2; 1.1.6.13.3/Q.737	Selection expression DLE AND (PICS A.9/6 OR PICS A.9/8)	Q.788 reference None

Test purpose

UUS1 interaction with UUS2 (or UUS3) – unsuccessful request

To verify that the services can be rejected with a **REL** having the **Cause value** #29 "facility rejected" or #69 "requested facility not implemented", either with diagnostics (**user-to-user indicators** name), if more services are requested, one of them is essential and it cannot be provided.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS2 (or UUS3) supplementary services.

```
access                SPA                 SPB
<--setup(UUInf)---    <-----IAM(UUInf)---- UUS1, 2, 3 explicit request
-------disc------>    --------REL-------->
                      <-------RLC---------
```

```
1. Set up a call UNI at SPB to SPA with user-to-user information and user-to-
user service indicators.
2. The call should be released with cause #29 or #69, because the service 2
cannot be provided.
```

TSS UUS/UUS1_E/	TP ISS_V_6_1_19	ISUP'97 reference 1.1.6.13.2; 1.1.6.13.3/Q.737	Selection expression Local AND (PICS A.9/6 OR PICS A.9/8)	Q.788 reference None

Test purpose

UUS1 interaction with UUS2 (or UUS3) – independent acceptance or rejection of the services

To verify that the IUT can successfully complete a call with an UUS1 explicit non-essential request, having the **user-to-user indicators** parameter in the **ACM, CPG, ANM, CON** or **REL** set to "service provided". At the same time the UUS2 (or UUS3) service can be rejected and the **user-to-user indicators** in the **ACM**, **CPG**, **ANM**, **CON** or **REL** are set to "service 2 (or 3) not provided".

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS2 (or UUS3) supplementary services.

```
Case a)
 access              SPA                SPB
 ----setup(UUInf)--->  -----IAM(UUInf)--->  UUS1, 2, 3 explicit request
 <---alert(UUInf)----  <----ACM(UUInf)----  UUS1, 2 explicit response
              ... ringing tone ...
 -----user info----->  -------USR---------
 <----user info------  <------USR---------
 <--connect(UUInf)---  <----ANM(UUInf)----  UUS 3 explicit response
          ... check communication ...
 <----disc(UUInf)----  <----REL(UUInf)----
                       -------RLC-------->
```

```
1. Set up a call from UNI at SPA to SPB with user-to-user information and
user-to-user service indicators.
2. Check that the Service 1, 2, 3 fields in UUInd are set each to "request,
not essential".
3. Support of Service 2.
```

```
Case b)
access               SPA                 SPB
 <----setup(UUInf)----  <---IAM(UUInf)----  UUS1, 2, 3 explicit request
 -----alert(UUInf)--->  ----ACM(UUInf)--->  UUS1, 2 explicit response
              ... ringing tone ...
 <-----user info------  <------USR--------
 ------user info----->  -------USR------->
 ----connect(UUInf)-->  ----ANM(UUInf)--->  UUS 3 explicit response
           ... check communication ...
 <-----disc(UUInf)----  <---REL(UUInf)----
                        -------RLC------->
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user information and
user-to-user service indicators.
2. The Service 1, 2, 3 fields in UUInd are set each to "request, not
essential".
3. Support of Service 2.
```

TSS UUS/UUS1_E/	TP ISS_V_6_1_20	ISUP'97 reference 1.1.6.13.3; 1.1.6.13.1/Q.737	Selection expression Local AND PICS A.9/8	Q.788 reference None

Test purpose

UUS1 interaction with UUS3 requested after call set up

To verify that the IUT can successfully originate/complete a call with UUS1, having requested UUS3 after call set up. The Service 1 field in the **user-to-user indicators** in the **FAR, FAA** or **FRJ** for UUS1 is then set to "no information".

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS3 supplementary services.

```
Case a)
 access             SPA                    SPB
 ----setup(UUInf)--->  -----IAM(UUInf)----->  UUS1 explicit request
 <---alert(UUInf)----  <----ACM(UUInf)------  UUS1 explicit response
            ... ringing tone ...
 <--connect(UUInf)---  <-----ANM(UUInf)-----
         ... check communication ...
 ----facility-req--->  --------FAR--------->  UUS3 request
 <---facility-ind----  <-------FAA----------  UUS3 response
 -----user info----->  --------USR----------
 <----user info------  <-------USR----------
 <----disc(UUInf)----  <-----REL(UUInf)-----
                       --------RLC--------->
```

---

1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
2. Check that the Service 1 fields in UUInd is set to "request, not essential".
3. Check request of service 3 in FAR.

```
Case b)
 access              SPA                 SPB
 <---setup(UUInf)----  -----IAM(UUInf)-----  UUS1 explicit request
 ----alert(UUInf)--->  -----ACM(UUInf)---->  UUS1 explicit response
             ... ringing tone ...
 ---connect(UUInf)-->  -----ANM(UUInf)---->
          ... check communication ...
 <---facility-req----  <------FAR----------  UUS3 request
 ----facility-ind--->  -------FAA--------->  UUS3 response
 <----user-info------  <------USR----------
 -----user-info----->  -------USR--------->
 <----disc(UUInf)----  <----REL(UUInf)-----
                       -------RLC--------->
```

---

1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
2. Check that the Service 1 fields in UUInd is set to "request, not essential".
3. The service 3 is requested in FAR.
4. The service 3 is provided in FAA.
5. Send/Receive user-to-user information.

TSS UUS/UUS1_E/	TP ISS_V_6_1_21	ISUP'97 reference 1.1.6.15/Q.737	Selection expression Local AND PICS A.3/16 (HOLD)	Q.788 reference None

Test purpose

UUS1 interaction with HOLD – to a held party

To verify that the IUT can successfully complete a call including an **user-to-user information** (service 1) to a held party during the clearing phase of a call.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 and HOLD supplementary services.

```
access            SPA                 SPB
<------setup------  <-------IAM--------
-------alert----->  --------ACM------->
          ... ringing tone ...
-------hold------>  --------CPG------->
-------disc------>  --------REL------->  UUInf present
:
```

```
1. IAM, ACM, CPG may contain UUInf.
2. Check that UUInf is received in the REL.
```

TSS UUS/UUS1_E/	TP ISS_V_6_1_22	ISUP'97 reference 1.1.6.15/Q.737	Selection expression Local AND PICS A.3/16 (HOLD)	Q.788 reference None

Test purpose

UUS1 interaction with HOLD – from a held party

To verify that the IUT can successfully complete a call including an **user-to-user information** (service 1) from a held party during the clearing phase of a call.

Pre-test conditions

Arrange the data in the IUT so that the remote user has subscribed to the UUS1 and HOLD supplementary services.

```
access           SPA                SPB
<------setup------ <-------IAM--------
-------alert-----> --------ACM------->
           ... ringing tone ...
-------hold------> --------CPG------->
<------disc------- <-------REL--------  UUInf present
                   --------RLC------->
```

```
1. IAM, ACM, CPG may contain UUInf.
2. Send UUInf in the REL.
```

TSS UUS/UUS1_E/	TP ISS_V_6_1_23	ISUP'97 reference 3.6.13/Q.733.3	Selection expression OLE AND PICS A.3/18	Q.788 reference None

Test purpose

New UUS1 requested in CCBS recall

To verify that the IUT does not store any user-to-user information contained in the original call. The CCBS call (IAM) sent by the IUT should not contain any user-to-user information if no new user-to-user information is provided from the served user in response to the CCBS recall.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 and CCBS supplementary services.

```
 access             SPA                 SPB
 -------setup-------> --------IAM-------->  UUInf present
 <------disconnect--- <-------REL---------
                      --------RLC-------->
              ... TCAP transaction ...
 -----CCBS recall---> --------IAM-------->  No new UUInf is sent in the CCBS
recall
 :                                          CCBS call
 <------disc-------- <--------REL--------
:
```

```
1. Set up a call to busy user at SPB. The received IAM contains UUInf.
2. User at SPB is found busy. Check that the UUInf is received in the IAM.
3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE
operation.
4. Check Indication "CCBS call" in the IAM. Check that no UUInf is received in
the IAM.
```

TSS UUS/UUS1_E/	TP ISS_V_6_1_24	ISUP'97 reference 3.6.13/Q.733.3	Selection expression OLE AND PICS A.3/18	Q.788 reference None

Test purpose

UUS1 interaction with CCBS

To verify that the IUT is able to include user-to-user information in the CCBS call (IAM) if the served user includes user-to-user information in response to the CCBS recall.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 and CCBS supplementary services.

```
access            SPA                 SPB
------setup------->  -------IAM------->
<-----disconnect---  <------REL--------
                     -------RLC------->
                  ... TCAP transaction ...
----CCBS recall--->  ------IAM--------> UUInf is sent in the CCBS recall
                                              CCBS call
<---alert(UUInf)---  <---ACM(UUInf)----
              ... ringing tone ...
<--connect(UUInf)--  <---ANM(UUInf)----
        ... check communication ...
<------disc--------  <------REL--------
:
```

```
1. Set up a call to busy user at SPB.
2. User at SPB is found busy.
3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE
operation.
4. Check Indication "CCBS call" in the IAM. Check that UUInf is received in
the IAM.
```

7.2.6.2 Servicio 2 de señalización de usuario a usuario (UUS2, *user-to-user signalling service 2*)

TSS UUS/UUS2/	TP ISS_V_6_2_1	ISUP'97 reference 1.2.2.1/Q.737	Selection expression OLE AND PICS A.9/1	Q.788 reference None

Test purpose

32 octets user-to-user information

To verify that the IUT can successfully initiate a call having 32 octets of **user-to-user information** in the USR messages during call set up.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

```
access              SPA                 SPB
-------setup------->  -------IAM-------->  UUS2 explicit request
<------alert--------  <------ACM---------  UUS2 response
             ... ringing tone ...
------user info---->  -------USR-------->
<-----user info-----  <------USR---------
<------connect------  <------ANM---------
       ... check communication ...
<------disc---------  <------REL---------
                      -------RLC-------->
_____________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
2. Check that the user-to-user information field in the USR contains 32
octets.
```

TSS UUS/UUS2/	TP ISS_V_6_2_2	ISUP'97 reference 1.2.5.2.1.1.2; 1.2.5.2.2-5.1/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.16.1

Test purpose

UUS2 explicit non-essential – request

To verify that the IUT can successfully originate/transit a call with an UUS2 explicit non-essential request, having the **user-to-user indicators** in the **IAM** set to "request, not essential".

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

```
Case a)
 access                SPA                SPB
 -----setup--------->  -------IAM-------->  UUS2 explicit request
 <-----alert---------  <------ACM---------  UUS2 response
               ... ringing tone ...
 ----user info------>  -------USR-------->
 <---user info-------  <------USR---------
 <-----connect-------  <------ANM---------
           ... check communication ...
 <------disc--------   <------REL---------
                       -------RLC-------->


_____________________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
2. The Service 2 field in the UUInd is set to "request, not essential".
3. Receive user-to-user information.
4. Send user-to-user information.


Case b)
 SPC                SPA                SPB
 ---------IAM------->  -------IAM------->  UUS2 explicit request
 <--------ACM--------  <------ACM--------  UUS2 response
             ... ringing tone ...
 ---------USR------->  -------USR------->
 <--------USR--------  <------USR--------
 <--------ANM--------  <------ANM--------
         ... check communication ...
 <--------REL--------  <------REL--------
 ---------RLC------->  --------RLC------>
 _____________________________________________________________________________
1. Set up a call from UNI at SPC to SPB with user-to-user service 2 request.
2. Check the Service 2 field in the UUInd is set to "request, not essential".
3. Receive user-to-user information.
4. Send user-to-user information.
```

TSS UUS/UUS2/	TP ISS_V_6_2_3	ISUP'97 reference 1.2.5.2.1.1.2; 1.2.5.2.2-5.1/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.16.1

Test purpose

UUS2 explicit non-essential – acceptance

To verify that the IUT can successfully complete a call with an UUS2 explicit non-essential request, having the **user-to-user indicators** parameter in the **ACM** or **CPG** set to "service provided".

Pre-test conditions (in case of DLE)

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

```
 access              SPA                  SPB
 <------setup-------   <------IAM--------  UUS2 explicit request
 --------alert----->   -------ACM------->  UUS2 explicit response
                     ( -------CPG------->  UUS2 explicit response )
          ... ringing tone ...
 <-----user info----   <------USR--------
 ------user info--->   -------USR------->
 -------connect---->   -------ANM------->
      ... check communication ...
 <------disc--------   <------REL--------
                       -------RLC------->
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
2. The Service 2 field in the UUInd is set to "request, not essential".
3. Check the response "Service provided" in the ACM or in CPG.
4. Send user-to-user information.
5. Receive user-to-user information.
```

TSS UUS/NO_UUS2/	TP ISS_I_6_2_4	ISUP'97 reference 1.2.5.2.5.2.2; 1.2.5.2.2-5.2/Q.737	Selection expression DLE or IntermE	Q.788 reference 2.16.3

Test purpose

UUS2 explicit non-essential – explicit rejection (service not provided)

To verify that the UUS2 service can be rejected and the **user-to-user indicators** in the **ACM** or **CPG** are set to "service 2 not provided".

NOTE – The network or the user cannot support UUS2.

```
access               SPA                   SPB
 <------setup-------   <------IAM--------  UUS2 explicit request
 -------alert------>   -------ACM------->  UUS2 explicit response
                     ( -------CPG------->  UUS2 explicit response )
            ... ringing tone ...
 ------connect----->   -------ANM------->
           ... check communication ...
 <------disc--------   <------REL--------
                       -------RLC------->
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
2. The Service 2 field in the UUInd is set to "request, not essential".
3. Check the response "Service not provided" in the ACM or in CPG.
```

TSS UUS/NO_UUS2/	TP ISS_I_6_2_5	ISUP'97 reference 1.2.5.2.5.2.3; 1.2.5.2.2-5.2/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.16.2

Test purpose

UUS2 explicit non-essential – implicit rejection (no indication)

To verify that the IUT can successfully complete a call with an UUS2 explicit non-essential request, if no indication is provided in the backward direction.

NOTE – The network or the user cannot support UUS2

```
access              SPA                  SPB
 <------setup-------   <------IAM--------  UUS2 explicit request
 -------alert------>   -------ACM------->  UUS2 explicit response – no if
            ... ringing tone ...
 ------connect----->   -------ANM------->
           ... check communication ...
 <------disc--------   <------REL--------
                       -------RLC------->
_____________________________________________________________________________
1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
2. The Service 2 field in the UUInd is set to "request, not essential".
3. Check the response "No information" in the ACM or in CPG.
```

TSS UUS/UUS2/	TP ISS_V_6_2_6	ISUP'97 reference 1.2.5.2.1.1.2; 1.2.5.2.2-5.1/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.16.1

Test purpose

UUS2 explicit essential – request

To verify that the IUT can successfully originate/transit a call having an UUS2 explicit essential request, having the **user-to-user indicators** set to "request, essential" and the ISDN user part preference indicator of the **forward call indicators** in the **IAM** set to "ISUP required".

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

```
Case a)
 access              SPA                  SPB
 --------setup------>  --------IAM------> UUS2 explicit request
 <-------alert-------  <-------ACM------- UUS2 response
            ... ringing tone ...
 ------user info---->  --------USR------>
 <-----user info-----  <-------USR-------
 <-------connect-----  <-------ANM-------
           ... check communication ...
 <-------disc--------  <-------REL-------
                       --------RLC------>
 ____________________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
2. Check the Service 2 field in the UUInd is set to "request, essential" in
the IAM.
3. Receive user-to-user information.
4. Send user-to-user information.


Case b)
 SPC                 SPA                   SPB
 ---------IAM------>  --------IAM------> UUS2 explicit request
 <--------ACM-------  <-------ACM------- UUS2 response
           ... ringing tone ...
 ---------USR------>  --------USR------>
 <--------USR-------  <-------USR-------
 <--------ANM-------  <-------ANM-------
        ... check communication ...
 <--------REL-------  <-------REL-------
  --------RLC------>  --------RLC------>
 ____________________________________________________________________________
1. Set up a call from UNI at SPC to SPB with user-to-user service 2 request.
2. Check the Service 2 field in the UUInd is set to "request, essential" in
the IAM.
3. Receive user-to-user information.
4. Send user-to-user information.
```

TSS UUS/UUS2/	TP ISS_V_6_2_7	ISUP'97 reference 1.2.5.2.1.1.2; 1.2.5.2.2-5.1/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.16.1

Test purpose

UUS2 explicit essential – acceptance

To verify that the IUT can successfully complete a call having an UUS2 explicit essential request having the **user-to-user indicators** parameter in the **ACM** or **CPG** set to "service provided".

Pre-test conditions (in case of DLE)

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

```
 access             SPA                   SPB
 <------setup-------   <-------IAM-------  UUS2 explicit request
 -------alert------>   --------ACM------>  UUS2 explicit response
                     ( --------CPG------>  UUS2 explicit response )
           ... ringing tone ...
 <----user info-----   <-------USR-------
 -----user info---->   --------USR------>
 ------connect----->   --------ANM------>
        ... check communication ...
 <-----disc---------   <-------REL-------
                       --------RLC------>
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
2. The Service 2 field in the UUInd is set to "request, essential".
3. Check the response "Service provided" in the ACM or CPG.
4. Send user-to-user information.
5. Receive user-to-user information.
```

TSS UUS/NO_UUS2/	TP ISS_I_6_2_8	ISUP'97 reference 1.2.5.2.5.2.1; 1.2.5.2.2-5.2/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.16.4; 2.16.5

Test purpose

UUS2 explicit essential – rejection

To verify that the service can be rejected with a **REL** with the **Cause value** 29 "facility rejected" or 69 "requested facility not implemented" or value 88 "incompatible destination", all with diagnostics (**user-to-user indicators** name).

```
Case a)
 access            SPA                SPB
 <------setup------   <------IAM--------  UUS2 explicit request
 --------disc----->   -------REL------->
                      <------RLC--------
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
2. The call should be released with cause #26, #69 or #88.
```

```
Case b)
 SPC               SPA                SPB
 <-------IAM-------   <-------IAM--------  UUS2 explicit request
 --------CFN------->
 <-------REL-------   --------REL------->
 --------RLC------>   <-------RLC--------
```

```
1. Set up a call from UNI at SPB to SPC with user-to-user service 2 request.
2. The call should be released with cause #26, #69 or #88.
```

TSS UUS/UUS2/	TP ISS_I_6_2_9	ISUP'97 reference 1.2 5.2.5.2.1; 1.2.5.2.2-5.2/Q.737	Selection expression OLE or Interm	Q.788 reference None

Test purpose

UUS2 explicit essential – implicit rejection

To verify that the service can be rejected if no indication is received (no **user-to-user indicators** parameter) in the first backward message (implicit rejection of service 2).

NOTE – The remote network does not understand the service 2 request or the remote user cannot support UUS2.

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

```
Case a)
 access            SPA                SPB
 -------setup----->  -------IAM------->  UUS2 explicit request
                     <------ACM--------
 <-------disc------  -------REL------->
                     <------RLC--------
```

1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
2. Check the Service 2 field in the UUInd is set to "request, essential" in the IAM.
3. Call released because there is no UUInd in the ACM.

```
Case b)
 SPC               SPA                SPB
 -------IAM------->  -------IAM------->  UUS2 explicit request
                     <------ACM--------
 <------REL--------  -------REL------->
 -------RLC------->  <------RLC--------
```

1. Set up a call from SPC to SPA with user-to-user service 2 request.
2. Check the Service 2 field in the UUInd is set to "request, essential" in the IAM.
3. Call released because there is no UUInd in the ACM.

TSS UUS/UUS2/	TP ISS_V_6_2_10	ISUP'97 reference 1.2.5.2.1.1.2/Q.737	Selection expression OLE	Q.788 reference None

Test purpose

Discard the user-to-user information if more than two messages received during a call set up

To verify that the IUT discards the **user-to-user service information** in the additional message if more than two messages are received during the call set up (in each direction).

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

```
access              SPA                   SPB
-------setup------>  -------IAM--------> UUS2 explicit request
<-------alert------  <------ACM--------  UUS2 response
            ... ringing tone ...
-----user info---->  -------USR-------->
<----user info-----  <------USR---------
-----user info---->  -------USR-------->
<----user info-----  <------USR---------
-----user info---->        no USR
<-----connect------  <------ANM---------
         ... check communication ...
<------disc--------  <------REL---------
                     -------RLC-------->
```

```
1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
2. Check the Service 2 field in the UUInd is set to "request, not essential"
in the IAM.
3. Check the receipt of two USR during call set up.
4. Send user-to-user information.
```

TSS UUS/UUS2/	TP ISS_I_6_2_11	ISUP'97 reference 1.2.5.2.1.1.2/Q.737	Selection expression OLE	Q.788 reference None

Test purpose

Pass on one of the USR received just after ANM

To verify that the IUT can successfully pass on one of the **USR** messages received just after the answer state has been reached.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

```
 access            SPA                 SPB
 -------setup------>  -------IAM-------> UUS2 explicit request
 <------alert-------  <------ACM-------- UUS2 response
             ... ringing tone ...
 ------user info--->  -------USR------->
 <-----user info----  <------USR--------
 <------connect-----  <------ANM--------
 ------user info--->  -------USR------->
         ... check communication ...
 <------disc--------  <------REL--------
                     -------RLC------->
```

```
1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
2. Check the Service 2 field in the UUInd is set to "request, not essential"
in the IAM.
3. Check one user-to-user information during call set up.
4. Send user-to-user information.
5. Check one user-to-user information after ANM.
```

TSS UUS/NO_UUS2/	TP ISS_I_6_2_12	ISUP'97 reference 1.2.5.2.2.2 Table 1-2; 1.2.7/Q.737	Selection expression Gateway AND PICS A.9/5	Q.788 reference 2.16.3

Test purpose

Explicit rejection in Gateway

To verify that the UUS2 explicit non-essential service can be rejected and the **user-to-user indicators** in the **ACM** or **CON** are set to "service 2 not provided".

NOTE – The user-to-user service is rejected because the IntermE received a **CFN** from the succeeding network (see Note 2 Table 1-2).

```
SPC               SPA              SPB
 <------IAM-------  <------IAM------ UUS2 explicit request
 -------CFN------>  -------ACM-----> UUS2 explicit response
           ... ringing tone ...
 -------CON------>  -------ANM----->
        ... check communication ...
  ------REL-------  <------REL------
                    -------RLC----->
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
2. The Service 2 field in the UUInd is set to "request, not essential".
3. Check the response "Service not provided" in the ACM or CON.
```

TSS UUS/UUS2/	TP ISS_I_6_2_13	ISUP'97 reference 1.2.2.1/Q.737	Selection expression DLE AND PICS A.9/7	Q.788 reference None

Test purpose

Deliver user-to-user information in USR after ANM

To verify that the IUT can successfully deliver the **user-to-user information** in the **USR** message to the called user after the answer state has been reached.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

```
access             SPA                  SPB
<------setup--------  <------IAM--------  UUS2 explicit request
-------alert-------->  -------ACM------->  UUS2 explicit response
            ... ringing tone ...
<-----user info-----  <------USR--------
------user info---->  -------USR------->
-------connect----->  -------ANM------->
<-----user info-----  <------USR--------
          ... check communication ...
<------disc---------  <------REL--------
                      -------RLC------->
```

```
1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
2. The Service 2 field in the UUInd is set to "request, not essential".
3. Check the response "Service provided" in the ACM.
4. Send user-to-user information.
5. Receive user-to-user information.
6. Send one user-to-user information after ANM.
```

TSS UUS/UUS2/	TP ISS_V_6_2_14	ISUP'97 reference 1.2.6.13.1; 1.2.6.13.3/Q.737	Selection expression Local AND (PICS A.9/4 OR PICS A.9/8)	Q.788 reference None

Test purpose

UUS2 interaction with UUS1 (or UUS3) – unsuccessful request

To verify that the services can be rejected with a **REL** with **Cause value** #29 "facility rejected" or #69 "requested facility not implemented", either with diagnostics (**user-to-user indicators** name), if more services are requested, one of them is essential and it cannot be provided.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS2 (or UUS3) supplementary services.

```
Case a)
 access              SPA                  SPB
 <----setup(UUInf)---  <----IAM(UUInf)----- UUS1, 2, 3 explicit request
 -------disc-------->  --------REL-------->
                       <-------RLC---------
```

1. Set up a call UNI at SPB to SPA with user-to-user information and user-to-user service 2, 3 request.
2. The call should be released with cause #29 or #69, because the service 2 cannot be provided.

```
Case b)
 access              SPA                  SPB
 ----setup(UUInf)--->  -----IAM(UUInf)----> UUS1, 2, 3 explicit request
 <-------disc--------  <-------REL---------
                       --------RLC-------->
```

1. Set up a call UNI at SPA to SPB with user-to-user information and user-to-user service 2, 3 request.
2. The call should be released with cause #29 or #69, because the service 2 cannot be provided.

TSS UUS/UUS2/	TP ISS_V_6_2_15	ISUP'97 reference 1.2.6.13.1; 1.2.6.13.3/Q.737	Selection expression Local AND (PICS A.9/4 OR PICS A.9/8)	Q.788 reference None

Test purpose

UUS2 interaction with UUS1 (or UUS3) – independent acceptance or rejection of the services

To verify that the IUT can successfully complete a call with an UUS2 explicit non-essential request, having the **user-to-user indicators** parameter set to "service provided" in the **ACM** or **CPG**. At the same time the UUS1 (or UUS3) service can be rejected and the **user-to-user indicators** in the **ACM**, **CPG**, **ANM**, **CON** or **REL** are set to "service 1 (or 3) not provided".

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS2 (or UUS3) supplementary services.

```
Case a)
 access              SPA                  SPB
 ----setup(UUInf)---->  -----IAM(UUInf)---> UUS1, 2, 3 explicit request
 <---alert(UUInf)-----  <----ACM(UUInf)---- UUS1, 2 explicit response
               ... ringing tone ...
 -----user info------>  -------USR---------
 <----user info-------  <------USR---------
 <--connect(UUInf)----  <----ANM(UUInf)---- UUS 3 explicit response
          ... check communication ...
 <---disc(UUInf)------  <----REL(UUInf)----
                        -------RLC-------->
```

---

1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service 2, 3 request.
2. Check that the Service 1, 2, 3 fields in UUInd are set each to "request, not essential".
3. Send/Receive user-to-user information (support of service 2).

```
Case b)
access              SPA                  SPB
 <----setup(UUInf)----  <----IAM(UUInf)----- UUS1, 2, 3 explicit request
 -----alert(UUInf)--->  -----ACM(UUInf)----> UUS1, 2 explicit response
              ... ringing tone ...
 <-----user info------  <-------USR---------
 ------user info----->  --------USR-------->
 ---connect(UUInf)--->  -----ANM(UUInf)----> UUS 3 explicit response
           ... check communication ...
 <----disc(UUInf)-----  <----REL(UUInf)-----
                        --------RLC-------->
```

---

1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service 2, 3 request.
2. The Service 1, 2, 3 fields in UUInd are set each to "request, not essential".
3. Send/Receive user-to-user information (support of Service 2).

Note: Repeat the test case by setting the response of service 1 or 3 requests in CPG, ANM, REL or CON.

TSS UUS/UUS2/	TP ISS_V_6_2_16	ISUP'97 reference 1.2.6.13.3; 1.2.6.13.1/Q.737	Selection expression Local AND PICS A.9/8	Q.788 reference None

Test purpose

UUS2 interaction with UUS3 requested after call set up

To verify that the IUT can successfully originate/complete a call with UUS2 and UUS3 service requested after call set up. The Service 2 field of the **user-to-user indicators** in the **FAR**, **FAA** or **FRJ** is then set to "no information".

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS2 and UUS3 supplementary services.

```
Case a)
 access              SPA                 SPB
 --------setup------>  -------IAM------> UUS2 explicit request
 <-------alert-------  <------ACM------- UUS2 explicit response
          ... ringing tone ...
 -------user info--->  -------USR-------
 <------user info----  <------USR-------
 <------connect------  <------ANM-------
... check communication ...
 ----facility-req--->  -------FAR------> UUS3 request
<---facility-ind----  <------FAA------- UUS3 response
 -------user info--->  -------USR-------
 <------user info----  <------USR-------
<-------disc--------  <------REL-------
                       -------RLC------>
_____________________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
2. Check that the Service 2 fields in UUInd is set to "request, not
essential".
3. Send/Receive user-to-user information (support of service 2)
4. Check request of service 3 in FAR.
5. Send/Receive user-to-user information (support of service 3)


Case b)
 access              SPA                 SPB
 <-------setup-------  <-----IAM------- UUS2 explicit request
 --------alert------>  ------ACM------> UUS2 explicit response
          ... ringing tone ...
 <-----user info-----  <-----USR-------
 ------user info---->  ------USR------>
 -------connect----->  ------ANM------>
         ... check communication ...
 <---facility-req----  <-----FAR------- UUS3 request
 ----facility-ind--->  ------FAA------> UUS3 response
 <-----user info-----  <-----USR-------
 ------user info---->  ------USR------>
 <-------disc--------  <-----REL-------
                       ------RLC------->
_____________________________________________________________________________
1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
2. The Service 2 fields in UUInd is set to "request, not essential".
3. Send/Receive user-to-user information (support of service 2)
4. The service 3 is requested in FAR.
5. Check  service 3 is provided in FAA.
6. Send/Receive user-to-user information (support of service 3)
```

7.2.6.3 Servicio 3 de señalización de usuario a usuario (UUS3, *user-to-user signalling service 3*)

TSS UUS/UUS3/	TP ISS_V_6_3_1	ISUP'97 reference 1.3.2.1/Q.737	Selection expression OLE AND PICS A.9/1	Q.788 reference None

Test purpose

32 octets user-to-user information

To verify that the IUT can successfully initiate a call having 32 octets of **user-to-user information** in each message.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

```
access            SPA                 SPB
-------setup------>  -------IAM-------> UUS3 explicit request
<------alert-------  <------ACM--------
           ... ringing tone ...
<-----connect------  <------ANM-------- UUS3 response
          ... check communication ...
------user info--->  -------USR------->
<-----user info----  <------USR--------
<-------disc-------  <------REL--------
                     -------RLC------->
```

1. Set up a call from UNI at SPA to SPB with user-to-user service 3 request.
2. Check that the user-to-user information field in the USR contains 32 octets.

TSS UUS/UUS3/	TP ISS_V_6_3_2	ISUP'97 reference 1.3.2.1/Q.737	Selection expression OLE	Q.788 reference None

Test purpose

Rejection of UUS3 after call set up, if rejected at call set up

To verify that the IUT can reject an UUS3 request after call set up, if it has been rejected at the call set up.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

```
access              SPA                 SPB
--------setup------>  -------IAM------> UUS3 explicit request
<-------alert--------  <------ACM-------
              ... ringing tone ...
<------connect-------  <------ANM------- UUS3 response
          ... check communication ...
----facility-req---->  -------FAR------>
<--facility-reject---  <------FRJ-------
          ... check communication ...
<------disc----------  <------REL-------
                       -------RLC------>
```

1. Set up a call from UNI at SPA to SPB with user-to-user service 3 request.

TSS UUS/UUS3/	TP ISS_V_6_3_3	ISUP'97 reference 1.3.5.2.1.1.2; 1.3.5.2.2-5.1/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.17.1

Test purpose

UUS3 explicit non-essential – request

To verify that the IUT can successfully originate/transit a call with an UUS3 explicit non-essential request, having the **user-to-user indicators** in the **IAM** set to "request, not essential".

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

```
Case a)
 access              SPA                  SPB
 --------setup------->  --------IAM------->  UUS3 explicit request
 <-------alert--------  <-------ACM--------
          ... ringing tone ...
 <-------connect------  <-------ANM--------  UUS3 response
        ... check communication ...
 -------user info---->  --------USR------->
 <------user info-----  <-------USR--------
 <-------disc---------  <-------REL--------
                        --------RLC------->
```

1. Set up a call from UNI at SPA to SPB with user-to-user service 3 request.

```
Case b)
 SPC                 SPA                   SPB
 ---------IAM------->  --------IAM-------> UUS3 explicit request
 <--------ACM--------  <-------ACM--------
               ... ringing tone ...
 <--------ANM--------  <-------ANM-------- UUS3 response
             ... check communication ...
 ---------USR------->  --------USR-------->
 <--------USR--------  <-------USR---------
 <--------REL--------  <-------REL---------
 ---------RLC------->  --------RLC-------->
```

1. Set up a call from UNI at SPC to SPB with user-to-user service 3 request.

TSS UUS/UUS3/	TP ISS_V_6_3_4	ISUP'97 reference 1.3.5.2.1.1.2; 1.3.5.2.2-5.1/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.17.1

Test purpose

UUS3 explicit non-essential – acceptance

To verify that the IUT can successfully complete a call with an UUS3 explicit non-essential request, having the Service 3 field in the **user-to-user indicators** parameter in the **ANM** or **CON** set to "service provided".

Pre-test conditions (in case of DLE)

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

```
access                SPA                 SPB
<-------setup---------  <------IAM-------- UUS3 explicit request
--------alert-------->  -------ACM------->
             ... ringing tone ...
-------connect------->  -------ANM-------> UUS3 response
          ... check communication ...
<------user info------  <------USR--------
-------user info----->  -------USR------->
          ... check communication ...
<-------disc----------  <------REL--------
                        -------RLC------->

<-------setup--------  <-------IAM-------- UUS3 explicit request
-------connect------>  --------CON-------> UUS3 response
             ... check communication ...
<----user info-------  <-------USR--------
-----user info------>  --------USR------->
             ... check communication ...
<-------disc---------  <-------REL--------
                       --------RLC------->
```

1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request.

TSS UUS/NO_UUS3/	TP ISS_I_6_3_5	ISUP'97 reference 1.3.5.2.5.2.3; 1.3.5.2.2-5.2/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.17.2

Test purpose

UUS3 explicit non-essential – implicit rejection (no indication)

To verify that the IUT can successfully complete a call with an UUS3 explicit non-essential request, if no indication is provided in the backward direction.

NOTE – The network or the user cannot support UUS3.

```
Case a)
 access                SPA                SPB
 <--------setup-------  <------IAM------- UUS3 explicit request
 ---------alert------>  -------ACM------>
             ... ringing tone ...
 --------connect----->  -------ANM------> UUS3 response (no indication)
          ... check communication ...
 <--------disc--------  <------REL-------
                        -------RLC------>

 <--------setup-------  <------IAM------- UUS3 explicit request
 --------connect----->  -------CON------> UUS3 response (no indication)
          ... check communication ... ...
 <--------disc--------  <------REL-------
                        -------RLC------>
_____________________________________________________________________
1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request.


Case b)
 SPC                  SPA                SPB
 <-------IAM---------  <------IAM-------- UUS3 explicit request
 --------ACM-------->  -------ACM------->
              ... ringing tone ...
 --------ANM-------->  -------ANM-------> UUS3 response (no indication)
          ... check communication ...
 <-------REL---------  <------REL--------
 --------RLC-------->  -------RLC------->

 <-------IAM---------  <------IAM-------- UUS3 explicit request
 --------CON-------->  -------CON-------> UUS3 response (no indication)
         ... check communication ...
 <-------REL---------  <------REL--------
 --------RLC-------->  -------RLC------->
_____________________________________________________________________
1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request.
```

TSS UUS/NO_UUS3/	TP ISS_I_6_3_6	ISUP'97 reference 1.3.5.2.5.2.2; 1.3.5.2.2-5.2/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.17.3

Test purpose

UUS3 explicit non-essential – explicit rejection (service not provided)

To verify that the UUS3 service can be rejected and the Service 3 field in the **user-to-user indicators** in the **ANM** or **CON** are set to "service 3 not provided".

NOTE – The network or the called user cannot support UUS3.

```
Case a)
 access                SPA                SPB
 <--------setup-------  <------IAM------- UUS3 explicit request
 ---------alert------>  -------ACM------>
             ... ringing tone ...
 --------connect----->  -------ANM------> UUS3 response (serv. not provided)
          ... check communication ...
 <--------disc--------  <------REL-------
                        -------RLC------>

 <--------setup-------  <------IAM------- UUS3 explicit request
 --------connect----->  -------CON------> UUS3 response (serv. not provided)
          ... check communication ... ...
 <--------disc--------  <------REL-------
                        -------RLC------>
_____________________________________________________________________________
1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request.


Case b)
 SPC                  SPA                SPB
 <-------IAM---------  <------IAM-------- UUS3 explicit request
 --------ACM-------->  -------ACM------->
              ... ringing tone ...
 --------ANM-------->  -------ANM------> UUS3 response (serv. not provided)
          ... check communication ...
 <-------REL---------  <------REL--------
 --------RLC-------->  -------RLC------->

 <-------IAM---------  <------IAM-------- UUS3 explicit request
 --------CON-------->  -------CON------> UUS3 response (serv. not provided)
         ... check communication ...
 <-------REL---------  <------REL--------
 --------RLC-------->  -------RLC------->
_____________________________________________________________________________
1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request.
```

TSS UUS/UUS3/	TP ISS_V_6_3_7	ISUP'97 reference 1.3.5.2.1.1.2; 1.3.5.2.2-5.1/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.17.1

Test purpose

UUS3 explicit essential – request

To verify that the IUT can successfully originate/transit a call with an UUS3 explicit essential request, having in the **IAM** the **user-to-user indicators** set to "request, essential" and the ISDN user part preference indicator in the **forward call indicators** set to "ISUP required all the way".

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

```
Case a)
 access             SPA               SPB
 -------setup------->  -------IAM------> UUS3 explicit request
 <------alert--------  <------ACM-------
           ... ringing tone ...
 <-----connect-------  <------ANM------- UUS3 response
          ... check communication ...
 -----user info----->  -------USR------>
 <----user info------  <------USR-------
 <------disc---------  <------REL-------
                       -------RLC------>
_____________________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user service 3 request.
2. Send/Receive user-to-user information.


Case b)
 SPC                SPA                SPB
 --------IAM-------->  -------IAM-------> UUS3 explicit request
 <-------ACM--------   <------ACM-------- UUS3 response
          ... ringing tone ...
 <-------ANM--------   <------ANM--------
        ... check communication ...
 --------USR-------->  -------USR------->
 <-------USR---------  <------USR--------
 <-------REL---------  <------REL--------
 --------RLC-------->  -------RLC------->
_____________________________________________________________________________
1. Set up a call from UNI at SPA to SPB with user-to-user service 3 request.
2. Send/Receive user-to-user information.
```

TSS UUS/UUS3/	TP ISS_V_6_3_8	ISUP'97 reference 1.3.5.2.1.1.2; 1.3.5.2.2-5.1/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.17.1

Test purpose

UUS3 explicit essential – acceptance

To verify that the IUT can successfully complete a call with an UUS3 explicit essential request having in the **ANM** or **CON** the Service 3 field of the **user-to-user indicators** parameter set to "service provided".

Pre-test conditions (in case of DLE)

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

```
access                SPA                SPB
<-------setup--------  <------IAM------- UUS3 explicit request
--------alert------->  -------ACM------>
            ... ringing tone ...
-------connect------>  -------ANM------> UUS3 response
          ... check communication ...
<-----user info------  <------USR-------
------user info----->  -------USR------>
          ... check communication ...
<-------disc---------  <------REL-------
                       -------RLC------>

<-------setup--------  <------IAM------- UUS3 explicit request
-------connect------>  -------CON------> UUS3 response
         ... check communication ...
<-----user info------  <------USR-------
------user info----->  -------USR------>
         ... check communication ...
<-------disc---------  <------REL-------
                       -------RLC------>
```

1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request.

TSS UUS/NO_UUS3/	TP ISS_I_6_3_9	ISUP'97 reference 1.3.5.2.5.2.2; 1.3.5.2.2-5.2/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.17.4

Test purpose

UUS3 explicit essential – explicit rejection

To verify that the service can be rejected with a **REL** having the **Cause value** #29 "facility rejected", #69 "requested facility not implemented", either with diagnostics (**user-to-user indicators** name).

NOTE – The network or the called user cannot support the service.

```
Case a)
 access             SPA                SPB
 <------setup--------  <------IAM------- UUS3 explicit request
 -------disc-------->  -------REL------>
                       <------RLC-------
```

1. Set up a call UNI at SPB to SPA with user-to-user service 3 request.
2. The call should be released with cause #29 or #69.

```
Case b)
 SPC                SPA                SPB
 <------IAM--------  <------IAM--------- UUS3 explicit request
                     -------CFN-------->
 <------REL--------  -------REL-------->
 -------RLC------->  <------RLC---------
```

1. Set up a call UNI at SPB to SPC with user-to-user service 3 request.
2. The call should be released with cause #29 or #69.

TSS UUS/UUS3/	TP ISS_V_6_3_10	ISUP'97 reference 1.3.5.2.1.1.2; 1.3.5.2.2-5.1/Q.737	Selection expression OLE OR IntermE	Q.788 reference 2.17.6

Test purpose

UUS3 explicit non-essential – request during the active phase of the call

To verify that the IUT can successfully generate/transit an UUS3 explicit non-essential request, with a **FAR** having the **facility indicator** parameter set to "user-to-user service" and the Service 3 field in the **user-to-user indicators** set to "request, not essential".

Pre-test conditions (in case of OLE)

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

```
Case a)
 access             SPA                SPB
 -------setup------>  -------IAM-------->
 <------alert-------  <------ACM--------
          ... ringing tone ...
 <-----connect------  <------ANM--------
       ... check communication ...
 ---facility-req--->  -------FAR-------> UUS3 explicit request
 <-facility-reject--  <------FRJ-------- UUS3 response
        ... check communication ...
<-------disc--------  <------REL--------
                      -------RLC------->
```

1. Service 3 request during the active phase.

```
Case b)
 SPC              SPA               SPB
 -------IAM------>  ------IAM------->
 <------ACM-------  <-----ACM--------
          ... ringing tone ...
 <------ANM-------  <-----ANM--------
        ... check communication ...
 -------FAR------>  ------FAR-------> UUS3 explicit request
 <------FRJ-------  <-----FRJ-------- UUS3 response
        ... check communication ...
 <------REL-------  <-----REL--------
 -------RLC------>  ------RLC------->
```

1. Service 3 request during the active phase.

TSS UUS/UUS3/	TP ISS_V_6_3_11	ISUP'97 reference 1.3.5.2.1.1.2; 1.3.5.2.2-5.1/Q.737	Selection expression DLE OR IntermE	Q.788 reference 2.17.5

Test purpose

UUS3 explicit non-essential – acceptance during call

To verify that the IUT can successfully reply to an UUS3 explicit non-essential request with a **FAA** having the **facility indicator** parameter set to "user-to-user service" and the Service 3 field in the **user-to-user indicators** parameter set to "service provided".

Pre-test conditions (in case of DLE)

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

```
access              SPA              SPB
<------setup-------  <-----IAM-------
-------alert------>  ------ACM------>
          ... ringing tone ...
------connect----->  ------ANM------>
     ... check communication ...
<--facility-req----  <-----FAR------- UUS3 request
---facility-ind--->  ------FAA------> UUS3 response
<----user info-----  <-----USR-------
-----user info---->  ------USR------>
<------disc--------  <-----REL-------
                     ------RLC------>
```

```
1. The service 3 is requested in FAR.
2. Check service 3 is provided in FAA.
3. Send/Receive user-to-user information (support of service 3)
```

TSS UUS/UUS3/	TP ISS_I_6_3_12	ISUP'97 reference Table 1-3/Q.737	Selection expression Gateway AND PICS A.9/5	Q.788 reference 2.17.3

Test purpose

UUS3 explicit non-essential – explicit rejection in the Gateway

To verify that the UUS3 explicit non-essential service can be rejected and the Service 3 field in the **user-to-user indicators** in the **ACM** or **CON** are set to "service 3 not provided".

NOTE – The user-to-user service is rejected because the Gateway received e.g. a **CFN** from the succeeding network (Note 2 Table 1-3).

```
SPC              SPA              SPB
<-----IAM-------  <-----IAM------  UUS3 explicit request
------CFN------>
------ACM------>  ------ACM----->  UUS3 explicit response (serv.not provided)
        ... ringing tone ...
------ANM------>  ------ANM----->
      ... check communication ...
<-----REL-------  <-----REL------
------RLC------>  ------RLC----->

<-----IAM-------  <-----IAM------  UUS3 explicit request
------CFN------>
------CON------>  ------CON----->  UUS3 explicit response (serv.not provided)
      ... check communication ...
<-----REL-------  <-----REL------
------RLC------>  ------RLC----->
```

```
1. Set up a call from UNI at SPB to SPC with user-to-user service 3 request.
2. The Service 3 field in the UUInd is set to "request, not essential".
3. Check the response "Service not provided" in the ACM or CON.
```

TSS UUS/UUS3/	TP ISS_I_6_3_13	ISUP'97 reference 1.3.5.2.5.2.2/Q.737	Selection expression IntermE	Q.788 reference None

Test purpose

UUS3 explicit non-essential – implicit rejection during call (no indication – discard FAA or FRJ)

To verify that the IUT can successfully complete a call with an UUS3 request in the **FAR**, if the **FAA** or **FRJ** are discarded.

NOTE – The FAA or FRJ are discarded e.g. because the FAR contains unrecognized or inconsistent information.

```
SPC              SPA               SPB
-------IAM------>  -------IAM------>
<------ACM-------  <------ACM-------
         ... ringing tone ...
<------ANM-------  <------ANM-------
       ... check communication ...
<------FAR-------  <------FAR------- UUS3 explicit request
           (no FAA or FRJ)
       ... check communication ...
<------REL-------  <------REL-------
-------RLC------>  -------RLC------>
```

1. Service 3 request during the active phase.

TSS UUS/UUS3/	TP ISS_I_6_3_14	ISUP'97 reference 1.3.5.2.5.2.2/Q.737	Selection expression IntermE	Q.788 reference None

Test purpose

UUS3 explicit non-essential – explicit rejection during call (service not provided – in FRJ)

To verify that the UUS3 explicit non-essential service can be rejected during the active phase of the call and the Service 3 field in the **user-to-user indicators** in the **FRJ** are set to "service 3 not provided".

```
SPC              SPA                SPB
-------IAM------>  -------IAM------>
<------ACM-------  <------ACM-------
         ... ringing tone ...
<------ANM-------  <------ANM-------
       ... check communication ...
<------FAR-------  <------FAR-------  UUS3 explicit request
-------FRJ------>  -------FRJ------>  UUS3 response (serv. not provided)
       ... check communication ...
<------REL-------  <------REL-------
-------RLC------>  -------RLC------>
```

1. Service 3 request during the active phase.

TSS UUS/UUS3/	TP ISS_V_6_3_15	ISUP'97 reference 1.3.6.13.1; 1.3.6.13.2/Q.737	Selection expression Local AND (PICS A.9/4 OR PICS A.9/6)	Q.788 reference None

Test purpose

UUS3 interaction with UUS1 (or UUS2) – unsuccessful request

To verify that the services can be rejected with a **REL** having the **Cause value** #29 "facility rejected" or #69 "requested facility not implemented", either with diagnostics (**user-to-user indicators** name), if more services are requested one of them essential which cannot be provided.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS3 and UUS1 or (UUS2) supplementary services.

See ISS_V_6_2_14

TSS UUS/UUS3/	TP ISS_V_6_3_16	ISUP'97 reference 1.3.6.13.1; 1.3.6.13.2/Q.737	Selection expression Local AND (PICS A.9/4 OR PICS A.9/6)	Q.788 reference None

Test purpose

UUS3 interaction with UUS1 (or UUS2) – Independent acceptance or rejection of the services

To verify that the IUT can successfully complete a call with an UUS3 explicit non-essential request, having the Service 3 field in the **user-to-user indicators** parameter set to "service provided" in **ANM** or **CON**. At the same time the UUS1 (or UUS2) service can be rejected and the **user-to-user indicators** in the **ACM**, **CPG**, **ANM**, **CON** or **REL** are set to "service 1 (or 2) not provided".

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS3 and UUS1 (or UUS2) supplementary services.

See test case ISS_V_6_2_15.

TSS UUS/UUS3/	TP ISS_V_6_3_17	ISUP'97 reference 1.3.6.18/Q.737	Selection expression OLE	Q.788 reference None

Test purpose

UUS3 interaction with TP – FAR sent while call is suspended

To verify that if the **FAR** is received while a call is suspended, the IUT returns a **FRJ** with the Service 3 field in the **user-to-user indicators** set to "Service 3 not provided".

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to the UUS3 and TP supplementary services.

```
access              SPA              SPB
-------setup------>  ------IAM------>
<------alert------>  <-----ACM-------
            ... ringing tone ...
<-----connect------  <-----ANM-------
         ... check communication ...
<----tp-suspend----  <-----SUS-------
                     <-----FAR-------  UUS3 explicit request
                     ------FRJ------>  UUS3 response (serv. not provided)
         ... check communication ...
<-------disc-------  <-----REL-------
                     ------RLC------>
```

1. Set up a call from UNI at SPA to SPB which has been suspended.

7.2.7 Grupo cerrado de usuarios (CUG, *closed user group*)

TSS CUG/	TP ISS_V_7_1	ISUP'97 reference 1.5.2.1.1 i) a)/Q.735	Selection expression OLE	Q.788 reference 2.4.4; 2.4.5

Test purpose

CUG without outgoing access in IAM

To verify that the IUT can successfully establish a CUG call by including the **CUG interlock code** together with an indication of "CUG call, outgoing access not allowed" in the **optional forward call indicators** in the **IAM**. The ISUP preference indicator of the **forward call indicators** in the **IAM** should be set to "ISUP required all the way".

Pre-test conditions

Arrange the data in the IUT such that the calling party subscribes to the CUG without outgoing access supplementary service.

```
 access            SPA                  SPB
 -------setup------> -----IAM (CUG)---->
(-OA) – with outgoing access not allowed
  :
```

```
1. Set up a CUG call from the access specifying a CUG interlock code. The CUG
call is with outgoing access not allowed.
2. CUG call indicator set to "CUG call, outgoing access not allowed" and IPI
set to "ISUP required all the way".
```

TSS CUG/	TP ISS_V_7_2	ISUP'97 reference 1.5.2.2.1; 1.5.2.3.1; 1.5.2.4.1/Q.735	Selection expression IntermE	Q.788 reference 2.4.4; 2.4.5

Test purpose

Transfer of information related to CUG

To verify that the IUT can successfully transfer all information related to a CUG call, i.e. **CUG interlock code** together with an indication of "CUG call, outgoing access not allowed" in the **optional forward call indicators** in the **IAM**.

```
SPC                 SPA                  SPB
 -----IAM (CUG)---->  -----IAM (CUG)----> (-OA)
  :
```

```
1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The
CUG call is with outgoing access not allowed.
2. CUG call indicator set to "CUG call, outgoing access not allowed".
```

TSS CUG/	TP ISS_V_7_3	ISUP'97 reference 1.5.2.3.1; 1.5.2.4.1/Q.735	Selection expression Gateway AND PICS A.10/3	Q.788 reference None

Test purpose

Conversion of the interlock code

To verify that the IUT can successfully convert a national into an international **CUG interlock code** (or vice versa) and that the indication "CUG call, outgoing access not allowed" in the **optional forward call indicators** in the **IAM** is passed on transparently.

```
SPC                SPA                   SPB
-----IAM (CUG)----> -----IAM (CUG)----> (-OA)
  :
```

```
1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The
CUG call is with outgoing access not allowed.
2. CUG call indicator set to "CUG call, outgoing access not allowed" and
international CUGIC for OutIE.
3. CUG call indicator set to "CUG call, outgoing access not allowed" and
national CUG interlock code for IncIE.
```

TSS NO_CUG/	TP ISS_I_7_4	ISUP'97 reference 1.5.2.4.2/Q.735, Table 1-1/Q.735	Selection expression IncIE AND NOT PICS A.3/7 AND PICS A.8/2	Q.788 reference 2.4.9

Test purpose

CUG call without outgoing access, action at the gateway with network without CUG capability

To verify that the IUT rejects a CUG call if the contents of the CUG call indicator is set to "CUG call, outgoing access not allowed" in **optional forward call indicators** in **IAM** and the succeeding national network does not support CUG. The IUT should respond with a **REL** with cause #29 "Facility rejected" and include the parameter name in the diagnostics field.

Pre-test conditions

A route to a network without CUG capability must be available in the IUT.

```
SPA                 SPB
  -------IAM------->
(-OA) with outgoing access not allowed
  <------REL--------
  -------RLC------->
```

```
1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The
CUG call is with outgoing access not allowed.
2. Wait for some event, nothing should happen.
3. After timer expiry get the verdict.
```

TSS NO_CUG/	TP ISS_I_7_5	ISUP'97 reference 1.5.2.4.2/Q.735, Table 1-1/Q.735	Selection expression IncIE AND NOT PICS A.3/7 AND PICS A.8/2	Q.788 reference 2.4.3

Test purpose

CUG call with outgoing access, action at the gateway interworking with network without CUG capability

To verify that the IUT proceeds with normal call setup if the contents of the CUG call indicator is received as "CUG call, outgoing access allowed" in **optional forward call indicators** in **IAM** and the succeeding national network does not support CUG.

Pre-test conditions

A route to a network without CUG capability must be available in the IUT.

```
SPC                 SPA                 SPB
 -----IAM (CUG)----> --------IAM------->
(+OA) with outgoing access allowed
  :
```

```
1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The
CUG call is with outgoing access allowed.
```

TSS CUG/	TP ISS_V_7_6	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference 2.4.4

Test purpose

CUG call without outgoing access; class of called user: CUG without IA, no ICB activated

To verify that the IUT can successfully establish a CUG call.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to CUG and no incoming calls are barred.

```
 access             SPA                 SPB
 <------setup------- <----IAM (CUG)-----
                      (-OA,-ICB) no incoming calls barred
  :
```

```
1. Assist a CUG call set up to the access.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access not allowed".
```

TSS CUG/	TP ISS_V_7_7	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference 2.4.1

Test purpose

CUG call with outgoing access; class of called user: CUG without IA, no ICB activated

To verify that the IUT can successfully establish a CUG call.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to CUG and no incoming calls are barred.

```
access              SPA                 SPB
<------setup------- <----IAM (CUG)-----
                     (+OA,-ICB) no incoming calls barred
  :
```

```
1. Assist a CUG call set up to the access.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access allowed".
```

TSS CUG/	TP ISS_V_7_8	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference 2.4.8

Test purpose

CUG call without outgoing access; class of called user: CUG without IA, ICB activated

To verify that the IUT rejects the CUG call with cause #55 "Incoming calls barred within CUG" in the **REL**.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to CUG and the incoming calls are barred (ICB).

```
access              SPA               SPB
                     <----IAM (CUG)-----
                      (-OA,+ICB) incoming calls barred
                     -----REL(#55)----->
                     <-------RLC--------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access not allowed".
3. REL with cause #55 "Incoming calls barred within CUG". The location RLN –
"public network serving the remote user" – can also be checked.
```

TSS CUG/	TP ISS_V_7_9	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

CUG call with outgoing access; class of called user: CUG without IA, ICB activated

To verify that the IUT rejects the CUG call with cause #55 "Incoming calls barred within CUG" in the **REL**.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to CUG and the incoming calls are barred (ICB).

```
access            SPA                 SPB
                   <----IAM (CUG)-----
                    (+OA,+ICB) incoming calls barred
                   -----REL(#55)----->
                   <-------RLC--------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access allowed".
3. REL with cause #55 "Incoming calls barred within CUG". The location RLN –
"public network serving the remote user" – can also be checked.
```

TSS CUG/	TP ISS_V_7_10	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

CUG call without outgoing access; class of called user: CUG with IA and no ICB activated

To verify that the IUT can successfully establish a CUG call.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to the CUG with Incoming Access (IA) and no incoming calls are barred.

```
access            SPA                 SPB
<------setup------- <----IAM (CUG)-----
            (-OA,+IA,-ICB) incoming access allowed, no incoming calls barred
  :
```

```
1. Assist a CUG call set up to the access.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access not allowed".
```

TSS CUG/	TP ISS_V_7_11	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

CUG call with outgoing access; class of called user: CUG with IA and no ICB activated

To verify that the IUT can successfully establish a CUG call with outgoing access.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to the CUG with Incoming Access (IA) and no incoming calls are barred.

```
access             SPA                 SPB
<------setup------- <----IAM (CUG)-----
             (+OA,+IA,-ICB) incoming access allowed, no incoming calls barred
  :
```

```
1. Assist a CUG call set up to the access.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access allowed".
```

TSS CUG/	TP ISS_V_7_12	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

CUG call without outgoing access; class of called user: CUG with IA and ICB activated

To verify that the IUT rejects the CUG call with cause #55 "Incoming calls barred within CUG" in the **REL**.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to the CUG with Incoming access (IA) and the incoming calls are barred (ICB).

```
access            SPA                 SPB
                    <----IAM (CUG)-----
              (-OA,+IA,+ICB) incoming access allowed, incoming calls barred
                    -----REL(#55)----->
                    <-------RLC--------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access not allowed".
3. REL with cause #55 "Incoming calls barred within CUG". The location RLN –
"public network serving the remote user" – can also be checked.
```

TSS CUG/	TP ISS_V_7_13	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

CUG call with outgoing access; class of called user: CUG with IA and ICB activated

To verify that the IUT can successfully establish a non-CUG call.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to the CUG with Incoming access (IA) and the incoming calls are barred (ICB).

```
access              SPA                  SPB
                      <----IAM (CUG)-----
               (+OA,+IA,+ICB) incoming access allowed, incoming calls barred
 :
```

```
1. Assist a CUG call set up to the access.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access allowed".
```

TSS CUG/	TP ISS_V_7_14	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference 2.4.5

Test purpose

CUG call without outgoing access; class of called user: non-CUG

To verify that the IUT rejects the CUG call with cause #87 "User not member of CUG" in the **REL**.

Pre-test conditions

Called user is not member of CUG.

```
access            SPA                    SPB
                    <----IAM (CUG)----- (-OA)
                    -----REL(#87)----->
                    <-------RLC--------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access not allowed".
3. REL with cause #87 "User not member of CUG". The location RLN – "public
network serving the remote user" – can also be checked.
```

TSS CUG/	TP ISS_V_7_15	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference 2.4.2

Test purpose

CUG call with outgoing access; class of called user: non-CUG

To verify that the IUT can successfully establish a non-CUG call

Pre-test conditions

Called user is not member of CUG.

```
access            SPA                SPB
                    <----IAM (CUG)----- (+OA)
 :
```

```
1. Assist a CUG call set up to the access.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access allowed".
```

TSS CUG/	TP ISS_V_7_16	ISUP'97 reference 1.5.2.5.1; Table 1-2 /Q.735	Selection expression DLE	Q.788 reference None

Test purpose

Non-CUG call; class of called user: CUG without IA

To verify that the IUT rejects the CUG call with cause # 87 " User not member of CUG " in the **REL**.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to CUG.

```
access             SPA              SPB
                     <-------IAM-------
                      (non-CUG,-IA) incoming access not allowed
                     -----REL(#87)---->
                     <-------RLC-------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM for a non-CUG call with ISUP preference indicator in the FCI
set to "ISUP required all the way".
3. REL with cause #87 "User not member of CUG". The location RLN – "public
network serving the remote user" – can also be checked.
```

TSS CUG/	TP ISS_V_7_17	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

Non-CUG call; class of called user: CUG with IA

To verify that the IUT can successfully establish a non-CUG call.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to CUG with Incoming Access (IA).

```
access            SPA                 SPB
                    <-------IAM-------
                      (non_CUG,+IA) incoming access allowed
 :
```

```
1. Assist a Non-CUG call set up to the access.
2. Send an IAM for a non-CUG call with ISUP preference indicator in the FCI
set to "ISUP required all the way".
```

TSS CUG/	TP ISS_V_7_18	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

CUG call without outgoing access; class of called user: other CUG without IA

To verify that the IUT rejects the CUG call with cause #87 "User not member of CUG" in the **REL**.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to another CUG than that of calling user.

```
access             SPA                 SPB
                     <----IAM (CUG)-----
                       (-OA,-IA) other CUG, incoming access not allowed
                     -----REL(#87)----->
                     <-------RLC--------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access not allowed".
3. REL with cause #87 "User not member of CUG". The location RLN – "public
network serving the remote user" – can also be checked.
```

TSS CUG/	TP ISS_V_7_19	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference 2.4.6

Test purpose

CUG call with outgoing access; class of called user: other CUG without IA

To verify that the IUT rejects the CUG call with cause #87 "User not member of CUG" in the **REL**.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to another CUG than that of calling user.

```
access                SPA                 SPB
                        <----IAM (CUG)-----
                          (+OA,-IA) other CUG, incoming access not allowed
                        -----REL(#87)----->
                        <-------RLC--------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access allowed".
3. REL with cause #87 "User not member of CUG". The location RLN – "public
network serving the remote user" – can also be checked.
```

TSS CUG/	TP ISS_V_7_20	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

CUG call without outgoing access; class of called user: other CUG with IA

To verify that the IUT rejects the CUG call with cause #87 "User not member of CUG" in the **REL**.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to another CUG than that of calling user, and that incoming access (IA) is allowed.

```
access              SPA                 SPB
                      <----IAM (CUG)-----
                        (-OA,+IA) other CUG, incoming access allowed
                      -----REL(#87)----->
                      <-------RLC--------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access not allowed".
3. REL with cause #87 "User not member of CUG". The location RLN – "public
network serving the remote user" – can also be checked.
```

TSS CUG/	TP ISS_V_7_21	ISUP'97 reference 1.5.2.5.1; Table 1-2/Q.735	Selection expression DLE	Q.788 reference 2.4.7

Test purpose

CUG call with outgoing access; class of called user: other CUG with IA

To verify that the IUT can successfully establish a non-CUG call

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to another CUG than that of calling user, and that incoming access (IA) is allowed.

```
access              SPA                 SPB
                      <----IAM (CUG)-----
                        (+OA,+IA) other CUG, incoming access allowed
 :
```

```
1. Assist a Non-CUG call set up to the access.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access allowed".
```

TSS CUG/	TP ISS_I_7_22	ISUP'97 reference 1.5.2.5.2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

Non-CUG call with CUG interlock code in IAM

To verify that the IUT rejects the call with cause #111 "Protocol error, unspecified" in the **REL**, if a non-CUG call has a **CUG interlock code** in the **IAM**.

```
access              SPA                 SPB
                      <---IAM (CUGIC)----
                        (non-CUG,+IA) incoming access allowed
                      -----REL(#111)---->
                      <-------RLC--------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM for a non-CUG call with ISUP preference indicator in the FCI
set to "ISUP required all the way" and a CUG interlock code. There is no OFCI
parameter in the IAM.
3. REL with cause #111 "Protocol error, unspecified".
```

TSS CUG/	TP ISS_I_7_23	ISUP'97 reference 1.5.2.5.2/Q.735	Selection expression DLE	Q.788 reference None

Test purpose

CUG call without interlock code in IAM

To verify that the IUT rejects the CUG call with cause #111 "Protocol error, unspecified" in the **REL**, if there is no **CUG interlock code** in the **IAM**.

```
access                SPA                 SPB
                        <---IAM (CUGIC)----
          (+OA,+IA,-ICB) incoming access allowed, no   incoming calls barred
                        -----REL(#111)---->
                        <-------RLC--------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access allowed". There is no CUGIC parameter in the IAM.
3. REL with cause #111 "Protocol error, unspecified".
```

7.2.8 Subdireccionamiento (SUB, *sub-addressing*)

TSS SUB/	TP ISS_V_8_1	ISUP'97 reference 8.5.2.1.1/Q.731	Selection expression OLE	Q.788 reference 2.2.1

Test purpose

Sending the called sub-address in the access transport parameter

To verify that the IUT can include the called sub-address in the **access transport** parameter in the IAM.

```
access            SPA                 SPB
-------setup------> --------IAM------->
  :
```

```
1. Set  up a call from the access with a called sub-address.
```

TSS SUB/	TP ISS_V_8_2	ISUP'97 reference 8.5.2.2.1; 8.5.2.3.1; 8.5.2.4.1/Q.731	Selection expression IntermE	Q.788 reference 2.2.1

Test purpose

Transit support of access transport parameter

To verify that the contents of the **access transport** parameter is passed on transparently in the IAM.

```
SPC               SPA                 SPB
--------IAM-------> --------IAM------->
  :
```

```
1. The PTC will initiate a call set up with the expected parameters.
```

TSS SUB/	TP ISS_V_8_3	ISUP'97 reference 8.5.2.5.1/Q.731	Selection expression DLE	Q.788 reference 2.2.1

Test purpose

Receiving the called sub-address in the access transport parameter

To verify that a call may be successfully established if the IAM contains the sub-address in the **access transport** parameter and that the called sub-address is passed on to the user network interface.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to the SUB supplementary service.

```
access            SPA                 SPB
<------setup------- <-------IAM--------
  :
```

```
1. Set up a call to the access with the ATP parameter containing the called
sub-address.
```

TSS SUB/	TP ISS_I_8_4	ISUP'97 reference 8.5.2.5.2/Q.731; 2.1.1.6/Q.764	Selection expression DLE	Q.788 reference None

Test purpose

Receiving the called sub-address if it is not supported at the destination

To verify that a call may be successfully established if the IAM contains the sub-address in the **access transport** parameter and the destination address does not subscribe to the SUB supplementary service.

Pre-test conditions

Arrange the data in the IUT such that the called party does not subscribe to the SUB supplementary service.

```
access            SPA                 SPB
<------setup------- <-------IAM--------
  :
```

```
1. Set up a call to the access with the ATP parameter containing the called
sub-address.
```

TSS SUB/	TP ISS_V_8_5	ISUP'97 reference 8.7/Q.731	Selection expression IntermE	Q.788 reference None

Test purpose

Interaction with other networks; no notification is sent back to the OLE

To verify that the IUT can successfully establish a call by discarding the sub-address if the succeeding network does not support the sub-address or the supplied length is not supported.

```
NON-ISUP            SPA                 SPB
 <------setup------- <-------IAM--------
  :
```

```
1. Set up a call to a network which does not support the Sub-addressing
supplementary service or which cannot support the sub-address length supplied.
```

7.2.9 Identificación de llamadas malintencionadas (MCID, *malicious call identification*)

TSS MCID/	TP ISS_V_9_1	ISUP'97 reference 7.5.2.1.1/Q.731.7	Selection expression OLE	Q.788 reference 2.5.1

Test purpose

Successful MCID request

To verify that the IUT can successfully reply to an **IDR** having the **MCID request indicator** set to "MCID request" by sending an **IRS** with **MCID response indicator** set to "MCID included" and the **calling party number** included.

```
 access            SPA                SPB
 -------setup------> --------IAM-------->
                     <-------IDR--------
                     --------IRS-------->
:
```

```
1. Set up a call from the access with or without a calling party number.
2. IAM may or may not contain calling party number.
3. IDR may be requested even if the initial IAM contained calling party
number.
```

TSS MCID/	TP ISS_V_9_2	ISUP'97 reference 7.5.2.1.1/Q.731.7	Selection expression OLE	Q.788 reference None

Test purpose

Successful MCID request – after ACM

To verify that the IUT will accept and reply correctly to an MCID request after ACM has been received. The IUT should reply to an **IDR** having the **MCID request indicator** set to "MCID request" by sending an **IRS** with **MCID response indicator** set to "MCID included" and the **calling party number** included.

NOTE – This situation may occur e.g. if the call has been forwarded before reaching the destination.

```
 access             SPA               SPB
 -------setup------>  -------IAM------>
 <------alert-------  <------ACM-------
           ... ringing tone ...
                      <------IDR-------
                      -------IRS------>
:
```

```
1. Set up a call from the access.
2. IRS containing the number of calling party number.
```

TSS MCID/	TP ISS_V_9_3	ISUP'97 reference 7.5.2.1.1/Q.731.7	Selection expression OLE AND PICS A.12/1	Q.788 reference 2.5.1

Test purpose

Successful MCID request with calling sub-address

To verify that the IUT can successfully reply to an **IDR** having the **MCID request indicator** set to "MCID request" by sending an **IRS** with **MCID response indicator** set to "MCID included", the **calling party number** and a calling sub-address in the **access transport** parameter.

```
access           SPA                  SPB
 -------setup----->  -------IAM-------->
                     <------IDR---------
                      -------IRS-------->
:
```

```
1. Set up a call from the access with a calling party sub-address.
2. Calling party sub-address in ATP.
```

TSS NO_MCID/	TP ISS_I_9_4	ISUP'97 reference 7.5.2.1.2/Q.731.7	Selection expression OLE AND NOT PICS A.3/9	Q.788 reference 2.5.2

Test purpose

MCID request – MCID not supported by the OLE

To verify that the IUT rejects a MCID request by sending a **IRS** with the **MCID response indicator** set to "MCID not included".

```
 access           SPA                SPB
 -------setup-----> -------IAM------->
                    <------IDR--------
                     -------IRS------->
:
```

```
1. Set up a call from the access.
```

TSS MCID/	TP ISS_V_9_5	ISUP'97 reference 7.5.2.2.1/Q.731.7	Selection expression Transit	Q.788 reference None

Test purpose

MCID information passed transparently

To verify that a received **IDR** is transferred transparently to the preceding exchange and the subsequent **IRS** is transferred transparently to the succeeding exchange.

```
Case a)
 SPC               SPA                 SPB
 --------IAM------>  --------IAM------->
<-------IDR-------  <-------IDR--------

--------IRS------>  --------IRS------->
:
```

1. The PTC will initiate a call set up.

```
Case b)
 SPC               SPA                 SPB
--------IAM------->  --------IAM------->
<-------ACM--------  <-------ACM--------
<-------IDR--------  <-------IDR--------
--------IRS------->  --------IRS------->
:
```

1. The PTC will initiate a call set up.

TSS MCID/	TP ISS_V_9_6	ISUP'97 reference 7.5.2.3.1/Q.731.7	Selection expression OutIE AND NOT PICS A.12/4	Q.788 reference None

Test purpose

MCID information passed and set correctly – outgoing

To verify that a received **IDR** is transferred transparently into the national network (NOT PICS A.4/1), the subsequent **IRS** being transferred into the international network so that the country code in the address signals of the **calling party number** is added and the nature of address indicator is set to "international number".

```
SPC    national    SPA international  SPB
 --------IAM-------> --------IAM------->
 <-------IDR-------- <-------IDR--------
 --------IRS-------> --------IRS------->
:
```

1. The PTC will initiate a call set up with the expected parameters.
2. The IDR request is transferred into the national network.
3. The IRS is received from the national network having the calling party number coded as an "international number".

TSS NO_MCID/	TP ISS_I_9_7	ISUP'97 reference 7.5.2.3.2/Q.731.7	Selection expression OutIE AND NOT PICS A.3/9 AND PICS A.8/3	Q.788 reference 2.5.2

Test purpose

MCID request – MCID not supported by the calling party's national network

To verify that the outgoing international exchange rejects a MCID request by sending an **IRS** with the **MCID response indicator** set to "MCID not included".

NOTE – This test case checks the behaviour of the IUT if the national network does not support MCID.

```
 SPC   national    SPA  international   SPB
 --------IAM-------> --------IAM------->
                    <-------IDR--------
                     --------IRS------->
:
```

```
1. PTC provides stimulus for normal call setup (calling party number not
included).
Note: The MCID request is in this case assumed to stop at gateway and not have
any impact on the signalling in the national network.
```

TSS MCID/	TP ISS_V_9_8	ISUP'97 reference 7.5.2.4.1/Q.731.7	Selection expression IncIE	Q.788 reference None

Test purpose

MCID information passed and set correctly – incoming

To verify that a received **IDR** is transferred transparently into the international network and the subsequent **IRS** is transferred into the national network so that the country code in the address signals of the **calling party number** is removed if it is the network"s own country code and the nature of address indicator is set in this case to "national (significant) number".

```
SPC international  SPA   national     SPB
 --------IAM-------> --------IAM------->
 <-------IDR-------- <-------IDR--------
 --------IRS-------> --------IRS------->
:
```

```
1. The PTC will initiate a call set up with the expected parameters.
2. The country code is expected to be stripped off and the number format
converted to national (significant) number.
```

TSS MCID/	TP ISS_I_9_9	ISUP'97 reference 7.5.2.4.2/Q.731.7	Selection expression IncIE AND PICS A.12/5	Q.788 reference None

Test purpose

MCID request – MCID not supported by the calling party's national network – adding information

To verify that the international incoming gateway can modify the **MCID response indicator** set to "MCID not included" into "MCID included" and can include the available information in the **calling party number**.

NOTE – The known part of the **calling party number** is sent with the address incomplete indicator set to "incomplete".

```
SPC international  SPA   national      SPB
 --------IAM-------> --------IAM------->
 <-------IDR-------- <-------IDR--------
 --------IRS-------> --------IRS------->
:
```

```
1. The PTC will initiate a call set up with the expected parameters.
```

TSS MCID/	TP ISS_V_9_10	ISUP'97 reference 7.5.2.5.1 a)/Q.731.7	Selection expression DLE	Q.788 reference 2.5.1

Test purpose

DLE records call details

To verify that the DLE can successfully record the **calling party number** and optionally the calling sub-address if received in the **IAM** or in the **IRS**.

Pre-test conditions

Arrange the data in the IUT so that the called user has subscribed to MCID service.

```
Case a)
 access            SPA                 SPB
 <------setup------  <-------IAM--------
:
_____________________________________________________________________________
1. Assist setup to the access.
2. CgPN & sub-address in ATP.
3. MCID recordings should be kept while in active phase of call.


Case b)
 access            SPA                 SPB
 <------setup------  <-------IAM--------
                     --------IDR------->
                     <-------IRS--------
:
_____________________________________________________________________________
1. Assist setup to the access.
2. No number information in IAM.
3. Number information in IRS (CgPN and Sub in ATP).
4. MCID recordings should be kept while in active phase of call.
```

TSS MCID/	TP ISS_V_9_11	ISUP'97 reference 7.5.2.5.1 b)/Q.731.7	Selection expression DLE	Q.788 reference 2.5.1

Test purpose

DLE requests call details

To verify that the DLE can successfully request the **calling party number** and optionally the calling sub-address by sending an **IDR**, if there is no calling party number included in the **IAM**.

Pre-test conditions

Arrange the data in the IUT so that the called user has subscribed to MCID service.

```
 access           SPA                 SPB
 <------setup-----  <-------IAM--------
                    --------IDR------->
                    <-------IRS--------
:
_____________________________________________________________________________
1. Set up to the access containing no number information.
2. Number information  is provided.
```

TSS MCID/	TP ISS_I_9_12	ISUP'97 reference 7.5.2.5.2/Q.731.7	Selection expression DLE	Q.788 reference 2.5.2

Test purpose

No MCID information after MCID request

To verify that the call setup is continued (user is alerted) if an **IRS** is received without the expected MCID information within timer T39 expiry, after having sent the **IDR** with **MCID request indicator** set to "MCID requested".

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to MCID service.

```
Case a)
 access          SPA                  SPB
 <------setup-----  <-------IAM--------
                    --------IDR------->
                    <-------IRS--------
:
```

```
1. Set up to the access containing no number information.
2. Number information not provided (MCID response indicators = 0, no CgPN
given).
```

```
Case b)
 access           SPA                 SPB
 <------setup-----  <-------IAM--------
                    --------IDR------->
                    <-------IRS--------
:
```

```
1. Set up to the access containing no number information.
2. Number information not provided (MCID response indicators = 1, No CgPN
given).
```

TSS MCID/	TP ISS_I_9_13	ISUP'97 reference 7.5.2.5.2/Q.731.7	Selection expression DLE	Q.788 reference 2.5.3

Test purpose

MCID timer (T39) expiry

To verify that call setup is continued (user is alerted) if no **IRS** is received within timer T39 expiry, after having sent the **IDR** with **MCID request indicator** set to "MCID requested".

Pre-test conditions

Arrange the data in the IUT so that the called user has subscribed to MCID service.

```
 access           SPA                 SPB
 <------setup-----  <-------IAM--------
                    --------IDR------->
                   |
                   T39
                      -------ACM------->
:
```

```
1. Set up to the access containing no number information.
```

TSS MCID/	TP ISS_V_9_14	ISUP'97 reference 7.7/Q.731.7	Selection expression OLE AND PICS A.2/4	Q.788 reference 2.5.1

Test purpose

Successful MCID request with additional calling party number

To verify that the OLE can successfully reply to an **IDR** having the **MCID request indicator** set to "MCID request" by sending an **IRS** with **MCID response indicator** set to "MCID included", the **calling party number** and an additional calling party number in the **generic number** parameter.

NOTE – This implies that a special arrangement exists with the calling user.

Pre-test conditions

Arrange the data in the IUT so that the additional calling party number information is available

```
 access          SPA                  SPB
------setup------>  --------IAM------->
                    <-------IDR--------
                    --------IRS------->
:
```

```
1. Set up a call from the access.
2. CgPN & addCgPN in GenNb.
```

TSS MCID/	TP ISS_V_9_15	ISUP'97 reference 7.6.9/Q.731.7	Selection expression DLE	Q.788 reference None

Test purpose

MCID interaction with DDI

To verify that the **calling party number**, the **called party number** with DDI are registered if provided.

Pre-test conditions

Arrange the data in the IUT so that the called user has subscribed to the MCID and DDI services

```
Case a)
 access            SPA                 SPB
 <------setup------- <-------IAM--------
:
```

```
1. Assist setup to the access.
2. Check the MCID recordings for the called party (with DDI).
```

```
Case b)
 access            SPA                 SPB
 <------setup-----  <-------IAM--------
                    --------IDR------->
                    <-------IRS--------
:
```

```
1. Assist setup to the access.
2. No number information in IAM.
3. Number information in IRS (with DDI).
4. Check the MCID recordings for the calling party.
```

TSS MCID/	TP ISS_V_9_16	ISUP'97 reference 7.6.10/Q.731.7	Selection expression DLE AND PICS A.12/3	Q.788 reference None

Test purpose

MCID interaction with diversion services

To verify that besides the **calling party number**, the **original called number** and the **redirecting number** are registered if provided.

NOTE – A call diversion service has been activated for this call.

Pre-test conditions

Arrange the data in the IUT so that the user has subscribed to MCID

```
access            SPA                 SPB
 <------setup------- <-------IAM--------
:
_____________________________________________________________________________
1. Assist setup to the access.
2. MCID recordings should be kept while in active phase of call.
```

7.2.10 Comunicación conferencia, con inclusión (CONF, *conference call, add-on*)

TSS CONF/	TP ISS_V_10_1	ISUP'97 reference 1.5.2.1.1.1/Q.734	Selection expression Local AND BCall PICS A.13/13	Q.788 reference None

Test purpose

Requirement related to echo control

To verify that the IUT is able to initiate echo control procedures for the necessary legs when a new call is added to the conference.

NOTE – The used PICS is defined for the basic call (BCall).

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

For further study.

TSS CONF/	TP ISS_V_10_2	ISUP'97 reference 1.5.2.1.1.2/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference 2.13.1

Test purpose

Establishing a conference from an active call

To verify that the IUT can successfully begin the conference from an active call and notify the implied parties correctly.

NOTE – The **generic notification indicator** set to "conference established" should be sent by the IUT in the **CPG**. The event indicator should be set to "progress".

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
SPC            SPA         UNI at A          SPA            SPB
------IAM----->  --setup(CR2)->
<-----ACM------  <--alerting---
<-----ANM------  <---connect---
<--CPG(hold)---  <----info-----
                                --setup(CR1)->  ------IAM------>
                                <--alerting---  <-----ACM-------
                                <---connect---  <-----ANM-------
                                   ... check communication ...
                                ---fac(begC)->  -CPG(conf est)->
<-----REL------  <----disc----- -----disc---->  ------REL------>
------RLC----->                                <-----RLC-------
```

```
1. Assist a call set up to UNI at SPB.
2. Begin the conference and check that notification "conference established"
is received in the CPG.
3. Release the call at the end terminal and check that all network resources
are released.
```

TSS CONF/	TP ISS_V_10_3	ISUP'97 reference 1.5.2.1.1.2/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference 2.13.1

Test purpose

Adding calls (conferees) to an established conference

To verify that the IUT is able to add a conferee to a conference and notify the implied parties correctly.

NOTE – The **generic notification indicator** set to "conference established" should be sent by the IUT to the new affected conferee and the **generic notification indicator** set to "other party added" to the non-affected conferees. The event indicator in the **CPG** should be set to "progress".

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
Case a)
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  ------IAM------>
                                <--alerting---  <-----ACM-------
                                <---connect---  <-----ANM-------
                                   ... check communication ...
                                ---fac(begC)->  -CPG(conf est)->
<-CPG(conf est)--  <--fac(addC)-                -CPG(oth pty add)>
                    ----disc---->
<-----REL-------                -----disc---->  ------REL------>
------RLC------>                                <-----RLC-------
_____________________________________________________________________
1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add a new conferee to the established conference and notify subscriber at
SPB by sending him/her "other_party_added" in the CPG.
4. The conference is released by call clearing by the served user at SPA.
Case b)
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                -CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR3)->
<------ACM------  <--alerting---
<------ANM------  <--connect----
<-CPG(conf est)-  <--fac(addC)--                -CPG(oth pty add)>
                                -----disc---->
<CPG(oth pty add)- (cic1)

<--REL(cic1)----                -----disc---->  -------REL------>
-------RLC----->                                <------RLC-------
<--REL(cic2)----
-------RLC----->
_____________________________________________________________________
1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber
at SPB by sending him/her "other party added" in the CPG.
4. The conference is released by call clearing by the served user at SPA.
```

TSS CONF/	TP ISS_V_10_4	ISUP'97 reference 1.5.2.1.1.2/Q.734	Selection expression Local AND PICS A.13/2	Q.788 reference None

Test purpose

Joining the maximum number of conferees in a conference

To verify that the IUT is able to join the maximum allowed number of conferees to a conference and notify the implied parties correctly.

NOTE – The **generic notification indicator** set to "conference established" should be sent by the IUT to the new affected conferee and the **generic notification indicator** set to "other party added" to the non-affected conferees. The event indicator in the **CPG** should be set to "progress".

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                               --setup(CR1)->  -------IAM------>
                               <--alerting---  <------ACM-------
                               <---connect---  <------ANM-------
                                  ... check communication ...
                               ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
     ******* At this point there are 3 conferees in conference ******
REPEAT for each new conferee
---IAM(cicx)--->  -----setup---> x=2,3..n; n=maximum number of conferees-2
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
                   -----disc---->
<CPG(oth pty add)- (cicz) z=1,2...n-1
Release conference:
<---REL(cicy)---   y=1,2...n-1  -----disc---->  ------REL------>
-------RLC----->                               <-----RLC-------
```

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. The conference is released by call clearing by the served user at SPA.

TSS CONF/	TP ISS_V_10_5	ISUP'97 reference 1.5.2.1.1.3/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference 2.13.2

Test purpose

Isolation of party

To verify that the IUT can successfully isolate a conferee from the conference and notify the implied parties correctly.

NOTE – The **generic notification indicator** set to "isolated" within **call progress** should be sent by the IUT to the affected conferee and the **generic notification indicator** set to "other party isolated" should be sent to the non-affected conferees. The event indicator in the **CPG** should be set to "progress". The isolated conferee should not be able to communicate with the rest of the conference.

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
SPC              SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR3)->
<------ACM------  <--alerting---
<------ANM------  <---connect---
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
                  -----disc---->
<CPG(oth pty add)-  (cic1)
<CPG(oth pty iso)-  (cic1)      ---fac(isoC)-->  --CPG(isolated)->
<CPG(oth pty iso)-  (cic2)
<CPG(oth pty rea)-  (cic1)      ---fac(reaC)-->  --CPG(reattach)->
<CPG(oth pty rea)-  (cic2)

<---REL(cic1)---                ------disc---->  -------REL------>
-------RLC----->                                  <------RLC-------
<---REL(cic2)---
-------RLC----->
```

---

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. Isolate a conferee and check that the notification "isolated" is received in the CPG.
5. Reattach the conferee.
6. The conference is released by call clearing by the served user at SPA.

TSS CONF/	TP ISS_V_10_6	ISUP'97 reference 1.5.2.1.1.4/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference 2.13.2

Test purpose

Reattachment of party

To verify that the IUT can successfully reattach the isolated conferee to the conference and notify the implied parties correctly.

NOTE – The **generic notification indicator** set to "reattached" should be sent by the IUT to the affected conferee and the **generic notification indicator** set to "other party reattached" should be sent to non-affected conferees. The event indicator in the **CPG** should be set to "progress".

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR3)->
<------ACM------  <--alerting---
<------ANM------  <---connect---
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
                  -----disc---->
<CPG(oth pty add)-  (cic1)
<CPG(oth pty iso)-  (cic1)      ---fac(isoC)->  --CPG(isolated)-->
<CPG(oth pty iso)-  (cic2)
<CPG(oth pty rea)-  (cic1)      ---fac(reaC)->  --CPG(reattach)-->
<CPG(oth pty rea)-  (cic2)

<---REL(cic1)---                -----disc---->  --------REL------>
-------RLC----->                                <-------RLC-------
<---REL(cic2)---
-------RLC----->
```

---

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. Isolate a conferee and check that the notification "isolated" is received in the CPG.
5. Reattach the conferee.
6. The conference is released by call clearing by the served user at SPA.

TSS CONF/	TP ISS_V_10_7	ISUP'97 reference 1.5.2.1.1.5/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference 2.13.2

Test purpose

Splitting of a party

To verify that the IUT can create a private communication between the served user and one of the conferees and notify the implied parties correctly.

NOTE – The **generic notification indicator** set to "conference disconnected" should be sent by the IUT to the affected conferee and the **generic notification indicator** set to "other party split" should be sent to the non-affected conferees. The event indicator in the **CPG** should be set to "progress". The non-affected conferees should not be able to participate in the communication of the private communication.

NOTE – See also Figure 1-5/Q.734.

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR2)->
<------ACM------  <--alerting---
<------ANM------  <---connect---
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
                                -----disc---->
<CPG(oth pty add)- (cic1)
                                --setup(CR2)->
                                <---connect---
<CPG(oth pty split)-  (cic1)                    --CPG(conf disc)->
<CPG(oth pty split)-  (cic2)

<---REL(cic1)---  <--disc(CR1)-- --disc(CR2)->  -------REL------->
-------RLC----->                               <------RLC--------
<---REL(cic2)---
-------RLC----->
```

```
1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber
at SPB by sending him/her "other party added" in the CPG.
4. Split the conferee at SPB and check that the notification "conference
disconnected" is received in the CPG.
5. The private communication between subscriber at SPA and subscriber at SPB
is checked.
6. The conference is released by call clearing by the served user at SPA (CR1)
and the private communication by normal call clearing (CR2).
```

TSS CONF/	TP ISS_V_10_8	ISUP'97 reference 1.5.2.1.1.6/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference 2.13.3

Test purpose

Disconnection of conferee

To verify that IUT can successfully disconnect a conferee from the conference, if requested by the served user, and notify the implied parties correctly.

NOTE – The IUT should release the leg towards the conferee according to normal call release procedures, i.e. send a **REL** to a conferee connected to the conference. The **generic notification indicator** set to "other party disconnected" should be sent to the non-affected conferees. The event indicator in the **CPG** should be set to "progress".

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
SPC              SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR3)->
<------ACM------  <--alerting---
<------ANM------  <---connect---
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
                  -----disc---->
<CPG(oth pty add)-   (cic1)
<CPG(oth pty disc)-  (cic1)     ---fac(dropC)->  -------REL------>
<CPG(oth pty disc)-  (cic2)                       <------RLC-------

<--REL(cic1)----  <----disc-----
-------RLC----->
<--REL(cic2)----
-------RLC----->
```

---

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. Release the dropped party at SPB.
5. The conference is released by call clearing by the served user at SPA.

TSS CONF/	TP ISS_V_10_9	ISUP'97 reference 1.5.2.1.1.7/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference 2.13.3

Test purpose

Disconnection by a conferee

To verify that IUT can successfully disconnect a conferee from the conference, if requested by the conferee, and notify the implied parties correctly.

NOTE – The IUT should release the leg towards the conferee according to normal call release procedures, i.e. send a **RLC** in response to the **REL** to a conferee connected to the conference through ISUP. The **generic notification indicator** set to "other party disconnected" should be sent to the non-affected conferees. The event indicator in the **CPG** should be set to "progress".

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                               --setup(CR1)->  -------IAM------>
                               <--alerting---  <------ACM-------
                               <---connect---  <------ANM-------
                                  ... check communication ...
                               ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR3)->
<------ACM------  <--alerting---
<------ANM------  <---connect---
<--CPG(conf est)- <--fac(addC)--                --CPG(oth pty add)>
                  -----disc---->
<CPG(oth pty add)- ( cic1)
<CPG(oth pty disc)-  (cic1)     <-fac(pty disc)- <------REL-------
<CPG(oth pty disc)-  (cic2)                       -------RLC------>

<--REL(cic1)----  <----disc-----
-------RLC----->
<--REL(cic2)----
-------RLC----->
```

---

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. Release request by the conferee at SPB.
5. The conference is released by call clearing by the served user at SPA.

TSS CONF/	TP ISS_V_10_10	ISUP'97 reference 1.5.2.1.1.8/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference 2.13.2

Test purpose

Termination of conference

To verify that IUT can successfully disconnect all conferees from the conference, if requested by the served user, and initiate the normal call release procedure towards each conferee.

NOTE – The IUT should send **REL** to all conferees connected to the conference.

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
SPC              SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR3)->
<------ACM------  <--alerting---
<------ANM------  <---connect---
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
                                -----disc---->
<CPG(oth pty add)- (cic1)
<--REL(cic1)----                --fac(endC)-->  -------REL------->
-------RLC----->                <----disc-----  <------RLC--------
<--REL(cic2)----
-------RLC----->
```

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. Release the dropped party at SPB.
5. The conference is released by call clearing by the served user at SPA.

TSS CONF/	TP ISS_I_10_11	ISUP'97 reference 1.5.2.1.2/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference None

Test purpose

Adding of conferees fails (unsuccessful)

To verify that if the procedure of adding conferees fails the concerned call remains in the previous state and notifications never be sent to the affected nor to the non-affected remote parties.

NOTE – The procedure of adding fails, e.g. because the maximum conference participants is exceeded.

Pre-test conditions

Arrange the data in the IUT such that the served user has subscribed to CONF supplementary service.

```
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                               --setup(CR1)->  -------IAM------>
                               <--alerting---  <------ACM-------
                               <---connect---  <------ANM-------
                                  ... check communication ...
                               ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
--------At this point there are 3 conferees in conference.-------
REPEAT for each new conferee:
---IAM(cicx)--->  ----setup----> x=2,3..n; n=maximum number of conferees-2
<------ACM------  <--alerting---
<------ANM------  <---connect---
<--CPG(conf est)- <--fac(addC)--                --CPG(oth pty add)>
                  -----disc---->
<CPG(oth pty add)- (cicz) z=1,2...n-1
Try to add another conferee (maximum number of conferees exceeded):
---IAM(cicx)--->  -----setup---> x=n+1
<------ACM------  <--alerting---
<------ANM------  <--connect----
                  <--fac(addC)--
-------REL------> -----disc---->
<------RLC-------
Release conference:
<---REL(cicy)----   y=1,2...n-1  -----disc--->  ------REL------>
-------RLC------>                               <-----RLC-------
```

---

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. The conference is released by call clearing by the served user at SPA.

TSS CONF/	TP ISS_I_10_12	ISUP'97 reference 1.5.2.1.2/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference None

Test purpose

Isolation, reattachment, splitting, disconnection of a party, conference termination (unsuccessful)

To verify that if the procedures to isolate a party, reattach a party, split a party, disconnect a party, terminate conference fail, then the concerned call remains in the previous state and notifications are not sent to the affected nor to the non-affected remote parties.

NOTE – The procedure of reattachment fails, e.g. because the party was not formerly isolated.

Pre-test conditions

Arrange the data in the IUT such that the served user has subscribed to CONF supplementary service.

```
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR3)->
<------ACM------  <---alerting—
<------ANM------  <---connect---
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
                  ------disc---->
<CPG(oth pty add)- (cic1)
Try to reattach a party who hasn't been isolated:
                                --fac(reattach)->

<---REL(cic1)---                ------disc--->  -------REL------>
-------RLC----->                                <------RLC-------
<---REL(cic2)---
-------RLC----->
_____________________________________________________________________________
1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber
at SPB by sending him/her "other party added" in the CPG.
4. The conference is released by call clearing by the served user at SPA.
5. No CPG message with "reattached" should be received.
```

TSS CONF/	TP ISS_V_10_13	ISUP'97 reference 1.5.2.2.1, 1.5.2.3.1, 1.5.2.4.1/Q.734	Selection expression (IntermE OR DLE) AND PICS A.13/1	Q.788 reference None

Test purpose

Notification procedure supported

To verify that the IUT can successfully transfer/deliver the required notifications in/from the CPG message.

```
Case a)
 SPC               SPA              SPB
 -------IAM------>  -------IAM------>
 <------ACM-------  <------ACM-------
          ... ringing tone ...
 <------ANM-------  <------ANM-------
           check communication
 -------CPG------>  -------CPG------>
 -------CPG------>  -------CPG------>
  ... check conference communication ...
 -------CPG------>  -------CPG------>
 -------CPG------>  -------CPG------>
 -------CPG------>  -------CPG------>
  ... check conference communication ...
 <------REL-------  <------REL-------
 -------RLC------>  -------RLC------>
```

```
1. Assist a call set up from SPC to SPB.
2. Check that the notification "conference established" is received in the CPG
from conferee at SPC.
3. Check the notification "other party added" in the CPG.
4. Check the notification "isolated" in the CPG.
5. Check the notification "reattached" in the CPG.
6. Check the notification "other party disconnected" in the CPG.
7. Release the conference.
```

```
Case b)
 access            SPA              SPB
 <-----setup-------  <------IAM------
 -----alerting---->  -------ACM----->
        ... ringing tone ...
 -----connect----->  -------ANM----->
        check communication
 <-----notify------  <------CPG------
 <-----notify------  <------CPG------
  ... check conference communication ...
 <-----notify------  <------CPG------
 <-----notify------  <------CPG------
 <-----notify------  <------CPG------
  ... check conference communication ...
 <------disc-------  <------REL------
                     -------RLC----->
```

```
1. Assist a call set up from SPC to SPB.
2. Send the notification "conference established" is received in the CPG from
conferee at SPC.
3. Send the notification "other party added" in the CPG.
4. Send the notification "isolated" in the CPG.
5. Send the notification "reattached" in the CPG.
6. Send the notification "other party disconnected" in the CPG.
7. Release the conference.
```

TSS CONF/	TP ISS_V_10_14	ISUP'97 reference 1.6.15/Q.734	Selection expression Local AND PICS A.13/1	Q.788 reference None

Test purpose

Interaction with HOLD – held user added to conference

To verify that no retrieve notification is sent to a user put on hold and subsequently added to a conference call, but that the IUT sends the "conference established" notification to the held user.

NOTE – The IUT should send the **CPG** with the **generic notification indicator** set to "conference established" to the held user.

Pre-test conditions

Arrange the data in the IUT such that the served user has subscribed to CONF and HOLD supplementary services.

```
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
    no "retrieve" !
                  -----disc---->
<------REL------                -----disc---->  -------REL------>
-------RLC----->                                <------RLC-------
```

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add a new conferee to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. The conference is released by call clearing by the served user at SPA.
5. Check if "conference established notification" was received by user at SPC.

TSS CONF/	TP ISS_V_10_15	ISUP'97 reference 1.6.15/Q.734	Selection expression Local	Q.788 reference None

Test purpose

Interaction with HOLD – conference put on hold by conference controller

To verify that no hold and no retrieve notification is sent to the conferees when the conference controller puts the conference on hold.

Pre-test conditions

Arrange the data in the IUT such that the served user has subscribed to CONF and HOLD supplementary services.

```
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR3)->
<------ACM------  <--alerting---
<------ANM------  <---connect---
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
                  -----disc---->
<CPG(oth pty add)- (cic1)
                                --info(hold)->
                                --info(retr)->
                               No CPGs should be sent in the network

<---REL(cic1)----               -----disc---->  -------REL------>
-------RLC------>                               <------RLC-------
<---REL(cic2)----
-------RLC------>
```

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. No CPGs should be received by the conferee at SPB.
5. The conference is released by call clearing by the served user at SPA.
6. No CPGs should be received by the conferees at SPC.

TSS CONF/	TP ISS_V_10_16	ISUP'97 reference 1.6.15/Q.734	Selection expression Local	Q.788 reference None

Test purpose

Interaction with HOLD – conference put on hold by conferee

To verify that when the IUT receives notification from a conferee that a call has been put on hold and subsequently retrieved, the IUT passes on this notification to the served user, but does not send any information to the other non-affected conferees.

Pre-test conditions

Arrange the data in the IUT such that the served user has subscribed to CONF and HOLD supplementary services.

```
SPC             SPA         UNI at A          SPA            SPB
------IAM------>  --setup(CR2)->
<-----ACM-------  <--alerting---
<-----ANM-------  <---connect---
<--CPG(hold)----  <----info-----
                                --setup(CR1)->  -------IAM------>
                                <--alerting---  <------ACM-------
                                <---connect---  <------ANM-------
                                   ... check communication ...
                                ---fac(begC)->  --CPG(conf est)->
<-CPG(conf est)-  <--fac(addC)--                --CPG(oth pty add)>
---IAM(cic2)--->  --setup(CR3)->
<------ACM------  <--alerting---
<------ANM------  <---connect---
<-CPG(conf est)-- <--fac(addC)--                --CPG(oth pty add)>
                  -----disc---->
<CPG(oth pty add)- (cic1)
                                <--info(hold)--  <---CPG(hold)----
                                <--info(retr)--  <-CPG(retrieve)--
                                No CPGs should be sent in the network

<----REL(cic1)--                ------disc---->  -------REL------>
-------RLC----->                                 <------RLC-------
<----REL(cic2)--
-------RLC----->
```

---

1. Assist a call set up to UNI at SPB.
2. Establish a conference from SPA to SPB.
3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
4. Call hold is activated by the conferee at SPB, "remote hold" is sent in the CPG (no notification to the non-affected party, e.g. the served user at SPA).
5. Call is retrieved by user at SPB, "remote retrieval" is sent in the CPG (no notification to the non-affected users at SPC).
6. No CPGs should be received by the conferee at SPB.
7. The conference is released by call clearing by the served user at SPA.
8. No CPGs should be received by the conferees at SPC.

7.2.11 Transferencia explícita de llamada (ECT, *explicit call transfer*)

TSS ECT/	TP ISS_V_11_1	ISUP'97 reference 7.5.2.1.1.1 a)/Q.732.7	Selection expression Local AND PICS A.14/1	Q.788 reference None

Test purpose

Capability of storing and sending the additional calling party number in the call transfer number.

To verify that the IUT is able to store the additional calling party number in the **generic number** when the **calling party number** and the **generic number** have been received from the remote user. This information is sent by the IUT to the other remote user in the **call transfer number** in either the **FAC** or **CPG** when the call transfer is activated.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD, CW and ECT.

```
Case a)
SPC                 SPA                  SPB
      1st call              2nd call
 --------IAM------>
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                      -------IAM------->
                      <------ACM--------
                      <------ANM--------
 <-------FAC-------   -------FAC------->  remote addCgPN in CTNb
  :
```

---

1. Assist call set up for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call from SPC to the IUT (SPA) using the number TSP_Nb_A on the 1st B-channel.
3. Assist the 2nd call set up from UNI A to the IUT on the 2nd B-channel.
4. FAC with GenNot: "call transfer, active", ServAct: "call transfer" and CTNb – TSP_GenNb_C.

```
Case b)
SPC               SPA                 SPB
      1st call              2nd call
 --------IAM------>
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                      -------IAM------>
                      <------ACM-------
 <-------FAC-------   -------CPG------> remote addCgPN in CTNb
 <-------FAC-------   <------ANM-------
  :
```

---

1. Assist call set up for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call from SPC to the IUT (SPA) using the number TSP_Nb_A on the 1st B-channel.
3. Assist the 2nd call set up from UNI A to the IUT on the 2nd B-channel.
4. CPG (progress) with GenNot: "call transfer, active", ServAct: "call transfer" and CTNb – TSP_GenNb_C.

TSS ECT/	TP ISS_V_11_2	ISUP'97 reference 7.5.2.1.1.1 a)/Q.732.7	Selection expression Local AND PICS A.14/1	Q.788 reference None

Test purpose

Capability of storing and sending the calling party number in the call transfer number.

To verify that the IUT is able to store the **calling party number** when only this CLI has been received from the remote user. This information is sent by the IUT to the other remote user in the **call transfer number** in either the **FAC** or **CPG** when the call transfer is activated.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD, CW and ECT.

```
Case a)
SPC                SPA                 SPB
      1st call              2nd call
 --------IAM------>
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                       -------IAM------->
                       <------ACM--------
                       <------ANM--------
 <-------FAC-------    -------FAC------->  remote CgPN in CTNb
  :
```

---

1. Assist call set up for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call from SPC to the IUT (SPA) using the number TSP_Nb_A on the 1st B-channel.
3. Assist the 2nd call set up from UNI A to the IUT on the 2nd B-channel.
4. FAC with GenNot: "call transfer, active", ServAct: "call transfer" and CTNb – TSP_Nb_C.

```
Case b)
SPC                SPA                 SPB
      1st call              2nd call
 --------IAM------>
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                       -------IAM------>
                       <------ACM-------
 <-------FAC-------    -------CPG------> remote CgPN in CTNb
 <-------FAC-------    <------ANM-------
  :
```

---

1. Assist call set up for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call from SPC to the IUT (SPA) using the number TSP_Nb_A on the 1st B-channel.
3. Assist the 2nd call set up from UNI A to the IUT on the 2nd B-channel.
4. CPG (progress) with GenNot: "call transfer, active", ServAct: "call transfer" and CTNb – TSP_Nb_C.

TSS ECT/	TP ISS_V_11_3	ISUP'97 reference 7.5.2.1.1.1 b)/Q.732.7	Selection expression Local AND PICS A.14/1	Q.788 reference None

Test purpose

Capability of storing and sending the additional connected number in the call transfer number.

To verify that the IUT is able to store the additional connected number in the **generic number** when the **connected number** and the **generic number** have been received from the remote user. This information is sent by the IUT to the other remote user in the **call transfer number** in either the **FAC** or **CPG** when the call transfer is activated.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
Case a)
SPC                SPA                SPB
      1st call            2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------>
                     <------ACM-------
                     <------ANM-------
<--------FAC-------  -------FAC------> remote addConNb in CTNb from UNI at SPC
  :
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. FAC with GenNot:" call transfer, active", ServAct: "call transfer" and CTNb – TSP_GenNb_C.

```
Case b)
SPC                SPA               SPB
      1st call            2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     --------IAM----->
                     <------ACM-------
 <-------FAC-------  -------CPG------> remote addConNb in CTNb from UNI at SPC
 <-------FAC-------  <------ANM-------
  :
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot:" call transfer, active", ServAct: "call transfer" and CTNb – TSP_GenNb_C.

TSS ECT/	TP ISS_V_11_4	ISUP'97 reference 7.5.2.1.1.1 b)/Q.732.7	Selection expression Local AND PICS A.14/1	Q.788 reference None

Test purpose

Capability of storing and sending the connected number in call transfer number.

To verify that the IUT is able to store **connected number** when only this COL has been received from the remote user. This information is sent by the IUT to the other remote user in the **call transfer number** in either the **FAC** or **CPG** when the call transfer is activated.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
Case a)
SPC                SPA                 SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
--------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
                     <------ANM--------
 <-------FAC-------  -------FAC-------> remote ConNb in CTNb from UNI at SPC
  :
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. FAC with GenNot: "call transfer, active", ServAct: "call transfer" and CTNb – TSP_Nb_C.

```
Case b)
SPC                SPA                 SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
 <-------FAC-------  -------CPG-------> remote ConNb in CTNb from UNI at SPC
 <-------FAC-------  <------ANM--------
  :
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot: "call transfer, active", ServAct: "call transfer" and CTNb – TSP_Nb_C.

TSS ECT/	TP ISS_V_11_5	ISUP'97 reference 7.5.2.1.1.2.1/Q.732.7	Selection expression Local AND PICS A.14/2	Q.788 reference None

Test purpose

Loop prevention procedure – initiation

To verify that the local exchange controlling the ECT can successfully initiate the loop prevention procedure by sending **LOP** with **loop prevention indicator** set to "request" and with **call transfer reference** for both calls.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                  SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                       -------IAM-------->
                       <------ACM---------
                       <------ANM---------
 <-------LOP-------   -------LOP-------->
 --------LOP------>   <------LOP---------
 <-------FAC-------   -------FAC-------->
  :
```

```
1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. Send back the received CTRef with "no loop exists" indication.
5. FAC activating the ECT service.
```

TSS ECT/	TP ISS_V_11_6	ISUP'97 reference 7.5.2.1.1.2.1/Q.732.7	Selection expression Local AND PICS A.14/2	Q.788 reference None

Test purpose

Loop prevention procedure – successful response

To verify that the local exchange controlling the ECT can successfully perform a call transfer if a **LOP** with **loop prevention indicator** set to "response" is received and "no loop exists", and the call identity matches the one used by the IUT.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                 SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                      -------IAM------->
                      <------ACM--------
                      <------ANM--------
 <-------LOP-------   -------LOP------->
 --------LOP------>   <------LOP--------
 <-------FAC-------   -------FAC------->
  :
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. Send back the received CTRef with "no loop exists" indication.
5. FAC activating the ECT service (GenNot: "call transfer, active").

TSS ECT/	TP ISS_I_11_7	ISUP'97 reference 7.5.2.1.1.2.1/Q.732.7	Selection expression Local AND PICS A.14/2	Q.788 reference None

Test purpose

Loop prevention procedure – wrong call transfer identity ignored

To verify that the local exchange controlling the ECT disregards the **LOP** with **loop prevention indicator** set to "response" and "no loop exists", if the call transfer identity does not match the one used by the IUT.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                  SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
                     <------ANM--------
 <-------LOP-------  -------LOP------->
                     <------LOP-------- (to be disregarded)
 --------LOP------>  <------LOP--------
 <-------FAC-------  -------FAC------->
  :
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. Send back an altered (incremented) CTRef with "no loop exists" indication, to be disregarded.
5. Send back the received CTRef with "no loop exists" indication.
6. FAC activating the ECT service.

TSS ECT/	TP ISS_I_11_8	ISUP'97 reference 7.5.2.1.1.2.1/Q.732.7	Selection expression Local AND PICS A.14/2	Q.788 reference None

Test purpose

Loop prevention procedure – unsuccessful (loop exists)

To verify that the local exchange controlling the ECT rejects the call transfer if the **LOP** is received with **loop prevention indicator** set to "request" and the **call transfer reference** matches the one used by the IUT.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                  SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM-------->
                     <------ACM--------
                     <------ANM--------
 <-------LOP-------  -------LOP-------->
 --------LOP------>  <------LOP--------- (received messages are returned)
 <-------REL-------  -------REL-------->
 --------RLC------>  <------RLC---------
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. Send back the received CTRef with LOPInd "request" (identical to the one received).
5. Call is rejected.

TSS ECT/	TP ISS_V_11_9	ISUP'97 reference 7.5.2.1.1.2.1; 7.6.2/Q.732.7	Selection expression Local AND PICS A.14/2	Q.788 reference None

Test purpose

Loop prevention procedure – unsuccessful (interaction with ECT)

To verify that the local exchange controlling the ECT rejects the call transfer if the **LOP** is received with **loop prevention indicator** set to "response" and "simultaneous transfer" in case of interaction with ECT.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                 SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
                     <------ANM--------
 <-------LOP-------  -------LOP------->
 --------LOP------>  <------LOP-------- ("simultaneous transfer")
 <-------REL-------  -------REL------->
 --------RLC------>  <------RLC--------
```

---

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. Send back the received CTRef with LOPInd "response" set to "simultaneous transfer".
5. The call is rejected.

TSS ECT/	TP ISS_V_11_10	ISUP'97 reference 7.5.2.1.1.2.1/Q.732.7	Selection expression Local AND PICS A.14/2 AND PICS A.14/8	Q.788 reference None

Test purpose

Loop prevention procedure – unsuccessful (interworking situation)

To verify that the local exchange controlling the ECT rejects the call transfer if the **LOP** is received with **loop prevention indicator** set to "response" and "insufficient information" from e.g. interworking situations.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                 SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
                     <------ANM--------
 <-------LOP-------  -------LOP------->
--------LOP------>  <------LOP-------- ("insufficient information")
 <-------REL-------  -------REL------->
 --------RLC------>  <------RLC--------
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. Send back the received CTRef with LOPInd "response" set to "insufficient information".
5. Call is rejected.

TSS ECT/	TP ISS_V_11_11	ISUP'97 reference 7.5.2.1.1.2.1/Q.732.7	Selection expression Local AND PICS A.14/2 AND PICS A.14/9	Q.788 reference None

Test purpose

Loop prevention procedure – successful (interworking situation)

To verify that the local exchange controlling the ECT completes the call transfer if the **LOP** is received with **loop prevention indicator** set to "response" and "insufficient information" from e.g. interworking situations.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                 SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
                     <------ANM--------
 <-------LOP-------  -------LOP------->
 --------LOP------>  <------LOP-------- ("insufficient information")
 <-------FAC-------  -------FAC------->
  :
```

---

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. Send back the received CTRef with LOPInd "response" set to "insufficient information".
5. FAC activating the ECT service.

TSS ECT/	TP ISS_V_11_12	ISUP'97 reference 7.5.2.1.1.2.1/Q.732.7	Selection expression Local AND PICS A.14/2 AND PICS A.14/4	Q.788 reference None

Test purpose

Loop prevention procedure – unsuccessful on timer expiry

To verify that the local exchange controlling the ECT rejects the call transfer if no **LOP** is received within $\mathbf{T_{ECT}}$ expiry

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                 SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
                     <------ANM--------
 <-------LOP-------  -------LOP------->
         No LOP response is sent, TECT expires
 <-------REL-------  -------REL------->
 --------RLC------>  <------RLC--------
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. Call is rejected.

TSS ECT/	TP ISS_V_11_13	ISUP'97 reference 7.5.2.1.1.2.1/Q.732.7	Selection expression Local AND PICS A.14/2 AND PICS A.14/5	Q.788 reference None

Test purpose

Loop prevention procedure – successful on timer expiry

To verify that the local exchange controlling the ECT completes the call transfer if no **LOP** is received within $\mathbf{T_{ECT}}$ expiry

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                 SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
                     <------ANM--------
 <-------LOP-------  -------LOP------->
         No LOP response is sent, TECT expires
 <-------FAC-------  -------FAC------->
  :
```

1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. TECT expired, release the call.
5. FAC activating the ECT service.
6. The call should not be released.

TSS ECT/	TP ISS_V_11_14	ISUP'97 reference 7.5.2.1.1.2.2 a)/Q.732.7	Selection expression Local	Q.788 reference None

Test purpose

Facility message with generic notification sent to the remote user

To verify that the local exchange controlling the ECT can successfully initiate a call transfer by sending **FAC** with the **generic notification** set to "call transfer, active" or "call transfer, alerting" and the **service activation** parameter set to "call transfer".

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
Case a)
SPC                SPA                 SPB
      1st call              2nd call
 --------IAM------>
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                      -------IAM------->
                      <------ACM--------
                      <------ANM--------
 <-------FAC-------   -------FAC------->
  > call transfer, active <      > call transfer, active <
  :
```

---

1. Assist call setup for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. FAC with GenNot: "call transfer, active" and ServAct: "call transfer".

```
Case b)
SPC                SPA                 SPB
      1st call              2nd call
 --------IAM------->
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                     -------IAM------>
                     <------ACM-------
 <-------FAC-------  -------CPG------>
> call transfer, alerting <       call transfer, active
<-------FAC-------  <------ANM-------
     call transfer, active
  :
```

---

1. Assist call setup for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot: "call transfer, active".

TSS ECT/	TP ISS_V_11_15	ISUP'97 reference 7.5.2.1.1.2.2 a)/Q.732.7	Selection expression Local	Q.788 reference None

Test purpose

Call progress message with generic notification sent to the remote user

To verify that the local exchange (controlling the ECT) can successfully initiate a call transfer by sending **CPG** with the **generic notification** set to "call transfer, active" and the **service activation** parameter set to "call transfer".

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                  SPB
      1st call              2nd call
 --------IAM------->
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                      -------IAM------>
                      <------ACM-------
 <-------FAC-------   -------CPG------>
call transfer, alerting   > call transfer, active <
 <-------FAC-------   <------ANM-------
  call transfer, active
  :
```

---

1. Assist call setup for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot: "call transfer, active" and ServAct: "call transfer".

TSS ECT/	TP ISS_V_11_16	ISUP'97 reference 7.5.2.1.1.2.2 b)/Q.732.7	Selection expression Local	Q.788 reference None

Test purpose

Facility message send upon receipt of the ANM when the ECT is invoked while one call is alerting

To verify that, in case the ECT is invoked while one call is alerting, as soon as the local exchange (controlling the ECT) receives the **ANM**, it can successfully send to the other remote user the **FAC** with **service activation** set to "call transfer" and the **generic notification** set to "call transfer, active".

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                 SPB
      1st call              2nd call
 --------IAM------>
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                       -------IAM------>
                       <------ACM-------
 <-------FAC-------    -------CPG------>
 call transfer, alerting     call transfer, active
 <-------FAC-------    <------ANM-------
 > call transfer, active <
  :
```

---

1. Assist call setup for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot: "call transfer, active".

TSS ECT/	TP ISS_V_11_17	ISUP'97 reference 7.5.2.1.1.2.2 b)/Q.732.7	Selection expression Local AND PICS A.14/1	Q.788 reference None

Test purpose

Capability of sending the additional connected number in the call transfer number parameter when the ECT is invoked while one call is alerting

To verify that, in case the ECT is invoked while one call is alerting, the **FAC** sent to the other remote user upon receipt of the **ANM** conveys the **call transfer number** parameter with the information received in the **generic number** parameter if both the **connected number** and an additional connected number in the **generic number** are received in the **ANM**.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                  SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
 <-------FAC-------  -------CPG------->
 <-------FAC-------  <------ANM--------
remote addConNb in CTNb from UNI at SPB
 :
```

```
1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot: "call transfer, active".
```

TSS ECT/	TP ISS_V_11_18	ISUP'97 reference 7.5.2.1.1.2.2 b)/Q.732.7	Selection expression Local AND PICS A.14/1	Q.788 reference None

Test purpose

Capability of sending the connected number in the call transfer number parameter when the ECT is invoked while one call is alerting

To verify that, in case the ECT is invoked while one call is alerting, the **FAC** sent to the other remote user upon receipt of the **ANM** conveys the **call transfer number** parameter with the information received in the **connected number** parameter if only the **connected number** is received in the **ANM**.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

```
SPC                 SPA                  SPB
      1st call              2nd call
 <-------IAM-------
 --------ACM------>
 --------ANM------>
 <-------CPG------- hold 1st call
                     -------IAM------->
                     <------ACM--------
 <-------FAC-------  -------CPG------->
 <-------FAC-------  <------ANM--------
remote ConNb in CTNb from UNI at SPB
 :
```

```
1. Initiate 2 calls from the UNI A (IUT).
2. Assist 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot: "call transfer, active".
```

TSS ECT/	TP ISS_V_11_19	ISUP'97 reference 7.4; 7.5.2.2.1; 7.5.2.3.1; 7.5.2.4.1/Q.732.7	Selection expression IntermE AND PICS A14/2	Q.788 reference None

Test purpose

Transparent transfer of information of the loop prevention procedure message

To verify that the exchange can successfully pass on the **loop prevention indicator** and the **call transfer reference** in the **LOP** related to the call transfer service.

```
SPC                 SPA                 SPB
 --------IAM------>  -------IAM-------->
 <-------ACM-------  <------ACM---------
 <-------ANM-------  <------ANM---------
 --------LOP------>  -------LOP-------->
 <-------LOP-------  <------LOP---------
 --------FAC------>  -------FAC-------->
  :
```

```
1. Initiate a call from the UNI at SPC.
2. Send back the received CTRef with "no loop exists" indication.
3. FAC activating the ECT service.
```

TSS ECT/	TP ISS_V_11_20	ISUP'97 reference 7.4; 7.5.2.2.1; 7.5.2.3.1; 7.5.2.4.1/Q.732.7	Selection expression IntermE	Q.788 reference None

Test purpose

Transparent transfer of information in the FAC or CPG

To verify that the exchange can successfully pass on the **access transport** and the **generic notification indicator** in the **FAC** or **CPG** related to the call transfer service.

```
Case a)
SPC                SPA                  SPB
 --------IAM------>  -------IAM-------->
 <-------ACM-------  <------ACM---------
 <-------ANM-------  <------ANM---------
 --------FAC------>  -------FAC--------> call transfer, active
 --------FAC------>  -------FAC--------> sub-address in ATP from UNI at E
 <-------FAC-------  <------FAC--------- sub-address in ATP from UNI at B
  :
```

1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
2. FAC with GenNot: "call transfer, active".
3. Receive sub-address from UNI at SPE, beyond SPC.
4. Send sub-address of UNI at SPB.

```
Case b)
SPC                SPA                  SPB
 --------IAM------>  -------IAM-------->
 <-------ACM-------  <------ACM---------
 --------CPG------>  -------CPG--------> call transfer, active
 <-------ANM-------  <------ANM---------
 --------FAC------>  -------FAC--------> sub-address in ATP from UNI at E
 <-------FAC-------  <------FAC--------- sub-address in ATP from UNI at B
  :
```

1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
2. CPG with GenNot: "call transfer, active".
3. Receive sub-address from UNI at SPE, beyond SPC.
4. Send sub-address of UNI at SPB.

TSS ECT/	TP ISS_V_11_21	ISUP'97 reference 7.3; 7.5.2.3.1; 7.5.2.4.1/Q.732.7	Selection expression Gateway AND PICS A.14/6	Q.788 reference None

Test purpose

Call transfer number – removal of number

To verify that the exchange removes the **call transfer number** in the **FAC** or **CPG** before sending it to the next exchange, if its indicator is set to "presentation restricted" and there is no bilateral agreement.

```
Case a)
SPC                 SPA                 SPB
 --------IAM------>  -------IAM------->
 <-------ACM-------  <------ACM--------
 <-------ANM-------  <------ANM--------
 --------FAC------>  -------FAC-------> CTNb removal
  :
```

1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
2. FAC with GenNot: "call transfer, active" and CTNb removed.

```
Case b)
SPC                 SPA                 SPB
 --------IAM------>  -------IAM-------->
 <-------ACM-------  <------ACM---------
 --------CPG------>  -------CPG--------> CTNb removal
 <-------ANM-------  <------ANM---------
  :
```

1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
2. CPG (progress) with GenNot: "call transfer, active" and no CTNb.

TSS ECT/	TP ISS_V_11_22	ISUP'97 reference 7.3; 7.5.2.3.1/Q.732.7	Selection expression OutIE	Q.788 reference None

Test purpose

Call transfer number – conversion to international number

To verify that the IUT converts the **call transfer number** to international format. The nature of address indicator shall be set to "international number".

```
Case a)
SPC                 SPA                 SPB
 --------IAM------>  -------IAM------->
 <-------ACM-------  <------ACM--------
 <-------ANM-------  <------ANM--------
 --------FAC------>  -------FAC-------> CTNb converted to international format
  :
```

1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
2. FAC with GenNot: "call transfer, active" and international CTNb.

```
Case b)
SPC                SPA                 SPB
 --------IAM------>  -------IAM------->
 <-------ACM-------  <------ACM--------
 --------CPG------>  -------CPG-------> CTNb converted to international format
 <-------ANM-------  <------ANM--------
  :
```

1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
2. CPG with GenNot: "call transfer, active" and international CTNb.

TSS ECT/	TP ISS_V_11_23	ISUP'97 reference 7.3; 7.5.2.4.1/Q.732.7	Selection expression IncIE	Q.788 reference None

Test purpose

Call transfer number – removal of own country code

To verify that the IUT removes the country code in the address signals of the **call transfer number** if it is the network"s own country code. The nature of address indicator shall be set to "national (significant) number".

```
Case a)
SPC                SPA                 SPB
 --------IAM------>  -------IAM-------->
 <-------ACM-------  <------ACM---------
 <-------ANM-------  <------ANM---------
 --------FAC------>  -------FAC--------> CTNb converted to national format
  :
```

1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
2. FAC with GenNot: "call transfer, active" and national (significant) CTNb.

```
Case b)
SPC                SPA                 SPB
 --------IAM------>  -------IAM-------->
 <-------ACM-------  <------ACM---------
 --------CPG------>  -------CPG--------> CTNb converted to national format
 <-------ANM-------  <------ANM---------
  :
```

1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
2. CPG with GenNot: "call transfer, active" and national (significant) CTNb.

TSS ECT/	TP ISS_V_11_24	ISUP'97 reference 7.5.2.1.1.3 a)/Q.732.7	Selection expression Local AND BCall PICS A.13/11 AND BCall PICS A.13/13	Q.788 reference None

Test purpose

ECT – interaction with echo control

To verify that the local exchange (controlling the ECT) can successfully initiate echo control procedures, when the total propagation delay for the two legs of the call to be transferred requires usage of echo control devices. The information to be summed is received in the **propagation delay counter** of the **IAM** for incoming calls and in the **call history information** of the **ANM/CON** for outgoing calls.

NOTE – The used PICS are defined for the basic call (BCall).

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to ECT.

```
SPC                 SPA                  SPB
      1st call              2nd call
 ----IAM(PDC=50)-->
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                       -------IAM-------->
                       <------ACM---------
                       <--ANM(CHInf=50)---
 <-------FAC-------    -------FAC-------->
  :
```

---

1. Assist call setup for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call from SPC to the IUT (SPA) using the number TSP_Nb_A on the 1st B-channel. The stimulus IAM contains an initial propagation delay value of e.g. 50 ms. The actual value is stored in PIXIT table
3. Assist the 2nd call set up from UNI A to the IUT on the 2nd B-channel.
4. Send an ANM with Call history information of e.g. 50 ms.
5. FAC with GenNot: "call transfer, active". The sum (in this case 100 ms) of the propagation delays on the two routes would require echo controlling devices. Are echo control devices enabled for the connection (both incoming/outgoing at the local exchange) or is some better placement searched? For further study,(see also CONF test case ISS_10_1).

TSS ECT/	TP ISS_V_11_25	ISUP'97 reference 7.7/Q.732.7	Selection expression IWorkE AND PICS A.14/7	Q.788 reference None

Test purpose

Loop prevention procedure – Interworking with protocols not supporting loop prevention

To verify that the IUT is able to support call control interworking between ISUP'97 and protocols not supporting the loop prevention procedure, and return a **LOP** (response) message with the indication "insufficient information" in response to a **LOP** (request) message.

```
SPC               SPA                    SPB
 <-------IAI-------  <------IAM---------
 --------ACM------>  -------ACM-------->
 --------ANC------>  -------ANM-------->
                     <------LOP---------
                     -------LOP-------->
                     <------FAC--------- (PICS A.14/9 = YES)
  :
                                   OR
 <-------CCL-------  <-------REL-------- (PICS A.14/9 = NO)
  :
```

1. Assist a call set up from the UNI at SPB on a non-ISUP route.
2. Send LOP request.
3. Receive LOP response with the same CTRef and "insufficient information"
4. Complete call (YES to PICS question A.14/9) and send FAC with GenNot: "call transfer, active".
5. Reject call (YES to PICS question A.14/8).

See also ECT test cases ISS_V_11_10 and ISS_V_11_11.

TSS ECT/	TP ISS_V_11_26	ISUP'97 reference 7.7/Q.732.7	Selection expression IWorkE	Q.788 reference None

Test purpose

Notification – Interworking with protocols not supporting the notification mechanism or the simple service activation procedure

To verify that the exchange discards the **FAC** (always) and the **CPG** (if received during alerting) and successfully completes the call transfer.

```
Case a)
SPC  non-ISUP     SPA                  SPB
 <-------IAI-------  <------IAM---------
 --------ACM------>  -------ACM-------->
 --------ANC------>  -------ANM-------->
                     <------FAC---------  call transfer, active
  :
```

```
1. Assist a call set up from the UNI at SPB on a non-ISUP route.
2. Send FAC with GenNot: "call transfer, active".
3. The call should complete.
```

```
Case b)
SPC  non-ISUP     SPA                  SPB
 <-------IAI-------  <------IAM---------
 --------ACM------>  -------ACM-------->
                     <------CPG---------  call transfer, active
 --------ANC------>  -------ANM-------->
  :
```

```
1. Assist a call set up from the UNI at SPB on a non-ISUP route.
2. Send CPG with GenNot: "call transfer, active"
3. The call should complete.
```

TSS ECT/	TP ISS_V_11_27	ISUP'97 reference 7.6.13.1/Q.732.7	Selection expression Local	Q.788 reference None

Test purpose

ECT – Interaction with UUS1

To verify that if the ECT is invoked while a remote user is alerted, the originating exchange discards the **user-to-user information** received in the **ANM** or in the **REL** from that remote user.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to ECT and UUS1.

```
Case a)
SPC                SPA                 SPB
      1st call              2nd call
 --------IAM------->
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                      ----IAM (UUInf)--->
                      <---ACM (UUInf)----
 <-------FAC-------   --------CPG------->
call transfer, alerting   call transfer, active
 <-------FAC-------   <---ANM (UUInf)----
 call transfer, active
  :
```

---

1. Assist call setup for the 1st call and then initiate the 2nd call (with UUInf) at the UNI A (IUT).
2. Initiate the 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot: "call transfer, active".
5. The 2nd call is answered with UUInf in the ANM, which is to be discarded.
6. Get the verdict from the access side, "pass" if UUInf discarded.

```
Case b)
SPC                SPA                 SPB
      1st call              2nd call
 --------IAM------->
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                       ----IAM (UUInf)-->
                       <---ACM (UUInf)---
 <-------FAC-------    -------CPG------->
call transfer, alerting    call transfer, active
 <-------REL-------    <---REL (UUInf)---
 --------RLC------>    -------RLC------->
```

---

1. Assist call setup for the 1st call and then initiate the 2nd call (with UUInf) at the UNI A (IUT).
2. Initiate the 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot: "call transfer, active".
5. The 2nd call is released with UUInf in the REL, which is to be discarded.
6. Get the verdict from the access side, "pass" if UUInf discarded.

TSS ECT/	TP ISS_V_11_28	ISUP'97 reference 7.6.13.2/Q.732.7	Selection expression Local	Q.788 reference None

Test purpose

ECT – Interaction with UUS2

To verify that if the ECT is invoked while a remote user is alerted, the exchange discards the **USR** messages received after the call transfer invocation until the **ANM** from that remote user is received.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to ECT and UUS2.

```
SPC                 SPA                  SPB
      1st call              2nd call
 --------IAM------->
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                      -------IAM------->
                      <------ACM--------
                      <------USR--------
 <-------FAC-------   -------CPG------->
call transfer, alerting   call transfer, active
                      <------USR--------
<-------FAC-------   <------ANM--------
 call transfer, active
  :
```

---

1. Assist call setup for the 1st call and then initiate the 2nd call (with UUInf) at the UNI A (IUT).
2. Initiate the 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB) and check the UUS2 request.
4. Accept the requested UUS2 service.
5. Send the 1st USR message. The UUInf should be received on the access side.
6. CPG (progress) with GenNot: "call transfer, active".
7. Send the 2nd USR message. The UUInf should not be received on the access side.
8. Get the verdict from the access side, "pass" if UUInf discarded.

TSS ECT/	TP ISS_V_11_29	ISUP'97 reference 7.6.13.3/Q.732.7	Selection expression Local	Q.788 reference None

Test purpose

ECT – Interaction with UUS3

To verify that the exchange discards the **USR** messages if received after the call transfer invocation until the call transfer is completed, i.e. either **FAC** is sent to the remote users when both calls are already answered or **ANM** is received from a remote user when one of the calls is alerting.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to ECT and UUS3.

```
SPC                 SPA                 SPB
      1st call              2nd call
 --------IAM------>
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                      -------IAM------->
                      <------ACM--------
 --------USR------->
 <-------FAC--------   -------CPG------>
call transfer, alerting    call transfer, active
 --------USR------->
 <-------FAC--------   <------ANM-------
call transfer, active
  :
```

---

1. Assist call setup for the 1st call and then initiate the 2nd call (with UUInf) at the UNI A (IUT).
2. Initiate the 1st call set up on the left side (SPC).
3. Assist 2nd call set up on the right side (SPB).
4. CPG (progress) with GenNot: "call transfer, active".
5. Get the verdict from the access side, "pass" if UUInf discarded.

Note: The first part of the purpose has not been implemented because the time window between call transfer invocation and completion when both calls are answered is too small to permit sending of USR exactly within this interval.

TSS ECT/	TP ISS_V_11_30	ISUP'97 reference Figure 7-7/Q.732.7	Selection expression Local AND PICS A.2/7	Q.788 reference None

Test purpose

ECT – Interaction with SUB

To verify that if the IUT is able to receive and re-send the sub-address in the **access transport** parameter in the **FAC** message in either direction after activating the call transfer service. These are the calling sub-address for incoming calls and the connected sub-address for outgoing calls.

Pre-test conditions

Arrange the data in the IUT so that the served user subscribes to ECT.

```
SPC                 SPA                 SPB
      1st call              2nd call
 --------IAM------>
 <-------ACM-------
 <-------ANM-------
 <-------CPG------- hold 1st call
                      -------IAM------->
                      <------ACM--------
                      <------ANM--------
 <-------FAC-------   -------FAC-------> call transfer activation
 <-------FAC-------   -------FAC------->
 sub-address in ATP   sub-address in ATP
   from UNI at B         from UNI at C
  :
```

1. Assist call setup for the 1st call and then initiate the 2nd call at the UNI A (IUT).
2. Initiate the 1st call from SPC to the IUT (SPA) using the number TSP_Nb_A on the 1st B-channel.
3. Assist the 2nd call set up from UNI A to the IUT on the 2nd B-channel.
4. Answer the call by specifying a connected number and a connected sub-address.
5. FAC with GenNot: "call transfer, active", ServAct: "call transfer".
6. Receive sub-address from UNI at SPC.

7.2.12 Desviación de llamada (CFB, CFNR, CFU, CD, *call diversion*)

CFNR		Call forwarding on no reply	call diversion may occur
	CFNR(A)	CFNR – option A – late release	
	CFNR(B)	CFNR – option B – immediate release	
CD(a)		CD during alerting	
	CD(a,A)	CD during alerting – option A – late release	
	CD(a,B)	CD during alerting – option B – immediate release	
CFB(u,e)		CFB user determined with early ACM	
CD(i,e)		CD immediate response with early ACM	
CFU		Call forwarding unconditional	call is diverting
CFB(n)		CFB network determined	
CFB(u,l)		CFB user determined with late ACM	
CD(i,l)		CD immediate response with late ACM	
CD(i)		CD immediate response	

TSS CDIV/	TP ISS_V_12_1	ISUP'97 reference 2.5.2.1.1/Q.732	Selection expression OLE	Q.788 reference 2.6.1

Test purpose

"Call is diverting" indication received in ACM

To verify that a call can be successfully established, if diversion occurs. The **ACM** contains the **generic notification indicator** set to "call is diverting", the **call diversion information** and the **redirection number**.

Applicable redirection reason in the **call diversion information**:

"busy"	CFB(n); CFB(u,l)
"unconditional"	CFU
"deflection immediate response"	CD(i,l)

```
Case a)
access            SPA                 SPB                      SPD
 -------setup----->  --------IAM-------> ( --------IAM-------> )
                    <-------ACM-------
 <----alerting ----  <-------CPG-------  ( <-------ACM-------- )
             ... ringing tone ...
 <------answer-----  <-------ANM-------  ( <-------ANM-------- )
  :
```

1. The stimulus access will initiate a call set up.
2. Redirection reason is "busy".
3. CPG (alerting) coded as if it has been mapped from ACM including BCI.

```
Case b)
access            SPA                 SPB                    SPD
 -------setup----->  --------IAM------>  ( --------IAM-------> )
                    <-------ACM-------
 <----alerting ----  <-------CPG-------  ( <-------ACM-------- )
         ... ringing tone ...
 <------answer-----  <-------ANM-------  ( <-------ANM-------- )
  :
```

1. The stimulus access will initiate a call set up.
2. Redirection reason is "unconditional".
3. CPG (alerting) coded as if it has been mapped from ACM including BCI.

```
Case c)
access            SPA                 SPB                    SPD
 -------setup----->  --------IAM------>  ( --------IAM-------> )
                    <-------ACM-------
 <----alerting ----  <-------CPG-------  ( <-------ACM-------- )
             ... ringing tone ...
 <------answer-----  <-------ANM-------  ( <-------ANM-------- )
  :
```

1. The stimulus access will initiate a call set up.
2. Redirection reason is "deflection immediate response".
3. CPG (alerting) coded as if it has been mapped from ACM.

TSS CDIV/	TP ISS_V_12_2	ISUP'97 reference 2.5.2.1.1/Q.732	Selection expression OLE	Q.788 reference 2.6.3; 2.7.1

Test purpose

"Call diversion may occur" received in ACM

To verify that a call can be successfully established, if diversion may occur. The **ACM** indicates that "call diversion may occur" in the **optional backward call indicators**. The following **CPG** contains the **generic notification indicator** set to "call is diverting", the **call diversion information** and the **redirection number**, if diversion occurs.

Applicable redirection reason in the **call diversion information**:

"busy"	CFB(u,e)
"no reply"	CFNR
"deflection during alerting"	CD(a)
"deflection immediate response"	CD(i,e)

```
Case a)
access            SPA                   SPB                   SPD
 -------setup----->  --------IAM------->
                    <-------ACM--------
   (no indication )  <-------CPG--------  ( --------IAM-------> )
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
_____________________________________________________________________
1. The stimulus access will initiate a call set up.
2. "Call diversion may occur" in Event indicator.
3. "Call forwarded on busy"  in Event indicator and also Call diversion information.
4. CPG (alerting) coded as if it has been mapped from ACM, with RnNbRes parameter.
Case b)
access            SPA                   SPB                   SPD
 -------setup----->  --------IAM------->
                    <-------ACM--------
   (progress)        <-------CPG--------  ( --------IAM-------> )
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
_____________________________________________________________________
1. The stimulus access will initiate a call set up.
2. "Subscriber free" in CdPSI & "Call diversion may occur" in OBCI.
3. CPG (Progress) in Event indicator and also Call diversion information ("CFNR"), Generic
notification, and redirection Number.
4. CPG (alerting) coded as if it has been mapped from ACM, with RnNbRes parameter, and including
BCI.
Case c)
access            SPA                   SPB                   SPD
 -------setup----->  --------IAM------->
                    <-------ACM--------
   (no indication )  <-------CPG--------  ( --------IAM-------> )
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
_____________________________________________________________________
1. The stimulus access will initiate a call set up.
2. "Subscriber free" in CdPSI & "Call diversion may occur" in Event indicator.
3. CPG(Progress) in Event indicator and also Call diversion information, generic notification,
and redirection number.
4. CPG(alerting) coded as if it has been mapped from ACM, with RnNbRes parameter, and including
BCI.
Case d)
access            SPA                   SPB                   SPD
 -------setup----->  --------IAM------->
                    <-------ACM--------
   (no indication )  <-------CPG--------  ( --------IAM-------> )
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
_____________________________________________________________________
1. The stimulus access will initiate a call set up.
2. "Subscriber free" in CdPSI & "Call diversion may occur" in Event indicator.
3. "Deflection immediate response" in Event indicator and also Call diversion information.
4. CPG (alerting) coded as if it has been mapped from ACM, with RnNbRes parameter.
```

TSS CDIV/	TP ISS_V_12_3	ISUP'97 reference 2.4.2; Table 2-1/Q.732	Selection expression OLE	Q.788 reference None

Test purpose

Redirection number – presentation allowed – according to the notification subscription option

To verify that the originating exchange makes the **redirection number** available to the calling access signalling system, if the notification subscription option of the **call diversion information** is coded "010 presentation allowed with redirection number".

The **redirection number restriction** parameter is set to "00 presentation allowed".

```
access            SPA                  SPB                     SPD
 -------setup----->  --------IAM------->  ( --------IAM-------> )
                     <-------ACM--------
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
```

1. The stimulus access will initiate a call set up. The verdict will be set to pass if the Redirection number is presented on the access.
2. NSO is "presentation allowed with redirection number" (implicit) and RnReas = CFU.

NOTE: CFU is used as redirection reason, but other reasons are also applicable.

3. Redirection number restriction parameter "presentation allowed" (implicit).

TSS CDIV/	TP ISS_V_12_4	ISUP'97 reference 2.4.2; Table 2-1/Q.732	Selection expression OLE	Q.788 reference None

Test purpose

Redirection number – presentation restricted – according to the notification subscription option

To verify that the originating exchange does not make the **redirection number** available to the calling access signalling system, if the notification subscription option of the **call diversion information** is coded "001 presentation not allowed", "011 presentation allowed without redirection number" or "000 unknown".

The **redirection number restriction** parameter is set to "00 presentation allowed".

```
Case a)
access            SPA                  SPB                    SPD
 -------setup----->  --------IAM------->  ( --------IAM-------> )
                     <-------ACM--------
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
```

1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
2. NSO is "presentation allowed with redirection number" (implicit) and RnReas = CFU.
NOTE: CFU is used as redirection reason, but other reasons are also applicable.
3. Redirection number restriction parameter "presentation allowed" (implicit/default).

```
Case b)
access            SPA                  SPB                    SPD
 -------setup----->  --------IAM------->  ( --------IAM-------> )
                     <-------ACM--------
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
```

1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
2. NSO is "presentation allowed without redirection number" and RnReas = CFU.
NOTE: CFU is used as redirection reason, but other reasons are also applicable.
3. Redirection number restriction parameter "presentation allowed" (implicit).

```
Case c)
access            SPA                  SPB                    SPD
 -------setup----->  --------IAM------->  ( --------IAM-------> )
                     <-------ACM--------
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
```

1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
2. NSO is "unknown" and RnReas = CFU.
NOTE: CFU is used as redirection reason, but other reasons are also applicable.
3. Redirection number restriction parameter "presentation allowed" (implicit/default).

TSS CDIV/	TP ISS_V_12_5	ISUP'97 reference 2.4.2; Table 2-1/Q.732	Selection expression OLE	Q.788 reference None

Test purpose

Redirection number – presentation restricted – according to redirection number restriction parameter

To verify that the originating exchange does not make the **redirection number** available to the calling access signalling system, if the **redirection number restriction** parameter indicates "01 Presentation restricted".

The notification subscription option of the **call diversion information** is coded "010 Presentation allowed with redirection number".

```
access            SPA                  SPB                    SPD
 -------setup----->  --------IAM------->  ( --------IAM-------> )
                     <-------ACM--------
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
```

1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
2. NSO is "presentation allowed with redirection number" (implicit) and RnReas = CFU.

NOTE: CFU is used as redirection reason, but other reasons are also applicable.

3. The Redirection number restriction parameter is set to "presentation restricted".

TSS CDIV/	TP ISS_I_12_6	ISUP'97 reference 2.4.2; Table 2-1/Q.732	Selection expression OLE	Q.788 reference None

Test purpose

Redirection number – presentation restricted – no redirection number restriction parameter received

To verify that the originating exchange does not make the **redirection number** available to the calling access signalling system, if no **redirection number restriction** parameter is received.

The notification subscription option of the **call diversion information** is coded "010 Presentation allowed with redirection number".

```
access            SPA                  SPB                    SPD
 -------setup----->  --------IAM------->  ( --------IAM-------> )
                     <-------ACM--------
 <----alerting ----  <-------CPG--------  ( <-------ACM-------- )
            ... ringing tone ...
 <-----answer------  <-------ANM--------  ( <-------ANM-------- )
 :
```

1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
2. NSO is "presentation allowed with redirection number" (implicit) and RnReas = CFU.
3. CPG (alerting) without the redirection number restriction parameter is sent to the IUT.

TSS CDIV/	TP ISS_I_12_7	ISUP'97 reference 2.4.2/Q.732	Selection expression OLE	Q.788 reference None

Test purpose

Multiple diversions – redirection number not send by the last diversion

To verify that the originating exchange does not make any **redirection number** available to the calling access signalling system, if the last diverting exchange does not send one.

NOTE – The first diverting exchange sends the **redirection number** and allows for its presentation. The second (last) diversion allows for the presentation of the **redirection number**, but does not send it, i.e. only **call diversion information** is present in the message and the redirection number is missing. The **redirection number restriction** parameter is also received as "presentation allowed".

```
access            SPA                 SPB                  SPD
 -------setup----->  --------IAM------->  ( -------IAM-----> )
(no indication)      <-------ACM--------                       1st diversion
(no indication)      <-------CPG--------  ( <------ACM------ ) 2nd diversion
<-----alerting ----  <-------CPG--------  ( <------CPG------ ) (alerting)
:
```

1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
2. ACM no indication with NSO: "Presentation allowed with number", RnReas = CFU and 1st Redirection number.
3. CPG progress with NSO: "Presentation allowed with number", RnReas = CFU and NO 2nd Redirection number.
4. CPG alerting with RnNbRes parameter for the 2nd Redirection number.

TSS CDIV/	TP ISS_I_12_8	ISUP'97 reference 2.4.2/Q.732	Selection expression OLE	Q.788 reference None

Test purpose

Multiple diversions – redirection number – presentation according to the most restrictive notification subscription option

To verify that the originating exchange handles the presentation of the **redirection number** according to the contents of the most restrictive notification subscription option of the **call diversion information**, if the forwarded-to user allows presentation of the number ("presentation allowed" in the **redirection number restriction** parameter).

NOTE – Several messages each containing the **call diversion information** are received, as if multiple forwardings have occurred (from option B – immediate release – diverting exchanges, so no collecting of information takes place).

```
access            SPA                  SPB                  SPD
 -------setup----->  --------IAM-------> ( -------IAM-----> )
 (no indication)     <-------ACM--------                       1st diversion
 (no indication)     <-------CPG-------- ( <------ACM------ ) 2nd diversion
 (no indication)     <-------CPG-------- ( <------CPG------ ) 3rd diversion
 (no indication)     <-------CPG-------- ( <------CPG------ ) 4th diversion
 <----alerting ----  <-------CPG-------- ( <------CPG------ ) (alerting)
          ... ringing tone ...
 <------answer-----  <-------ANM-------- ( <------ANM------ )
  :
```

1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
2. NOTE: CFU is used as redirection reason, but other reasons are also applicable.
3. Redirection number restriction parameter "presentation allowed" (implicit/default).

TSS CDIV/	TP ISS_V_12_9	ISUP'97 reference 2.5.2.2.1; 2.5.2.5.1.2 d)/Q.732	Selection expression IntermE	Q.788 reference None

Test purpose

Notification procedures for a diverting call – before the diverting exchange

To verify that the IUT can successfully pass on in the backward direction (on the leg before the diversion) all the diversion information from the diverting exchange.

It has to be checked that the following signalling information is passed on:

optional backward call indicators with setting "call diversion may occur" for CFNR, CD(a), CFB(u,e) and CD(i,e)

generic notification indicator

call diversion information

redirection number (NOTE – Altered in gateways)

redirection number restriction parameter

NOTE – The following messages can be tested for CFNR, CD(a), CFB(u,e) and CD(i,e):

ACM with **optional backward call indicators** with "call diversion may occur"

CPG with **generic notification indicator**, **call diversion information** and **redirection number**

CPG alerting (or **ANM** or **CON**) with **redirection number restriction** parameter.

The following messages can be tested for CFU, CFB(n), CFB(u,l), CD(i,l):

ACM with **generic notification indicator**, **call diversion information** and **redirection number**

CPG alerting (or **ANM** or **CON**) with **redirection number restriction** parameter.

```
Case a)
access            SPA                  SPB                 SPD
 -------setup----->  -------IAM------->  ( ------IAM------> )
 <------ACM--------  <------ACM-------- RnReas, number
 <------CPG--------  <------CPG--------  ( <-----ACM------- ) RnNbRes
          ... ringing tone ...
 <------ANM--------  <------ANM--------  ( <-----ANM------- )
  :
_____________________________________________________________________________
1. The PTC will provide the necessary stimulus, the test is for RnReas = CFU.
2. ACM (no indication) with CDInf, GenNot = "call is diverting" and the RnNb.
3. CPG (alerting) with RnNbRes – coded as if it has been mapped from ACM;
including BCI.


Case b)
access            SPA                 SPB                 SPD
 -------setup----->  -------IAM------>
 <------ACM--------  <------ACM-------  CDmo, RnReas, number
 <------CPG--------  <------CPG-------   ( ------IAM-----> )
 <------CPG--------  <------CPG-------   ( <-----ACM------ ) RnNbRes
            ... ringing tone ...
 <------ANM--------  <------ANM-------   ( <-----ANM------ )
  :
____________________________________________________________________________
1. The PTC will provide the necessary stimulus, the test is for RnReas = CFNR.
2. ACM with optional backward  call indicator "call diversion may occur"
3. CPG  (progress) with CDInf, GenNot = "call is diverting" and the RnNb.
4. CPG (alerting) with RnNbRes – coded as if it has been mapped from ACM;
including BCI.
```

TSS CDIV/	TP ISS_V_12_10	ISUP'97 reference 2.5.2.2.1/Q.732	Selection expression IntermE	Q.788 reference None

Test purpose

Notification procedures for a diverting call – after the diverting exchange

To verify that the IUT can successfully pass on in both directions (on the leg after the diversion) all the diversion information from the diverting exchange.

It has to be checked that the following signalling information is passed on in the forward direction:

redirecting number (NOTE – Altered in Gateways)

original called number (NOTE – Altered in Gateways)

redirection information

It has to be checked that the following signalling information is passed on in the backward direction:

redirection number restriction parameter (in ACM /CPG /ANM /CON)

```
SPC                SPA                  SPB                    SPD
--------IAM------>  --------IAM------->  with RnInf, OriCdNb, RgNb
<-------ACM-------  <-------ACM-------- RnNbRes
          ... ringing tone ...
<------answer-----  <-------ANM--------
  :
```

```
1. The stimulus ISUP will initiate a call set up with the expected signalling
information.
2. On the forwarding leg the RnNbRes from user with the number TSP_Nb_B is
returned. The Redirection number restriction parameter is set to "presentation
allowed" by default.
```

TSS CDIV/	TP ISS_I_12_11	ISUP'97 reference 2.5.2.3/Q.732; 3.5.2.3/Q.731	Selection expression OutIE	Q.788 reference None

Test purpose

Original called number in the outgoing international gateway

To verify that the outgoing international gateway checks and manipulates the **original called number** according to the procedures as defined for CLIP.

Applicable tests:

Discarding the **original called number** if case of bilateral agreements (PICS A.15/11)

Discarding the **original called number**, if the address is marked not available

Converting the **original called number** to international format with transparent transferral of screening indicator and address presentation restricted indicator

Discarding an incomplete **original called number**

```
Case a)
SPC                SPA                 SPB
 --------IAM------>  --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will send an IAM with OriCdNb.


Case b)
SPC                SPA                 SPB
 --------IAM------>  --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will send an IAM with an "address not available" OriCdNb.


Case c)
SPC                SPA                 SPB
 --------IAM------>  --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will send an IAM with a national (significant) OriCdNb.
```

TSS CDIV/	TP ISS_V_12_12	ISUP'97 reference 2.5.2.3/Q.732; 3.5.2.3/Q.731	Selection expression OutIE	Q.788 reference None

Test purpose

Redirecting number in the outgoing international gateway

To verify that the outgoing international gateway checks and manipulates the **redirecting numbe**r according to the procedures as defined for CLIP.

Applicable tests:

Discarding the **redirecting number** if case of bilateral agreements (PICS A.15/12)

Discarding the **redirecting number**, if the address is marked not available

Converting the **redirecting number** to international format with transparent transferral of screening indicator and address presentation restricted indicator

Discarding an incomplete **redirecting number**

```
Case a)
SPC                SPA                 SPB
 --------IAM------>  --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will send an IAM with RgNb.

Case b)
SPC                SPA                 SPB
 --------IAM------>  --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will send an IAM with an "address not available" RgNb.


Case c)
SPC                SPA                 SPB
 --------IAM------>  --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will send an IAM with a national significant RgNb.
```

TSS CDIV/	TP ISS_V_12_13	ISUP'97 reference 2.5.2.3/Q.732	Selection expression OutIE	Q.788 reference None

Test purpose

Redirection number in the outgoing international gateway.

To verify that the outgoing international gateway checks and manipulates the **redirection numbe**r according to the procedures defined for COLP.

Tests applicable:

Converting the **redirection number** to national format, if necessary (own country code)
Adding a prefix to an international **redirection number** (PICS A.15/14 – national option @)

```
Case a)
SPC                SPA                  SPB                    SPD
 --------IAM------>  --------IAM------->  ( --------IAM-------> )
 <-------ACM-------  <-------ACM-------- RnReas, number
 <-------CPG-------  <-------CPG--------  ( <------ACM--------- ) RnNbRes
            ... ringing tone ...
 <------ANM--------  <-------ANM--------  ( <-------ANM-------- )
  :
```

1. The PTC will provide the necessary stimulus.
2. ACM with CDInf, GenNot = "call is diverting" and an international RnNb: TSP_Nb_D with own CC.
3. CPG (alerting) with RnNbRes – coded as if it has been mapped from ACM including BCI.

```
Case b)
SPC                SPA                  SPB                    SPD
 --------IAM------>  --------IAM------->  ( --------IAM-------> )
 <-------ACM-------  <-------ACM-------- RnReas, number
 <-------CPG-------  <-------CPG--------  ( <------ACM--------- ) RnNbRes
            ... ringing tone ...
 <------ANM--------  <-------ANM--------  ( <-------ANM-------- )
  :
```

1. The PTC will provide the necessary stimulus.
2. ACM with CDInf, GenNot = "call is diverting" and an international RnNb: TSP_Nb_D with foreign country code.
3. CPG (alerting) with RnNbRes – coded as if it has been mapped from ACM including BCI.

TSS CDIV/	TP ISS_V_12_14	ISUP'97 reference 2.5.2.4/Q.732; 3.5.2.4/Q.731	Selection expression IncIE	Q.788 reference None

Test purpose

Original called number in the incoming international gateway

To verify that the incoming international gateway checks and manipulates the **original called numbe**r according to the procedures as defined for CLIP.

Applicable tests:

Converting the **original called number** to national format, if necessary (own country code)
Adding a prefix to an international **original called number** (PICS A.15/15 – national option @)

```
Case a)
SPC  International   SPA     National       SPB
 ----------IAM--------> ---------IAM-------->
  :
_____________________________________________________________________________
1. The stimulus ISUP will initiate a call set up with the expected signalling
information.
2. The received IAM should contain an OriCdNb coded as a national
(significant) number.

Case b)
SPC  International   SPA     National       SPB
 ----------IAM--------> ---------IAM-------->
  :
_____________________________________________________________________________
1. The stimulus ISUP will initiate a call set up with the expected signalling
information.
2. The received IAM should contain an OriCdNb with prefix.
```

TSS CDIV/	TP ISS_V_12_15	ISUP'97 reference 2.5.2.4/Q.732; 3.5.2.4/Q.731	Selection expression IncIE	Q.788 reference None

Test purpose

Redirecting number in the incoming international gateway.

To verify that the incoming international gateway checks and manipulates the **redirecting numbe**r according to the procedures as defined for CLIP.

Applicable tests:

Converting the **redirecting number** to national format, if necessary (own country code)
Adding a prefix to an international **redirecting number** (PICS A.15/16 – national option @)

```
Case a)
SPC                 SPA                 SPB
 --------IAM-------> --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will send an IAM with RgNb.

Case b)
SPC                 SPA                 SPB
 --------IAM-------> --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will send an IAM with foreign CC RgNb.

Case c)
SPC                 SPA                 SPB
 --------IAM-------> --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will send an IAM with RgNb.
```

TSS CDIV/	TP ISS_V_12_16	ISUP'97 reference 2.5.2.4/Q.732	Selection expression IncIE	Q.788 reference None

Test purpose

Redirection number in the incoming international gateway.

To verify that the incoming international gateway checks and manipulates the **redirection numbe**r according to the procedures defined for COLP.

Tests applicable:

Discarding the **redirection number** in case of bilateral agreements (PICS A.15/13)
Converting the **redirection number** to international format

```
Case a)
SPC                SPA                  SPB                    SPD
 --------IAM------>  --------IAM------->  ( --------IAM-------> )
 <-------ACM-------  <-------ACM-------- RnReas, number
 <-------CPG-------  <-------CPG--------  ( <------ACM--------- ) RnNbRes
            ... ringing tone ...
 <------ANM--------  <-------ANM--------  ( <-------ANM-------- )
  :
```

```
1. The PTC will provide the necessary stimulus.
2. ACM with CDInf, GenNot = "call is diverting" and an national  RnNb
3. CPG (alerting) with RnNbRes – coded as if it has been mapped from ACM
including BCI.
```

```
Case b)
SPC                SPA                  SPB                     SPD
 --------IAM------>  --------IAM------->  ( --------IAM-------> )
 <-------ACM-------  <-------ACM-------- RnReas, number
 <-------CPG-------  <-------CPG--------  ( <------ACM--------- ) RnNbRes
            ... ringing tone ...
 <------ANM--------  <-------ANM--------  ( <-------ANM-------- )
  :
```

```
1. The PTC will provide the necessary stimulus.
2. ACM with CDInf, GenNot = "call is diverting" and a national  RnNb.
3. CPG (alerting) with RnNbRes – coded as if it has been mapped from ACM
including BCI.
```

TSS CDIV/	TP ISS_V_12_17	ISUP'97 reference 2.5.2.4/Q.732 3.5.2.4/Q.731	Selection expression IncIE AND PICS A.15/13	Q.788 reference None

Test purpose

Redirection number restriction parameter in the incoming international gateway.

To verify that the incoming international gateway removes the **redirection number restriction parameter** if the **redirection number** has been previously discarded in case of bilateral agreements.

```
SPC                SPA                   SPB                     SPD
 --------IAM------>  --------IAM-------> ( --------IAM-------> )
 <-------ACM-------  <-------ACM-------- RnReas, number
 <-------CPG-------  <-------CPG--------  ( <------ACM--------- ) RnNbRes
            ... ringing tone ...
 <------ANM--------  <-------ANM--------  ( <-------ANM-------- )
  :
```

```
1. The PTC will provide the necessary stimulus.
2. ACM with CDInf, GenNot = "call is diverting" and a national RnNb.
3. CPG (alerting) with RnNbRes – coded as if it has been mapped from ACM
including BCI.
```

TSS CDIV/	TP ISS_V_12_18	ISUP'97 reference 2.5.2.5.1.1/Q.732	Selection expression DLE	Q.788 reference None

Test purpose

Completion of diverted call by the diverted-to exchange

To verify that the IUT accepts and can successfully establish a diverted call.

```
SPC                SPA                     SPB                  SPD
<------setup--------  <-------IAM-------- ( <------IAM-------- )
                       RnReas, number    ( -------ACM-------> )
-----alerting------>  -------ACM--------> ( -------CPG-------> ) RnNbRes
  :
```

```
1. The PTC will provide the necessary stimulus.
2. 2 diversions simulated in redirection counter; Numbers sent: are OriCdNb
and RgNb.
3. ACM with CDInf, GenNot = "call is diverting" and a national  RnNb.
4. CPG (alerting) with RnNbRes – coded as if it has been mapped from ACM
including BCI.
```

TSS CDIV/	TP ISS_V_12_19	ISUP'97 reference 2.5.2.5.1.1/Q.732	Selection expression DLE	Q.788 reference None

Test purpose

Setting of redirection number restriction parameter at the diverted-to exchange (pres. allowed)

To verify that the IUT includes the **redirection number restriction** indicator in the **ACM**, **CPG**, **ANM** or **CON** set to "presentation allowed" (COLR not activated).

```
SPC                   SPA                     SPB
<------ setup --------  <------IAM---------  (Diverted call)
 ------alerting------>  -------ACM--------> RnNbRes  (1)
:
or
 ------alerting------>  -------ACM-------->
:                       -------CPG--------> RnNbRes  (2)
or
 ------alerting------>  -------ACM-------->
 -------connect------>  -------ANM--------> RnNbRes  (3)
:
or
 -------connect------>  -------CON--------> RnNbRes  (4)
 :
```

1.-4. Pass when the redirection number restriction parameter with the coding "00 – Presentation allowed" is received in one of the allowed messages.
5. Check the ringing tone from SPA to SPB.

TSS CDIV/	TP ISS_V_12_20	ISUP'97 reference 2.5.2.5.1.1/Q.732	Selection expression DLE	Q.788 reference None

Test purpose

Setting the redirection number restriction indicator at the diverted-to exchange (pres. restricted)

To verify that the IUT includes the **redirection number restriction** indicator in the **ACM**, **CPG**, **ANM** or **CON** set to "presentation restricted" (COLR activated).

Pre-test conditions

Arrange the data in the IUT so that the diverted-to user subscribes to the COLR supplementary service.

```
access                SPA                     SPB
<--------setup--------  <------IAM---------  (Diverted call)
-------alerting------>  -------ACM--------> RnNbRes  (2.)
:
or
 ------alerting------>  -------ACM-------->
:                       -------CPG--------> RnNbRes  (3.)
or
 ------alerting------>  -------ACM-------->
 -------connect------>  -------ANM--------> RnNbRes  (4.)
:
or
 -------connect------>  -------CON--------> RnNbRes  (5.)
```

1. The left access PTC will assist the call set-up with the expected parameters.
2.-5. Pass when the redirection number restriction parameter with the coding "01 – Presentation restricted" is received in one of the allowed messages.
6. Check the ringing tone from SPA to SPB.

TSS CDIV/	TP ISS_V_12_21	ISUP'97 reference 2.5.2.5.1.2 b) 1)/Q.732	Selection expression DLE AND PICS A.15/2	Q.788 reference None

Test purpose

Setting the redirection counter in the diverting exchange – first diversion

To verify that the IUT can successfully divert a call which has not been diverted before and set the redirection counter to the correct value.

The call is diverted directly to another exchange; the redirection counter should be set to 1.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
SPC                SPA (IUT)           SPB
(No diversions)           (One diversion)
 --------IAM-------> --------IAM------->
:
 ____________________________________________________________________________
 1. The PTC will send an IAM with a national (significant) OriCdNb.
```

TSS CDIV/	TP ISS_V_12_22	ISUP'97 reference 2.5.2.5.1.2 b) 1)/Q.732	Selection expression DLE AND PICS A.15/2	Q.788 reference None

Test purpose

Setting of redirection counter in the diverting exchange – multiple local diversions

To verify that the IUT can successfully divert a call which has not been diverted before and set the redirection counter to the correct value.

The call is diverted N<=5 times; the redirection counter should be set to N. (e.g. for the pre-test condition the call is diverted twice: once to the same exchange and then to an external exchange, N=2)

```
SPC                SPA (IUT)            SPB
(No diversions)     (one local diversion) (Two diversions)
 --------IAM-------> --------IAM------->
:
____________________________________________________________________________
1. The PTC will send an IAM with a national (significant) OriCdNb.
2. RnCnt = 2 = "010"B expected.
```

TSS CDIV/	TP ISS_V_12_23	ISUP'97 reference 2.5.2.5.1.2 b) 1)/Q.732	Selection expression DLE AND PICS A.15/2	Q.788 reference None

Test purpose

Updating of redirection counter in the diverting exchange

To verify that the IUT can successfully divert a call which has already been diverted and increment the redirection counter.

NOTE – The call has been diverted 1 – 4 times.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

TSS CDIV/	TP ISS_V_12_24	ISUP'97 reference 2.5.2.5.1.2 b) 2)/Q.732	Selection expression DLE	Q.788 reference None

Test purpose

Original called number generated by the diverting exchange

Verify that the IUT sets the address presentation restricted indicator of the **original called number** according to the "served user releases his/her number to the diverted-to user" option.

The redirecting indicator in the **redirection information** shall be set to "011 Call diverted".

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
SPC              SPA (IUT)           SPB
                   (Subscription option release information)
--------IAM-------> --------IAM------->  RnInf.RgInd="011" & OriCdNb.APRI="00"
:
 ____________________________________________________________________________
1. The PTC will send an IAM with a national (significant) OriCdNb.
```

TSS CDIV/	TP ISS_V_12_25	ISUP'97 reference 2.5.2.5.1.2 b) 4)/Q.732	Selection expression DLE	Q.788 reference None

Test purpose

Redirecting number generated by the diverting exchange

Verify that the IUT sets the address presentation restricted indicator of the **redirecting number** according to the "served user releases his/her number to the diverted-to user" option.

The redirecting indicator in the **redirection information** shall be set to "011 Call diverted".

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
SPC               SPA (IUT)            SPB
                (Subscription option = Do not release information)
--------IAM-------> --------IAM------->  RnInf.RgInd="100" & RgNb.APRI = "00"
:
 ____________________________________________________________________________
1. The PTC will send an IAM with a national (significant) OriCdNb.
```

TSS CDIV/	TP ISS_V_12_26	ISUP'97 reference 2.5.2.5.1.2 b) 5)/Q.732	Selection expression DLE	Q.788 reference None

Test purpose

ISDN user part preference indicator in the diverting exchange

To verify that the IUT can successfully divert a call and that ISDN user part preference indicator received in the **forward call indicators** with the value "ISDN user part ...

... not required all the way" shall be changed to "ISDN user part preferred all the way"

... preferred all the way" shall be left unchanged

... required all the way" shall be left unchanged.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion.

```
Case a)
SPC              SPA (IUT)             SPB
  ISUP not required      ISUP preferred
 --------IAM-------> --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will  send a call with the expected stimulus to the diverting
exchange.
2. The ISUP preference indicator is checked.

Case b)
SPC             SPA (IUT)            SPB
 ISUP preferred          ISUP preferred
 --------IAM-------> --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will  send a call with the expected stimulus to the diverting
exchange.
2. The ISUP preference indicator is checked.

Case c)
SPC             SPA (IUT)             SPB
 ISUP required           ISUP required
 --------IAM-------> --------IAM------->
:
 ____________________________________________________________________________
1. The PTC will  send a call with the expected stimulus to the diverting
exchange.
2. The ISUP preference indicator is checked.
```

TSS CDIV/	TP ISS_V_12_27	ISUP'97 reference 2.5.2.5.1.2 c) ii); iii)/Q.732	Selection expression DLE	Q.788 reference None

Test purpose

Call diversion may occur in the diverting exchange

To verify that the IUT includes an **optional backward call indicator** with the indication "call diversion may occur" in the **ACM** in case of CFNR, CD(a), CFB(u,e) and CD(i,e).

Pre-test conditions

Arrange the data in the IUT so that called user has activated the appropriate diversion service to an external exchange.

```
SPC                SPA                SPB
--------IAM------->
<-------ACM-------  CDmo
<-------CPG------- --------IAM------->
<-------CPG------- <-------ACM--------
           ... ringing tone ...
<-------ANM------- <-------ANM--------
  :
```

```
1. The stimulus ISUP will initiate a call set up to diverting user at IUT and
expect to receive the indication "call diversion may occur".
2. Verdict is set by checking status on left PTC.
```

TSS CDIV/	TP ISS_V_12_28	ISUP'97 reference 2.5.2.5.1.2 c) ii); Table 2-2/Q.732	Selection expression DLE AND PICS A.16/5	Q.788 reference None

Test purpose

Served user answers the call before T_{CFNR} expiry

To verify that a call may be answered by the served user and that no signalling occurs on the diverted-to user leg if the call is answered before timeout of Timer T_{CFNR}, in case of CFNR

Pre-test conditions

Arrange the data in the IUT so that called user has activated the CFNR service.

```
Case a)
SPC              SPA                  SPB
--------IAM------>
<-------ACM-------  CDmo
<-------ANM-------
 :
```

1. The stimulus ISUP will initiate a call set up to diverting user at IUT and expect to receive the indication "call diversion may occur".
2. Pass if no signalling is observed on the AB link.

```
Case b)
SPC              SPA                  SPB
--------IAM------>
<-------ACM-------  CDmo
                              TCFNR expiry
<-------CPG-------  --------IAM------->
<-------CPG-------  <-------ACM--------
          ... ringing tone ...
<------answer-----  <-------ANM--------
  :
```

1. The stimulus ISUP will initiate a call set up to diverting user at IUT and expect to receive the indication "call diversion may occur".
2. Window for receiving the forwarding call is created.
3. Pass if IAM is received inside window.

TSS CDIV/	TP ISS_V_12_29	ISUP'97 reference 2.5.2.5.1.2 c) i); ii); iii)/Q.732	Selection expression DLE AND NOT PICS A.16/1	Q.788 reference None

Test purpose

Immediate through-connection in the diverting exchange

To verify that the IUT can successfully divert a call and that the incoming circuit is connected to the chosen outgoing circuit immediately, in case of CFU, CFB, CD(i), CFNR(B) and CD(a,B).

Pre-test conditions

Arrange the data in the IUT so that called user has activated the appropriate diversion service to an external exchange.

```
 SPC              SPA                 SPB
--------IAM------>
<-ACM{CDmo/NoInd}-  --------IAM------->  (with RnInf, OriCdNb, RgNb)
     ... Check both way communication ...
<-------CPG-------  <-------ACM------- RnNbRes
            ... ringing tone ...
<-------ANM-------  <-------ANM-------
  :
```

```
1. The stimulus ISUP will initiate a call set up with the expected signalling
information.
2. The incoming circuit should be connected to outgoing circuit in both
directions immediately.
```

TSS CDIV/	TP ISS_V_12_30	ISUP'97 reference 2.5.2.5.1.2 c) ii)/Q.732	Selection expression DLE AND PICS A.16/1 (option A)	Q.788 reference None

Test purpose

Through-connection backwards upon alerting and forwards upon answer in the diverting exchange

To verify that the IUT through-connects in the backward direction (incoming circuit) after receiving the alerting indication and in the forward direction (outgoing circuit) after receiving the answer (connect) indication, in case of CFNR(A) and CD(a,A).

NOTE – The IUT can through-connect in both directions after receiving the alerting indication.

Pre-test conditions

Arrange the data in the IUT so that called user has activated the appropriate diversion service to an external exchange.

```
SPC                 SPA                 SPB
----------IAM------->
<--ACM {CDmo/NoInd}--  --------IAM------->
              Check that there is no through-connection
<--------CPG---------  <-------ACM-------- (RnNbRes)
              Check that there is through-connection backward direction
       (e.g. .. ringing tone ...)
 <-------ANM---------  <-------ANM--------
              Check that there is through-connection in both directions
:
```

```
1. The stimulus ISUP will initiate a call set up with the expected signalling
information.
2. Will disrupt the call handling and cause failure if received unexpectedly
at left PTC.
3. Steps checks backward through-connection in backward direction before ANM
and two-way communication after ANM.
```

TSS CDIV/	TP ISS_V_12_31	ISUP'97 reference 2.5.2.5.1.2 c) ii)/Q.732	Selection expression DLE AND PICS A.16/1 (option A)	Q.788 reference None

Test purpose

Served user answers before receipt of alerting indication from diverted-to exchange

To verify that the IUT allows the served user to answer the call after the **IAM** has been sent to the diverted-to exchange, in case of CFNR(A) and CD(a,A). The served user shall be allowed to answer the call after **ACM** (no indication) has been received and the connection towards the diverted-to exchange shall be released.

Pre-test conditions

Arrange the data in the IUT so that called user has activated CFNR(A) or CD(a,A) to an external exchange.

```
SPC                SPA                 SPB
--------IAM------>
<-------ACM-------  CDmo
                    TCFNR expiry
                    --------IAM------->
                    <---ACM (NoInd)----
 Served user answers
<------ANM-------   --------REL------->
:                   <------ RLC--------
```

```
1. The stimulus ISUP will initiate a call set up to diverting user at IUT.
2. The stimulus access will assist the call set up at the served user side.
3. ACM with no indication as if another diversion may occur in order to give
time to the user at UNI at SPA to answer the call.
4. Call on forwarding leg is released.
5. Successful call set up carried out by the PTC.
```

TSS CDIV/	TP ISS_V_12_32	ISUP'97 reference 2.5.2.5.1.2 c) ii)/Q.732	Selection expression DLE AND PICS A.16/1 (option A)	Q.788 reference 2.7.4; 2.9.7

Test purpose

Unsuccessful call setup to the diverted-to user, ringing tone applied by the diverting exchange

To verify that, if the IUT receives a release indication with cause "user busy" from the diverted-to exchange, it continues to provide ringing tone to the calling user until he releases the connection (or timer T9 in the controlling exchange expires), in case of CFNR(A) and CD(a,A).

Pre-test conditions

Arrange the data in the IUT so that called user has activated CFNR(A) or CD(a,A) to an external exchange.

```
SPC                SPA                 SPB
--------IAM------>
<-------ACM-------  CDmo
|                                TCFNR expiry
|                   --------IAM------->
|                   <-------REL ------- busy
|                   --------RLC------->
|      ...ringing tone...
T9
--------REL------>
<-------RLC-------
```

```
1. The stimulus ISUP will initiate a call set up to the diverting user at IUT
and check ringing tone.
2. The stimulus access is mainly responsible for generating the ringing tone.
3. Release with cause #17.
```

TSS CDIV/	TP ISS_V_12_33	ISUP'97 reference 2.5.2.5.2.1 c) iii)/Q.732	Selection expression DLE AND NOT PICS A.16/1	Q.788 reference 2.6.4 2.7.5 2.8.3 2.9.5 2.9.6

Test purpose

Unsuccessful call setup to the diverted-to user, call released by the diverting exchange

To verify that, if the IUT receives a release indication with cause "user busy" from the diverted-to exchange, it releases the call (incoming circuit) and the resources, in case of CFU, CFB, CD(i), CFNR(B) and CD(a,B).

Pre-test conditions

Arrange the data in the IUT so that called user has activated CFU, CFB, CD(i), CFNR(B) or CD(a,B) to an external exchange.

```
SPC                 SPA                 SPB
 --------IAM------>
 <-------ACM-------  Diverting
                     --------IAM------->
(<-------CPG-------)  for CFB(u,e), CD(i,e)
                     --------IAM------->
 <-------REL-------  <-------REL -------  busy
 ------- RLC------>  ------- RLC------->
```

1. The stimulus ISUP will initiate a call set up to the diverting user at IUT and check the release of resources.
2. Release the call with cause #17, location "user".

TSS CDIV/	TP ISS_V_12_34	ISUP'97 reference 2.5.2.5.1.2 e) i-iv) 2)/Q.732	Selection expression DLE AND PICS A.16/1 (option A)	Q.788 reference 2.7.1 2.9.4

Test purpose

Notification procedures in the diverting exchange-collecting information for the backward direction

To verify that the IUT can successfully divert a call and store the diversion information parameters in the backward direction until an alerting indication is received from the diverted-to exchanges, in case of CFNR(A) and CD(a,A). The IUT receives several **CPG** messages with **call diversion information** and shall retain the most recent redirection reason and the most severe notification subscription option.

Pre-test conditions

Arrange the data in the IUT so that called user has activated CFNR(A) or CD(a,A) to an external exchange.

```
SPC                 SPA                 SPB                 SPD
                    CFNR (NSO = 010)    CFU (NSO = 011)     COLR activated
--------IAM------->
<-------ACM-------  -------IAM-------->
              CDmo  <------ACM-------- ( -------IAM-------> )
                      NoInd, RnReas = CFU, Nb_D
                    <------CPG--------
                                         progress, RnNbRes = 00
<-------CPG-------  <------CPG-------- ( <------ACM-------- )
                                         RnNbRes = 01, alerting RnNbRes = 01,
subscriber free
            ... ringing tone ...
<------ANM--------  <-------ANM------- ( <------ANM------- )
  :
```

1. The PTC will provide the necessary stimulus.
2. ACM with CDInf, GenNot = "call is diverting" and RnNb = TSP_Nb_D.
3. CPG (progress) with RnNbRes=00 from user at UNI SPB (no COLR activated).
4. CPG (alerting) with RnNbRes=01 from user at UNI SPD (COLR activated) – coded as if it has been mapped from ACM including BCI.

TSS CDIV/	TP ISS_V_12_35	ISUP'97 reference 2.5.2.5.1.2 e) i-iv) 1)/Q.732	Selection expression DLE AND NOT PICS A.16/1	Q.788 reference None

Test purpose

Notification procedures in the diverting exchange – passing on information in the backward direction

To verify that the IUT can successfully divert a call and pass on in the backward direction the diversion information parameters received from the diverted-to exchanges, in case of CFU, CFB, CD(i), CFNR(B) and CD(a,B).

Pre-test conditions

Arrange the data in the IUT so that called user has activated CFU, CFB, CD(i), CFNR(B) or CD(a,B) to an external exchange.

```
SPC                 SPA                 SPB                 SPD
                    CDIV (NSO=010)      CFU (NSO=011)       COLR activated
--------IAM------->
<-------ACM-------  -------IAM-------->
(<-------CPG------) CFB(u,e), CD(i,e)
<-------CPG-------  <------ACM-------- (--------IAM------->)
                                      NoInd, RnReas=CFU, TSP_Nb_D
<-------CPG-------  <------CPG--------
                                        progress, RnNbRes=00
<-------CPG-------  <------CPG-------- (<------ACM--------)
                                        RnNbRes = 01, alerting RnNbRes = 01,
subscriber free
            ... ringing tone ...
<------ANM--------  <-------ANM------- (<-------ANM-------)
  :
```

```
1. The PTC will provide the necessary stimulus.
2. ACM with CDInf, GenNot = "call is diverting" and RnNb = TSP_Nb_D.
3. CPG (progress) with RnNbRes = 00 from user at UNI SPB (no COLR activated).
4. CPG (alerting) with RnNbRes = 01 from user at UNI SPD (COLR activated) –
coded as if it has been mapped from ACM including BCI.
```

TSS CDIV/	TP ISS_V_12_36	ISUP'97 reference 2.5.2.5.1.2 e) i-iv)/Q.732	Selection expression DLE AND PICS A.16/1 (option A)	Q.788 reference 2.7.1 case C 2.9.4 case C

Test purpose

Mapping of CON to ANM in the diverting exchange – option A

To verify that the IUT can successfully divert a call and map a received **CON** from the forwarding leg to a **CPG** (alerting), followed by an **ANM** on the preceding leg in case of CFNR(A) or CD(a,A).

Pre-test conditions

Arrange the data in the IUT so that called user has activated CFNR(A) or CD(a,A). to an external exchange.

```
SPC                 SPA                 SPB
--------IAM------->
<-----ACM {CDmo} --
<--CPG {diverting}-  --------IAM------->  In case of CFNR(A), CD(a,A)
<--CPG (alerting}--  <-------CON------- RnNbRes
<-------ANM-------
  :
```

```
1. The stimulus ISUP will initiate a call set up with the expected signalling
information.
2. The incoming circuit should be connected to outgoing circuit in both
directions immediately.
```

TSS CDIV/	TP ISS_V_12_37	ISUP'97 reference 2.5.2.5.1.2 e) i-iv)/ Q.732	Selection expression DLE AND NOT PICS A.16/1	Q.788 reference 2.6.1 case C 2.8.1 case C 2.9.1 case C

Test purpose

Mapping of CON to ANM in the diverting exchange – option B

To verify that the IUT can successfully divert a call and map a received **CON** from the forwarding leg to an **ANM** on the preceding leg, in case of CFU, CFB, CD(i), CFNR(B) or CD(a,B).

Pre-test conditions

Arrange the data in the IUT so that called user has activated CFU, CFB, CD(i), CFNR(B) or CD(a,B) to an external exchange.

```
SPC                SPA                 SPB
 --------IAM------->

<--CPG{diverting}---  --------IAM------->
                            In case of CFB(n), CFB(u,l), CFU, CD(i,l)
or
<-----ACM {CDmo}----
<--CPG {diverting}--  --------IAM------->
                            In case of CFB(u,e), CFNR(B), CD(a,B), CD(i,e)

<-------ANM---------  <-------CON-------- RnNbRes
  :
```

1. The stimulus ISUP will initiate a call set up with the expected signalling information.
2. The incoming circuit should be connected to outgoing circuit in both directions immediately.

TSS CDIV/	TP ISS_V_12_38	ISUP'97 reference 2.1.1.1 e); Table A1/Q.764	Selection expression DLE	Q.788 reference None

Test purpose

Timer T7 expiry in the diverting exchange

To verify that the IUT can divert a call and release the resources upon T7 timer expiry, if no **ACM** is received from the forwarded-to exchange.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
SPC               SPA                 SPB
--------IAM------->
<-------ACM-------  CDmo
<-------CPG-------  --------IAM------->
                                      |
                                      | T7
<-------REL-------  --------REL------->
--------RLC------>  <-------RLC--------
```

1. The stimulus ISUP will initiate a call set up to diverting user at IUT and expect to receive the indication "call diversion may occur" .
2. Verdict is set by checking status on left PTC together with the receipt of the REL message.

TSS CDIV/	TP ISS_V_12_39	ISUP'97 reference 2.1.4.6 b); Table A1/Q.764	Selection expression DLE	Q.788 reference None

Test purpose

Timer T9 expiry in the diverting exchange

To verify that the IUT can divert a call and release the resources upon T9 timer expiry, if no **ANM** is received from the forwarded-to exchange.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
SPC              SPA                SPB
--------IAM------>
<-------ACM-------  CDmo
<-------CPG------- --------IAM------->
<-------CPG------- <-------ACM--------
                                     |
                                     | T9
<-------REL------- --------REL------->
--------RLC------> <-------RLC--------
```

1. The stimulus ISUP will initiate a call set up to diverting user at IUT and expect to receive the indication "call diversion may occur".
2. ACM subscriber free.
3. Verdict is set by checking status on left PTC together with the receipt of the REL message.

TSS CDIV/	TP ISS_V_12_40	ISUP'97 reference 2.5.2.5.2.2/Q.732	Selection expression DLE AND PICS A.15/2 AND NOT PICS A.16/1	Q.788 reference None

Test purpose

Call clearing in the diverting exchange – redirection counter set to maximum value

To verify that the IUT will refuse any further external diversions and clear the call, if it is received with the redirection counter in the **redirection information** set to the maximum value, in case of CFU, CFB, CD(i), CFNR(B) and CD(a,B).

The cause values shall be in case of:

CFU "call rejected" (21)

CFB "user busy" (17)

CFNR(B) "no answer from user (user alerted)" (19)

CD(i), CD(a,B)"no user responding" (18)

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
Case a)

                    SPA                 SPB
                      <-------IAM--------
                      --------REL------->
                      <-------RLC--------
_____________________________________________________________________
1. IAM with Redirection counter set to 5 (or TSP_max_div if not equal 5).
2. Call rejected – Cause #21 for CFU.

Case b)

                    SPA                 SPB
                      <-------IAM--------
                      --------REL------->
                      <-------RLC--------
_____________________________________________________________________
1. IAM with Redirection counter set to 5 (or TSP_max_div if not equal 5).
2. User busy – Cause #17 for CFB.

Case c)

                    SPA                 SPB
                      <-------IAM--------
                      --------REL------->
                      <-------RLC--------
_____________________________________________________________________
1. IAM with Redirection counter set to 5 (or TSP_max_div if not equal 5).
2. No user responding – Cause #18 for CD(i).

Case d)

                     SPA                 SPB
                      <-------IAM--------
                      --------ACM------->
                      --------REL------->
                      <-------RLC--------
_____________________________________________________________________
1. IAM with Redirection counter set to 5 (or TSP_max_div if not equal 5).
2. No user responding – Cause #18 for CD(a,B).

Case e)

                     SPA                 SPB
                      <-------IAM--------
                      --------ACM------->
                      --------REL------->
                      <-------RLC--------
_____________________________________________________________________
1. IAM with Redirection counter set to 5 (or TSP_max_div if not equal 5).
2. No answer from user (user alerted) – Cause #19 for CFNR(B).
```

TSS CDIV/	TP ISS_V_12_41	ISUP'97 reference 2.5.2.5.2.2/Q.732	Selection expression DLE AND PICS A.15/2 AND PICS A.16/1	Q.788 reference None

Test purpose

Continue providing ringing tone in the diverting exchange – redirection counter set to maximum value

To verify that the IUT will refuse any further (external or internal) diversions and continue providing ringing tone until the calling user clears the call (or timer T9 in OLE expires), if it is received with the redirection counter in the **redirection information** set to the maximum value, in case of CFNR(A) and CD(a,A).

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an exchange.

```
Case a)
access              SPA                 SPB
<------setup-------- <-------IAM---------
 |                   --------ACM-------->
 |        ... ringing tone ...
 |
T9                   <-------REL---------
                     --------RLC-------->
```

1. IAM with Redirection counter set to 5 (or TSP_max_div if not equal 5).
2. This timer simulates T9 at the controlling exchange.
3. Release the call with cause 16 – Normal call clearing (default).

```
Case b)
access              SPA                 SPB
<------setup-------- <-------IAM---------
 |                   --------ACM-------->
 |        ... ringing tone ...
 |
T9                   <-------REL---------
                     --------RLC-------->
```

1. IAM with Redirection counter set to 5 (or TSP_max_div if not equal 5).
2. Release the call with cause 16 – Normal call clearing (default).

TSS CDIV/	TP ISS_V_12_42	ISUP'97 reference 2.5.2.5.1.2 c)/Q.732; 2.6/Q.764	Selection expression DLE AND BCall PICS A.13/11	Q.788 reference None

Test purpose

Interactions with the propagation delay determination procedure

To verify that the IUT can successfully divert a call and set the required propagation delay value on the outgoing circuit correctly. The value should be set to the received value plus the propagation delay for the outgoing route, as if the IUT was an intermediate exchange.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
 SPC                 SPA                 SPB
 ----IAM(PDC=X)---->
 <-ACM {CDmo/NoInd}-  ----IAM(PDC=X+D)-->  (with RnInf, OriCdNb, RgNb)
 <-------CPG--------  <-------ACM-------- RnNbRes
                           ... ringing tone ...
 <-------ANM--------  <--ANM(CHInf=X+D)--
  :
  :
```

```
1. The stimulus IAM contains an initial propagation delay value of X ms.
2. The received IAM should contain a propagation delay value increased by D
ms.
3. Send an ANM with Call history information.
```

TSS CDIV/	TP ISS_V_12_43	ISUP'97 reference 2.6.3/Q.732	Selection expression DLE AND PICS A.3/3	Q.788 reference None

Test purpose

Call diversion – interaction with COLP

To verify that the **connected number** and the additional connected number in the **generic number** received in an **ANM** or **CON** message are passed on unmodified at a diverting exchange.

NOTE – The CON will be mapped to an ANM.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
Case a)
 SPC                 SPA                 SPB
 --------IAM------>
 <-ACM{CDmo/NoInd}-  --------IAM-------->  (with RnInf, OriCdNb, RgNb)
 <-------CPG-------  <-------ACM--------  RnNbRes
           ... ringing tone ...
 <-------ANM-------  <-------ANM--------  ConNb, addConNb in GenNb
  :
```

```
1. The stimulus ISUP will initiate a call set up with the expected signalling
information.
2. Send the ConNb and addConNb in GenNb from user at SPB.
```

```
Case b)
 SPC                 SPA                 SPB
 --------IAM------>
 <-ACM{CDmo/NoInd}-  --------IAM-------->  (with RnInf, OriCdNb, RgNb)
 <-------ANM-------  <-------CON-------  RnNbRes, ConNb, addConNb in GenNb
  :
```

```
1. The stimulus ISUP will initiate a call set up with the expected signalling
information.
2. Send the ConNb and addConNb in GenNb from user at SPB.
```

TSS CDIV/	TP ISS_V_12_44	ISUP'97 reference 2.6.5/Q.732	Selection expression DLE AND PICS A.3/1	Q.788 reference None

Test purpose

Call diversion – interaction with CLIP

To verify that the diverting exchange diverts the **calling party number** and the additional calling number in the **generic number**.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
 SPC                SPA                 SPB
 --------IAM------>
<-ACM{CDmo/NoInd}--  --------IAM------->  (with RnInf, OriCdNb, RgNb)
<-------CPG--------  <-------ACM-------- RnNbRes
           ... ringing tone ...
 <-------ANM-------  <-------ANM--------
  :
```

```
1. The stimulus ISUP will initiate a call set up with CgPN and addCgPN in
GenNb.
Note for the selection: Called party has to subscribe to CLIP, although
diverted-to user beneficiates of the information.
```

TSS CDIV/	TP ISS_V_12_45	ISUP'97 reference 2.6.7/Q.732	Selection expression DLE AND PICS A.3/7	Q.788 reference None

Test purpose

Call diversion – interaction with CUG – CUG call not diverted

To verify that a CUG call with outgoing access not allowed to a non-CUG user who has activated diversion is not forwarded.

```
 access             SPA                 SPB
                     <----IAM (CUG)---- (-OA)
                     -----REL(#87)---->
                     <-------RLC-------
```

```
1. No call set up should be observed on the access side.
2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required
all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing
access not allowed".
3. REL with cause #87 "User not member of CUG". See also CUG test case
ISS_V_7_14.
```

TSS CDIV/	TP ISS_V_12_46	ISUP'97 reference 2.6.7/Q.732	Selection expression DLE AND PICS A.3/7	Q.788 reference None

Test purpose

Call diversion – interaction with CUG – CUG call diverted

To verify that a CUG call with outgoing access not allowed to a CUG member who has activated diversion is successful and that the CUG restrictions are forwarded.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange and has subscribed to CUG.

```
SPC                 SPA                   SPB
 -----IAM (CUG)---->  -----IAM (CUG)----> (-OA)
  :
```

```
1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The
CUG call is with outgoing access not allowed.
2. CUG call indicator set to "CUG call, outgoing access not allowed".
```

TSS CDIV/	TP ISS_V_12_47	ISUP'97 reference 2.6.17/Q.732	Selection expression DLE AND PICS A.3/8	Q.788 reference None

Test purpose

Call diversion – interaction with SUB – old called party sub-address not diverted

To verify that the IUT does not divert the called party sub-address.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
 SPC                SPA                  SPB
 --------IAM------>
 <-ACM{CDmo/NoInd}- --------IAM------->with RnInf, OriCdNb, RgNb
 <-------CPG------- <-------ACM-------- RnNbRes
         ... ringing tone ...
 <-------ANM------- <-------ANM--------
  :
```

```
1. The stimulus ISUP will initiate a call set up with a called party sub-
address.
2. If IUT diverts the called party sub-address it's a "fail".
3. If the IUT does not divert a sub-address in the ATP it's a "pass".
4. IF the IUT changed the called party sub-address from TSP_Sub_A to TSP_Sub_B
it's a "pass".
```

TSS CDIV/	TP ISS_V_12_48	ISUP'97 reference 2.6.17/Q.732	Selection expression DLE AND PICS A.3/8	Q.788 reference None

Test purpose

Call diversion – interaction with SUB – new called party sub-address included

To verify that a new called party sub-address corresponding to the diverted-to user shall be provided by the served user at call diversion activation and shall be included in the **access transport** parameter in the **IAM** sent on the diverted leg.

Pre-test conditions

Arrange the data in the IUT so that called user has activated diversion to an external exchange and has subscribed to SUB.

```
SPC             SPA                  SPB
--------IAM------>
<-ACM{CDmo/NoInd}-  --------IAM------->with RnInf, OriCdNb, RgNb
<-------CPG-------  <-------ACM-------- RnNbRes
          ... ringing tone ...
<-------ANM-------  <-------ANM-------
 :
```

```
1. The stimulus ISUP will initiate a call set up with a called party sub-
address.
2. The IUT changed the called party sub-address from TSP_Sub_A to TSP_Sub_B.
```

TSS CDIV/	TP ISS_V_12_49	ISUP'97 reference 2.7/Q.732; 2.1.1.1/Q.764	Selection expression DLE AND IWorkE	Q.788 reference None

Test purpose

Call diversion – interworking with other networks

To verify that the IUT is able to handle the call to other signalling systems according to the basic call procedures. If the ISDN user part preference indicator in the **forward call indicators** is set to "ISDN user part ...:

... not required all the way" (01) then the call should be diverted

... preferred all the way" (00) then the call should be diverted

... required all the way" (10) then the call should be rejected/released.

Pre-test conditions

Arrange the data in the IUT so that the called user has activated diversion with a diverted-to number which is to be routed to another signalling system.

```
Case a)
SPC    non-ISUP    SPA                 SPB
 <-------IAI-------  <-------IAM--------
 --------ACM------>  -------ACM-------->
 --------ANC------>  -------ANM-------->
  :
```

```
1. Assist a call set up from the UNI at SPB on a non-ISUP route.
2. Initiate a call set up specifying "ISDN user part not required all the way"
in the FCI of the IAM.
3. The call should complete. For the non-ISUP side TUP messages have been
chosen as an example.
```

```
Case b)
 SPC    non-ISUP    SPA                 SPB
 <-------IAI-------  <-------IAM--------
 --------ACM------>  -------ACM-------->
 --------ANC------>  -------ANM-------->
  :
```

```
1. Assist a call set up from the UNI at SPB on a non-ISUP route.
2. Initiate a call set up specifying "ISDN user part preferred all the way" in
the FCI of the IAM.
3. The call should complete.
```

```
Case c)
SPC      non-ISUP   SPA                 SPB
                      <-------IAM---------
                      --------REL-------->
                      <-------RLC---------
  :
```

```
1. Assist a call set up from the UNI at SPB on a non-ISUP route.
2. Initiate a call set up specifying "ISDN user part required all the way" in
the FCI of the IAM.
3. The call should be released.
```

7.2.13 Retención de llamadas (HOLD, *call hold*)

TSS HOLD/	TP ISS_V_13_1	ISUP'97 reference 2.5.2.1.1.1; 2.5.2.1.1.2/Q.733	Selection expression Local	Q.788 reference 2.11.3

Test purpose

Call hold after answer, requested by the local user

To verify that a call can be placed on hold and can be retrieved again by the local user and that notifications are sent with **CPG** messages having the **event indicator** set to "progress".

Pre-test conditions

Arrange the data in the IUT so that the local user subscribes to the Call hold service.

```
 access            SPA                 SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
           ... ringing tone ...
 ------connect-----> --------ANM------->
         ... check communication ...
 -------hold-------> --------CPG------->
 ------retrieve----> --------CPG--------
         ... check communication ...
:
```

```
 1. The call is put on HOLD by the called party.
 2. The call is retrieved by the called party.
```

TSS HOLD/	TP ISS_V_13_2	ISUP'97 reference 2.5.2.1.1.1; 2.5.2.1.1.2/Q.733	Selection expression Local	Q.788 reference 2.11.3

Test purpose

Call hold after answer, requested by the remote user

To verify that a call can be placed on hold and can be retrieved again by the remote user and that notifications are sent with **CPG** messages.

```
 access            SPA                 SPB
 <------setup------- <-------IAM--------
 -------alert------> --------ACM------->
            ... ringing tone ...
 ------connect-----> --------ANM------->
           .. check communication ...
 <------hold-------- <-------CPG--------
 <-----retrieve----- <-------CPG--------
          ... check communication ...
:
```

```
 1. The call is put on HOLD by the remote user.
 2. The call is retrieved by the remote user.
```

TSS HOLD/	TP ISS_V_13_3	ISUP'97 reference 2.2.1; 2.5.2.1.1.1; 2.5.2.1.1.2/Q.733	Selection expression OLE AND PICS A.17/2	Q.788 reference 2.11.1

Test purpose

Call hold after alerting, requested by the local user

To verify that an outgoing call can be placed on HOLD after alerting has commenced and can be retrieved afterwards by the local user and that notifications are sent with **CPG** messages.

Pre-test conditions

Arrange the data in the IUT so that the local user subscribes to the Call hold service.

```
 access           SPA                SPB
 -------setup------> --------IAM------>
 <------alert------- <-------ACM-------
           ... ringing tone ...
 -------hold-------> --------CPG------>
 <------answer------ <-------ANM-------
 ------retrieve----> --------CPG------>
       ... check communication ...
:
```

TSS HOLD/	TP ISS_V_13_4	ISUP'97 reference 2.2.1; 2.9/Q.733	Selection expression OLE AND PICS A.17/2	Q.788 reference None

Test purpose

Call hold after alerting, expiry of T9 while the call is on hold

To verify that a held call is released if it is not answered before expiry of T9 (waiting for **ANM**).

Pre-test conditions

Arrange the data in the IUT so that the local user subscribes to the Call hold service.

```
 access            SPA                  SPB
 -------setup------>  --------IAM------->
 <------alert-------  <-------ACM--------
            ... ringing tone ...
 -------hold------->  --------CPG------->
 <------disc--------  --------REL------->
                     <-------RLC--------
:
```

```
1. Call HOLD received.
2. Cause #19: No answer from user (user alerted).
```

TSS HOLD/	TP ISS_V_13_5	ISUP'97 reference 2.2.1; 2.5.2.1.1.1; 2.5.2.1.1.2/Q.733	Selection expression OLE AND PICS A.17/1	Q.788 reference 2.11.1

Test purpose

Call hold after IAM, local user requests HOLD for outgoing call

To verify that an outgoing call can be placed on hold and can be retrieved afterwards by the local user and that notifications are sent with **CPG** messages.

Pre-test conditions

Arrange the data in the IUT so that the local user subscribes to the Call hold service.

```
 access           SPA                 SPB
 ------setup-------> -------IAM-------->
 ------hold--------> -------CPG-------->
               .
 ------retrieve----> -------CPG-------->
        ... check communication ...
 <-----alert------- <-------ACM---------
            ... ringing tone ...
 <-----connect----- <-------ANM---------
        ... check communication ...
:
```

TSS HOLD/	TP ISS_V_13_6	ISUP'97 reference 2.5.2.2.1; 2.5.2.3.1; 2.5.2.4.1/Q.733	Selection expression IntermE	Q.788 reference 2.11.3

Test purpose

Call hold after answer (transit call)

To verify that a transit call can be placed on hold and can be retrieved again by the served user (called or calling party) and that the indications are passed on transparently.

```
Case a)
 SPC                SPA                SPB
--------IAM------->  -------IAM------->
<-------ACM-------   <------ACM--------
           ... ringing tone ...
<-------ANM-------   <------ANM--------
        ... check communication ...
--------CPG------> --------CPG------->  hold
--------CPG------> -------CPG------->   retrieve
          ... check communication ...
:
 ____________________________________________________________________________
 1. The call is put on HOLD by the calling user.
 2. The call is retrieved by the calling user.
```

```
Case b)
 SPC              SPA                 SPB
-------IAM------->  -------IAM------->
<------ACM--------  <------ACM--------
           ... ringing tone ...
<------ANM--------  <------ANM--------
        ... check communication ...
<------CPG--------  <-------CPG-------  hold
<------CPG--------  <-------CPG-------  retrieve
        ... check communication ...
:
 ____________________________________________________________________________
 1. The call is put on HOLD by the called party.
 2. The call is retrieved by the called party.
```

TSS HOLD/	TP ISS_V_13_7	ISUP'97 reference 2.2.2; 2.5.2.2.1; 2.5.2.3.1; 2.5.2.4.1/Q.733	Selection expression IntermE	Q.788 reference 2.11.1

Test purpose

Call hold after alerting (transit call)

To verify that a transit call can be placed on hold after alerting has commenced at the called party and can be retrieved afterwards and that the indications are passed on transparently by the IUT.

```
Case a)
 SPC              SPA                SPB
 -------IAM------>  -------IAM------->
 <------ACM-------  <------ACM--------
          ... ringing tone ...
 -------CPG------>  -------CPG------->   hold
 <------ANM-------  <------ANM--------
        ... check communication ...
 -------CPG------>  ------CPG-------->  retrieve
        ... check communication ...
:
 ____________________________________________________________________________
 1. The call is put on HOLD by the calling party.
 2. The call is retrieved by the calling party.
```

```
Case b)
 SPC              SPA                 SPB
 -------IAM------->  --------IAM------>
 <------ACM--------  <-------ACM-------
             ... ringing tone ...
 <------CPG--------  <------CPG--------  hold
 <------ANM--------  <------ANM--------
         ... check communication ...
 <------CPG--------  <------CPG--------  retrieve
         ... check communication ...
:
 ____________________________________________________________________________
 1. The call is put on HOLD by the called party.
 2. The call is retrieved by the called party.
```

TSS HOLD/	TP ISS_V_13_8	ISUP'97 reference 2.7/Q.733	Selection expression IWorkE and PICS A.17/3	Q.788 reference None

Test purpose

Call hold after answer, interworking with PSTN

To verify that an in-band indication is sent to the PSTN subscriber if a call is placed on hold by the ISDN subscriber.

```
PSTN              SPA                SPB
----------------->  -------IAM------>
<-----------------  <------ACM-------
            ... ringing tone ...
<-----------------  <------ANM-------
       ... check communication ...
<--in-band indic--  <-----CPG--------
:
____________________________________________________________________________
1. Continue if an indication of in-band information is received.
```

TSS HOLD/	TP ISS_V_13_9	ISUP'97 reference 2.3/Q.764	Selection expression Local	Q.788 reference 2.11.4

Test purpose

Call hold after answer, release of the call by the local served user

To verify that a call in the held state can be released by the user who activated the Call hold service.

Pre-test conditions

Arrange the data in the IUT so that the local user subscribes to the Call hold service.

```
access              SPA                 SPB
 <------setup------- <-------IAM--------
 -------alert-------> -------ACM------->
              ... ringing tone ...
 ------connect------> -------ANM------->
            ... check communication ...
 ------hold---------> -------CPG------->
     ... check no through-connection ...
 -------disc--------> -------REL------->
```

1. The call is put on HOLD by the called party.

TSS HOLD/	TP ISS_V_13_10	ISUP'97 reference 2.3/Q.764	Selection expression Local	Q.788 reference 2.11.5

Test purpose

Call hold after answer, release of the call by the non-served user

To verify that a call in the held state can be released by the user who did not activate the Call hold service.

```
access              SPA                 SPB
<-------setup------- <-------IAM--------
--------alert------> --------ACM------->
              ... ringing tone ...
-------connect-----> --------ANM------->
            ... check communication ...
<-------hold-------- <-------CPG--------
--------disc-------> --------REL------->
```

1. The call is put on HOLD by the called party.

TSS HOLD/	TP ISS_V_13_11	ISUP'97 reference 2.3/Q.764	Selection expression Local	Q.788 reference 2.11.2

Test purpose

Call hold after alerting, release of the call by the local served user

To verify that a held call can be released by the user who activated the Call hold service without retrieving the call.

Pre-test conditions

Arrange the data in the IUT so that the local user subscribes to the Call hold service.

```
access              SPA                 SPB
<------setup-------  <------IAM--------
-------alert------>  -------ACM------->
             ... ringing tone ...
-------hold-------->  -------CPG------->
-------disc-------->  -------REL------->
```

TSS HOLD/	TP ISS_V_13_12	ISUP'97 reference 2.2.1; 2.5.2.5.1/Q.733	Selection expression DLE	Q.788 reference 2.11.1

Test purpose

Call hold after alerting, requested by the remote user

To verify that an incoming call can be placed on hold and can be retrieved afterwards by the remote user.

```
access              SPA                 SPB
<------setup-------  <-------IAM--------
-------alert------>  --------ACM------->
            ... ringing tone ...
<------hold--------  <-------CPG--------
<-----retrieve-----  <-------RES--------
```

7.2.14 Llamada en espera (CW, *call waiting*)

TSS CW/	TP ISS_V_14_1	ISUP'97 reference 1.5.2.1.1/Q.733	Selection expression OLE	Q.788 reference 2.10.1

Test purpose

Call waiting indication in ACM

To verify that a call can be successfully established if the **ACM** indicates that it is a waiting call.

```
access              SPA                 SPB
------setup------->  --------IAM------->
<------alert-------  <-------ACM--------
                 ... call waiting ...
:
```

TSS CW/	TP ISS_V_14_2	ISUP'97 reference 1.5.2.1.1/Q.733	Selection expression OLE	Q.788 reference 2.10.1

Test purpose

Call waiting indication in CPG

To verify that a call can be successfully established if the **CPG** indicates that it is a waiting call.

```
access             SPA                 SPB
------setup------->  --------IAM------->
<------alert-------  <-------ACM--------
                     <-------CPG--------
            ... call waiting ...
:
```

TSS CW/	TP ISS_V_14_3	ISUP'97 reference 1.5.2.2.1; 1.5.2.3.1; 1.5.2.4.1/Q.733	Selection expression IntermE	Q.788 reference 2.10.1

Test purpose

Call waiting indication in ACM (transit)

To verify that a call can be successfully established if the **ACM** indicates that it is a waiting call.

```
 SPC              SPA                 SPB
 -------IAM-----> --------IAM------->
 <------ACM------ <-------ACM--------
            ... call waiting ...
:
```

1. Call waiting indication is sent in ACM.

TSS CW/	TP ISS_V_14_4	ISUP'97 reference 1.5.2.2.1; 1.5.2.3.1; 1.5.2.4.1/Q.733	Selection expression IntermE	Q.788 reference 2.10.1

Test purpose

Call Waiting indication in CPG (transit)

To verify that a call can be successfully established if the **CPG** indicates that it is a waiting call.

```
 SPC             SPA                 SPB
 -------IAM-----> --------IAM------>
 <------ACM------ <-------ACM-------  (NoInd)
 <------CPG------ <-------CPG-------  (Call waiting)
:
```

1. Call waiting indication is sent in CPG.

TSS CW/	TP ISS_V_14_5	ISUP'97 reference 1.5.2.5.1/Q.733	Selection expression DLE	Q.788 reference 2.10.1

Test purpose

Call waiting indication in ACM or CPG

To verify that a call can be successfully established if the user has subscribed to the call waiting service (with notification) and if he is currently busy, but answers the waiting call. The indication shall be sent either in an **ACM** or a **CPG**.

Pre-test conditions

Arrange the data in the IUT so that the called user subscribes to the call waiting service with the notification option.

```
 access            SPA                    SPB
<------setup------  <-------IAM------- ]
-------alert----->  --------ACM------> ]    repeat in order to
------connect---->  --------ANM------> ]    keep all B-channels busy
      ... check communication ...
<------setup------  <-------IAM-------
         (no channel)
-------alert----->  --------ACM------> ... call waiting ...
                 ( --------CPG------> ... call waiting ...  )
------connect---->  --------ANM------>
     ... check communication ...
<------disc-------  <-------REL-------
                    --------RLC------>
:
```

```
1. Set up calls on every B-channel busy.
2. Call waiting indication in ACM.
3. Call waiting indication in CPG.
4. Release the calls in order to get an idle state.
```

TSS CW/	TP ISS_V_14_6	ISUP'97 reference 1.5.2.5.1/Q.733	Selection expression DLE	Q.788 reference 2.10.1

Test purpose

Call waiting without notification

To verify that a call can be successfully established if the user has subscribed to the call waiting service (without notification) and if he is currently busy, but answers the waiting call. No indication shall be sent to the calling user.

Pre-test conditions

Arrange the data in the IUT so that the called user subscribes to the call waiting service without the notification option.

```
 access             SPA              SPB
 <------setup------ <------IAM-------- ]
 -------alert-----> -------ACM-------> ]    repeat in order to
 ------connect----> -------ANM-------> ]    keep all B-channels busy
        ... check communication ...
 <------setup------ <------IAM--------
         (no channel)
 -------alert-----> -------ACM------->
 -------conn------> -------ANM------->
        ... check communication ...
 <------disc------- <------REL--------
                    -------RLC------->
:
```

```
1. Set up calls on every B-channel busy.
2. No call waiting indication in ACM.
3. Release the calls in order to get an idle state.
```

TSS CW/	TP ISS_V_14_7	ISUP'97 reference 1.5.2.5.2/Q.733	Selection expression DLE	Q.788 reference 2.10.2

Test purpose

Call waiting rejected

To verify that the IUT sends a **REL** with cause #21 (call rejected) if a busy user rejects the waiting call.

Pre-test conditions

Arrange the data in the IUT so that the called user subscribes to the call waiting service with the notification option.

```
 access             SPA                 SPB
 <------setup-------  <-------IAM-------- ]
 -------alert------>  --------ACM-------> ]    repeat in order to
 ------connect----->  --------ANM-------> ]    keep all B-channels busy
             ... check communication ...
 <------setup-------  <-------IAM--------
         (no channel)
 -------alert------>  --------ACM------->  ... call waiting ...
                   (  --------CPG------->  ... call waiting ...   )
 --------disc------>  --------REL------->
 <-------release----  <-------RLC--------
:
```

```
1. Set up calls on all B-channels.
2. Call waiting indication in ACM.
3. Call waiting indication in CPG.
4. Release the calls in order to get an idle state.
```

TSS CW/	TP ISS_V_14_8	ISUP'97 reference 1.5.2.5.2/Q.733	Selection expression DLE	Q.788 reference 2.10.3

Test purpose

Call waiting ignored (expiry of call waiting supervision timer)

To verify that the IUT sends a **REL** with cause #19 (no answer from user, user alerted) if a busy user does not answer the waiting call.

Pre-test conditions

Arrange the data in the IUT so that the called user subscribes to the call waiting service with the notification option.

```
access            SPA                  SPB
 <------setup------  <-------IAM------- ]
 -------alert----->  --------ACM------> ]    repeat in order to
 ------connect---->  --------ANM------> ]    keep all B-channels busy
                ... check communication ...
 <-----setup-------  <-------IAM-------
                     --------ACM------> call waiting
                 | ( --------CPG------> call waiting )
                 |
                 T9
 <---disconnect----  -------REL------->
:
```

```
1. Call waiting indication in ACM.
2. Call waiting indication in CPG.
```

7.2.15 Compleción de llamadas a abonado ocupado (CCBS, *completion of calls to busy subscriber*)

7.2.15.1 CCBS-ISUP

TSS CCBS_ISUP/	TP ISS_V_15_1	ISUP'97 reference 3.4.2.1.1; 3.5.3.1.1/ Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

ISUP Preference Indicator in the CCBS call

To verify that for the CCBS call, the IUT sets the ISUP preference indicator in the **forward call indicator** parameter in the **IAM** to "ISDN User Part required all the way".

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access              SPA                SPB
 ------setup-------->  -------IAM------->
 <----disconnect-----  <------REL--------
                       -------RLC------->
                      ...  TCAP transaction ...
 <------recall-------
 --setup CCBS call-->  -------IAM------->    ISUP required all the way
:
 <------disconnect---  <------REL--------
:
```

```
1. Set up a call to busy user at SPB.
2. User at SPB is found busy.
3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE
operation.
4. CCBS call with "ISDN User Part required all the way" in the FCI of the IAM.
```

TSS CCBS_ISUP/	TP ISS_V_15_2	ISUP'97 reference 3.4.2.1.3/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

CCBS parameter in the CCBS call

To verify that for the CCBS call, the IUT includes in the **IAM** the CCBS call indicator in the **CCBS parameter** coded as "CCBS call".

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access            SPA                  SPB
 ------setup-------> -------IAM-------->
 <---disconnect----- <------REL---------
                     -------RLC-------->
           ... TCAP transaction ...
 ----CCBS recall---> -------IAM-------->
:                                       CCBS call
 <----disconnect---- <------REL---------
:
```

```
1. Set up a call to busy user at SPB.
2. User at SPB is found busy.
3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE
operation.
4. Check Indication "CCBS call" in the IAM.
```

TSS CCBS_ISUP/	TP ISS_V_15_3	ISUP'97 reference 3.5.1.1.1.1/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

CCBS call with retained basic call information

To verify that for the CCBS call, the IUT includes the retained call information in the **IAM**:

User service information;

User service information prime;

Access transport (e.g. called party sub-address);

Called party number.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS and such that the relevant call information that is to be tested may be provided by the calling user.

```
 access            SPA               SPB
 ------setup------> --------IAM-------->
 <---disconnect---- <-------REL---------
                    --------RLC-------->
           ... TCAP transaction ...
 <-----recall-------
 --setup CCBS call-> -------IAM-------->    ISUP required all the way
:
 <---disconnect----- <------REL---------
:
```

```
1. Set up a call with USI, USIp, ATP and/or CdPN, which encounters user at SPB
busy, activates TCAP and terminates the call.
2. User at SPB is found busy.
3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE
operation.
4. CCBS call with "ISDN User Part required all the way" in the FCI of the IAM.
The retained call information about ATP, USI, USIp and CdPN shall be checked
too.
```

TSS CCBS_ISUP/	TP ISS_V_15_4	ISUP'97 reference 3.5.1.1.1.1; 3.6.13/ Q.733.3	Selection expression OLE AND PICS A.18/3	Q.788 reference None

Test purpose

CCBS call with retained call information & interactions with other supplementary services

To verify that for the CCBS call, the IUT includes the retained call information in the IAM:

Calling party number (if supported);

Access transport (e.g. calling party sub-address if supported);

UUS1,2,3 (retained request if supported);

UUS1 (information given by user in response to CCBS recall, if supported);

Optional forward call indicator (with COLP request).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS and such that the relevant call information for the applicable supplementary services may be provided by the calling user (e.g. SUB, COLP).

```
 access             SPA                SPB
 -------setup-------> -------IAM-------->
 <----disconnect----- <------REL---------
                      -------RLC-------->
         ... TCAP transaction ...
 <-------recall------
 --setup CCBS call--> --------IAM------->    ISUP required all the way
:
 <------disconnect--- <------REL---------
:
```

```
1. Set up a call with Calling party number (if supported) ATP (e.g. calling
party sub-address if supported); UUS1, 2, 3 (retained request if supported)
UUS1 (information given by user in response to CCBS recall,  if supported)
OFCI (with COLP request) which encounters user at SPB busy, activates TCAP and
terminate the call.
2. User at SPB is found busy.
3. Check that user at SPB becomes free by using  the RemoteUserFree CCBS ASE
operation.
4. CCBS call with "ISDN User Part required all the way" in the FCI of the IAM.
The retained call information. about ATP, UUS1,2,3 request, UUI in CCBS recall
and CdPN shall be checked too.
```

TSS CCBS_ISUP/	TP ISS_V_15_5	ISUP'97 reference 3.5.3.2.1; 3.5.3.3.1; 3.5.3.4.1/Q.733.3	Selection expression IntermE	Q.788 reference None

Test purpose

Transit support of diagnostics field in REL

To verify that the IUT is able to pass the diagnostics field including the CCBS indicator transparently to the preceding exchange.

```
 SPC              SPA                SPB
 <------IAM------- <-------IAM--------
 -------REL------> --------REL------->
 <------RLC------- <-------RLC--------
```

```
1. Check diagnostics field in the REL.
```

TSS CCBS_ISUP/	TP ISS_V_15_6	ISUP'97 reference 3.5.3.2.1; 3.5.3.3.1; 3.5.3.4.1/Q.733.3	Selection expression IntermE	Q.788 reference None

Test purpose

Transit support of CCBS parameter in IAM

To verify that the IUT is able to pass CCBS parameter transparently to the succeeding exchange.

```
 SPC             SPA                  SPB
-------IAM-------> -------IAM--------> CCBS parameter
:
```

```
1. Set up a CCBS call to user at SPB.
2. Check that  CCBSpar is received.
```

TSS CCBS_ISUP/	TP ISS_V_15_7	ISUP'97 reference 3.4.2.1.2/Q.733.3	Selection expression DLE	Q.788 reference None

Test purpose

CCBS possible to destination B

To verify that the IUT is able to generate in a **REL** message with cause #17 "User busy" or #34 "No circuit available" the diagnostics field containing a CCBS indicator with a "CCBS possible" indication.

```
 access            SPA                 SPB
 set the destination
 B busy
 user busy            <------IAM--------
                      -------REL------->
                      <------RLC--------
  <---disconnect----  <------REL--------
                      -------RLC------->
:
```

```
1. UNI at SPA becomes busy.
2. Check that "CCBS possible" is received in the release message with cause
value #17 or #34.
3. Release the busy call.
```

TSS CCBS_ISUP/	TP ISS_V_15_8	ISUP'97 reference 3.4.2.1.3/Q.733.3	Selection expression DLE	Q.788 reference None

Test purpose

CCBS parameter in the CCBS call

To verify that the IUT is able to terminate the CCBS call, with the CCBS call indicator in the **CCBS parameter** in the **IAM** coded as "CCBS call".

```
access              SPA              SPB
 set the destination B busy
                      <------IAM--------  normal call
                      -------REL------->  CCBS possible
                     <------RLC--------
                     ... TCAP transaction ...
user frees resources
                    RemoteUserFree to CCBS call ( & reserve resource)
                   resource(s) still available
 <-----setup---------  <-----IAM---------  CCBS call
 ------alert-------->  ------ACM-------->
 -----connect------->  ------ANM-------->
 <-----disc----------  <-----REL---------
:
```

```
1. UNI at SPA becomes busy.
2. Check that remote user is free by using the RemoteUserFree CCBS ASE
operation.
3. Process a CCBS call specified in the IAM.
4. Check that the call is terminated (ANM, CON, ...).
```

TSS CCBS_ISUP/	TP ISS_V_15_9	ISUP'97 reference 3.5/Q.733.3	Selection expression DLE	Q.788 reference None

Test purpose

CCBS not possible to destination B

To verify that the IUT is able to generate in a **REL** message with cause #17 "User busy" or cause #34 "No circuit available" the diagnostics field containing a CCBS indicator with a "CCBS not possible" indication.

NOTE – CCBS is not possible because e.g. the queue is set to zero or filled up or due to maintenance reasons.

Pre-test conditions

Arrange the data in the IUT such that CCBS for destination B is not possible.

```
 access             SPA            SPB
 set the destination
 B busy
 user busy           <------IAM-------
                     -------REL------>
                     <------RLC-------
<----disconnect---   <------REL-------
                     -------RLC------>
:
```

```
1. Set up a call to busy user at SPA.
2. Check that "CCBS not possible" is received in the release message with
cause value #17 or #34.
3. Release the busy call.
```

TSS CCBS_ISUP/	TP ISS_V_15_10	ISUP'97 reference 3.6.10.2.2 c); 3.5.3.5.2 c)/Q.733.3	Selection expression DLE and PICS A.18/1	Q.788 reference None

Test purpose

Destination busy upon arrival of CCBS call -Interaction with CFB and retention option supported

To verify that the IUT sends a **REL** with cause #17 or #34 and diagnostics "CCBS possible".

The DLE should retain the original request in the queue.

```
 access                SPA                SPB
 set the destination
 B busy
 user busy              <------IAM--------
                        -------REL------->
                        <------RLC--------
 <------disconnect--     <------REL--------
                        -------RLC------->
:
```

```
1. Set up a call to busy user at access.
2. Check that "CCBS possible" is received in the release message with cause
value #17 or #34.
3. Release the busy call.
```

TSS CCBS_ISUP/	TP ISS_V_15_11	ISUP'97 reference 3.6.10.2.2 c); 3.5.3.5.2 c)/Q.733.3	Selection expression DLE AND NOT PICS A.18/1	Q.788 reference None

Test purpose

Destination busy upon arrival of CCBS call – Interaction with CFB and no retention option supported

To verify that the IUT sends a **REL** with cause #17 or #34 with diagnostics "CCBS possible" when the terminals are compatible.

The DLE releases all its resources for the original request and waits for new CCBS request.

```
 access            SPA                SPB
 set the destination
 B busy
 user busy         <------IAM--------
                   -------REL------->  CCBS possible
                   <------RLC--------
           ... TCAP transaction ..
                              RemoteUserFree
 user busy again   <------IAM--------  CCBS call
                   -------REL------->  CCBS possible
                   <------RLC--------
 <--disconnect---  <------REL--------
                   -------RLC------->
```

```
1. Set up a call to busy user at access.
2. CCBS call.
3. Check that "CCBS possible" is received in the release message with cause
value #17 or #34.
```

TSS CCBS_ISUP/	TP ISS_V_15_12	ISUP'97 reference 3.7.10.2.2 c)/Q.733.3	Selection expression DLE AND PICS A.18/9	Q.788 reference None

Test purpose

CCBS call as a normal call – Interaction with CFB

To verify that the IUT deletes the CCBS parameter in the **IAM** if the CCBS call is forwarded by the initially busy user.

Pre-test conditions

User at destination B must subscribe to and activate CFB to an external user while the recall timer is running (CCBS-T9).

```
 SPC             SPA               SPB
 ------IAM------->  (busy)
 <-----REL--------
 ------RLC------->

   (user at SPA activates CDIV while CCBS-T9 runs)
 -----IAM-------->  -------IAM-----> CFB
   with CCBSpar        no CCBSpar
:
```

```
1. Set up a call to busy user at SPA.
2. Check that no CCBSpar is received in the IAM.
```

TSS CCBS_ISUP/	TP ISS_V_15_13	ISUP'97 reference 3.5.3.5.1/Q.733.3	Selection expression DLE AND PICS A.18/6	Q.788 reference None

Test purpose

Maximum number of CCBS request queue entries of destination B

To verify that the IUT supports the maximum number of up to 5 queue entries.

```
 access            SPA                   SPB
 set the destination
 B busy
 user busy           <-----IAM--------
                     ------REL------->
                     <-----RLC--------
                     ...TCAP transaction ...

      Repeat more than 5 set up to busy user at SPA
:
<----disconnect---   <-----REL--------
                     ------RLC------->
```

```
1. Set up a call to busy user at access.
2. Send maximum number of CCBS requests and check that user at SPA becomes
free by using the RemoteUserFree CCBS ASE operation.
3. One more IAM after the maximum number of calls is reached at SPA.
4. Check that "not CCBS possible" is received in the REL with cause value #17
or #34.
5. Release the busy call.
6. Set up calls (maximum 5 different) from SPB to SPA which encounters user at
SPA busy.  Activate CCBS for the different calls.
7. User at SPB requests maximum allowed CCBS request.
8. Received REL with cause value #17 or #34.
```

TSS CCBS_ISUP/	TP ISS_V_15_14	ISUP'97 reference 3.5.3.5.1/Q.733.3	Selection expression DLE	Q.788 reference None

Test purpose

Incoming non-CCBS call with identical service requirements released

To verify that the IUT, having an entry in the CCBS queue, releases a second incoming call if the service requirements of the second call are identical to the entry being processed and resources are available.

NOTE – The original request remains in the queue.

Pre-test conditions

Arrange the data in the IUT so that there are free resources in addition to the resource reserved for the first CCBS request.

```
 access              SPA              SPB
set the destination
B busy
user busy            <-----IAM-------- 1st call
                     ------REL-------> CCBS possible
                     <-----RLC--------
           ... TCAP transaction ..
user frees resources
         RemoteUserFree to 1st call ( & reserve resource
        resource(s) still available for potential 2nd call
                     <-----IAM-------- 2nd. independent call
                     ------REL-------> released because identical requirements
                     <-----RLC--------
         ... check TCAP transaction ...

                     <-----IAM-------- 1st. CCBS call (empty queue)
                     ...continue CCBS call  1st call.
:
```

---

1. Set up a 1st call to busy user at access.
2. Check release message with cause value #17 or #34 (1st call).
3. Check that remote user is free by using the RemoteUserFree CCBS ASE operation.
4. Process a second identical (with the same requirement to the one being processed) set up to the same remote user.
5. Check that the call is released with cause #17 or #34 (2nd call).
6. Continue the 1st CCBS call in order to get an idle state.
7. Continue the 2nd CCBS call in order to get an idle state.

TSS CCBS_ISUP/	TP ISS_V_15_15	ISUP'97 reference 3.5.3.5.1/Q.733.3	Selection expression DLE	Q.788 reference None

Test purpose

Incoming non-CCBS call with not identical service requirements accepted

To verify that the IUT, having a queue entry in the CCBS queue, accepts a second incoming call if the service requirements of the second call are not identical to the entry being processed and resources are available.

NOTE – The original request remains in the queue.

Pre-test conditions

Arrange the data in the IUT so that there are free resources in addition to the resource reserved for the first CCBS request.

```
access              SPA               SPB
set the destination
B busy
user busy            <------IAM-------- 1st call
                     -------REL-------> CCBS possible
                     <------RLC--------
                     ... TCAP transaction ..
user frees resources
                  RemoteUserFree to 1st call ( & reserve resource)
                  resource(s) still available for potential 2nd call
 <-----setup--------- <-----IAM--------  2nd. independent call
 ------alert--------> ------ACM-------->
 -----connect-------> ------ANM-------->
 <-----disc---------- <-----REL--------
                ...continue with the 1st CCBS call...
:
```

---

1. Set up a call to busy user at access.
2. Check release message with cause value #17 or # 34 (1st call).
3. Check that remote user is free by using the RemoteUserFree CCBS ASE operation.
4. Process a second non-identical (without the same requirement to the one being processed) set up.
5. Check that the call is accepted (ANM, CON, ...).
6. End the TCAP dialogue for the 1st call.

7.2.15.2 CCBS-ASE (Elemento de servicio de aplicación) (ASE, *CCBS-application service element*)

TSS CCBS_ASE/	TP ISS_TC_V_15_1	ISUP'97 reference 3.5.1.1.1.1/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

Ability to perform a CCBS REQUEST class 1 operation – successful

To verify that the IUT can successfully perform a CCBS REQUEST operation if required by the calling user:

NOTE 1 – Send a **CcbsRequest invoke** to the DLE by using the TCAP primitive **TC-BEGIN request**(TC-INVOKE request).

NOTE 2 – Receive a **CcbsRequest return result** from the DLE in a **TC-CONTINUE indication**(TC-INVOKE indication).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access              SPA                  SPB
 ------setup------->  -------IAM-------->
 <----disconnect----  <------REL---------
                      -------RLC-------->   (normal call, user at SPB busy)
                 ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2         xxxxTC_BEGIN_REQ-->
stop CCBS-T2          <--TC_CONTINUE_INDx
start CCBS-T3
:
 ----CCBS recall--->  -------IAM--------->    CCBS call
 :
 <----disconnect----  <-------REL---------
:
_____________________________________________________________________________
1. The access side activates CCBS.
2. The CcbsRequest invocation is received.
3. The user at SPB is now free for a CCBS call.
4. CCBS call set up with "ISDN User Part required all the way" in the FCI of the IAM.
```

TSS CCBS_ASE/	TP ISS_TC_I_15_2	ISUP'97 reference 3.5.1.1.1.2/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

Ability to perform a CCBS REQUEST class 1 operation – unsuccessful

To verify that if a failure occurs (short or long term denial) while invoking a CCBS REQUEST operation, the IUT is able to indicate the result to the calling user.

NOTE 1 – Send a **CcbsRequest invoke** to the DLE by using the TCAP primitive **TC-BEGIN request**(TC-INVOKE request).

NOTE 2 – Receive a **CcbsRequest return error** from the DLE in a **TC-END indication**(TC-U-ERROR indication).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access             SPA                   SPB
 ------setup--------> ------IAM---------->
 <----disconnect----- <------REL---------
                      -------RLC-------->   (normal call, user at SPB busy)
                       ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2          xxxxxTC_BEGIN_REQxxxx->
stop CCBS-T2           <---TC_END_INDxxxxxxxxx
```

```
1. The access side activates CCBS.
2. The CcbsRequest invocation is received.
```

TSS CCBS_ASE/	TP ISS_TC_V_15_3	ISUP'97 reference 3.5.1.2.1.1/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

Ability to perform a CCBS CANCEL class 4 operation

To verify that the IUT can successfully perform a deactivation request if required by the calling user:

NOTE – Send a **CcbsCancel invoke** without cancelCause to the DLE by using the TCAP primitive **TC-END request**(TC-INVOKE request).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access             SPA                  SPB
 ------setup-------> -------IAM--------->
 <----disconnect----  <------REL---------
                      -------RLC--------->   (normal call, user at SPB busy)
                     ... TCAP transaction ...
start CCBS-T1    --
<-CCBS Act request----
--CCBS Act response-->

stop CCBS-T1
start CCBS-T2         xxxxTC_BEGIN_REQxx->
stop CCBS-T2          <--TC_CONTINUE_INDxx
start CCBS-T3
<--CCBS Deact request—
--CCBS Deact response->
                      xxTC_END REQxxxx--->
stop CCBS-T3
```

```
1. The access side activates and deactivates CCBS.
2. Check that the CcbsRequest invocation is received.
```

TSS CCBS_ASE/	TP ISS_TC_V_15_4	ISUP'97 reference 3.5.3.1.1/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

Ability to indicate a CCBS recall to the calling user

To verify that the IUT can successfully initiate a CCBS recall to the calling user:

NOTE – Receive a **RemoteUserFree invoke** from the DLE in a **TC-CONTINUE indication**(TC-INVOKE indication).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access              SPA                    SPB
 -------setup------->   --------IAM-------->
 <-----disconnect----   <-------REL---------
                        --------RLC-------->   (normal call, user at SPB busy)
                        ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2            xxxxTC_BEGIN_REQxxxx-->
stop CCBS-T2             <--TC_CONTINUE_INDxxxx
start CCBS-T3
:
 <---CCBS recall act---
 -----CCBS recall----->   -------IAM------->  CCBS call
 :
 <----disconnect-------   <------REL--------
:
:
```

```
1. The access side activates CCBS request and CCBS recall.
2. Check that the CcbsRequest invocation is received.
3. The user at SPB is now free for a CCBS call.
4. Check that CCBS call with "ISDN User Part required all the way" in the FCI
of the IAM.
```

TSS CCBS_ASE/	TP ISS_TC_I_15_5	ISUP'97 reference 3.5.3.1.1/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

Calling user busy when destination B becomes free

To verify that the IUT can act correctly after receipt of the indication that destination B is free but calling user A is still busy:

NOTE 1 – Receive a **RemoteUserFree invoke** from the DLE in a **TC-CONTINUE indication**(TC-INVOKE indication).

NOTE 2 – Notify the calling user A.

NOTE 3 – Send **CcbsSuspend invoke** in a **TC-CONTINUE request**(TC-INVOKE request) to the DLE.

NOTE 4 – Eventually send **CcbsResume invoke** in **TC-CONTINUE request**(TC-INVOKE request) to the DLE if the calling user becomes free.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access             SPA                 SPB
 -------setup------->  -------IAM-------->
 <----disconnect-----  <------REL---------
                       -------RLC-------->   (normal call, user at SPB busy)
                      ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2           xxxxTC_BEGIN_REQxxxx->
stop CCBS-T2            <--TC_CONTINUE_INDxxxx   CcbsRequest return result
start CCBS-T3
                        <--TC_CONTINUE_INDxxxx   RemoteUserFree
stop CCBS-T3
arrange user to be
found busy              xxxxTC_CONTINUE_REQ-->   CcbsSuspend
or CCBS busy
--Receive notification that
the user at SPB is now free,
--Send no response for that
--User A is now free
                        xxxTC_CONTINUE_REQ-->    CcbsResume
```

```
1. The access side activates CCBS.
2. Check that the CcbsRequest invocation is received.
3. The user at SPB is now free for a CCBS call.
4. End the TCAP dialogue in order to get an initial state.
```

TSS CCBS_ASE/	TP ISS_TC_V_15_6	ISUP'97 reference 3.1.3 m)/Q.733.3	Selection expression Local AND PICS A.18/1	Q.788 reference None

Test purpose

Support of the retain option

To verify that the IUT performs the retain option by setting the **retainSupported** parameter to TRUE or FALSE in the **CcbsRequest** or in the **CcbsRequest return result**.

Pre-test conditions for OLE

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
Case a)
 access             SPA                 SPB
 ------setup------>  -------IAM-------->
 <-----disconnect---  <------REL---------
                      -------RLC-------->   (normal call, user at SPB busy)
                       ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2          xxxxTC_BEGIN_REQxxxx->  retainSupported=TRUE
stop CCBS-T2           <--TC_CONTINUE_INDxxxx  retainSupported=TRUE
start CCBS-T3
```

```
1. The access side activates CCBS.
2. Check that the CcbsRequest invocation is received with "RetainSupported
=TRUE".
3. End the TCAP dialogue in order to get an initial state.
```

```
Case b)
 access            SPA                 SPB
    set the destination
    B busy
                      <-------IAM--------
    user busy         --------REL------->
                      <-------RLC--------
                     ... TCAP transaction ...

                      <--TC_BEGIN_REQxxxx  retainSupported=TRUE
                      xxxTC_CONTINUE_IND-> retainSupported=TRUE
    user free         <-------REL--------
                      --------RLC------->
```

```
1. UNI at SPA becomes busy.
2. Check that the CcbsRequest invocation is received with "RetainSupported
=TRUE".
3. Free destination B.
```

TSS CCBS_ASE/	TP ISS_TC_V_15_7	ISUP'97 reference 3.5.1.1.1.1/Q.733.3	Selection expression OLE AND PICS A.18/2	Q.788 reference None

Test purpose

Maximum number of outstanding CCBS requests of a user

To verify that the IUT does not send any **CcbsRequest** to the DLE if the maximum number of outstanding requests is reached.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access              SPA                SPB
 ------setup------->  -------IAM-------->
 <-----disconnect---  <------REL---------
                      -------RLC-------->   (normal call, user at SPB busy)
                    ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2          xxxxTC_BEGIN_REQxxxx-->
stop CCBS-T2           <--TC_CONTINUE_INDxxxx    CcbsRequest return result
start CCBS-T3
      repeat activate CCBS request until the maximum

      number of CCBS request  supported by SPA
      check that no CCBS request is send after the specified number of entries
```

```
1. The access side activates CCBS.
2. Check that no TC_BEGIN_REQ is sent after the maximum number of CCBS request
is reached at SPA.
3. The test case fails if the maximum number of outstanding requests is
reached and CcbsRequest is received.
4. End the TCAP dialogue in order to get an initial state.
```

TSS CCBS_ASE/	TP ISS_TC_I_15_8	ISUP'97 reference 3.5.1.1.2.2; 3.5.3.5.1; 3.5.5.4/Q.733.3	Selection expression DLE AND PICS A.18/6	Q.788 reference None

Test purpose

Maximum number of queue entries CCBS requests

To verify that the IUT sends a **CcbsRequest return error** to the OLE if the maximum number of queue entries is reached.

NOTE – Send **CcbsRequest return error** in **TC-END request**(TC-INVOKE request).

```
access                SPA                SPB
  set the destination
  B busy
                        <-----IAM----------
 User busy              ------REL--------->
                        <-----RLC----------
                      ... TCAP transaction ...
                        <---xxTC_BEGIN_REQx
                        xxTC_CONTINUE_IND-->    CcbsRequest return result
                            ... repeat activate CCBS request
                                until the maximum number of CCBS
                                request  supported by the IUT
                                is reached (fill up the queue)
                         <-----IAM----------
 User busy               ------REL--------->
                         <-----RLC----------
                         <---xxTC_BEGIN_REQx
                         xxxxTC_END_IND----->    CcbsRequest return error
                                              (short or long term denial)
 User free               <-------REL--------
                         --------RLC------->
```

```
1. UNI at SPA becomes busy.
2. Call to get the destination B busy.
3. Check that "CCBS possible" is received in the release message with cause
value #17 or #34.
4. Check that CcbsRequest return error is received in TC_END_IND.
5. Free destination B
```

TSS CCBS_ASE/	TP ISS_TC_V_15_9	ISUP'97 reference 3.5.5.4/Q.733.3	Selection expression Local	Q.788 reference None

Test purpose

Ability to end a dialogue

To verify that the IUT can end a TCAP dialogue after a successful CCBS call.

NOTE – Send a **TC-END request** without component primitive upon sending of the **ACM**, **CPG** or **CON**.

Pre-test conditions for OLE

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access              SPA                 SPB
 set the destination
 B busy
                       <-------IAM---------
 User A busy           --------REL-------->
                       <-------RLC---------
                     ... TCAP transaction ...
                       <---xxTC_BEGIN_REQx
                       xxTC_CONTINUE_IND-->  CcbsRequest return result
 :
                       xxTC_CONTINUE_IND-->  RemoteUserFree
:
 <-----set up-------   <-------IAM---------    CCBS call
                       --------ACM-------->
                       xxxxTC_END_IND----->
 :
 <----disconnect----   <-------REL---------
```

```
1. UNI at SPA becomes busy.
2. Check that a TC_END_IND primitive without component is received in order to
end the CCBS operation.
```

TSS CCBS_ASE/	TP ISS_TC_V_15_10	ISUP'97 reference 3.7.1/Q.733.3	Selection expression OLE AND PICS A.18/7	Q.788 reference None

Test purpose

Initiate the CCBS supplementary service even if no diagnostics is received in the release message

To verify that the IUT sends a **CcbsRequest invoke** if the calling user activates the CCBS.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access            SPA                  SPB
 ------setup------->  -------IAM-------->
 <-----disconnect---  <------REL---------
                      -------RLC-------->   (normal call, user at SPB busy)
                   ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2          xxxxTC_BEGIN_REQxxxx-->
stop CCBS-T2           <--TC_CONTINUE_INDxxxx
start CCBS-T3
:
 ----CCBS recall--->   -------IAM------->    CCBS call
 :
 <----disconnect----   <-------REL-------
:
```

```
1. The access side activates CCBS.
2. Send a REL without diagnostics "CCBS is possible".
3. Check that the CcbsRequest invocation is received.
4. The user at SPB is now free for a CCBS call.
5. CCBS call set up with "ISDN User Part required all the way" in the FCI of
the IAM.
```

TSS CCBS_ASE/	TP ISS_TC_V_15_11	ISUP'97 reference 3.9.1/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

Support of the retention timer CCBS-T1

To verify that the retention timer CCBS-T1 can be started after receive of a **release message** with cause value #17 or #34 from the DLE and stopped normally after activation of the CCBS supplementary service by the calling user.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access            SPA                  SPB
 ------setup------->  -------IAM-------->
 <-----disconnect---  <------REL---------
                      -------RLC-------->   (normal call, user at SPB busy)
                                          SPB starts CCBS-T1 and receives
                                          nothing until the timer expires
<------facility-------
         Act CCBS
start CCBS-T1
send nothing until it expires
```

```
1. The access side activates CCBS after CCBS-T1 runs out.
2. Check that no CCBS request is stored in the queue.
```

TSS CCBS_ASE/	TP ISS_TC_V_15_12	ISUP'97 reference 3.5.5.4.1 c); 3.9.1/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

Support of the CCBS request operation timer CCBS-T2

To verify that the timer CCBS-T2 can be started after sending of a **CcbsRequest** to the DLE and stopped normally after receipt of **CcbsRequest return result** from the DLE.

NOTE – If the timer expires a **TC-END** with **TC-L-CANCEL** indication primitive is received from the DLE and the service request is rejected.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access                          SPA                                SPB
 ------setup------->  -------IAM-------->
 <----disconnect----  <------REL---------
                      -------RLC-------->   (normal call, user at SPB busy)
                  ... TCAP transaction ...
start CCBS-T2         xxxTC_BEGIN_REQ-->     SPB starts CCBS-T2 and sends
                      <--TC_ENDxxxxxxxxxx    TC_END_IND if the timer expires
```

1. The access side activates CCBS.
2. End the TCAP dialogue in order to get an initial state.

TSS CCBS_ASE/	TP ISS_TC_I_15_13	ISUP'97 reference 3.5.1.2.1.2/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

Support of the CCBS service duration timer CCBS-T3

To verify that the IUT can successfully deactivate a CCBS request if the CCBS service duration timer CCBS-T3 expires.

NOTE – Send a **CcbsCancel invoke** with cancelCause to the DLE by using the TCAP primitive **TC-END request**(TC-INVOKE request) with cancelCause "CCBS-T3 Timeout".

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access             SPA                              SPB
 ------setup------->  -------IAM-------->
 <-----disconnect---  <------REL---------
                      -------RLC-------->   (normal call, user at SPB busy)
                     ... TCAP transaction ...
start CCBS-T2         xxxxTC_BEGIN_REQ-->     CcbsRequest invoke
stop CCBS-T2          <---TC_CONT_INDxxxx     CcbsRequest return result
start CCBS-T3
starts CCBS-T3 and sends TC_CONTINUE_IND with RemoteUserFree if it expires
                      <---TC_CONT_INDxxxxx     RemoteUserFree
                      xxxxxTC_END_REQ---->   TC_END_IND with CancelCause
"timeout CCBS-T3"
```

1. The access side activates CCBS.
2. After CCBS-T3 timer expiry the IUT shall send the CancelCause "CCBS-T3 timeout" in a TC_END.

TSS CCBS_ASE/	TP ISS_TC_I_15_14	ISUP'97 reference 3.5.1.2.1.2 ii); 3.9.1/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

Support of the CCBS recall timer CCBS-T4

To verify that the timer CCBS-T4 can be stopped after receiving an indication from the user for a CCBS recall.

NOTE – CCBS-T4 contains the maximum time the network will wait for the calling user A to respond to a CCBS recall. The OLE sends a **CcbsCancel invoke** in **TC-END request** to the DLE in case of CCBS-T4 expiry.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
 access            SPA                 SPB
 ------setup------->  -------IAM-------->
 <-----disconnect---  <------REL---------
                      -------RLC-------->   (normal call, user at SPB busy)
                     ... TCAP transaction ...
start CCBS-T2         xxxxTC_BEGIN_REQ-->     CcbsRequest invoke
start CCBS-T3         <---TC_CONT_INDxxxx      CcbsRequest return result
:
                      <---TC_CONT_INDxxxxx     RemoteUserFree

SPB starts CCBS-T4 and receives TC_END_IND with CancelCause if it expires
                      xxxxxTC_END_REQ---->   TC_END_IND with CancelCause
"timeout CCBS-T3"
```

```
1. The access side activates CCBS and does not accept the CCBS recall within
CCBS-T4.
2. Check that the CancelCause "CCBS-T4 timeout" is received in a TC_END.
```

TSS CCBS_ASE/	TP ISS_TC_I_15_15	ISUP'97 reference 3.5.3.1.2 b) i)/Q.733.3	Selection expression OLE AND PICS A.18/5	Q.788 reference None

Test purpose

Reject a second identical activation of CCBS

To verify that the IUT does not send any CcbsRequest to the DLE if a second identical activation of CCBS is done.

Pre-test conditions

Arrange the data in the IUT so that the calling user subscribes to CCBS supplementary service.

```
access            SPA                  SPB
 ------setup------->  -------IAM-------->
 <----disconnect----  <------REL---------
                      -------RLC-------->  (1st normal call, user at SPB busy)
                     ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2         xxxxTC_BEGIN_REQ-->
stop CCBS-T2          <--TC_CONTINUE_INDx
start CCBS-T3
:
 ------setup------->  -------IAM-------->
 <----disconnect----  <------REL---------
                      -------RLC-------->  (2nd normal call, user at SPB busy)
:
```

1. The access side activates CCBS.
2. First call to busy user at SPB.
3. Check that the CcbsRequest invocation is received.
4. Second identical call from the IUT to the same SPB.
5. End the TCAP dialogue.

TSS CCBS_ASE/	TP ISS_TC_I_15_16	ISUP'97 reference 3.5.3.1.2 b) ii)/Q.733.3	Selection expression OLE AND PICS A.18/4	Q.788 reference None

Test purpose

Treat a second identical activation of CCBS as a new request

To verify that the IUT treats a second identical activation of CCBS as a new request.

Pre-test conditions

Arrange the data in the IUT so that the calling user subscribes to CCBS supplementary service.

```
 access             SPA                              SPB
 ------setup-------> -------IAM--------->
 <----disconnect----  <------REL---------
                      -------RLC--------> (1st normal call, user at SPB busy)
                     ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2          xxxxTC_BEGIN_REQ-->
stop CCBS-T2           <--TC_CONTINUE_INDx
start CCBS-T3
:
 -------setup------> -------IAM--------->
 <----disconnect----  <------REL---------
                      -------RLC--------> (2nd normal call, user at SPB busy)
                     ... TCAP transaction ...
start CCBS-T1    --
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2          xxxxTC_BEGIN_REQ-->
stop CCBS-T2           <--TC_CONTINUE_INDx
start CCBS-T3
:
```

---

1. The access side activates CCBS.
2. First call to busy user at SPB.
3. Check that the CcbsRequest invocation is received.
4. Second identical call from the IUT to the same SPB.
5. Second identical activation of the CCBS request.
6. End the TCAP dialogue.

TSS CCBS_ASE/	TP ISS_TC_I_15_17	ISUP'97 reference 3.5.1.2.2.2/Q.733.3	Selection expression DLE	Q.788 reference None

Test purpose

Support of the CCBS service supervision timer CCBS-T7

To verify that the IUT deactivates the CCBS-request if CCBS-T7 expires.

NOTE 1 – CCBS-T7 is started after sending a **CcbsRequest return result** to the OLE.

NOTE 2 – CCBS-T7 is stopped after the destination B becomes not busy, before sending **RemoteUserFree** to the OLE.

NOTE 3 – Send a **CcbsCancel invoke** in a **TC-END request**(TC-INVOKE request) with cancelCause "CCBS-T7 Timeout".

```
 access                SPA               SPB
 set the destination
 B busy
                       <-----IAM----------
 user busy             ------REL--------->
                       <-----RLC----------
                       ... TCAP transaction ...
                       <---xxTC_BEGIN_REQx
                       xxTC_CONTINUE_IND-->  CcbsRequest return result
SPB starts CCBS-T7 and receives TC_END_IND with CancelCause
"CCBS-T7 Timeout" if it expires
                       xxxxxTC_END_IND--->
    user free          <-------REL--------
                       --------RLC------->
```

TSS CCBS_ASE/	TP ISS_TC_I_15_18	ISUP'97 reference 3.5.3.1.5 a); 3.9.1/Q.733.3	Selection expression DLE	Q.788 reference None

Test purpose

Support of the destination B idle guard timer CCBS-T8

To verify that no resources are available at the destination B side until timer CCBS-T8 expires.

```
 access               SPA                     SPB
 set the destination
 B busy
                        <--------IAM----------
 user busy              ---------REL--------->
                        <--------RLC----------
                      ... TCAP transaction ...
                        <---xxTC_BEGIN_REQx    CcbsRequest
                       xxTC_CONTINUE_IND-->   CcbsRequest return result
:
User is now free        SPB starts timers CCBS-T8
                        SPB checks every second that no resources
                        are available by using T_LOCAL timer
                        <--------IAM----------
                        ---------REL--------->
                        <--------RLC----------
:
<-------setup-------   <--------IAM----------   CCBS-T8 expires
--------alert------>   ---------ACM--------->
-------connect----->   ---------ANM--------->
:
_____________________________________________________________________________
1. Check that no resources are available within CCBS-T8, e.g. send an IAM and
receiving a  REL.
2. Check that resources are now available by sending an IAM and receiving an
ACM, etc.
```

TSS CCBS_ASE/	TP ISS_TC_V_15_19	ISUP'97 reference 3.5.3.5.2 d); 3.9.1/Q.733.3	Selection expression DLE	Q.788 reference None

Test purpose

Support of the DLE recall timer CCBS-T9

To verify that the timer CCBS-T9 can be started after sending of a **TC-CONTINUE** with **RemoteUserFree** from the DLE and stopped after CCBS call is received from the OLE.

NOTE – Send a **CcbsCancel invoke** in a **TC-END request**(TC-INVOKE request) with cancelCause "CCBS-T9 Timeout".

```
 access                 SPA               SPB
  set the destination
 B busy
                          <-----IAM----------
 user busy                ------REL--------->
                          <-----RLC----------
                         ... TCAP transaction ...
                          <---xxTC_BEGIN_REQx
                          xxTC_CONTINUE_IND-->  CcbsRequest return result
:
                          xxTC_CONTINUE_IND-->  RemoteUserFree

                          SPB starts CCBS-T9 and receives
                          TC_END_IND with CancelCause
                          "CCBS-T9 Timeout" if it expires
                          xxxxxTC_END_IND--->
 user free                <-------REL--------
                          --------RLC------->
```

```
1. Check that the CancelCause "CCBS-T9 timeout" is received in a TC_END.
2. Free destination B.
```

TSS CCBS_ASE/	TP ISS_TC_I_15_20	ISUP'97 reference 3.7.7.3.3.1; 3.7.7.3.3.2; 3.9.3/Q.733.3	Selection expression Local AND PICS A.18/19	Q.788 reference None

Test purpose

Support of the interworking supervision timer T_{SUP}

To verify that the timer T_{SUP} is used correctly in case of interworking with a private network.

NOTE 1 – The DLE sends a **CcbsCancel invoke** in **TC-END request** to the OLE without cancelCause in case of T_{SUP} timer expiry.

NOTE 2 – The OLE sends a **CcbsCancel invoke** in **TC-END request** to the DLE without cancelCause in case of T_{SUP} timer expiry.

Pre-test conditions for OLE

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
SPC             SPA               SPB (private network)
-------IAM------->   -------IAM------>
<------REL--------   <------REL-------
-------RLC------->   -------RLC------>   (normal call, user at SPB busy)
                  ... TCAP transaction ...
xxxTC_BEGIN_REQ-->   xxTC_BEGIN_REQ-->
                      SPB starts T_SUP and sends no
                      CcbsRequest return result within T_SUP
                     xxxTC_END_REQ--->  TC_END_IND without CancelCause
```

```
1. Check that a TC_END without CancelCause is received.
```

TSS CCBS_ASE/	TP ISS_TC_I_15_21	ISUP'97 reference 3.5.1.1.1.1/Q.733.3	Selection expression OLE	Q.788 reference None

Test purpose

CCBS REQUEST not invoked

To verify that if a call is released with a cause other than #17 or #34, then no CCBS REQUEST shall be sent from the OLE to the DLE

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
access            SPA                 SPB
------setup-------> -------IAM--------->
<-----disconnect--- <------REL----------
                    -------RLC--------->
```

```
1. The access side shouldn't activate CCBS.
2. Release call with a cause other than #17 or #34.
```

7.2.16 Servicio tripartito (3PTY, *three party service*)

TSS THREE_PTY/	TP ISS_V_16_1	ISUP'97 reference 2.4; 2.2.1/Q.734.2	Selection expression Local	Q.788 reference 2.14.1

Test purpose

Served user initiates 3PTY

To verify that the IUT, where the served user with two active calls is located, can successfully join these calls to form a three-way conversation, and notify the implied remote parties accordingly.

The IUT should send **CPG** messages with the **generic notification indicator** set to "conference established" to both implied parties. The **event indicator** in the **CPG** should be set to "progress".

The notification should be independent of the call set up direction of the two calls; i.e. it should apply to all of the following scenarios:

A -->B ; A<-- B ; A -->B ; A<-- B

A -->C ; A -->C ; A<--C ; A<-- C

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to the 3PTY and HOLD supplementary services.

```
SPC               SPA                SPB
                     -------IAM------>
                     <------ACM-------
                     <------ANM-------
                     -------CPG------>  check held state
 <-----IAM-------
 ------ACM------>
 ------ANM------>
 <-----CPG-------   -------CPG------>
      conf est            conf est
        ... 3PTY communication ...

<-----CPG-------   <------REL-------
        conf disc   -------RLC------>
 <-----REL-------
 ------RLC------>
```

```
1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference
established" in the CPG.
4. Check the 3PTY communication through the three-party bridge between users
from UNI at SPB and SPC.
5. Release the call from UNI at SPB.
```

TSS THREE_PTY/	TP ISS_V_16_2	ISUP'97 reference 2.5.2.1.1.3 a)/Q.734.2	Selection expression Local	Q.788 reference 2.14.1

Test purpose

Served user creates a private communication with a remote user

To verify that the IUT (controlling the conference) on a 3PTY call can successfully create private communication with one of the remote users. The appropriate notification (depending on A-B active-held or A-C active-idle connection) is sent in **CPG** messages to the two users.

Pre-test conditions

Arrange the data in the IUT such that the served user subscribes to the 3PTY and HOLD supplementary services.

```
Case a)
 SPC                SPA               SPB
                     -------IAM------>
                     <------ACM-------
                     ... ringing tone ...
                     <------ANM-------
                     check communication
                     -------CPG------>  check held state
 <------IAM-------
 -------ACM------>
 -------ANM------>
 <------CPG-------   -------CPG------>
     conf est            conf est
        ... 3PTY communication ...
 <------CPG-------   -------CPG------>
     conf disc           conf disc
                     -------CPG------>  check remote hold
                     <------REL-------
                     -------RLC------>
 <------REL-------
 -------RLC------>
```

---

1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
4. Check the 3PTY communication towards each party.
5. Disconnect the 3PTY call.
6. Check the held state at SPB.
7. Release the held call.

```
Case b)
 SPC               SPA               SPB
                     -------IAM------>
                     <------ACM-------
                     ... ringing tone ...
                     <------ANM-------
                      check communication
                     -------CPG------> check held state
 <------IAM-------
 -------ACM------>
 -------ANM------>
 <------CPG-------   -------CPG------>
      conf est          conf est
       ... 3PTY communication ...
 <------CPG-------   -------CPG------>
      conf disc        remote hold
 <------CPG-------   -------CPG------>
     remote hold        conf disc
                     <------REL-------
                     -------RLC------>
 <------REL-------
 -------RLC------>
```

---

1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
4. Check the 3PTY communication towards each party.
5. Check "Remote hold" at SPB with which private communication is required.
6. Check "conference disconnected" after retrieving the held call.
7. Release the retrieved call.

TSS THREE_PTY/	TP ISS_V_16_3	ISUP'97 reference 2.5.2.1.1.3 b)/Q.734.2	Selection expression Local	Q.788 reference 2.14.2

Test purpose

Served user disconnects one remote user and retains the other

To verify that the IUT (controlling the conference) on a 3PTY call can successfully disconnect one remote user and retain and notify the other user appropriately using **CPG** messages.

The IUT should send to the appropriate remote users **CPG** messages with a **generic notification indicator** (depending on A-B active-held or A-C active-idle connection). The **event indicator** in the **CPG** should be set to "progress".

NOTE – The "remote hold" notification should be sent in a **CPG** to the remaining remote user, followed by the "conference disconnected" notification in a separate **CPG**.

Pre-test conditions

Arrange the data in the IUT such that the served user has activated 3PTY and HOLD supplementary services.

```
Case a)
 SPC               SPA               SPB
                     ------IAM------>
                     <-----ACM-------
                     <-----ANM-------

                     ------CPG------>  check held state
 <-----IAM--------
 ------ACM------->
 ------ANM------->
 <-----CPG--------   ------CPG------>
     conf est            conf est
         ... 3PTY communication ...
 <------REL-------   ------CPG------>
 -------RLC------>       remote hold
                     ------CPG------>
                    conference disconnected
                     <-----REL-------
                     ------RLC------>
```

```
1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference established" in
the CPG.
4. Check the 3PTY communication towards each party.
5. Check "Remote hold" at SPB after.
6. Check "conference disconnected" after retrieving the held call.
```

```
Case b)
 SPC              SPA              SPB
                    ------IAM------>
                    <-----ACM-------
                    <-----ANM-------
                    ------CPG------>   check held state

 <-----IAM--------
 ------ACM------->
 ------ANM------->
 <-----CPG--------  ------CPG------>
     conf est          conf est
     ... 3PTY communication ...
 <-----CPG-------   ------REL------>
    conf disc       <-----RLC-------
 <------REL------
 -------RLC----->
```

```
1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference established" in
the CPG.
4. Check the 3PTY communication towards each party.
5. The user at SPB is released with Cause #16 – Normal call clearing.
```

TSS THREE_PTY/	TP ISS_V_16_4	ISUP'97 reference 2.5.2.1.1.3/Q.734.2	Selection expression Local	Q.788 reference 2.14.4

Test purpose

Served user disconnects both remote users and terminates the call

To verify that the IUT (controlling the conference) can send the appropriate notification to the two remote users when disconnecting both remote users on the 3PTY call.

The IUT should send to the appropriate remote users a **CPG** with a **generic notification indicator** (depending on A-B active-held or A-C active-idle connection). The **event indicator** in the **CPG** is set to "progress".

Pre-test conditions

Arrange the data in the IUT such that the served user has activated 3PTY and HOLD supplementary services.

```
Case a)
 SPC              SPA              SPB
                    -------IAM------>
                    <------ACM-------
                    <------ANM-------
                    -------CPG------>   check held state
 <-----IAM--------
 ------ACM------->
 ------ANM------->
 <-----CPG--------  -------CPG------>
    conf est            conf est
        ... 3PTY communication ...
 <------REL-------  -------CPG------>
 -------RLC------>        remote hold
                    -------REL------>
                    <------RLC-------
```

---

1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
4. Check the 3PTY communication towards each party.
5. Check "Remote hold" as a reaction to first releasing user at SPC.
6. Check that Release is received at SPB with Cause #16 – Normal call clearing.

```
Case b)
 SPC              SPA                 SPB
                    -------IAM------>
                    <------ACM-------
                    <------ANM-------
                    -------CPG------>   check held state
 <-----IAM--------
 ------ACM------->
 ------ANM------->
 <-----CPG--------  -------CPG------>
      conf est         conf est
      ... 3PTY communication ...
 <-----CPG--------  -------REL------>
      conf disc     <------RLC-------
 <------REL-------
 -------RLC------>
```

---

1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
4. Check the 3PTY communication towards each party.
5. Check that Release is received at SPB with Cause #16 – Normal call clearing.

TSS THREE_PTY/	TP ISS_V_16_5	ISUP'97 reference 2.2.1/Q.734.2	Selection expression Local	Q.788 reference 2.14.3

Test purpose

Remote user disconnects 3PTY call

To verify that the IUT (controlling the conference) can successfully continue the 3PTY call after receiving disconnection by one of the remote users, and send the appropriate notification to the remaining party.

The IUT should send to the other remote user **CPG** with a **generic notification indicator** (depending on A-B active-held or A-C active-idle connection). The **event indicator** in the **CPG** is set to "progress".

NOTE – The "remote hold" notification should be sent in a **CPG** to the other remote user, followed by the "conference disconnected" notification in a separate **CPG**.

Pre-test conditions

Arrange the data in the IUT such that the served user has activated 3PTY and HOLD supplementary services.

```
Case a)
 SPC              SPA             SPB
                    -------IAM------>
                    <------ACM-------
                    <------ANM-------
                    -------CPG------>   check held state
 <-----IAM-------
 ------ACM------>
 ------ANM------>
 <-----CPG-------   -------CPG------>
     conf est           conf est
       ... 3PTY communication ...
 ------REL------>   -------CPG------>
 <-----RLC-------       remote hold
                    -------CPG------>
                        conf disc
                    -------REL------>
                    <------RLC-------
```

---

1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
4. Check the 3PTY communication towards each party.
5. Check "Remote hold" indication at SPB.
6. Check "conference disconnected" after retrieving the held call.
7. Check that Release is received at SPB with Cause #16 – Normal call clearing.

```
Case b)
 SPC            SPA               SPB
                   ------IAM------>
                   <-----ACM-------
                   <-----ANM-------
                   ------CPG------>   check held state
 <-----IAM-------
 ------ACM------>
 ------ANM-------
 <-----CPG-------  ------CPG------>
    conf est           conf est
      ... 3PTY communication ...
 <-----CPG-------  <-----REL-------

     conf disc     ------RLC------>
 <------REL------
 -------RLC----->
```

---

1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
4. Check the 3PTY communication towards each party.
5. User at SPB disconnects with Cause #16 Normal call clearing.

TSS THREE_PTY/	TP ISS_V_16_6	ISUP'97 reference 2.5.2.2-4.1; Table 2-1/Q.734.2	Selection expression IntermE	Q.788 reference 2.14.1

Test purpose

Transit support of 3PTY

To verify that the IUT can transparently transfer all information related to 3PTY.

The IUT should be able to transparently transfer the **CPG** message with the following notifications in the **generic notification indicator** in both the forward and the backward direction:

1) "Conference established"

2) "Conference disconnected"

3) "Remote hold"

```
Case a)
 SPC               SPA                SPB
  ------IAM------>   ------IAM------>
  <-----ACM-------   <-----ACM-------
  <-----ANM-------   <-----ANM-------
  ------CPG------>   ------CPG------>  check held state
  ------CPG------>   ------CPG------>
     conf est            conf est
        ... 3PTY communication ...
  ------CPG------>   ------CPG------>
    remote hold         remote hold
  ------CPG------>   ------CPG------>
     conf disc          conf disc
  ------REL------>   ------REL------>
  <-----RLC-------   <-----RLC-------
```

```
1. Set up a call from SPB to SPC and put it on hold.
2. Check "conference established" indication in the CPG.
3. Check through-connection of the speech path.
4. Check "remote hold" indication at SPB.
5. Check "conference disconnected" indication.
```

```
Case b)
 SPC               SPA                SPB
  <-----IAM-------   <-----IAM-------
  ------ACM------>   ------ACM------>
  ------ANM------>   ------ANM------>
  <-----CPG-------   <-----CPG-------  check held state
  <-----CPG-------   <-----CPG-------
      conf est            conf est
          ... 3PTY communication ...

<-----CPG-------   <-----CPG-------
       remote hold      remote hold
  <-----CPG-------   <-----CPG-------
       conf disc        conf disc
  <-----REL-------   <-----REL-------
  ------RLC------>   ------RLC------>
```

```
1. Set up a call from SPB to SPC and put it on hold.
2. Send "conference established" indication in the CPG.
3. Check through-connection of the speech path.
4. Send "remote hold" indication from SPB.
5. Send "conference disconnected" indication.
```

TSS THREE_PTY/	TP ISS_V_16_7	ISUP'97 reference 2.5.2.5.1; Table 2-1/ Q.734.2	Selection expression DLE	Q.788 reference 2.14.1

Test purpose

Remote user included in 3PTY

To verify that the IUT can receive the notification information related to 3PTY, and pass it on to the access signalling system.

The IUT should be able to transparently transfer the **CPG** message with the following notifications in the **generic notification indicator** in both the forward and the backward direction:

1) "Conference established"

2) "Conference disconnected"

3) "Remote hold"

```
access           SPA              SPB(MTC)            SPD (controlling 3PTY)
<-----setup------   <-----IAM-------   <-----IAM-------
-----alerting--->   ------ACM------>   ------ACM------>
-----connect---->   ------ANM------>   ------ANM------>
<--remote hold---   <-----CPG-------   <-----CPG-------
                       remote hold        remote hold
<----conf est----   <-----CPG-------   <-----CPG-------
                        conf est           conf est
        ... 3PTY communication ...
<---remote hold--   <-----CPG-------   <-----CPG-------
                       remote hold       remote hold
<----conf disc---   <-----CPG-------   <-----CPG-------
                        conf disc          conf disc
<---disconnect---   <-----REL-------   <-----REL-------
                    ------RLC------>   ------RLC------>
```

```
1. Set up a call to a UNI at SPA and put it on hold.
2. Assist call set up to the access observe the indications: "conference
established", "conference disconnected" and "remote hold".
3. The 3PTY served user starts the 3PTY conversation
4. Check the 3PTY communication towards the remote party.
5. Send "remote hold" indication to the remote party, sign that the other
party has been disconnected.
6. Send "conference disconnected", sign that the remote user has been
retrieved.
7. Check that communication is possible and release the call.
```

TSS THREE_PTY/	TP ISS_V_16_8	ISUP'97 reference 2.6.15/Q.734.2	Selection expression Local	Q.788 reference None

Test purpose

Served user initiates 3PTY; interaction with HOLD

To verify that the IUT does not send any notifications to the remote users by request of HOLD by the served user during the 3PTY conversation active phase.

Pre-test conditions

Arrange the data in the IUT such that the served user has activated 3PTY and HOLD supplementary services.

```
SPC             SPA               SPB
                  ------IAM------->
                  <-----ACM--------
                  <-----ANM--------
                  ------CPG------->    check held state
<-----IAM-------
------ACM------>
------ANM------>
<-----CPG-------  -------CPG------>
    conf est         conf est
    ... 3PTY communication ...

                                Served user at SPA activates hold
                                  --> nothing is observed at SPB
<-----CPG-------  ------REL------>
   conf disc      <-----RLC-------
<-----REL-------
------RLC------>
```

```
1. Set up a first call from SPA to SPB and put it on hold.
2. Set up a second call from SPA to SPC.
3. Join the two calls into a 3PTY communication and check "conference
established" in the CPG.
4. Check the 3PTY communication towards each party.
5. Check that no notification of call Hold is received  at SPC.
```

TSS THREE_PTY/	TP ISS_V_16_9	ISUP'97 reference 2.7/Q.734.2	Selection expression IWorkE	Q.788 reference None

Test purpose

3PTY; interaction with other networks

To verify that the IUT will discard the call progress information in case of interaction with network which does not provide it. The 3PTY should be completed.

```
SP(non-ISUP)    SPA             SPB(MTC)          SPD (controlling 3PTY)
<-----IAI------   <-----IAM-------
------ACM----->   ------ACM------>
------ANC----->   ------ANM------>
                  <-----CPG-------
                      remote hold
                  <-----CPG-------
                       conf est
       ... 3PTY communication ...
                  <-----CPG-------

                  remote hold
                  <-----CPG-------
                     conf disc
<-----CCL------   <-----REL-------
                  ------RLC------>
```

1. Set up a call from SPB to a non-ISUP destination at SPC and put it on hold.
2. Send "conference established" indication in the CPG.
3. Check through-connection of the speech path.
4. Send "remote hold" indication from SPB.
5. Send "conference disconnected" indication.

7.2.17 Compleción de llamadas en caso de ausencia de respuesta (CCNR, *completion of calls on no reply*)

7.2.17.1 CCNR-ISUP

TSS CCNR_ISUP/	TP ISS_V_17_1_1	ISUP'97 reference 4.2.1.1; 5.3.1.1/ Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

ISUP Preference Indicator in the CCNR call

To verify that for the CCNR call, the IUT sets the ISUP preference indicator in the **forward call indicator** parameter in the **IAM** to "ISDN User Part required all the way".

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access              SPA                SPB
 ------setup-------->  -------IAM------->
                       <------ACM--------
            No reply
 ----disconnect--->   ------REL-------->
                       <-------RLC-------
                      ...  TCAP transaction ...
 <------recall-------
 --setup CCNR call-->  -------IAM------->    ISUP required all the way
:
 <------disconnect---  <------REL--------
:
```

```
1. Set up a call to free user at SPB.
2. User at SPB has no reply.
3. Check that user at SPB becomes free by using the RemoteUserFree CCNR ASE
operation.
4. CCNR call with "ISDN User Part required all the way" in the FCI of the IAM.
```

TSS CCNR_ISUP/	TP ISS_V_17_1_2	ISUP'97 reference 4.2.1.3/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

CCNR parameter in the CCNR call

To verify that for the CCNR call, the IUT includes in the **IAM** the CCNR call indicator in the **CCSS parameter** coded as "CCSS call".

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access            SPA                  SPB
 ------setup-------> -------IAM-------->
                     <------ACM--------
            No reply
 ----disconnect--->  -------REL-------->
                     <-------RLC-------
           ... TCAP transaction ...
 ----CCNR recall---> -------IAM-------->
:                                        CCNR call
 <----disconnect---- <------REL---------
:
```

```
1. Set up a call to free user at SPB.
2. User at SPB has no reply.
3. Check that user at SPB becomes free by using the RemoteUserFree CCNR ASE
operation.
4. Check Indication "CCSS call" in the IAM.
```

TSS CCNR_ISUP/	TP ISS_V_17_1_3	ISUP'97 reference 5.1.1.1.1/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

CCNR call with retained basic call information

To verify that for the CCNR call, the IUT includes the retained call information in the **IAM**:

User service information;

User service information prime;

Access transport (e.g. called party sub-address);

Called party number.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR and such that the relevant call information that is to be tested may be provided by the calling user.

```
 access            SPA               SPB
 ------setup------> --------IAM-------->
                     <------ACM--------
           No reply

 ---disconnect----> -------REL--------->
                    <--------RLC--------
           ... TCAP transaction ...
 <-----recall-------
 --setup CCNR call-> -------IAM-------->    ISUP required all the way
:
 <---disconnect----- <------REL---------
:
```

1. Set up a call with USI, USIp, ATP and/or CdPN, which encounters user at SPB no answer, activates TCAP and terminates the call.
2. User at SPB is free.
3. Check that user at SPB becomes free by using the RemoteUserFree CCNR ASE operation.
4. CCNR call with "ISDN User Part required all the way" in the FCI of the IAM. The retained call information about ATP, USI, USIp and CdPN shall be checked too.

TSS CCNR_ISUP/	TP ISS_V_17_1_4	ISUP'97 reference 5.1.1.1.1/Q.733.5	Selection expression OLE AND PICS A.19/3	Q.788 reference None

Test purpose

CCNR call with retained call information & interactions with other supplementary services

To verify that for the CCNR call, the IUT includes the retained call information in the IAM:
Calling party number (if supported);
Access transport (e.g. calling party sub-address if supported);
UUS1,2,3 (retained request if supported);
UUS1 (information given by user in response to CCNR recall, if supported);
Optional forward call indicator (with COLP request).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR and such that the relevant call information for the applicable supplementary services may be provided by the calling user (e.g. SUB, COLP).

```
 access             SPA                SPB
 -------setup-------> -------IAM-------->
                       <------ACM--------
            No reply

 ---disconnect----> -------REL--------->
                    <--------RLC--------
          ... TCAP transaction ...
 <-------recall------
 --setup CCNR call--> --------IAM------->    ISUP required all the way
:
 <------disconnect--- <------REL---------
:
```

```
1. Set up a call with Calling party number (if supported) ATP (e.g. calling
party sub-address if supported); UUS1, 2, 3 (retained request if supported)
UUS1 (information given by user in response to CCNR recall,  if supported)
OFCI (with COLP request) which encounters user at SPB with no answer,
activates TCAP and terminate the call.
2. User at SPB is free.
3. Check that user at SPB becomes free by using  the RemoteUserFree CCNR ASE
operation.
4. CCNR call with "ISDN User Part required all the way" in the FCI of the IAM.
The retained call information. about ATP, UUS1,2,3 request, UUI in CCNR recall
and CdPN shall be checked too.
```

TSS CCNR_ISUP/	TP ISS_V_17_1_5	ISUP'97 reference 5.3.2.1; 5.3.3.1; 5.3.4.1/Q.733.5	Selection expression IntermE	Q.788 reference None

Test purpose

Transit support of CCNR Possible Indicator parameter

To verify that the IUT is able to pass the CCNR Possible Indicator parameter in the ACM/CPG transparently to the preceding exchange.

```
 SPC              SPA                SPB
 <------IAM------- <-------IAM-------
 -------ACM------> --------ACM------->
 <------REL------- <-------REL-------
 -------RLC------> --------RLC------->
```

```
1. Check CCNR Possible Indicator parameter in the ACM/CPG.
```

TSS CCNR_ISUP/	TP ISS_V_17_1_6	ISUP'97 reference 5.3.2.1; 5.3.3.1; 5.3.4.1/Q.733.5	Selection expression IntermE	Q.788 reference None

Test purpose

Transit support of CCSS parameter in IAM

To verify that the IUT is able to pass CCSS parameter transparently to the succeeding exchange.

```
 SPC             SPA                  SPB
-------IAM-------> -------IAM--------> CCSS parameter
:
```

```
1. Set up a CCNR call to user at SPB.
2. Check that CCSSpar is received.
```

TSS CCNR_ISUP/	TP ISS_V_17_1_7	ISUP'97 reference 4.2.1.2/Q.733.5	Selection expression DLE	Q.788 reference None

Test purpose

CCNR possible to destination B

To verify that the IUT is able to generate in a **ACM/CPG** message the field containing a CCNR possible indicator with a "CCNR possible" indication.

```
 access            SPA                 SPB
 set the destination
 B user free
                      <------IAM--------
                      -------ACM------->
 No reply

                      <------REL--------
                      -------RLC------->
  <---disconnect----
:
```

```
1. UNI at SPA no answer.
2. Check that "CCNR possible" is received in the ACM/CPG message.
3. Release the call.
```

TSS CCNR_ISUP/	TP ISS_V_17_1_8	ISUP'97 reference 4.2.1.3/Q.733.5	Selection expression DLE	Q.788 reference None

Test purpose

CCNR parameter in the CCNR call

To verify that the IUT is able to terminate the CCNR call, with the CCNR call indicator in the **CCNR parameter** in the **IAM** coded as "CCNR call".

```
 access               SPA                SPB
 set the destination B no answer
                      <------IAM--------  normal call
                      -------ACM-------> CCNR possible
            No reply

 <---disconnect----   <------REL---------
                      -------RLC-------->
                     ... TCAP transaction ...
user frees resources
                   RemoteUserFree to CCNR call (& reserve resource)
                  resource(s) still available
 <-----setup---------  <-----IAM---------  CCNR call
 ------alert-------->  ------ACM-------->
 -----connect------->  ------ANM-------->
 <-----disc----------  <-----REL---------
:
```

```
1. UNI at SPA no answer.
2. Check that remote user is free by using the RemoteUserFree CCNR ASE
operation.
3. Process a CCNR call specified in the IAM.
4. Check that the call is terminated (ANM, CON, ...).
```

TSS CCNR_ISUP/	TP ISS_V_17_1_9	ISUP'97 reference 5/Q.733.5	Selection expression DLE	Q.788 reference None

Test purpose

CCNR not possible to destination B

To verify that the IUT is able to generate in a **ACM/CPG** the CCNR possible indicator parameter with a "CCNR not possible" indication.

NOTE – CCNR is not possible. Possible reasons include the queue is set to zero or filled up or due to maintenance reasons.

Pre-test conditions

Arrange the data in the IUT such that CCNR for destination B is not possible.

```
 access             SPA            SPB
 set the destination
 B user free
                      <------IAM--------  normal call
                      -------ACM-------> CCNR not possible
            No reply

 <---disconnect----   <------REL---------
                      -------RLC-------->

:
```

```
1. Set up a call to free user at SPA.
2. Check that "CCNR not possible" is received in the ACM or CPG message.
3. Release the call.
```

TSS CCNR_ISUP/	TP ISS_V_17_1_10	ISUP'97 reference 6.10.2.2 c)/Q.733.5	Selection expression DLE AND PICS A.19/9	Q.788 reference None

Test purpose

CCNR call as a normal call – Interaction with CFB

To verify that the IUT deletes the CCNR parameter in the **IAM** if the CCNR call is forwarded by the initially busy user.

Pre-test conditions

User at destination B must subscribe to and activate CFB to an external user while the recall timer is running (CCNR-T9).

```
 SPC             SPA               SPB
 ------IAM------->  (free)
 <-----ACM-------- CCNR possible
     No Reply
 ------REL------->
 ------RLC------->
   (user at SPA activates CDIV while CCNR-T9 runs)
 -----IAM-------->  -------IAM-----> CFB
   with CCNRpar        no CCNRpar
:
```

```
1. Set up a call to free user at SPA.
2. Check that no CCNRpar is received in the IAM.
```

TSS CCNR_ISUP/	TP ISS_V_17_1_11	ISUP'97 reference 5.3.5.1/Q.733.5	Selection expression DLE AND PICS A.19/6	Q.788 reference None

Test purpose

Maximum number of CCNR request queue entries of destination B

To verify that the IUT supports the maximum number of up to 5 queue entries.

```
 access            SPA                   SPB
 set the destination
 B Free
 user no reply       <-----IAM--------
                     ------ACM-------> CCNR possible

                     ------REL------->
                     <-----RLC--------
                     ...TCAP transaction ...
      Repeat more than 5 set up to no reply user at SPA
:
<----disconnect---   <-----REL--------
                     ------RLC------->
```

```
1. Set up a call to free user at access.
2. Send maximum number of CCNR requests and check that user at SPA becomes
free by using the RemoteUserFree CCNR ASE operation.
3. One more IAM after the maximum number of calls is reached at SPA.
4. Check that "CCNR not possible" is received in the ACM/CPG.
5. Release the call.
6. Set up calls (maximum 5 different) from SPB to SPA which encounters user at
SPA no answer. Activate CCNR for the different calls.
7. User at SPB requests maximum allowed CCNR request.
8. Received ACM/CPG with "CCNR not possible".
```

TSS CCNR_ISUP/	TP ISS_V_17_1_12	ISUP'97 reference 5.3.5.1/Q.733.5	Selection expression DLE	Q.788 reference None

Test purpose

Incoming non-CCNR call with identical service requirements released

To verify that the IUT, having an entry in the CCNR queue, releases a second incoming call if the service requirements of the second call are identical to the entry being processed and resources are available.

NOTE – The original request remains in the queue.

Pre-test conditions

Arrange the data in the IUT so that there are free resources in addition to the resource reserved for the first CCNR request.

```
 access              SPA              SPB
set the destination
B free
user no reply        <-----IAM-------- 1st call
                     ------ACM-------> CCNR possible
                     <-----REL--------
                     ------RLC------->
           ... TCAP transaction ..
user frees resources
         RemoteUserFree to 1st call ( & reserve resource
        resource(s) still available for potential 2nd call
                     <-----IAM-------- 2nd. independent call
                     ------REL-------> released because identical requirements
                     <-----RLC--------
         ... check TCAP transaction ...

                     <-----IAM-------- 1st. CCNR call (empty queue)
                     ...continue CCNR call  1st call.
:
```

---

1. Set up a 1st call to free user at access.
2. Check address complete message with CCNR possible(1st call).
3. Check that remote user is free by using the RemoteUserFree CCNR ASE operation.
4. Process a second identical (with the same requirement to the one being processed) set up to the same remote user.
5. Check that the call is released with cause XXXXXXXX (2nd call).
6. Continue the 1st CCNR call in order to get an idle state.
7. Continue the 2nd CCNR call in order to get an idle state.

TSS CCNR_ISUP/	TP ISS_V_17_1_13	ISUP'97 reference 5.3.5.1/Q.733.5	Selection expression DLE	Q.788 reference None

Test purpose

Incoming non-CCNR call with not identical service requirements accepted

To verify that the IUT, having a queue entry in the CCNR queue, accepts a second incoming call if the service requirements of the second call are not identical to the entry being processed and resources are available.

NOTE – The original request remains in the queue.

Pre-test conditions

Arrange the data in the IUT so that there are free resources in addition to the resource reserved for the first CCNR request.

```
access                SPA                SPB
set the destination
B free
user no reply          <-----IAM-------- 1st call
                       ------ACM-------> CCNR possible
                       <-----REL--------
                       ------RLC------->
                       ... TCAP transaction ..
user frees resources
                   RemoteUserFree to 1st call (& reserve resource)
                   resource(s) still available for potential 2nd call
 <-----setup--------- <-----IAM--------  2nd. independent call
 ------alert--------> ------ACM------->
 -----connect-------> ------ANM------->
 <-----disc---------- <-----REL--------
                 ...continue with the 1st CCNR call...
:
```

---

1. Set up a call to free user at access.
2. Check address complete message with CCNR possible(1st call).
3. Check that remote user is free by using the RemoteUserFree CCNR ASE operation.
4. Process a second non-identical (without the same requirement to the one being processed) set up.
5. Check that the call is accepted (ANM, CON, ...).
6. End the TCAP dialogue for the 1st call.

7.2.17.2 CCNR-ASE (Elemento de servicio de aplicación) (ASE, *CCNR-application service element*)

TSS CCNR_ASE/	TP ISS_TC_V_17_2_1	ISUP'97 reference 5.1.1.1.1/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

Ability to perform a CCNR REQUEST class 1 operation – successful

To verify that the IUT can successfully perform a CCNR REQUEST operation if required by the calling user:

NOTE 1 – Send a **CCNRRequest invoke** to the DLE by using the TCAP primitive **TC-BEGIN request**(TC-INVOKE request).

NOTE 2 – Receive a **CCNRRequest return result** from the DLE in a **TC-CONTINUE indication**(TC-INVOKE indication).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access             SPA                 SPB
 ------setup------->  -------IAM-------->
                      <------ACM-------- CCNR possible
        (normal call, user at SPB no answer)
                      -------REL-------->
                      <------RLC---------
                ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1

start CCNR-T2         xxxxTC_BEGIN_REQ-->
stop CCNR-T2          <--TC_CONTINUE_INDx
start CCNR-T3
:
 ----CCNR recall--->  -------IAM--------->    CCNR call
 :
 <----disconnect----  <-------REL---------
:
```

```
1. The access side activates CCNR.
2. The CCNRRequest invocation is received.
3. The user at SPB is now free for a CCNR call.
4. CCNR call set up with "ISDN User Part required all the way" in the FCI of
the IAM.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_2	ISUP'97 reference 5.1.1.1.2/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

Ability to perform a CCNR REQUEST class 1 operation – unsuccessful

To verify that if a failure occurs (short or long term denial) while invoking a CCNR REQUEST operation, the IUT is able to indicate the result to the calling user.

NOTE 1 – Send a **CCNRRequest invoke** to the DLE by using the TCAP primitive **TC-BEGIN request**(TC-INVOKE request).

NOTE 2 – Receive a **CCNRRequest return error** from the DLE in a **TC-END indication**(TC-U-ERROR indication).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access             SPA                   SPB
  -----setup------>  -------IAM-------->
                     <------ACM-------- CCNR possible
        (normal call, user at SPB no answer)
                     -------REL-------->
                     <------RLC---------
                      ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2          xxxxxTC_BEGIN_REQxxxx->
stop CCNR-T2           <---TC_END_INDxxxxxxxxx
```

```
1. The access side activates CCNR.
2. The CCNRRequest invocation is received.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_3	ISUP'97 reference 5.1.2.1.1/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

Ability to perform a CCNR CANCEL class 4 operation

To verify that the IUT can successfully perform a deactivation request if required by the calling user:

NOTE – Send a **CCNRCancel invoke** without cancelCause to the DLE by using the TCAP primitive **TC-END request**(TC-INVOKE request).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access             SPA                  SPB
  -----setup-------> -------IAM-------->
                     <------ACM-------- CCNR possible
        (normal call, user at SPB no answer)
                     -------REL-------->
                     <------RLC---------
                    ... TCAP transaction ...
start CCNR-T1    --
<-CCNR Act request----
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2        xxxxTC_BEGIN_REQxx->
stop CCNR-T2         <--TC_CONTINUE_INDxx
start CCNR-T3
<--CCNR Deact request—
--CCNR Deact response->
                     xxTC_END REQxxxx--->
stop CCNR-T3
```

```
1. The access side activates and deactivates CCNR.
2. Check that the CCNRRequest invocation is received.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_4	ISUP'97 reference 5.3.1.1/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

Ability to indicate a CCNR recall to the calling user

To verify that the IUT can successfully initiate a CCNR recall to the calling user:

NOTE – Receive a **RemoteUserFree invoke** from the DLE in a **TC-CONTINUE indication**(TC-INVOKE indication).

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
access              SPA                   SPB
  -----setup-------> -------IAM--------->
                     <------ACM-------- CCNR possible
        (normal call, user at SPB no answer)
                     -------REL--------->
                     <------RLC---------
                        ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2           xxxxTC_BEGIN_REQxxxx-->
stop CCNR-T2            <--TC_CONTINUE_INDxxxx
start CCNR-T3
:
 <---CCNR recall act---
 -----CCNR recall----->   -------IAM-------> CCNR call
 :
 <----disconnect-------   <------REL--------
:
:
_____________________________________________________________________________
1. The access side activates CCNR request and CCNR recall.
2. Check that the CCNRRequest invocation is received.
3. The user at SPB is now free for a CCNR call.
4. Check that CCNR call with "ISDN User Part required all the way" in the FCI
of the IAM.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_5	ISUP'97 reference 5.3.1.1/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

Calling user busy when destination B becomes free

To verify that the IUT can act correctly after receipt of the indication that destination B is free but calling user A is still busy:

NOTE 1 – Receive a **RemoteUserFree invoke** from the DLE in a **TC-CONTINUE indication**(TC-INVOKE indication).

NOTE 2 – Notify the calling user A.

NOTE 3 – Send **CCNRSuspend invoke** in a **TC-CONTINUE request**(TC-INVOKE request) to the DLE.

NOTE 4 – Eventually send **CCNRResume invoke** in **TC-CONTINUE request**(TC-INVOKE request) to the DLE if the calling user becomes free.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access             SPA                 SPB
  -----setup------>  -------IAM-------->
                     <------ACM-------- CCNR possible
        (normal call, user at SPB no answer)
                     -------REL-------->
                     <------RLC---------
                     ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2          xxxxTC_BEGIN_REQxxxx->
stop CCNR-T2           <--TC_CONTINUE_INDxxxx   CCNRRequest return result
start CCNR-T3
                       <--TC_CONTINUE_INDxxxx   RemoteUserFree

stop CCNR-T3
arrange user to be
found busy             xxxxTC_CONTINUE_REQ-->   CCNRSuspend
or CCNR busy
--Receive notification that
the user at SPB is now free,
--Send no response for that
--User A is now free
                       xxxTC_CONTINUE_REQ-->    CCNRResume
```

1. The access side activates CCNR.
2. Check that the CCNRRequest invocation is received.
3. The user at SPB is now free for a CCNR call.
4. End the TCAP dialogue in order to get an initial state.

TSS CCNR_ASE/	TP ISS_TC_V_17_2_6	ISUP'97 reference 1.3/Q.733.5	Selection expression Local AND PICS A.19/1	Q.788 reference None

Test purpose

Support of the retain option

To verify that the IUT performs the retain option by setting the **retainSupported** parameter to TRUE or FALSE in the **CCNRRequest** or in the **CCNRRequest return result**.

Pre-test conditions for OLE

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
Case a)
 access             SPA                 SPB
  -----setup------>  -------IAM-------->
                     <------ACM-------- CCNR possible
        (normal call, user at SPB no answer)
                     -------REL-------->
                     <------RLC---------
                      ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2          xxxxTC_BEGIN_REQxxxx->  retainSupported=TRUE
stop CCNR-T2           <--TC_CONTINUE_INDxxxx  retainSupported=TRUE
start CCNR-T3
```

```
1. The access side activates CCNR.
2. Check that the CCNRRequest invocation is received with "RetainSupported
=TRUE".
3. End the TCAP dialogue in order to get an initial state.
```

```
Case b)
 access            SPA                 SPB
    set the destination
    B free
                     <-------IAM--------
                      -------ACM------->CCNR possible
        (normal call, user at SPB no answer)
                     <------REL---------

                     -------RLC-------->
... TCAP transaction ...

                     <--TC_BEGIN_REQxxxx  retainSupported=TRUE
                     xxxTC_CONTINUE_IND-> retainSupported=TRUE
    user free        <-------REL--------
                     --------RLC------->
```

```
1. UNI at SPA free.
2. Check that the CCNRRequest invocation is received with "RetainSupported
=TRUE".
3. Free destination B.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_7	ISUP'97 reference 5.1.1.1.1/Q.733.5	Selection expression OLE AND PICS A.19/2	Q.788 reference None

Test purpose

Maximum number of outstanding CCNR requests of a user

To verify that the IUT does not send any **CCNRRequest** to the DLE if the maximum number of outstanding requests is reached.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access              SPA                SPB
  -----setup-------> -------IAM-------->
                     <------ACM-------- CCNR possible
        (normal call, user at SPB no answer)
                     -------REL-------->
                     <------RLC---------
                   ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2          xxxxTC_BEGIN_REQxxxx-->
stop CCNR-T2           <--TC_CONTINUE_INDxxxx    CCNRRequest return result
start CCNR-T3
      repeat activate CCNR request until the maximum
      number of CCNR request  supported by SPA
      check that no CCNR request is send after the specified number of entries
```

```
1. The access side activates CCNR.
2. Check that no TC_BEGIN_REQ is sent after the maximum number of CCNR request
is reached at SPA.
3. The test case fails if the maximum number of outstanding requests is
reached and CCNRRequest is received.
4. End the TCAP dialogue in order to get an initial state.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_8	ISUP'97 reference 5.1.1.2.2; 5.3.5.1; 5.5.4/Q.733.5	Selection expression DLE AND PICS A.19/6	Q.788 reference None

Test purpose

Maximum number of queue entries CCNR requests

To verify that the IUT sends a **CCNRRequest return error** to the OLE if the maximum number of queue entries is reached.

NOTE – Send **CCNRRequest return error** in **TC-END request**(TC-INVOKE request).

```
 access                SPA                SPB
  set the destination
  B free
                      <------IAM---------
                      -------ACM-------->CCNR possible
         (normal call, user at SPB no answer)
                      <------REL---------
                      -------RLC-------->
                      ... TCAP transaction ...
                        <---xxTC_BEGIN_REQx
                        xxTC_CONTINUE_IND-->    CCNRRequest return result
                            ... repeat activate CCNR request
                                until the maximum number of CCNR
                                request  supported by the IUT
                                is reached (fill up the queue)
                         <-----IAM---------
                         ------ACM-------->
 User no answer          ------REL-------->
                         <-----RLC---------
                         <---xxTC_BEGIN_REQx
                         xxxxTC_END_IND----->    CCNRRequest return error
                                              (short or long term denial)
 User free               <-------REL--------
                         --------RLC------->
```

```
1. UNI at SPA becomes free.
2. Call to the destination B.
3. Check that "CCNR possible" is received in the address complete message.
4. Check that CCNRRequest return error is received in TC_END_IND.
5. Free destination B.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_9	ISUP'97 reference 5.5.4/Q.733.5	Selection expression Local	Q.788 reference None

Test purpose

Ability to end a dialogue

To verify that the IUT can end a TCAP dialogue after a successful CCNR call.

NOTE – Send a **TC-END request** without component primitive upon sending of the **ACM**, **CPG** or **CON**.

Pre-test conditions for OLE

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access              SPA                 SPB
 set the destination
 B free
                        <-----IAM---------
                        ------ACM-------->
 User no answer         ------REL-------->
                        <-----RLC---------
                     ... TCAP transaction ...
                       <---xxTC_BEGIN_REQx
                       xxTC_CONTINUE_IND-->  CCNRRequest return result
 :
                       xxTC_CONTINUE_IND-->  RemoteUserFree
:
 <-----set up-------   <-------IAM---------    CCNR call
                       --------ACM-------->
                       xxxxTC_END_IND----->
 :
 <----disconnect----   <-------REL---------
```

1. UNI at SPA free.
2. Check that a TC_END_IND primitive without component is received in order to end the CCNR operation.

TSS CCNR_ASE/	TP ISS_TC_V_17_2_10	ISUP'97 reference 7.1/Q.733.5	Selection expression OLE AND PICS A.19/7	Q.788 reference None

Test purpose

Initiate the CCNR supplementary service even if no even if no CCNR possible indicator is received in the ACM/CPG

To verify that the IUT sends a **CCNRRequest invoke** if the calling user activates the CCNR.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access            SPA                  SPB
 ------setup------->  -------IAM-------->
                      <------ACM---------
(normal call, user at SPB no answer)
                      -------REL-------->
                      <------RLC---------
                  ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2          xxxxTC_BEGIN_REQxxxx-->
stop CCNR-T2           <--TC_CONTINUE_INDxxxx
start CCNR-T3
:
 ----CCNR recall--->   -------IAM------->    CCNR call
 :
 <----disconnect----   <-------REL-------
:
```

---

1. The access side activates CCNR.
2. Check that the CCNRRequest invocation is received.
3. The user at SPB is now free for a CCNR call.
4. CCNR call set up with "ISDN User Part required all the way" in the FCI of the IAM.

TSS CCNR_ASE/	TP ISS_TC_V_17_2_11	ISUP'97 reference 9.1/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

Support of the retention timer CCNR-T1

To verify that the retention timer CCNR-T1 can be started after receive of a **address complete message** with CCNR possible from the DLE and stopped normally after activation of the CCNR supplementary service by the calling user.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access            SPA                  SPB
 ------setup------->  -------IAM-------->
                      <------ACM---------
(normal call, user at SPB no answer)
 <-----disconnect---  <------REL---------
                      -------RLC-------->
                                           SPB starts CCNR-T1 and receives
                                           nothing until the timer expires
<------facility-------
         Act CCNR
start CCNR-T1
send nothing until it expires
```

1. The access side activates CCNR after CCNR-T1 runs out.
2. Check that no CCNR request is stored in the queue.

TSS CCNR_ASE/	TP ISS_TC_V_17_2_12	ISUP'97 reference 5.5.4.1 c); 9.1/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

Support of the CCNR request operation timer CCNR-T2

To verify that the timer CCNR-T2 can be started after sending of a **CCNRRequest** to the DLE and stopped normally after receipt of **CCNRRequest return result** from the DLE.

NOTE – If the timer expires a **TC-END** with **TC-L-CANCEL** indication primitive is received from the DLE and the service request is rejected.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access                         SPA                                SPB
 ------setup------->  -------IAM-------->
                      <------ACM---------
(normal call, user at SPB no answer)
 <----disconnect----  <------REL---------
                      -------RLC-------->
                  ... TCAP transaction ...
start CCNR-T2         xxxTC_BEGIN_REQ-->     SPB starts CCNR-T2 and sends
                      <--TC_ENDxxxxxxxxxx    TC_END_IND if the timer expires
```

1. The access side activates CCNR.
2. End the TCAP dialogue in order to get an initial state.

TSS CCNR_ASE/	TP ISS_TC_V_17_2_13	ISUP'97 reference 5.1.2.1.2/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

Support of the CCNR service duration timer CCNR-T3

To verify that the IUT can successfully deactivate a CCNR request if the CCNR service duration timer CCNR-T3 expires.

NOTE – Send a **CCNRCancel invoke** with cancelCause to the DLE by using the TCAP primitive **TC-END request**(TC-INVOKE request) with cancelCause "CCNR-T3 Timeout".

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access             SPA                                SPB
 ------setup-------> -------IAM-------->
                     <------ACM---------
(normal call, user at SPB no answer)
 <-----disconnect---  <------REL---------
                      -------RLC-------->
                     ... TCAP transaction ...
start CCNR-T2         xxxxTC_BEGIN_REQ-->     CCNRRequest invoke
stop CCNR-T2          <---TC_CONT_INDxxxx     CCNRRequest return result
start CCNR-T3
starts CCNR-T3 and sends TC_CONTINUE_IND with RemoteUserFree if it expires
                      <---TC_CONT_INDxxxxx     RemoteUserFree
                      xxxxxTC_END_REQ--->   TC_END_IND with CancelCause
"timeout CCNR-T3"
_____________________________________________________________________________
1. The access side activates CCNR.
2. After CCNR-T3 timer expiry the IUT shall send the CancelCause "CCNR-T3
timeout" in a TC_END.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_14	ISUP'97 reference 5.1.2.1.2 ii); 9.1/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

Support of the CCNR recall timer CCNR-T4

To verify that the timer CCNR-T4 can be stopped after receiving an indication from the user for a CCNR recall.

NOTE – CCNR-T4 contains the maximum time the network will wait for the calling user A to respond to a CCNR recall. The OLE sends a **CCNRCancel invoke** in **TC-END request** to the DLE in case of CCNR-T4 expiry.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
access            SPA                 SPB
 ------setup------->  -------IAM-------->
                      <------ACM---------
(normal call, user at SPB no answer)
 <-----disconnect---  <------REL---------
                      -------RLC-------->
                     ... TCAP transaction ...

start CCNR-T2         xxxxTC_BEGIN_REQ-->     CCNRRequest invoke
start CCNR-T3         <---TC_CONT_INDxxxx      CCNRRequest return result
:
                      <---TC_CONT_INDxxxxx     RemoteUserFree

SPB starts CCNR-T4 and receives TC_END_IND with CancelCause if it expires
                      xxxxxTC_END_REQ--->   TC_END_IND with CancelCause
"timeout CCNR-T3"
_____________________________________________________________________________
1. The access side activates CCNR and does not accept the CCNR recall within
CCNR-T4.
2. Check that the CancelCause "CCNR-T4 timeout" is received in a TC_END.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_15	ISUP'97 reference 5.3.1.2 b) i)/Q.733.5	Selection expression OLE AND PICS A.19/5	Q.788 reference None

Test purpose

Reject a second identical activation of CCNR

To verify that the IUT does not send any CCNRRequest to the DLE if a second identical activation of CCNR is done.

Pre-test conditions

Arrange the data in the IUT so that the calling user subscribes to CCNR supplementary service.

```
 access            SPA                  SPB
 ------setup------->  -------IAM-------->
                      <------ACM---------
(normal call, user at SPB no answer)
 <----disconnect----  <------REL---------
                      -------RLC-------->  (1st normal call)
                     ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2         xxxxTC_BEGIN_REQ-->
stop CCNR-T2          <--TC_CONTINUE_INDx
start CCNR-T3
:
 ------setup------->  -------IAM-------->
                      <------ACM---------
(normal call, user at SPB no answer)
 <----disconnect----  <------REL---------
                      -------RLC-------->  (2nd normal call)
:
```

```
1. The access side activates CCNR.
2. First call to no answer user at SPB.
3. Check that the CCNRRequest invocation is received.
4. Second identical call from the IUT to the same SPB.
5. End the TCAP dialogue.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_16	ISUP'97 reference 5.3.1.2 b) ii)/Q.733.5	Selection expression OLE AND PICS A.19/4	Q.788 reference None

Test purpose

Treat a second identical activation of CCNR as a new request

To verify that the IUT treats a second identical activation of CCNR as a new request.

Pre-test conditions

Arrange the data in the IUT so that the calling user subscribes to CCNR supplementary service.

```
 access             SPA                                SPB
 ------setup------>  -------IAM-------->
                      <------ACM---------
(normal call, user at SPB no answer)
 <----disconnect----  <------REL---------
                      -------RLC-------->  (1st normal call)
                     ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2          xxxxTC_BEGIN_REQ-->
stop CCNR-T2           <--TC_CONTINUE_INDx
start CCNR-T3
:
 -------setup------>  -------IAM-------->
                      <------ACM---------
(normal call, user at SPB no answer)
 <----disconnect----  <------REL---------
                      -------RLC-------->  (2nd normal call)
                     ... TCAP transaction ...
start CCNR-T1    --
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2          xxxxTC_BEGIN_REQ-->
stop CCNR-T2           <--TC_CONTINUE_INDx
start CCNR-T3
:
```

---

1. The access side activates CCNR.
2. First call to no answer user at SPB.
3. Check that the CCNRRequest invocation is received.
4. Second identical call from the IUT to the same SPB.
5. Second identical activation of the CCNR request.
6. End the TCAP dialogue.

TSS CCNR_ASE/	TP ISS_TC_V_17_2_17	ISUP'97 reference 5.1.2.2.2/Q.733.5	Selection expression DLE	Q.788 reference None

Test purpose

Support of the CCNR service supervision timer CCNR-T7

To verify that the IUT deactivates the CCNR-request if CCNR-T7 expires.

NOTE 1 – CCNR-T7 is started after sending a **CCNRRequest return result** to the OLE.

NOTE 2 – CCNR-T7 is stopped after the destination B becomes not busy, before sending **RemoteUserFree** to the OLE.

NOTE 3 – Send a **CCNRCancel invoke** in a **TC-END request**(TC-INVOKE request) with cancelCause "CCNR-T7 Timeout".

```
 access                SPA               SPB
 set the destination
 B free
                       <-----IAM----------
                       ------ACM--------->
(user at SPB no answer)
                       ------REL--------->
                       <-----RLC----------
                       ... TCAP transaction ...
                       <---xxTC_BEGIN_REQx
                       xxTC_CONTINUE_IND-->  CCNRRequest return result

SPB starts CCNR-T7 and receives TC_END_IND with CancelCause
"CCNR-T7 Timeout" if it expires
                       xxxxxTC_END_IND--->
    user free          <-------REL--------
                       --------RLC------->
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_18	ISUP'97 reference 5.3.1.5 a); 9.1/Q.733.5	Selection expression DLE	Q.788 reference None

Test purpose

Support of the destination B idle guard timer CCNR-T8

To verify that no resources are available at the destination B side until timer CCNR-T8 expires.

```
access              SPA                     SPB
 set the destination
 B free
                       <--------IAM----------
                       ---------ACM--------->
(user at SPB no answer)
                       ---------REL--------->
                       <--------RLC----------
                     ... TCAP transaction ...
                       <---xxTC_BEGIN_REQx    CCNRRequest
                      xxTC_CONTINUE_IND-->   CCNRRequest return result
:
User is now free       SPB starts timers CCNR-T8

                       SPB checks every second that no resources
                       are available by using T_LOCAL timer
                       <--------IAM----------
                       ---------REL--------->
                       <--------RLC----------
:
<-------setup-------   <--------IAM----------   CCNR-T8 expires
--------alert------>   ---------ACM--------->
-------connect----->   ---------ANM--------->
:
_____________________________________________________________________________
1. Check that no resources are available within CCNR-T8, e.g. send an IAM and
receiving a REL.
2. Check that resources are now available by sending an IAM and receiving an
ACM, etc.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_19	ISUP'97 reference 5.3.5.2 d); 9.1/Q.733.5	Selection expression DLE	Q.788 reference None

Test purpose

Support of the DLE recall timer CCNR-T9

To verify that the timer CCNR-T9 can be started after sending of a **TC-CONTINUE** with **RemoteUserFree** from the DLE and stopped after CCNR call is received from the OLE.

NOTE – Send a **CCNRCancel invoke** in a **TC-END request**(TC-INVOKE request) with cancelCause "CCNR-T9 Timeout".

```
 access                 SPA               SPB
  set the destination
 B free
                          <-----IAM----------
                          ------ACM--------->
(user at SPB no answer)
                          ------REL--------->
                          <-----RLC----------
                         ... TCAP transaction ...
                          <---xxTC_BEGIN_REQx
                          xxTC_CONTINUE_IND-->  CCNRRequest return result
:
                          xxTC_CONTINUE_IND-->  RemoteUserFree

                          SPB starts CCNR-T9 and receives
                          TC_END_IND with CancelCause
                          "CCNR-T9 Timeout" if it expires
                          xxxxxTC_END_IND--->
 user free                <-------REL--------
                          --------RLC------->
```

```
1. Check that the CancelCause "CCNR-T9 timeout" is received in a TC_END.
2. Free destination B.
```

TSS CCNR_ASE/	TP ISS_TC_V_17_2_20	ISUP'97 reference 7.7.3.3.1; 7.7.3.3.2; 9.3/Q.733.5	Selection expression Local AND PICS A.19/19	Q.788 reference None

Test purpose

Support of the interworking supervision timer T_{SUP}

To verify that the timer T_{SUP} is used correctly in case of interworking with a private network.

NOTE 1 – The DLE sends a **CCNRCancel invoke** in **TC-END request** to the OLE without cancelCause in case of T_{SUP} timer expiry.

NOTE 2 – The OLE sends a **CCNRCancel invoke** in **TC-END request** to the DLE without cancelCause in case of T_{SUP} timer expiry.

Pre-test conditions for OLE

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 SPC             SPA               SPB (private network)
 -------IAM------->   -------IAM------>
 <------ACM--------   <------ACM-------
(user at SPB no answer)
 <------REL--------   <------REL-------
 -------RLC------->   -------RLC------>
                   ... TCAP transaction ...
 xxxTC_BEGIN_REQ-->   xxTC_BEGIN_REQ-->
                       SPB starts T_SUP and sends no
                       CCNRRequest return result within T_SUP
                      xxxTC_END_REQ--->  TC_END_IND without CancelCause
```

1. Check that a TC_END without CancelCause is received.

TSS CCNR_ASE/	TP ISS_TC_V_17_2_21	ISUP'97 reference 5.1.1.1.1/Q.733.5	Selection expression OLE	Q.788 reference None

Test purpose

CCNR REQUEST not invoked

To verify that if a call is attempted with a ACM without CCNR possible indicator, then no CCNR REQUEST shall be sent from the OLE to the DLE.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
 access            SPA                 SPB
 ------setup-------> -------IAM---------->
                     <------ACM----------  (no CCNR possible indicator)
       (no answer from SP B)
 <-----disconnect--- <------REL----------
                     -------RLC--------->
```

1. The access side shouldn't activate CCNR.
2. Do not answer the call and do not include CCNR possible indicator.

8 Cobertura de las pruebas

Las finalidades de las pruebas definidas en la especificación de pruebas cubren la mayoría de las capacidades principales de la especificación de referencia ISUP'97 para los servicios suplementarios. El cuadro 3 incluye una lista con el número de finalidades de las pruebas para cada servicio suplementario.

Siempre que ha sido posible, se han descrito las finalidades de las pruebas de forma que cubran los requisitos correspondientes de la norma. Por ello, una finalidad de las pruebas puede conducir a la implementación de varios casos de pruebas para una ATS.

La mayoría de las finalidades de las pruebas (más del 80%) tienen un comportamiento válido. El número de finalidades de las pruebas con comportamiento no válido es limitado. Queda en estudio una ampliación de las finalidades de las pruebas con comportamiento no válido.

Cuadro 3/Q.785.2 – Número de pruebas para los servicios suplementarios ISUP'97

Elemento	Servicio suplementario	Grupo	Número de finalidades de las pruebas
1	Presentación de la identificación de la línea llamante	**CLIP**	19
2	Restricción de la identificación de la línea llamante	**CLIR**	11
3	Presentación de la identificación de la línea conectada	**COLP**	18
4	Restricción de la identificación de la línea conectada	**COLR**	12
5	Portabilidad del terminal	**TP**	10
6	Servicio 1 se señalización de usuario a usuario implícito	**UUS1_I**	6
	Servicio 1 se señalización de usuario a usuario explícito	**UUS1_E**	18
	Servicio 2 de señalización de usuario a usuario	**UUS2**	16
	Servicio 3 de señalización de usuario a usuario	**UUS3**	17
7	Grupo cerrado de usuarios	**CUG**	23
8	Subdireccionamiento	**SUB**	5
9	Identificación de llamadas malintencionadas	**MCID**	16
10	Comunicación conferencia	**CONF**	16
11	Transferencia explícita de llamada	**ECT**	30
12	Servicios de desviación de llamada	**CDIV**	49
13	Retención de llamada	**HOLD**	12
14	Llamada en espera	**CW**	8
15	Compleción de llamadas a abonado ocupado (ISUP)	**CCBS_ISUP**	15
	Compleción de llamadas a abonado ocupado (ASE)	**CCBS_ASE**	21
16	Servicio tripartito	**THREE_PTY**	9
17	Compleción de llamadas en caso de ausencia de respuesta (ISUP)	**CCNR_ISUP**	13
	Compleción de llamadas en caso de ausencia de respuesta (ASE)	**CCNR_ASE**	21
	Total		365

9 Conformidad con la especificación de formulario PICS

Un formulario PICS que cumple esta especificación de formulario PICS será técnicamente equivalente al anexo A y mantendrá la numeración y el orden de los elementos del anexo A.

Un PICS conforme con esta especificación de formulario PICS deberá:

a) describir una implementación que declara cumplir la especificación de referencia de la parte usuario de la RDSI (ISUP)'97 [1] a [24];

b) ser un formulario PICS conforme que se haya completado de acuerdo con las instrucciones dadas en la cláusula A.1;

c) incluir la información necesaria para identificar de forma unívoca tanto el suministrador como la implementación.

ANEXO A[2]

Formulario de PICS para servicios suplementarios de la parte usuario RDSI (ISUP)'97

A.1 Instructions for completing the PICS proforma

The supplier of the implementation shall complete the PICS proforma in each of the spaces provided. If necessary, the supplier may provide additional comments separately.

More detailed instructions are given at the beginning of the different subclauses of the PICS proforma.

A.1.1 Purposes and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in ISDN User Part (ISUP)'97 reference specification [1] to [20] may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into subclauses for the following categories of information:

- instructions for completing the PICS proforma;
- identification of the implementation;
- identification of the reference protocol specification;
- PICS proforma tables (containing the global statement of conformance).

A.1.2 Abbreviations and conventions

The PICS proforma contained in this annex is composed of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [31].

Item column

It contains a number that identifies the item in the table.

Item description column

It describes each respective item (e.g. parameters, timers, etc.).

---

[2] **Comunicado sobre derechos de autor del formulario de PICS**

Los usuarios de esta Recomendación pueden reproducir libremente el formulario de PICS de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el PICS cumplimentado.

Reference column

It gives reference to the ISUP'97 specification for the supplementary services [1] to [20], except where explicitly stated otherwise.

Status column

The following notations, defined in ISO/IEC 9646-7 [31], are used for the status column:

m mandatory – the capability is required to be supported.

n/a not applicable – in the given context, it is impossible to use the capability. No answer in the support column is required.

• optional – the capability may be supported or not.

o.i qualified optional – for mutually exclusive or selectable options from a set. "i" is an integer which identifies a unique group of related optional items and the logic of their selection which is defined immediately following the table.

ci conditional – the requirement on the capability ("m", "o" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying a unique conditional status expression that is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE ...) ELSE ..." shall be used to avoid ambiguities. If an ELSE clause is omitted, "ELSE n/a" shall be implied.

NOTE – Support of a capability means that the capability is implemented in conformance to the ISUP'97 specification [1] to [20].

Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [31], are used for the support column:

Y or y supported by the implementation.

N or n not supported by the implementation.

N/A or - no answer required (allowed only if the status is N/A, directly or after evaluation of a conditional status).

Values allowed column

This column contains the values or the ranges of values allowed.

Values supported column

The support column shall be filled in by the supplier of the implementation. In this column the values or the ranges of values supported by the implementation shall be indicated.

References to items

For each possible item answer (answer in the support column) within the PICS proforma a unique reference exists. It is defined as the table identifier, followed by a slash character "/", followed by the item number in the table. If there is more than one support column in a table, the columns shall be discriminated by letters (a, b, etc.) respectively.

Example 1: A.5/4 is the reference to the answer of item 4 in Table A.5 of Annex A.

Example 2: A.6/3b is the reference to the second answer (i.e. in the second support column) of item 3 in Table A.6 of Annex A.

A.2 Identification of the implementation

Identification of the Implementation Under Test (IUT) and the system in which it resides – the System Under Test (SUT) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

A.2.1 Date of the statement

Date of the statement:	

A.2.2 Implementation under test (IUT) identification

IUT name:	
IUT version:	

A.2.3 System under test (SUT) identification

SUT name:	
Hardware configuration:	
Operating system:	

A.2.4 Product supplier

Name:	
Address:	
Telephone number:	
Facsimile number:	
Additional information:	

A.2.5 Client

Name:	
Address:	
Telephone number:	
Facsimile number:	
Additional information:	

A.2.6 ICS contact person

Name:	
Telephone number:	
Facsimile number:	
Additional information:	

A.3 Identification of the reference specification

This PICS proforma applies to the following standard: ITU-T Recommendations Q.73x (1997).

Note that as prerequisite it is necessary to support the basic services described in [21] to [24]. A separate PICS proforma has been specified for ISUP'97 basic services [32].

A.4 PICS proforma tables

A.4.1 Global statement of conformance

	(Yes/No)
Are all mandatory capabilities implemented?	

NOTE – Answering "No" to this question indicates non-conformance to the reference protocol specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming.

A.4.2 Roles

Table A.1/Q.785.2 – Roles

Item	Is the implementation an ...	Reference	Status	Support
1	OLE – Originating local exchange	2.1.1.1/Q.764	o.1	
2	NTE – National transit exchange	2.1.1.2/Q.764	o.1	
3	OutIE – Outgoing international exchange	2.1.1.3/Q.764	o.1	
4	ITE – International transit exchange	2.1.1.4/Q.764	o.1	
5	IncIE – Incoming international exchange	2.1.1.5/Q.764	o.1	
6	DLE – Destination local exchange	2.1.1.6/Q.764	o.1	
o.1: It is mandatory to support at least one of these items.				

A.4.3 Capabilities

The following matrix is an abbreviation guide for roles:

OLE	NTE	OutIE	ITE	IncIE	DLE
Local	Transit	Gateway	Transit	Gateway	Local
	IntermE	IntermE	IntermE	IntermE	
CntrlE	CntrlE	CntrlE			
	IWorkE	IWorkE	IworkE	IWorkE	

Table A.2/Q.785.2 – Generic signalling procedures for supplementary services

Item	Is the exchange able to ...	Reference	Status	Support
1	End-to-end signalling – Pass along method?	Table 1/Q.761	o	
2	End-to-end signalling – SCCP connection oriented?	Table 1/Q.761	o	
3	End-to-end signalling – SCCP connectionless?	Table 1/Q.761	o	
4	Generic number transfer?	Table 1/Q.761	o	
5	Generic digit transfer?	Table 1/Q.761	o	

Table A.2/Q.785.2 – Generic signalling procedures for supplementary services *(concluded)*

Item	Is the exchange able to ...	Reference	Status	Support
6	Generic notification procedure?	Table 1/Q.761	o	
7	Simple service activation procedure?	Table 1/Q.761	o	
8	Remote operations procedure?	Table 1/Q.761	o	
9	Network specific procedures?	Table 1/Q.761	o	

Table A.3/Q.785.2 – Supplementary Services Major Capabilities

Item	Is the exchange able to ...	Reference	Status	Support
1	support the service Calling Line Identification Presentation (CLIP)?	Q.731.3	o	
2	support the service Calling Line Identification Restriction (CLIR)?	Q.731.4	o	
3	support the service Connected Line Identification Presentation (COLP)?	Q.731.5	o	
4	support the service Connected Line Identification Restriction (COLR)?	Q.731.6	o	
5	support the service Terminal Portability (TP)?	Q.733.4	o	
6	support at least one User-to-User Signalling service (UUS)?	Q.737.1	o	
7	support the service Closed User Group (CUG)?	Q.735.1	o	
8	support the service Sub-addressing (SUB)?	Q.731.8	o	
9	support the service Malicious Call Identification (MCID)?	Q.731.7	o	
10	support the service Conference Call, add-on (CONF)?	Q.734.1	o	
11	support the service Explicit Call Transfer (ECT)?	Q.732.7	o	
12	support the service Call Forwarding Busy (CFB)?	Q.732.2	o	
13	support the service Call Forwarding No Reply (CFNR)?	Q.732.3	o	
14	support the service Call Forwarding Unconditional (CFU)?	Q.732.4	o	
15	support the service Call Deflection (CD)?	Q.732.5	o	
16	support the service Call Hold (HOLD)?	Q.733.2	o	
17	support the service Call Waiting (CW)?	Q.732.1	o	
18	support the service Completion of Calls to Busy Subscribers (CCBS)?	Q.733.3	o	
19	support the Three Party service (3PTY)?	Q.734.2	o	
20	support the service Completion of Calls on No Reply (CCNR)?	Q.733.5	o	

Table A.4/Q.785.2 – CLIP

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	[OutIE] omit the **calling party number** in case of bilateral agreements?	3.5.2.3.1/ Q.731	o	
2	[OutIE] omit the additional calling party number in the **generic number** in case of bilateral agreements?	3.5.2.3.1/ Q.731	o	
3	[OutIE] omit the calling sub-address in the **access transport** parameter in case of bilateral agreements?	3.2.1/Q.731	c31	
4	@[IncIE] add a prefix to the **calling party number** and set its nature of address indicator to "unknown"	3.5.2.4.1/ Q.731	o	
1	@[IncIE] support the coding "address not available" in the address presentation restricted indicator of the **calling party number**?	3.10/Q.763; 3.5.2.4.2/ Q.731	o	
c51: IF A.5/1 THEN m ELSE n/a @: national use				

Table A.5/Q.785.2 – CLIR

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	[OutIE] discard the **calling party number** if it is received with the address presentation restricted indicator set to "presentation restricted"?	4.5.2.3.2/ Q.731	o	
2	[OutIE] discard the additional calling party number in the **generic number** if it is received with the address presentation restricted indicator set to "presentation restricted"?	4.5.2.3.2/ Q.731	o	
3	[OutIE] discard the calling sub-address in the **access transport** parameter if the **calling party number** is received with the address presentation restricted indicator set to "presentation restricted"?	4.2.1/Q.731	c31	
c31: IF A.3/1 THEN m ELSE n/a				

Table A.6/Q.785.2 – COLP

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	@[OutIE] add a prefix to the **connected number** and set its nature of address indicator to "unknown"	5.5.2.3.1/ Q.731	o	
2	[IncIE] omit the **connected number** in case of bilateral agreements?	5.5.2.4.1/ Q.731	o	
3	[IncIE] omit the additional connected number in the **generic number** in case of bilateral agreements?	5.5.2.4.1/ Q.731	o	
4	[IncIE] remove the COL (zero the address signals of the **connected number**) and set the address presentation restriction indicator to "address not available"?	5.5.2.4.1/ Q.731	o	
5	[DLE] deliver the COL?	5.5.2.5.1/ Q.731	m	
6	[DLE] include, if provided by the user, the connected sub-address in the **access transport** parameter?	5.5.2.5.1/ Q.731	o	
@:national use				

Table A.7/Q.785.2 – COLR

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	[IncIE] discard the **connected number** if it is received with the presentation restriction indicator set to "presentation restricted"?	6.5.2.4.1/ Q.731	o	
2	[IncIE] discard the additional connected number in the **generic number** if it is received with the presentation restriction indicator set to "presentation restricted"?	6.5.2.4.1/ Q.731	o	
3	[IncIE] remove the COL (zero the address signals of the **connected number**) and change the presentation restriction indicator from "presentation restricted" to "address not available"?	6.5.2.4.1/ Q.731	o	

Table A.8/Q.785.2 – Service not supported

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	[Gateway] support discarding of Suspend and Resume messages, if the network does not support the TP service?	4.5.2.3.2; 4.5.2.4.2/ Q.733	c11	
2	[IncIE] support correct rejection or processing of CUG calls in case of interworking with networks not supporting CUG?	1.5.2.4.2; Table 1-1/ Q.735	c22	
3	[OutIE] return an **IRS** with bit A of the MCID response indicator set to 0 "MCID not included", if the national network does not support the MCID service?	7.5.2.3.2/ Q.731	c33	
c31: IF NOT A.3/5 THEN o ELSE n/a c32: IF NOT A.3/7 THEN m ELSE n/a c33: IF NOT A.3/9 THEN o ELSE n/a				

Table A.9/Q.785.2 – UUS

Item	Is the exchange [role] able to ...	Reference	Status	Support	
1	support the **user-to-user information** parameter with at least 32 octets as user information?	1.1.2.1; 1.2.2.1; 1.3.2.1/ Q.737	m		
2	support the maximum number of up to 128 octets as user information in the **user-to-user information** parameter? If not 128, specify maximum allowed number.	1.1.2.1; 1.2.2.1; 1.3.2.1/ Q.737	o		
3	support implicit request of service UUS1?	1.1/Q.737	o		
4	support explicit request of service UUS1?	1.1/Q.737	o		
5	[IntermE] support the rejection procedure of an explicit service request or discarding of user-to-user information as described in 1.1.5.2.5.2/Q.737	1.1.5.2.2.2/ Q.737	c51		
6	support service UUS2?	1.2/Q.737	o		
7	[DLE] deliver user-to-user information after the user has answered the call?	1.2.2.1/ Q.737	c72		
8	support service UUS3?	1.3/Q.737	o		
c81: IF A.8/4 THEN o ELSE n/a c82: IF A.8/6 THEN o ELSE n/a					

Table A.10/Q.785.2 – CUG

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	support Closed User Group with decentralized administration?	1/Q.735	m	
2	support Closed User Group with centralized administration?	1/Q.735	n/a	
3	[Gateway] support conversion of national to international CUG codes?	1.5.2.3.1; 1.5.2.4.1/ Q.735	o	
4	support invocation of CLIR for CUG calls?	1.6.6/Q.735	o	

Table A.11/Q.785.2 – SUB

Item	Is the exchange able to ...	Reference	Status	Support
1	support the maximum 23 octet length of the Sub-address parameter?	8.4; 8.7/Q.731	m	

Table A.12/Q.785.2 – MCID

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	[OLE] provide the calling party sub-address as part of the MCID service?	7.2.1/Q.731	o	
2	[DLE] store and process the calling party sub-address as part of the MCID service?	7.2.1/Q.731	o	
3	[DLE] support the registration of the original called number and the redirecting number for MCID when invoking CFB, CFNR, CFU, CD?	7.6.10/Q.731	o	
4	[OutIE] omit for MCID the **calling party number** in case of bilateral agreements	7.5.2.3.1/ Q.731	o	
5	[IncIE] modify the MCID response indicator set to 0 "MCID not included" according to the information available in the exchange?	7.5.2.4.2/ Q.731	o	

Table A.13/Q.785.2 – CONF

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	support the user notification procedures?	1.5/Q.734	c11	
2	[OLE] support *which* maximum number of conference participants?	1.5.2.1.1.2/ Q.734	o	
c21 IF A.2/6 THEN o ELSE n/a				

Table A.14/Q.785.2 – ECT

Item	Is the exchange [role] able to ...	Reference	Status	Support	
1	[Local] store remote user numbers (calling party number/connected number or additional calling party number/additional connected number) and send them in the **call transfer number** when call transfer is performed?	7.5.2.1.1.1/ Q.732.7	m		
2	support the loop prevention procedure?	7.2.1; 7.5.2.1.1.2/ Q.732.7	o		
3	[Local] support the timer T_{ECT}? If yes, specify the timer value (2-6 s).	7.5.2.1.1.2.1; 7.9/Q.732.7	c31		
4	[Local] reject the call transfer in case of T_{ECT} timer expiry?	7.5.2.1.1.2.1/ Q.732.7	c42		
5	[Local] complete the call transfer in case of T_{ECT} timer expiry?	7.5.2.1.1.2.1/ Q.732.7	c52		
6	[Gateway] omit the **call transfer number** if the address presentation restriction indicator indicates "presentation restricted"?	7.5.2.3.1; 7.5.2.4.1/ Q.732.7	o		
7	[IWorkE] support call control interworking between ISUP'97 and protocols not supporting the loop prevention procedure, i.e. return a **LOP** (response) message with the indication "insufficient information"?	7.7/Q.732.7	c73		
8	[Local] reject the call transfer in case receipt of **LOP** messages with the response indicator set to "insufficient information"?	7.5.2.1.1.2.1/ Q.732.7	c84		
9	[Local] complete the call transfer in case receipt of **LOP** messages with the response indicator set to "insufficient information"?	7.5.2.1.1.2.1/ Q.732.7	c94		

c91: IF A.9/2 THEN m ELSE n/a

c92: IF A.9/2 THEN o.2 ELSE n/a

c93: IF A.9/2 THEN o ELSE n/a

c94: IF A.9/2 THEN o.3 ELSE n/a

o.2: It is mandatory to support exactly one of these options

o.3: It is mandatory to support exactly one of these options

Table A.15/Q.785.2 – CFB, CFNR, CFU, CD

Item	Is the exchange [role] able to ...	Reference	Status	Support	
1	support the diversion notification procedures?	2.5.2.5.1.2 d)/Q.732	m		
2	support the maximum number of up to 5 diversions for each call? If not 5, specify the maximum allowed number.	Table 2-2/ Q.732	o		
3	[DLE] omit octet 2 of the **redirection information** if the redirection counter equals1?	3.45/Q.763	o		
4	[DLE] support the usage of the Original redirection reasons in the **redirection information** parameter with the encoding: 0001 user busy @ 0010 no reply @ 0011 unconditional @?	3.45/Q.763	o		
5	[DLE] include the **redirection number** in the ACM or CPG?	2.5.2.5.1.2 d)/Q.732	m		
7	[IncIE] pass on the **redirection number** if received in an ACM or CPG?	2.5.2.4.1/ Q.732	o		
9	[Local] support the usage of **event information** with the encoding: 0000100 CFB 0000101 CFNR 0000110 CFU?	2.4.2/Q.732	o		
10	[IntermE] support the transport of **event information** with the encoding: 0000100 CFB 0000101 CFNR 0000110 CFU?	2.4.2/Q.732	o		
11	[OutIE] omit the **original called number** in case of bilateral agreements?	2.5.2.3.1/ Q.732 3.5.2.3.1/ Q.731	o		
12	[OutIE] omit the **redirecting number** in case of bilateral agreements?	2.5.2.3.1/ Q.732 3.5.2.3.1/ Q.731	o		
13	[IncIE] omit the **redirection number** in case of bilateral agreements?	2.5.2.4.1/ Q.732 5.5.2.4.1/ Q.731	o		
14	@[OutIE] add a prefix to the **redirection number** and set its nature of address indicator to "unknown" (as for COLP A.6/1)	5.5.2.3.1/ Q.731	o		
15	@[IncIE] add a prefix to the **original called number** and set its nature of address indicator to "unknown" (as for CLIP A.4/4)	3.5.2.4.1/ Q.731	o		
16	@[IncIE] add a prefix to the **redirecting number** and set its nature of address indicator to "unknown" (as for CLIP A.4/4)	3.5.2.4.1/ Q.731	o		
@:	national use				

Table A.16/Q.785.2 – CFNR, CD

Item	Is the exchange [role] able to ...	Reference	Status	Support	
1	[Local] retain call to the served user until alerting begins at the diverted-to user (late release – option A)?	2.5.2.5.2.2; Table 2-2/ Q.732	o.4		
2	[Local] clear call to the served user on invocation of call diversion (immediate release – option B)?	2.5.2.5.2.2; Table 2-2/ Q.732	o.4		
3	[Local] through-connect in both directions immediately after sending the IAM?	2.5.2.5.1.2 c) ii)/Q.732	c31		
4	[Local] perform through-connection in both directions at the receipt of ACM or CON?	2.5.2.5.1.2 c) ii)/Q.732	c41		
5	[Local] support the Call Forwarding No Reply timer? If yes, specify the timer value.	Table 2-2/ Q.732	c52		
o.4: It is mandatory to support exactly one of these options c51: IF A.5/2 THEN o.5 ELSE n/a c52: IF A.3/13 THEN m ELSE o o.5: It is mandatory to support at least one of these options					

Table A.17/Q.785.2 – HOLD

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	[OLE] support call hold as soon as the calling user has provided all of the information necessary for processing the call?	2.2.1/Q.733	o	
2	[OLE] support call hold by the calling user after alerting has commenced?	2.2.1/Q.733	c21	
3	supply the remote user with an in-band indication in the case of interworking with PSTN?	2.7/Q.733	o	
c31: IF A. 3/1 THEN m ELSE o				

Table A.18/Q.785.2 – CCBS

Item	Is the exchange [role] able to ...	Reference	Status	Support	
1	[Local] support the retain option?	3.1.3 m)/Q.733.3	o		
2	[OLE] support the maximum number of up to 5 outstanding CCBS requests of a user? If not 5, specify the maximum allowed number.	3.5.1.1.1.1 /Q.733.3	o		
3	[OLE] include the **calling party number** in the CCBS request invoke component?	3.5.1.1.1.1/ Q.733.3	o		
4	[OLE] treat a second identical activation of CCBS as a new request?	3.5.3.1.2/ Q.733.3	o.6		
5	[OLE] reject a second identical activation of CCBS?	3.5.3.1.2/ Q.733.3	o.6		
6	[DLE] support the maximum number of up to 5 queue entries? If not 5, specify the maximum allowed number.	3.5.3.5.1/ Q.733.3	o		
7	[OLE] initiate the CCBS supplementary service even if no diagnostics is received in the release message with causes #17 or #34?	3.7.1/ Q.733.3	o		
8	[DLE] treat the CCBS call as a "destination B busy upon arrival of CCBS request" in case of interaction between CCBS and CFB?	3.6.10.2.2 c); 3.5.3.5.2 c)/Q.733.3	o.7		
2	[DLE] forward the CCBS call as a normal call in case of interaction between CCBS and CFB?	3.6.10.2.2 c)/Q.733.3	o.7		
10	[DLE] release the call with the diagnostics "CCBS possible" when the service is available?	3.5/Q.733.3	m		
11	[DLE] release the call with the diagnostics "CCBS not possible" if the service is not available?	3.5/Q.733.3	m		
12	[OLE] support the retention timer CCBS-T1? If yes, specify the timer value (greater than 15 s).	3.9.1/ Q.733.3	m		
13	[OLE] support the CCBS request operation timer CCBS-T2? The value of the timer shall be 10 s.	3.9.1/ Q.733.3	m		
14	[OLE] support the CCBS service duration timer CCBS-T3? If yes, specify the timer value (15-45 min).	3.9.1/ Q.733.3	m		
15	[OLE] support the CCBS recall timer CCBS-T4? If yes, specify the timer value (10-20 s).	3.9.1/ Q.733.3	m		
16	[DLE] support the CCBS service supervision timer CCBS-T7? The value of the timer shall be 60 min.	3.9.2/ Q.733.3	m		
17	[DLE] support the destination B idle guard timer CCBS-T8? If yes, specify the timer value (less than 15 s).	3.9.2/ Q.733.3	m		
18	[DLE] support the recall timer CCBS-T9? The value of the timer shall be 30 s.	3.9.2/ Q.733.3	m		
19	[Local] support the interworking supervision timer T_{SUP}? The value of the timer shall be 60 min.	3.9.3/ Q.733.3	o		
o.6: It is mandatory to support exactly one of these options o.7: It is mandatory to support exactly one of these options					

Table A.19/Q.785.2 – CCNR

Item	Is the exchange [role] able to ...	Reference	Status	Support	
1	[Local] support the retain option?	1.3/Q.733.5	o		
2	[OLE] support the maximum number of up to 5 outstanding CCNR requests of a user? If not 5, specify the maximum allowed number.	5.1.1.1.1/ Q.733.5	o		
3	[OLE] include the **calling party number** in the CCNR request invoke component?	5.1.1.1.1/ Q.733.5	o		
4	[OLE] treat a second identical activation of CCNR as a new request?	5.3.1.2/ Q.733.5	o.6		
5	[OLE] reject a second identical activation of CCNR?	5.3.1.2/ Q.733.5	o.6		
6	[DLE] support the maximum number of up to 5 queue entries? If not 5, specify the maximum allowed number.	5.3.5.1/ Q.733.5	o		
7	[OLE] initiate the CCNR supplementary service even if no CCNR possible indicator is received in the ACM/CPG	7.1/Q.733.5	o		
8	[DLE] treat the CCNR call as a "destination B no reply upon arrival of CCNR request" in case of interaction between CCNR and CFNR?	6.10.2.2 c); 5.3.5.2 d)/Q.733.5	o.7		
9	[DLE] forward the CCNR call as a normal call in case of interaction between CCNR and CFNR?	6.10.2.2 c)/Q.733.5	o.7		
10	[DLE] release the call with the diagnostics "CCNR possible" when the service is available?	5/Q.733.5	m		
11	[DLE] set the ACM/CPG with the indicator "CCNR not possible" if the service is not available?	5/Q.733.5	m		
12	[OLE] support the retention timer CCNR-T1? If yes, specify the timer value (greater than 15 s).	9.1/Q.733.5	m		
13	[OLE] support the CCNR request operation timer CCNR-T2? The value of the timer shall be a few seconds.	9.1/Q.733.5	m		
14	[OLE] support the CCNR service duration timer CCNR-T3? If yes, specify the timer value (60-180 min).	9.1/Q.733.5	m		
15	[OLE] support the CCNR recall timer CCNR-T4? If yes, specify the timer value (10-20 s).	9.1/Q.733.5	m		
16	[DLE] support the CCNR service supervision timer CCNR-T7? The value of the timer shall be 190 min.	9.2/Q.733.5	m		
17	[DLE] support the destination B idle guard timer CCNR-T8? If yes, specify the timer value (less than 15 s).	9.2/Q.733.5	m		
18	[DLE] support the recall timer CCNR-T9? The value of the timer shall be 20 s + some seconds for CCNR call set-up.	9.2/Q.733.5	m		
19	[Local] support the interworking supervision timer T_{SUP}? The value of the timer shall be 190 min.	9.3/Q.733.5	o		
o.6:	It is mandatory to support exactly one of these options				
o.7:	It is mandatory to support exactly one of these options				

ANEXO B[3]

Formulario de PIXIT para servicios suplementarios de la parte usuario RDSI (ISUP)'97

The pixit proforma enlists all the parameters and data that are needed to configure the ATS (and/or the IUT) before executing the testing campaign. It is to be filled out as part of the preparation for testing by e.g. The test client. The testing laboratory then inputs this data into the implementation of the ATS. More information about the purpose and intent of the PIXIT can be found in ISO 9646-5 [30].

B.1 Identification summary

PIXIT NUMBER:	
TEST LABORATORY NAME:	
DATE OF ISSUE:	
ISSUED TO:	

B.2 Abstract test suite summary

PROTOCOL SPECIFICATION:	ITU-T RECOMMENDATION Q.73X (1997)
ATS SPECIFICATION:	ISUP_97_SUPPL_SERVICES
ABSTRACT TEST METHOD:	DISTRIBUTED MULTIPARTY TEST METHOD

B.3 Test laboratory

TEST LABORATORY IDENTIFICATION:	
TEST LABORATORY MANAGER:	
TEST LABORATORY CONTACT:	
MEANS OF TESTING:	
INSTRUCTIONS FOR COMPLETION:	

B.4 Client identification

CLIENT IDENTIFICATION:	
CLIENT TEST MANAGER:	
TEST FACILITIES REQUIRED:	

[3] **Comunicado sobre derechos de autor del formulario de PIXIT**

Los usuarios de esta Recomendación pueden reproducir libremente el formulario de PIXIT de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el PIXIT cumplimentado.

B.5 System under test

NAME:	
VERSION:	
SCS NUMBER:	
MACHINE CONFIGURATION:	
OPERATING SYSTEM IDENTIFICATION:	
IUT IDENTIFICATION:	
PICS REFERENCE FOR IUT:	
LIMITATIONS OF THE SUT:	
ENVIRONMENTAL CONDITIONS:	

B.6 Ancillary protocols

PROTOCOL NAME	VERSION No.	PICS REF.	PIXIT REF.	PCTR REF.
MTP				
ACCESS PROTOCOL				

B.7 Protocol information for ISUP

B.7.1 Protocol identification

NAME:	ISDN USER PART (ISUP)'97 SUPPLEMENTARY SERVICES
VERSION:	
PICS REFERENCES:	

B.7.2 IUT information – PIXIT proforma tables

The pixit information requested in the following tables is needed to provide the necessary information for the execution of the testing campaign. It is assumed that one exchange role is tested at one time. The answers to some pixit questions are related to an individual role. A typical example is the nature of address indicator of the called party number value, which is different in the case of international gateways and national exchanges. That is why if several roles are to be tested, one completed copy of the pixit proforma for each role is needed.

B.7.2.1 General configuration

Signalling Point Codes

Two signalling point codes – one incoming and one outgoing have to be defined for the IUT. For an international intermediate exchange the incoming and outgoing point codes are the same, whereas for an international gateway exchange there are two different signalling point codes because they belong to two separate networks (international and national).

Circuit Identification Codes

From a formal point of view, in most test cases it is sufficient to use only one CIC per signalling link in order to execute the testing. From a practical point of view the tester could select any CIC within a range of CIC's belonging to a route, when initiating a call setup. The tester can, however, use the first CIC in the circuit group, without reducing the generality. The ATS requires the first CIC in the group as an answer to the PIXIT questions B.1/9 and B.1/10 in Table B.1.

Table B.1/Q.785.2 – General configuration

Item	Parameter	Parameter type	Explanation	Value
1	TSP_SPA_R	BIT_14	SS NO. 7 SIGNALLING POINT CODE OF THE SUT ON THE AB INTERFACE (RIGHT SIDE)	
2	TSP_SPA_L	BIT_14	SS NO .7 SIGNALLING POINT CODE OF THE SUT ON THE AC INTERFACE (LEFT SIDE)	
3	TSP_SPB	BIT_14	SS NO. 7 SIGNALLING POINT CODE OF THE TESTER ON THE AB INTERFACE	
4	TSP_SPC	BIT_14	SS NO. 7 SIGNALLING POINT CODE OF THE TESTER ON THE AC INTERFACE	
5	TSP_NI_R	BIT_2	SS NO. 7 NETWORK INDICATOR ON THE AB INTERFACE	
6	TSP_NI_L	BIT_2	SS NO. 7 NETWORK INDICATOR ON THE AC INTERFACE	
7	TSP_SLS_R	BIT_4	SS NO. 7 SIGNALLING LINK SELECTION ON THE AB INTERFACE	
8	TSP_SLS_L	BIT_4	SS NO. 7 SIGNALLING LINK SELECTION ON THE AC INTERFACE	
9	TSP_CIC_R	BIT_12	SS NO. 7 CIRCUIT IDENTIFICATION CODE ON THE AB INTERFACE	
10	TSP_CIC_L	BIT_12	SS NO. 7 CIRCUIT IDENTIFICATION CODE ON THE AC INTERFACE	
11	TSP_NB_CICS	INTEGER	NUMBER OF SS NO. 7 CIRCUIT IDENTIFICATION CODES ON THE AB AND AC INTERFACES	
12	TSP_ ALERT_MNT	BOOLEAN	MAINTENANCE_ACTION_ SELECTION	
13	TSP_PCO_CAB	BOOLEAN	PCO_CAB_ACTION_SELECTION	

B.7.2.2 Parameter values

Subscriber Numbers

The subscriber numbers have to be specified for each role which is to be tested. All numbers are by default national (significant) numbers, having the nature of address indicator set accordingly. International numbers are built depending on the specific test situation by either using the own network"s country code (answer to the pixit question B.2/9) or a foreign country code (answer to the pixit question B.2/10). The nature of address indicator for these numbers is set to "international".

Table B.2/Q.785.2 – Subscriber number parameter values

Item	Parameter	Parameter type	Explanation	Value
1	TSP_NB_A	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP A	
2	TSP_NB_B	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP B	
3	TSP_NB_C	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP C	
4	TSP_NB_D	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP D, BEYOND SP B.	
5	TSP_NB_D2	HEX_N	ANOTHER SUBSCRIBER NUMBER LOCATED AT SP D, BEYOND SP B.	
6	TSP_NB_D3	HEX_N	ANOTHER SUBSCRIBER NUMBER LOCATED AT SP D, BEYOND SP B.	
7	TSP_NB_D4	HEX_N	ANOTHER SUBSCRIBER NUMBER LOCATED AT SP D, BEYOND SP B.	
8	TSP_NB_E	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP E, BEYOND SP C.	
9	TSP_OWNCC	HEX_N	COUNTRY CODE OF THE OWN NETWORK	
10	TSP_FOREIGNCC	HEX_N	COUNTRY CODE OF A FOREIGN NETWORK	
11	TSP_PREFIX	HEX_N	@ PREFIX ADDED TO AN INTERNATIONAL NUMBER	

Table B.3/Q.785.2 – Additional number parameter values

Item	Parameter	Parameter type	Explanation	Value
1	TSP_NB_A_DEFAULT	HEX_N	SUBSCRIBER NUMBER WHICH WILL BE PROVIDED AS DEFAULT NUMBER BY THE NETWORK FOR UNI AT SP A (IUT)	
2	TSP_NB_B_DEFAULT	HEX_N	SUBSCRIBER NUMBER WHICH WILL BE PROVIDED AS DEFAULT NUMBER BY THE NETWORK FOR UNI AT SP B	
3	TSP_GENNB_B	HEX_N	ADDITIONAL SUBSCRIBER NUMBER LOCATED AT SP B	
4	TSP_NB_C_AVAIL	HEX_N	INFORMATION MADE AVAILABLE BY THE NETWORK IN CASE OF MCID FOR THE UNI AT SP C (THE ONLY INFORMATION THE GATEWAY HAS, E.G. TRUNK NUMBER)	
5	TSP_NB_C_DEFAULT	HEX_N	SUBSCRIBER NUMBER WHICH WILL BE PROVIDED AS DEFAULT NUMBER BY THE NETWORK FOR UNI AT SP C	

Table B.3/Q.785.2 – Additional number parameter values *(concluded)*

Item	Parameter	Parameter type	Explanation	Value
6	TSP_NB_C_ INCOMPLETE	HEX_N	SUBSCRIBER NUMBER WHICH WILL BE PROVIDED AS INCOMPLETE NUMBER BY THE NETWORK FOR UNI AT SP C	
7	TSP_GENNB_C	HEX_N	ADDITIONAL SUBSCRIBER NUMBER LOCATED AT SP C	
8	TSP_NB_A_MSN	HEX_N	MULTIPLE SUBSCRIBER NUMBER FOR THE SUBSCRIBER LOCATED AT SP A	
9	TSP_NB_B_DDI	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP B, WITH DDI	
10	TSP_NB_B_MSN	HEX_N	MULTIPLE SUBSCRIBER NUMBER FOR THE SUBSCRIBER LOCATED AT SP B	
11	TSP_NB_C_NON_ ISUP	HEX_N	SUBSCRIBER NUMBER FOR WHICH THE CALL WILL BE ROUTED TO SP C, ON A NON-ISUP ROUTE	
12	TSP_NB_A_ SAMECUG_NOIA	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP A BELONGING TO THE SAME CUG AS THE CALLING PARTY AT SP B – WITHOUT INCOMING ACCESS	
13	TSP_NB_A_ SAMECUG_IA	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP A BELONGING TO THE SAME CUG AS THE CALLING PARTY AT SP B – WITH INCOMING ACCESS	
14	TSP_NB_A_ OTHERCUG_NOIA	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP A BELONGING TO A DIFFERENT CUG AS THE CALLING PARTY AT SP B – WITHOUT INCOMING ACCESS	
15	TSP_NB_A_ OTHERCUG_IA	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP A BELONGING TO A DIFFERENT CUG AS THE CALLING PARTY AT SP B – WITH INCOMING ACCESS	

Table B.4/Q.785.2 – Other supplementary services parameter values

Item	Parameter	Parameter type	Explanation	Value
1	TSP_SUB_ADDRESS _LENGTH	OCT_1	LENGTH OF THE SUB-ADDRESS	
2	TSP_SUB_A	OCT_N	SUB-ADDRESS OF UNI AT SP A (IUT)	
3	TSP_SUB_B	OCT_N	SUB-ADDRESS OF UNI AT SP B (RIGHT SIDE)	
4	TSP_SUB_C	OCT_N	SUB-ADDRESS OF UNI AT SP C (LEFT SIDE)	
5	TSP_SUB_D	OCT_N	SUB-ADDRESS OF UNI AT SP D (BEYOND RIGHT SIDE SP B)	
6	TSP_SUB_E	OCT_N	SUB-ADDRESS OF UNI AT SP E (BEYOND LEFT SIDE SP C)	
7	TSP_CUGIC_NTWID	HEX_4	NETWORK IDENTITY OF THE CLOSED USER GROUP INTERLOCK CODE	
8	TSP_CUGIC_ NTWID_INT	HEX_4	INTERNATIONAL NETWORK IDENTITY OF THE CLOSED USER GROUP INTERLOCK CODE	
9	TSP_CUGIC_ BINCODE	HEX_4	BINARY CODE OF THE CLOSED USER GROUP INTERLOCK CODE	
10	TSP_CUGIC_ BINCODE_INT	HEX_4	INTERNATIONAL BINARY CODE OF THE CLOSED USER GROUP INTERLOCK CODE	
11	TSP_CTREF	OCT_1	CALL TRANSFER REFERENCE	

B.7.2.3 Timer values

Table B.5/Q.785.2 – Timer values

Item	Parameter	Parameter type	Explanation	Value
1	TSP_T_WAIT	INTEGER	WAIT FOR SOME EVENT TIMER (MAX 30 S)	
2	TSP_T_GUARD	INTEGER	GUARD TIMER FOR THE TEST CASE (MIN 30 S)	
3	TSP_TOL	INTEGER	TOLERANCE FOR ISUP TIMERS (IN PERCENT)	
4	TSP_T_LOCAL	INTEGER	INTERNAL TIMER FOR TESTING CCBS-T8 TIMER (1 S)	

B.7.2.4 Other information

Table B.6/Q.785.2 – Other information

Item	Parameter	Parameter type	Explanation	Value
1	TSP_MAXB_ CHANNEL	INTEGER	MAXIMUM NUMBER OF B CHANNELS AT THE ACCESS SIDE (NEEDED FOR CALL WAITING)	
2	TSP_ORIG_ISDN_ ACCESS	BIT_1	USE OF ISDN ACCESS AT ORIGINATION ('1'B) OR NON-ISDN ACCESS ('0'B) IN THE FORWARD CALL INDICATORS	
3	TSP_DEST_ISDN_ ACCESS	BIT_1	USE OF ISDN ACCESS AT TERMINATION ('1'B) OR NON-ISDN ACCESS ('0'B) IN THE BACKWARD CALL INDICATORS	
4	TSP_INTER NATIONAL_CALL	BOOLEAN	SET UP AN INTERNATIONAL CALL (TRUE) OR A NATIONAL CALL (FALSE) – USED IN THE INTERNATIONAL/NATIONAL CALL INDICATOR IN THE FORWARD CALL INDICATORS	
5	TSP_INTER NATIONAL_CDPN	BOOLEAN	USE AN INTERNATIONAL (TRUE) OR A NATIONAL SIGNIFICANT NUMBER (FALSE) CALLED PARTY NUMBER	
5a	TSP_NATADRI_R	BIT_7	USE OF NATURE OF ADDRESS FOR CALLED PARTY NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), MTC	
5b	TSP_NATADRI CG_R	BIT_7	USE OF NATURE OF ADDRESS FOR CALLING PARTY NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), MTC	
5c	TSP_NATADRI CN_R	BIT_7	USE OF NATURE OF ADDRESS FOR CONNECTED NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), MTC	
5d	TSP_NATADRI RG_R	BIT_7	USE OF NATURE OF ADDRESS FOR REDIRECTING NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), MTC	
5e	TSP_NATADRI OCN_R	BIT_7	USE OF NATURE OF ADDRESS FOR ORIGINAL CALLED NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), MTC	
5f	TSP_NATADRI RN_R	BIT_7	USE OF NATURE OF ADDRESS FOR REDIRECTION NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), MTC	

Table B.6/Q.785.2 – Other information *(concluded)*

Item	Parameter	Parameter type	Explanation	Value
5g	TSP_NATADRI CTN_R	BIT_7	USE OF NATURE OF ADDRESS FOR CALL TRANSFER NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), MTC	
5h	TSP_NATADRI CIN_R	BIT_7	USE OF NATURE OF ADDRESS FOR CALLED IN NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), MTC	
5i	TSP_NATADRI_L	BIT_7	USE OF NATURE OF ADDRESS FOR CALLED PARTY NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), PTC	
5j	TSP_NATADRI CG_L	BIT_7	USE OF NATURE OF ADDRESS FOR CALLING PARTY NUMBER INTERNATIONAL (0000100) NATIONAL (00000110), PTC	
5k	TSP_NATADRI CN_L	BIT_7	USE OF NATURE OF ADDRESS FOR CONNECTED NUMBER INTERNATIONAL (0000100) NATIONAL (00000110), PTC	
5l	TSP_NATADRI RG_L	BIT_7	USE OF NATURE OF ADDRESS FOR REDIRECTING NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), PTC	
5m	TSP_NATADRI OCN_L	BIT_7	USE OF NATURE OF ADDRESS FOR ORIGINAL CALLED NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), PTC	
5n	TSP_NATADRI RN_L	BIT_7	USE OF NATURE OF ADDRESS FOR REDIRECTION NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), PTC	
5o	TSP_NATADRI CTN_L	BIT_7	USE OF NATURE OF ADDRESS FOR CALL TRANSFER NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), PTC	
5p	TSP_NATADRI CIN_L	BIT_7	USE OF NATURE OF ADDRESS FOR CALLED IN NUMBER INTERNATIONAL (0000100) NATIONAL (0000011), PTC	
6	TSP_PDC	INTEGER	PROPAGATION DELAY FOR INCOMING AND OUTGOING ROUTES	
7	TSP_PDC_X	INTEGER	PROPAGATION DELAY ON THE INCOMING ROUTE (IN MS)	
8	TSP_PDC_D	INTEGER	PROPAGATION DELAY ON THE OUTGOING ROUTE (IN MS)	

ANEXO C[4]

Formulario de informe de pruebas de conformidad de protocolo (PCTR) para servicios suplementarios de la parte usuario RDSI (ISUP)'97

The PCTR proforma is based on ISO/IEC 9646-5 [30]. Any additional information needed can be found in this document.

C.1 Identification summary

C.1.1 Protocol conformance test report

PCTR NUMBER:	
PCTR DATE:	
TEST LABORATORY IDENTIFICATION:	
TEST LABORATORY MANAGER:	
SIGNATURE:	

C.1.2 IUT identification

NAME:	
VERSION:	
PROTOCOL SPECIFICATION:	
PICS:	
PREVIOUS PCTR IF ANY:	

C.1.3 Testing environment

PIXIT NUMBER:	
ATS SPECIFICATION:	
ABSTRACT TEST METHOD:	DISTRIBUTED MULTIPARTY TEST METHOD
MEANS OF TESTING IDENTIFICATION:	
DATE OF TESTING:	
CONFORMANCE LOG REFERENCE(S):	
RETENTION DATE FOR LOG REFERENCE(S):	

[4] **Comunicado sobre derechos de autor del formulario de PCTR**

Los usuarios de esta Recomendación pueden reproducir libremente el formulario de PCTR de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el PCTR cumplimentado.

C.1.4 Limits and reservation

Additional information relevant to the technical contents or further use of the test report, or the rights and obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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C.1.5 Comments

Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, for example, to note disagreement between the two parties.

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C.2 IUT Conformance status

This IUT has/has not been shown by conformance assessment to be non-conforming to the referenced protocol specification.

Strike the appropriate words in this sentence. If the PICS for this IUT is consistent with the static conformance requirements (as specified in clause c.3 in this report) and there are no "fail" verdicts to be recorded (in clause c.6) strike the word "has/". Otherwise strike the words "/has not".

C.3 Static conformance summary

The PICS for this IUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

C.4 Dynamic conformance summary

The test campaign did/did not reveal errors in the IUT.

Strike the appropriate words in this sentence. If there are no "fail" verdicts to be recorded (in clause c.6 of this report) strike the word "did/". Otherwise strike the words "/did not".

Summary of the results of groups of test:

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C.5 Static conformance review report

If clause C.3 indicates non-conformance, this subclause itemizes the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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C.6 Test campaign report

Table C.1/Q.785.2 – Test campaign report – CLIP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CLIP/ISS_V_1_1				
CLIP/ISS_V_1_2				
CLIP/ISS_V_1_3				
CLIP/ISS_V_1_4				
CLIP/ISS_V_1_5				
CLIP/ISS_V_1_6				
CLIP/ISS_V_1_7_a				
CLIP/ISS_V_1_7_b				
CLIP/ISS_V_1_8				
CLIP/ISS_V_1_9				
CLIP/ISS_V_1_10				
CLIP/ISS_V_1_11				
CLIP/ISS_V_1_12				
CLIP/ISS_V_1_13				
CLIP/ISS_I_1_14				
CLIP/ISS_V_1_15				
CLIP/ISS_V_1_16				
CLIP/ISS_I_1_17				
CLIP/ISS_I_1_18				
CLIP/ISS_V_1_19				

Table C.2/Q.785.2 – Test campaign report – CLIR

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CLIR/ISS_V_2_1				
CLIR/ISS_V_2_2				
CLIR/ISS_V_2_3				
CLIR/ISS_V_2_4				
CLIR/ISS_V_2_5				
CLIR/ISS_V_2_6				
CLIR/ISS_V_2_7_a				
CLIR/ISS_V_2_7_b				
CLIR/ISS_V_2_8				
CLIR/ISS_V_2_9				
CLIR/ISS_V_2_10				
CLIR/ISS_V_2_11				

Table C.3/Q.785.2 – Test campaign report – COLP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
COLP/ISS_V_3_1				
COLP/ISS_V_3_2_a				
COLP/ISS_V_3_2_b				
COLP/ISS_V_3_2_c				
COLP/ISS_V_3_3_a				
COLP/ISS_V_3_3_b				
COLP/ISS_V_3_4_a				
COLP/ISS_V_3_4_b				
COLP/ISS_I_3_5_a				
COLP/ISS_I_3_5_b				
COLP/ISS_V_3_6_a				
COLP/ISS_V_3_6_b				
COLP/ISS_V_3_7_a				
COLP/ISS_V_3_7_b				
COLP/ISS_V_3_8_a				
COLP/ISS_V_3_8_b				
COLP/ISS_V_3_9_a				
COLP/ISS_V_3_9_b				
COLP/ISS_I_3_10_a				
COLP/ISS_I_3_10_b				
COLP/ISS_I_3_10_c				
COLP/ISS_I_3_10_d				
COLP/ISS_V_3_11_a				
COLP/ISS_V_3_11_b				
COLP/ISS_V_3_12_a				
COLP/ISS_V_3_12_b				
COLP/ISS_V_3_13_a				
COLP/ISS_V_3_13_b				
COLP/ISS_V_3_14_a				
COLP/ISS_V_3_14_b				
COLP/ISS_V_3_15_a				
COLP/ISS_V_3_15_b				
COLP/ISS_V_3_16_a				
COLP/ISS_V_3_16_b				
COLP/ISS_V_3_17_a				
COLP/ISS_V_3_17_b				
COLP/ISS_V_3_18_a				
COLP/ISS_V_3_18_b				

Table C.4/Q.785.2 – Test campaign report – COLR

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
COLR/ISS_V_4_1_a				
COLR/ISS_V_4_1_b				
COLR/ISS_I_4_2_a				
COLR/ISS_I_4_2_b				
COLR/ISS_V_4_3_a				
COLR/ISS_V_4_3_b				
COLR/ISS_V_4_4_a				
COLR/ISS_V_4_4_b				
COLR/ISS_V_4_5_a				
COLR/ISS_V_4_5_b				
COLR/ISS_I_4_6_a				
COLR/ISS_I_4_6_b				
COLR/ISS_V_4_7_a				
COLR/ISS_V_4_7_b				
COLR/ISS_V_4_8_a				
COLR/ISS_V_4_8_b				
COLR/ISS_V_4_9_a				
COLR/ISS_V_4_9_b				
COLR/ISS_V_4_10_a				
COLR/ISS_V_4_10_b				
COLR/ISS_V_4_11_a				
COLR/ISS_V_4_11_b				
COLR/ISS_V_4_12_a				
COLR/ISS_V_4_12_b				

Table C.5/Q.785.2 – Test campaign report – TP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
TP/ISS_V_5_1				
TP/ISS_V_5_2				
TP/ISS_I_5_3				
TP/ISS_V_5_4_a				
TP/ISS_V_5_4_b				
TP/ISS_V_5_5				
TP/ISS_V_5_6				
TP/ISS_V_5_7				
TP/ISS_V_5_8				
TP/ISS_V_5_10				
NO_TP/ISS_I_5_9				

Table C.6-1-1/Q.785.2 – Test campaign report – UUS1 implicit

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
UUS/UUS1_I/ISS_V_6_1_1				
UUS/UUS1_I/ISS_V_6_1_2_a				
UUS/UUS1_I/ISS_V_6_1_2_b				
UUS/UUS1_I/ISS_I_6_1_3_a				
UUS/UUS1_I/ISS_I_6_1_3_b				
UUS/UUS1_I/ISS_I_6_1_4_a				
UUS/UUS1_I/ISS_I_6_1_4_b				
UUS/UUS1_I/ISS_V_6_1_5_a				
UUS/UUS1_I/ISS_V_6_1_5_b				
UUS/NO_UUS1_I/ISS_I_6_1_6_a				
UUS/NO_UUS1_I/ISS_I_6_1_6_b				

Table C.6-1-2/Q.785.2– Test campaign report – UUS1 explicit

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
UUS/UUS1_E/ISS_V_6_1_7_a				
UUS/UUS1_E/ISS_V_6_1_7_b				
UUS/UUS1_E/ISS_I_6_1_8_a				
UUS/UUS1_E/ISS_I_6_1_8_b				
UUS/UUS1_E/ISS_I_6_1_9_a				
UUS/UUS1_E/ISS_I_6_1_9_b				
UUS/UUS1_E/ISS_I_6_1_10				
UUS/UUS1_E/ISS_V_6_1_11_a				
UUS/UUS1_E/ISS_V_6_1_11_b				
UUS/UUS1_E/ISS_V_6_1_13_a				
UUS/UUS1_E/ISS_V_6_1_13_b				
UUS/UUS1_E/ISS_I_6_1_14_a				
UUS/UUS1_E/ISS_I_6_1_14_b				
UUS/UUS1_E/ISS_V_6_1_15_a				
UUS/UUS1_E/ISS_V_6_1_15_b				
UUS/UUS1_E/ISS_V_6_1_17_a				
UUS/UUS1_E/ISS_V_6_1_17_b				
UUS/UUS1_E/ISS_V_6_1_18				
UUS/UUS1_E/ISS_V_6_1_19_a				
UUS/UUS1_E/ISS_V_6_1_19_b				
UUS/UUS1_E/ISS_V_6_1_20_a				
UUS/UUS1_E/ISS_V_6_1_20_b				
UUS/UUS1_E/ISS_V_6_1_21				
UUS/UUS1_E/ISS_V_6_1_22				
UUS/UUS1_E/ISS_V_6_1_23				
UUS/UUS1_E/ISS_V_6_1_24				
UUS/NO_UUS1_E/ISS_I_6_1_12_a				
UUS/NO_UUS1_E/ISS_I_6_1_12_b				
UUS/NO_UUS1_E/ISS_I_6_1_16_a				
UUS/NO_UUS1_E/ISS_I_6_1_16_b				
UUS/NO_UUS1_E/ISS_I_6_1_16_c				

Table C.6-2/Q.785.2 – Test campaign report – UUS2

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
UUS/UUS2/ISS_V_6_2_1				
UUS/UUS2/ISS_V_6_2_2_a				
UUS/UUS2/ISS_V_6_2_2_b				
UUS/UUS2/ISS_V_6_2_3				
UUS/UUS2/ISS_V_6_2_6_a				
UUS/UUS2/ISS_V_6_2_6_b				
UUS/UUS2/ISS_V_6_2_7				
UUS/UUS2/ISS_I_6_2_9_a				
UUS/UUS2/ISS_I_6_2_9_b				
UUS/UUS2/ISS_V_6_2_10				
UUS/UUS2/ISS_I_6_2_11				
UUS/UUS2/ISS_I_6_2_13				
UUS/UUS2/ISS_V_6_2_14_a				
UUS/UUS2/ISS_V_6_2_14_b				
UUS/UUS2/ISS_V_6_2_15_a				
UUS/UUS2/ISS_V_6_2_15_b				
UUS/UUS2/ISS_V_6_2_16_a				
UUS/UUS2/ISS_V_6_2_16_b				
UUS/NO_UUS2/ISS_I_6_2_4				
UUS/ NO_UUS2/ISS_I_6_2_5				
UUS/ NO_UUS2/ISS_I_6_2_8_a				
UUS/ NO_UUS2/ISS_I_6_2_8_b				
UUS/ NO_UUS2/ISS_I_6_2_12				

Table C.6-3/Q.785.2 – Test campaign report – UUS3

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
UUS/UUS3/ISS_V_6_3_1				
UUS/UUS3/ISS_V_6_3_2				
UUS/UUS3/ISS_V_6_3_3_a				
UUS/UUS3/ISS_V_6_3_3_b				
UUS/UUS3/ISS_V_6_3_4				
UUS/UUS3/ISS_V_6_3_7_a				
UUS/UUS3/ISS_V_6_3_7_b				
UUS/UUS3/ISS_V_6_3_8				
UUS/UUS3/ISS_V_6_3_10_a				
UUS/UUS3/ISS_V_6_3_10_b				
UUS/UUS3/ISS_V_6_3_11				
UUS/UUS3/ISS_I_6_3_12				
UUS/UUS3/ISS_I_6_3_13				
UUS/UUS3/ISS_V_6_3_14				
UUS/UUS3/ISS_V_6_3_15				
UUS/UUS3/ISS_V_6_3_16				
UUS/UUS3/ISS_V_6_3_17				
UUS/NO_UUS3/ISS_I_6_3_5_a				
UUS/NO_UUS3/ISS_I_6_3_5_b				
UUS/NO_UUS3/ISS_I_6_3_6_a				
UUS/NO_UUS3/ISS_I_6_3_6_b				
UUS/NO_UUS3/ISS_I_6_3_9_a				
UUS/NO_UUS3/ISS_I_6_3_9_b				

Table C.7/Q.785.2 – Test campaign report – CUG

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CUG/ISS_V_7_1				
CUG/ISS_V_7_2				
CUG/ISS_V_7_3				
CUG/ISS_V_7_6				
CUG/ISS_V_7_7				
CUG/ISS_V_7_8				
CUG/ISS_V_7_9				
CUG/ISS_V_7_10				
CUG/ISS_V_7_11				
CUG/ISS_V_7_12				
CUG/ISS_V_7_13				
CUG/ISS_V_7_14				
CUG/ISS_V_7_15				
CUG/ISS_V_7_16				
CUG/ISS_V_7_17				
CUG/ISS_V_7_18				
CUG/ISS_V_7_19				
CUG/ISS_V_7_20				
CUG/ISS_V_7_21				
CUG/ISS_I_7_22				
CUG/ISS_I_7_23				
NO_CUG/ISS_I_7_4				
NO_CUG/ISS_I_7_5				

Table C.8/Q.785.2 – Test campaign report – SUB

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
SUB/ISS_V_8_1				
SUB/ISS_V_8_2				
SUB/ISS_V_8_3				
SUB/ISS_I_8_4				
SUB/ISS_V_8_5				

Table C.9/Q.785.2 – Test campaign report – MCID

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
MCID/ISS_V_9_1				
MCID/ISS_V_9_2				
MCID/ISS_V_9_3				
MCID/ISS_V_9_5_a				
MCID/ISS_V_9_5_b				
MCID/ISS_V_9_6_a				
MCID/ISS_V_9_6_b				
MCID/ISS_V_9_8				
MCID/ISS_I_9_9				
MCID/ISS_V_9_10_a				
MCID/ISS_V_9_10_b				
MCID/ISS_V_9_11				
MCID/ISS_I_9_12_a				
MCID/ISS_I_9_12_b				
MCID/ISS_I_9_13				
MCID/ISS_V_9_14				
MCID/ISS_V_9_15_a				
MCID/ISS_V_9_15_b				
MCID/ISS_V_9_16				
NO_MCID/ISS_I_9_4				
NO_MCID/ISS_I_9_7				

Table C.10/Q.785.2 – Test campaign report – CONF

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CONF/ISS_V_10_1				
CONF/ISS_V_10_2				
CONF/ISS_V_10_3_a				
CONF/ISS_V_10_3_b				
CONF/ISS_V_10_4				
CONF/ISS_V_10_5				
CONF/ISS_V_10_6				
CONF/ISS_V_10_7				
CONF/ISS_V_10_8				
CONF/ISS_V_10_9				
CONF/ISS_V_10_10				
CONF/ISS_I_10_11				
CONF/ISS_I_10_12				
CONF/ISS_V_10_13_a				
CONF/ISS_V_10_13_b				
CONF/ISS_V_10_14				
CONF/ISS_V_10_15				
CONF/ISS_V_10_16				

Table C.11/Q.785.2 – Test campaign report – ECT

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
ECT/ISS_V_11_1_a				
ECT/ISS_V_11_1_b				
ECT/ISS_V_11_2_a				
ECT/ISS_V_11_2_b				
ECT/ISS_V_11_3_a				
ECT/ISS_V_11_3_b				
ECT/ISS_V_11_4_a				
ECT/ISS_V_11_4_b				
ECT/ISS_V_11_5				
ECT/ISS_V_11_6				
ECT/ISS_I_11_7				
ECT/ISS_I_11_8				
ECT/ISS_V_11_9				
ECT/ISS_V_11_10				
ECT/ISS_V_11_11				
ECT/ISS_V_11_12				
ECT/ISS_V_11_13				
ECT/ISS_V_11_14_a				
ECT/ISS_V_11_14_b				
ECT/ISS_V_11_15				
ECT/ISS_V_11_16				
ECT/ISS_V_11_17				
ECT/ISS_V_11_18				
ECT/ISS_V_11_19				
ECT/ISS_V_11_20_a				
ECT/ISS_V_11_20_b				
ECT/ISS_V_11_21_a				
ECT/ISS_V_11_21_b				
ECT/ISS_V_11_22_a				
ECT/ISS_V_11_22_b				
ECT/ISS_V_11_23_a				
ECT/ISS_V_11_23_b				
ECT/ISS_V_11_24				
ECT/ISS_V_11_25				
ECT/ISS_V_11_26_a				
ECT/ISS_V_11_26_b				
ECT/ISS_V_11_27_a				
ECT/ISS_V_11_27_b				
ECT/ISS_V_11_28				
ECT/ISS_V_11_29				
ECT/ISS_V_11_30				

Table C.12/Q.785.2 – Test campaign report – CDIV

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CDIV/ISS_V_12_1_a				
CDIV/ISS_V_12_1_b				
CDIV/ISS_V_12_1_c				
CDIV/ISS_V_12_2_a				
CDIV/ISS_V_12_2_b				
CDIV/ISS_V_12_2_c				
CDIV/ISS_V_12_2_d				
CDIV/ISS_V_12_3				
CDIV/ISS_V_12_4_a				
CDIV/ISS_V_12_4_b				
CDIV/ISS_V_12_4_c				
CDIV/ISS_V_12_5				
CDIV/ISS_I_12_6				
CDIV/ISS_I_12_7				
CDIV/ISS_I_12_8				
CDIV/ISS_V_12_9_a				
CDIV/ISS_V_12_9_b				
CDIV/ISS_V_12_10				
CDIV/ISS_I_12_11_a				
CDIV/ISS_I_12_11_b				
CDIV/ISS_I_12_11_c				
CDIV/ISS_V_12_12_a				
CDIV/ISS_V_12_12_b				
CDIV/ISS_V_12_12_c				
CDIV/ISS_V_12_13_a				
CDIV/ISS_V_12_13_b				
CDIV/ISS_V_12_14_a				
CDIV/ISS_V_12_14_b				
CDIV/ISS_V_12_15_a				
CDIV/ISS_V_12_15_b				
CDIV/ISS_V_12_15_c				
CDIV/ISS_V_12_16_a				
CDIV/ISS_V_12_16_b				
CDIV/ISS_V_12_17				
CDIV/ISS_V_12_18				
CDIV/ISS_V_12_19				
CDIV/ISS_V_12_20				
CDIV/ISS_V_12_21				
CDIV/ISS_V_12_22				

Table C.12/Q.785.2 – Test campaign report – CDIV *(concluded)*

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CDIV/ISS_V_12_23				
CDIV/ISS_V_12_24				
CDIV/ISS_V_12_25				
CDIV/ISS_V_12_26_a				
CDIV/ISS_V_12_26_b				
CDIV/ISS_V_12_26_c				
CDIV/ISS_V_12_27				
CDIV/ISS_V_12_28_a				
CDIV/ISS_V_12_28_b				
CDIV/ISS_V_12_29				
CDIV/ISS_V_12_30				
CDIV/ISS_V_12_31				
CDIV/ISS_V_12_32				
CDIV/ISS_V_12_33				
CDIV/ISS_V_12_34				
CDIV/ISS_V_12_35				
CDIV/ISS_V_12_36				
CDIV/ISS_V_12_37				
CDIV/ISS_V_12_38				
CDIV/ISS_V_12_39				
CDIV/ISS_V_12_40_a				
CDIV/ISS_V_12_40_b				
CDIV/ISS_V_12_40_c				
CDIV/ISS_V_12_40_d				
CDIV/ISS_V_12_40_e				
CDIV/ISS_V_12_41_a				
CDIV/ISS_V_12_41_b				
CDIV/ISS_V_12_42				
CDIV/ISS_V_12_43_a				
CDIV/ISS_V_12_43_b				
CDIV/ISS_V_12_44				
CDIV/ISS_V_12_45				
CDIV/ISS_V_12_46				
CDIV/ISS_V_12_47				
CDIV/ISS_V_12_48				
CDIV/ISS_V_12_49_a				
CDIV/ISS_V_12_49_b				
CDIV/ISS_V_12_49_c				

Table C.13/Q.785.2 – Test campaign report – HOLD

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
HOLD/ISS_V_13_1				
HOLD/ISS_V_13_2				
HOLD/ISS_V_13_3				
HOLD/ISS_V_13_4				
HOLD/ISS_V_13_5				
HOLD/ISS_V_13_6_a				
HOLD/ISS_V_13_6_b				
HOLD/ISS_V_13_7_a				
HOLD/ISS_V_13_7_b				
HOLD/ISS_V_13_8				
HOLD/ISS_V_13_9				
HOLD/ISS_V_13_10				
HOLD/ISS_V_13_11				
HOLD/ISS_V_13_12				

Table C.14/Q.785.2 – Test campaign report – CW

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CW/ISS_V_14_1				
CW/ISS_V_14_2				
CW/ISS_V_14_3				
CW/ISS_V_14_4				
CW/ISS_V_14_5				
CW/ISS_V_14_6				
CW/ISS_V_14_7				
CW/ISS_V_14_8				

Table C.15-1/Q.785.2 – Test campaign report – CCBS – ISUP part

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CCBS/ISUP/ISS_V_15_1				
CCBS/ISUP/ISS_V_15_2				
CCBS/ISUP/ISS_V_15_3				
CCBS/ISUP/ISS_V_15_4				
CCBS/ISUP/ISS_V_15_5				
CCBS/ISUP/ISS_V_15_6				
CCBS/ISUP/ISS_V_15_7				
CCBS/ISUP/ISS_V_15_8				
CCBS/ISUP/ISS_V_15_9				
CCBS/ISUP/ISS_V_15_10				
CCBS/ISUP/ISS_V_15_11				
CCBS/ISUP/ISS_V_15_12				
CCBS/ISUP/ISS_V_15_13				
CCBS/ISUP/ISS_V_15_14				
CCBS/ISUP/ISS_V_15_15				

Table C.15-2/Q.785.2 – Test campaign report – CCBS – ASE part

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CCBS/ASE/ISS_TC_V_15_1				
CCBS/ASE/ISS_TC_I_15_2				
CCBS/ASE/ISS_TC_V_15_3				
CCBS/ASE/ISS_TC_V_15_4				
CCBS/ASE/ISS_TC_I_15_5				
CCBS/ASE/ISS_TC_V_15_6_a				
CCBS/ASE/ISS_TC_V_15_6_b				
CCBS/ASE/ISS_TC_V_15_7				
CCBS/ASE/ISS_TC_I_15_8				
CCBS/ASE/ISS_TC_V_15_9				
CCBS/ASE/ISS_TC_V_15_10				
CCBS/ASE/ISS_TC_V_15_11				
CCBS/ASE/ISS_TC_V_15_12				
CCBS/ASE/ISS_TC_I_15_13				

Table C.15-2/Q.785.2 – Test campaign report – CCBS – ASE part *(concluded)*

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CCBS/ASE/ISS_TC_I_15_14				
CCBS/ASE/ISS_TC_I_15_15				
CCBS/ASE/ISS_TC_I_15_16				
CCBS/ASE/ISS_TC_I_15_17				
CCBS/ASE/ISS_TC_I_15_18				
CCBS/ASE/ISS_TC_I_15_19				
CCBS/ASE/ISS_TC_I_15_20				
CCBS/ASE/ISS_TC_I_15_21				

Table C.16/Q.785.2 – Test campaign report – 3PTY

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
THREE_PTY/ISS_V_16_1				
THREE_PTY/ISS_V_16_2_a				
THREE_PTY/ISS_V_16_2_b				
THREE_PTY/ISS_V_16_3_a				
THREE_PTY/ISS_V_16_3_b				
THREE_PTY/ISS_V_16_4_a				
THREE_PTY/ISS_V_16_4_b				
THREE_PTY/ISS_V_16_5_a				
THREE_PTY/ISS_V_16_5_b				
THREE_PTY/ISS_V_16_6_a				
THREE_PTY/ISS_V_16_6_b				
THREE_PTY/ISS_V_16_7				
THREE_PTY/ISS_V_16_8				
THREE_PTY/ISS_V_16_9				

Table C.17/Q.785.2 – Test campaign report – CCNR

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CCNR-ISUP/ISS_V_17_1				
CCNR-ISUP/ISS_V_17_2				
CCNR-ISUP/ISS_V_17_3				
CCNR-ISUP/ISS_V_17_4				
CCNR-ISUP/ISS_V_17_5				
CCNR-ISUP/ISS_V_17_6				
CCNR-ISUP/ISS_V_17_7				
CCNR-ISUP/ISS_V_17_8				
CCNR-ISUP/ISS_V_17_9				
CCNR-ISUP/ISS_V_17_10				
CCNR-ISUP/ISS_V_17_11				
CCNR-ISUP/ISS_V_17_12				
CCNR-ISUP/ISS_V_17_13				
CCNR-ASE/ISS_V_17_2_1				
CCNR-ASE/ISS_V_17_2_2				
CCNR-ASE/ISS_V_17_2_3				
CCNR-ASE/ISS_V_17_2_4				
CCNR-ASE/ISS_V_17_2_5				
CCNR-ASE/ISS_V_17_2_6				
CCNR-ASE/ISS_V_17_2_7				
CCNR-ASE/ISS_V_17_2_8				
CCNR-ASE/ISS_V_17_2_9				
CCNR-ASE/ISS_V_17_2_10				
CCNR-ASE/ISS_V_17_2_11				
CCNR-ASE/ISS_V_17_2_12				
CCNR-ASE/ISS_V_17_2_13				
CCNR-ASE/ISS_V_17_2_14				
CCNR-ASE/ISS_V_17_2_15				
CCNR-ASE/ISS_V_17_2_16				
CCNR-ASE/ISS_V_17_2_17				
CCNR-ASE/ISS_V_17_2_18				
CCNR-ASE/ISS_V_17_2_19				
CCNR-ASE/ISS_V_17_2_20				
CCNR-ASE/ISS_V_17_2_21				

C.7 Observations

Additional information relevant to the technical content of the PCTR is given here.

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ANEXO D

ATS para servicios suplementarios de la parte usuario RDSI (ISUP)'97

En estudio.

SERIES DE RECOMENDACIONES DEL UIT-T

Serie A	Organización del trabajo del UIT-T
Serie B	Medios de expresión: definiciones, símbolos, clasificación
Serie C	Estadísticas generales de telecomunicaciones
Serie D	Principios generales de tarificación
Serie E	Explotación general de la red, servicio telefónico, explotación del servicio y factores humanos
Serie F	Servicios de telecomunicación no telefónicos
Serie G	Sistemas y medios de transmisión, sistemas y redes digitales
Serie H	Sistemas audiovisuales y multimedios
Serie I	Red digital de servicios integrados
Serie J	Transmisiones de señales radiofónicas, de televisión y de otras señales multimedios
Serie K	Protección contra las interferencias
Serie L	Construcción, instalación y protección de los cables y otros elementos de planta exterior
Serie M	RGT y mantenimiento de redes: sistemas de transmisión, circuitos telefónicos, telegrafía, facsímil y circuitos arrendados internacionales
Serie N	Mantenimiento: circuitos internacionales para transmisiones radiofónicas y de televisión
Serie O	Especificaciones de los aparatos de medida
Serie P	Calidad de transmisión telefónica, instalaciones telefónicas y redes locales
Serie Q	**Conmutación y señalización**
Serie R	Transmisión telegráfica
Serie S	Equipos terminales para servicios de telegrafía
Serie T	Terminales para servicios de telemática
Serie U	Conmutación telegráfica
Serie V	Comunicación de datos por la red telefónica
Serie X	Redes de datos y comunicación entre sistemas abiertos
Serie Y	Infraestructura mundial de la información y aspectos protocolo Internet
Serie Z	Lenguajes y aspectos generales de soporte lógico para sistemas de telecomunicación