



TAP 3.12 Scenarios

Version 30.4

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1 Introduction

1.1 Overview

This document gives information on how to populate the TAP elements for TAP3 files. The document gives examples of TAP events for a number of different scenarios.

1.2 Scope

This version of the document supports the TAP3.12 specification as contained in TD.57 [4] version 30.x.

This document must be used in conjunction with the below supporting Permanent Reference Documents (PRDs):

- GSM PRD TD.61 [5] – TAP3 XML Example Files
- GSM PRD TD.62 [6] – TAP3 Example Files

The intended usage of TD.60, TD.61 [5] and TD.62 [6] is restricted to internal TAP testing and familiarisation of required TAP files structure and content for different scenarios.

The scenarios contained within TD.60 are not intended to be used during live TADIG testing. TADIG test cases are defined within the relevant TADIG PRDs (see TD.41 [3] for details).

1.3 Abbreviations

Term	Description
APN	Access Point Name
CAMEL	Customised Applications for Mobile network Enhanced Logic
CTL	Call Type Level
GGSN	Gateway GPRS Support Node
HPMN	Home PMN
IAC	International Access Code
IP	Internet Protocol
MO SMS	Mobile Originated Short Message Service (SMS)
MOC	Mobile Originated Call
MT SMS	Mobile Terminated Short Message Service (SMS)
MTC	Mobile Terminated Call
NDC	National Destination Code
P-GW	Packet Gateway
PMN	Public Mobile Network
PRD	Permanent Reference Document
SGSN	Serving GPRS Support Node
SMS SC	Short Message Service (SMS) Service Centre
TADIG	Transferred Account Data Interchange Group
TAP	Transferred Account Procedure

VPMN	Visited PMN
WLAN	Wireless Local Area Network
XML	eXtension Markup Language

1.4 Document Cross-References

Ref	Document Number	Title
[1]	PRD BA.12	Transferred Account Procedure and Billing Information
[2]	PRD BA.27	Charging Principles
[3]	PRD TD.41	Testing the Transferred Account Procedure (TAP)
[4]	PRD TD.57	TAP3 Format Specification
[5]	PRD TD.61	TAP3 XML Example Files
[6]	PRD TD.62	TAP3 Example Files

2 Purpose of scenario

The reference case scenario is a sequence of events that can happen in real life and must be taken as such. That is the events must not be taken in isolation but must be treated as a dependent sequence. The events are given as a written description in [section 4](#). The expected outcome in TAP as a result of these events is given in brief in [section 4](#) and in full within the scenario files (TD.61 [5] and TD.62 [6]).

The charging principles for these scenarios can be found in BA.27 [2]. BA.27 [2] details only the principles of charging. The actual tariffs to be used for the scenarios are described in [section 3](#), as are all relevant details necessary to support the scenarios.

Note: The only purpose of providing tariff information is to demonstrate how TAP elements need to be populated. The tariff information provided is theoretical.

Some scenarios cover services that are not yet available or widely used. However, the "expected results" from these scenarios are nevertheless important because they provide the basis for a common understanding of how to populate the TAP elements and can be used by a PMN when determining the processing to be carried out by its billing systems. Also, some services are designated "additional services" and are implemented only at the discretion of the individual PMN. PMNs may also wish to satisfy themselves that they have a common understanding of these cases.

The set of scenarios contained within this document is not intended to be exhaustive. Other valid scenarios will exist that are not contained within this document.

3 Setting of scenarios

Any test file created should have the appropriate Call Event Details in the sequence given in [section 4](#). For these cases assume that the "Home" network is your own and that the "Visitors" belong to an imaginary PMN called "Eurognet".

3.1 Subscriber profile

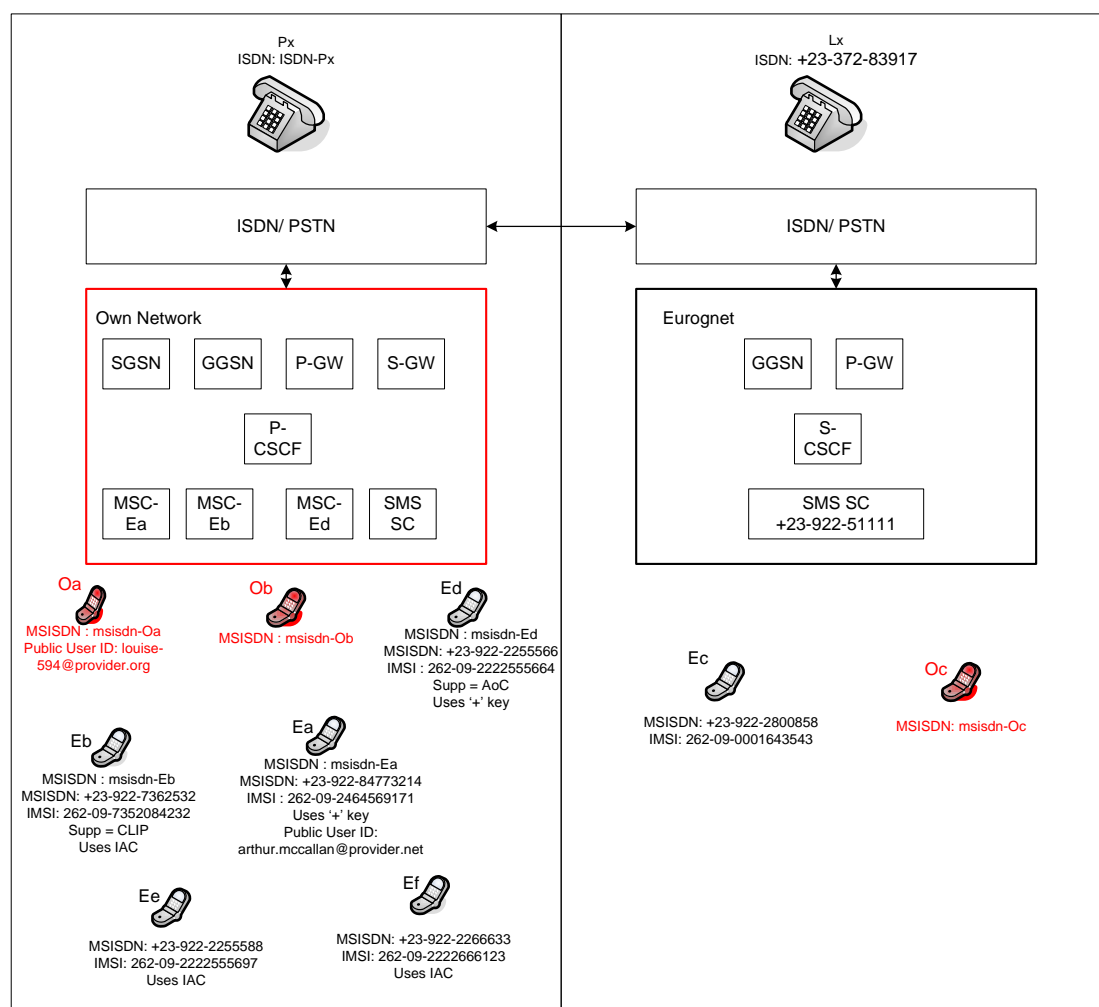
Relevant data relating to the subscribers is as below. A diagrammatic representation of this data is given in Figure 3.1, whilst the "Subscriber Profile" for Eurognet subscribers is given in Table 3.1

- The "country code" of Eurognet is "23" and the "mobile country code" is "262". Its "mobile network code" is "09" and transferred account identifier is EUR01.
- The E.164 number of the Short Message Service Centre (SMS SC) located in the Eurognet is +23 922 51111 whilst the number of your SMS SC is +43 664 680147.
- Subscribers Ea, Eb, Ed and Ee are visitors to your network from Eurognet. Their "National (significant) mobile number (NSMN)" and "mobile station identification number (MSIN)" codes are 922-8473214 and 2464569171 for Ea and 922-7362532 and 7352084232 for Eb as well as 922-2255566 and 2222555664 for Ed and 922-2255588 and 2222555697 for Ee (Note that although the national destination code (NDC) for each of these subscribers is identical (922) it does not necessarily follow that each network will only have one NDC allocated to it). Subscriber Ea is also able to switch from GSM to UMTS if necessary.
- Subscriber Ix is a subscriber of a fixed (ISDN) network within the same country as Eurognet. The subscribers "national significant number (NSN)" is 372-83917.
- Subscriber Px is a subscriber of the fixed (PSTN) network within your own country. Assign an ISDN to this number as appropriate.
- Subscriber Ea subscribes to Advice of Charge whilst Subscriber Eb subscribes to the Calling Line Identification Restriction service. No other services are subscribed to although call offering and call restriction services are assumed to form part of the basic subscription for Eurognet subscribers in all cases. However, whilst provisioned, these latter two services are not activated i.e. are in a deregistered state at the start of the scenarios.
- Subscriber Ec is a subscriber "at home" on the Eurognet network. His NSMN and MSIN codes are 922-2800858 and 0001643543 respectively.
- Subscriber Ed is a visitor to your network using the CAMEL-feature.
- Subscriber Ee is a visitor to your network. He has subscribed to an IN based prepaid service which supports roaming via CAMEL.
- Subscriber Ef from Eurognet is visiting your network using WLAN with username based AAA and has the following definitions for this document:
- NSMN is 922 2266633, MSIN 2222666123 Subscribers Oa, Ob and Oc are subscribers of your own network. Assign MSISDNs and IMSIs as appropriate for yourselves. Note that subscriber Oc is roaming (located within the Eurognet network).
- Your network offers HSCSD and GPRS to all roaming subscribers who have subscribed to these services. Access to external data networks can be obtained by using the GGSN operated by your network that is identified by the IP address 134.5.67.89. Alternatively, roaming subscribers may use the GGSN operated by Eurognet (IP address 123.45.67.89).
- The E164 address of the HPMN vocal server located in the Eurognet is +23 922 65432 whilst the E164 address of the VPMN vocal server in your network is +43 664 2111000.

- Subscriber Pb is a subscriber of the fixed (PSTN) network within a 3rd country (neither VPMN neither HPMN).
- Ea while visiting your network connects to a content provider to download ring tones and to buy CDs.

Notes:

1. Any bearer charge incurred for circuit switched or packet switched network will be treated as discreet TAP scenarios.
2. When a subscriber dials a number using the international access code, rather than utilising the "+" key on the mobile, the dialling code is the one relevant to your country. The examples assume that subscriber Ea uses the "+" key for dialling internationally, whilst subscriber Eb uses the international access code even for calls within the visited network. Assume that fixed network phones do not have a "+" key facility.
3. The Call Reference, IMEI and ESN data items are available from the MSC and available on the Call Event Details.

**Figure 1: Setting of scenarios**

	Subscriber Ea (Visitor)	Subscriber Eb (Visitor)	Subscriber Ec	Subscriber Ed (Visitor)	Subscriber Ee (Visitor)	Subscriber Ef (Visitor)
MSISDN	23 922 8473214	23 922 7362532	23 922 2800858	23 922 2255566	23 922 2255588	23 922 2266633
IMSI	262 09 2464569171	262 09 7352084232	262 09 0001643543	262 09 2222555664	262 09 2222555697	262 09 2222666123
IMEI	49010041059856	444788070366510	49010041059809	490502101891077	490502101891099	490502101223344
SS provisioned by subscription	AoC	CLIR				
Public User ID	arthur.mccallan@pr ovider.net					

Other supplementary services or features provisioned (included in subscription) and which may be activated during the scenarios:

CFU, CFB, CFNRy, CFNRc, BAOC, BOIC, BAIC, BAIC-roam, CH, CW, MPTY, ECT, CCBS, SMS, CAMEL, HSCSD, GPRS, Content Charging, LBS

Table 1: Subscriber Profile for Eurognet Subscribers

3.2 Services Supported

	Services Supported					
	Authentication			RAN		
	SIM	USIM	EAP-SIM	GSM	UTRAN (UMTS)	WLAN
Circuit Switched Services						
Telephony	Yes	Yes	N/A	Yes	Yes	N/A
Emergency Call	Yes	Yes	N/A	Yes	Yes	N/A
SMS-MO	Yes	Yes	N/A	Yes	Yes	N/A
SMS-MT	Yes	Yes	N/A	Yes	Yes	N/A
Voice Messaging	No	No	N/A	No	No	N/A
Alternate speech and facsimile gr. 3	No	No	N/A	No	No	N/A
Automatic facsimile gr. 3	No	No	N/A	No	No	N/A
Automatic facsimile gr. 4	No	No	N/A	No	No	N/A
Voice Group Call	No	No	N/A	No	No	N/A
Asynchronous Data (CSD)	No	No	N/A	No	No	N/A
Synchronous Data (relevant bearer for CS Video Telephony)	Yes	Yes	N/A	N/A	Yes	N/A
Packet Switched Services - This includes GPRS	Yes	Yes	Yes	Yes	Yes	Yes
CAMEL Phase 1	Yes	Yes	N/A	Yes	Yes	N/A
CAMEL Phase 2	Yes	Yes	N/A	Yes	Yes	N/A
CAMEL Phase 3	Yes	Yes	N/A	Yes	Yes	N/A
CAMEL Phase 4	No	No	N/A	No	No	N/A
Calling line identification presentation (CLIP)	Yes	Yes	N/A	Yes	Yes	N/A
Calling line identification restriction (CLIR)	Yes	Yes	N/A	Yes	Yes	N/A
Connected line identification presentation (CoLP)	No	No	N/A	No	No	N/A
Connected line identification restriction (CoLR)	No	No	N/A	No	No	N/A
All Name Identification	No	No	N/A	No	No	No
Calling Name Presentation (CNAP)	No	No	N/A	No	No	N/A
Call forwarding unconditional (CFU)	Yes	Yes	N/A	Yes	Yes	N/A
Call forwarding on mobile subscriber busy (CFB)	Yes	Yes	N/A	Yes	Yes	N/A
Call forwarding on no reply	Yes	Yes	N/A	Yes	Yes	N/A

	Services Supported					
	Authentication			RAN		
	SIM	USIM	EAP-SIM	GSM	UTRAN (UMTS)	WLAN
(CFNRy)						
Call forwarding on mobile subscr. Not reachable (CFNRc)	Yes	Yes	N/A	Yes	Yes	N/A
Call waiting (CW)	Yes	Yes	N/A	Yes	Yes	N/A
Call hold (HOLD)	Yes	Yes	N/A	Yes	Yes	N/A
Multy party (MPTY)	Yes	Yes	N/A	Yes	Yes	N/A
Closed user group (CUG)	No	No	N/A	No	No	N/A
Completion of Calls to Busy Subscribers	Yes	Yes	N/A	Yes	Yes	N/A
Multicall	No	No	N/A	No	No	N/A
Call Deflection	No	No	N/A	No	No	N/A
Explicit Call Transfer	Yes	Yes	N/A	Yes	Yes	N/A
Barring of all outgoing calls (BAOC)	Yes	Yes	N/A	Yes	Yes	N/A
Barring of all outgoing international calls (BOIC)	Yes	Yes	N/A	Yes	Yes	N/A
Barring of all outgoing international calls except (BOIC-ex HC)	No	No	N/A	No	No	N/A
Barring of all incoming calls (BAIC)	Yes	Yes	N/A	Yes	Yes	N/A
Barring of all incoming calls when roaming outs. HPMN Operator (BAIC-Roam)	Yes	Yes	N/A	Yes	Yes	N/A
Operator Determined Barring of outgoing calls.	No	No	N/A	No	No	N/A
Operator Determined Barring of outgoing international calls.	No	No	N/A	No	No	N/A
Operator Determined Barring of outgoing international calls except those directed to the home PLMN country	No	No	N/A	No	No	N/A
Operator Determined Barring of outgoing calls when roaming outside the home PLMN country	No	No	N/A	No	No	N/A
Operator Determined Barring of outgoing inter-zonal calls	No	No	N/A	No	No	N/A
Operator Determined Barring of outgoing inter-zonal calls except those directed to the home	No	No	N/A	No	No	N/A

	Services Supported					
	Authentication			RAN		
	SIM	USIM	EAP-SIM	GSM	UTRAN (UMTS)	WLAN
PLMN country						
Operator Determined Barring of outgoing international calls except those directed to the home PLMN country AND barring of outgoing inter-zonal calls	No	No	N/A	No	No	N/A
Operator Determined Barring of Barring incoming calls	No	No	N/A	No	No	N/A
Operator Determined Barring of incoming calls when roaming outside the home PLMN country	No	No	N/A	No	No	N/A
Operator Determined Barring of incoming calls when roaming outside the zone of the home PLMN country	No	No	N/A	No	No	N/A
Operator Determined Barring of Roaming outside the home PLMN	No	No	N/A	No	No	N/A
Operator Determined Barring of Roaming outside the home PLMN country	No	No	N/A	No	No	N/A
Operator Determined Barring of outgoing Premium Rate Calls (Information)	No	No	N/A	No	No	N/A
Operator Determined Barring of outgoing Premium Rate Calls (Entertainment)	No	No	N/A	No	No	N/A
Operator Determined Barring of outgoing Premium Rate Calls (Information) when roaming outside the home PLMN country	No	No	N/A	No	No	N/A
Operator Determined Barring of outgoing Premium Rate Calls (Entertainment) when roaming outside the home PLMN country	No	No	N/A	No	No	N/A
User to User Signalling (UUS)	No	No	N/A	No	No	N/A
USSD /MO	No	No	N/A	No	No	N/A
USSD /MT (i.e. network initiated)	No	No	N/A	No	No	N/A
EMLPP (Enhanced Multi-Level Procedure and Pre-emption)	No	No	N/A	No	No	N/A

	Services Supported					
	Authentication			RAN		
	SIM	USIM	EAP-SIM	GSM	UTRAN (UMTS)	WLAN
NETWORK FEATURES						
HSCSD Asymmetric	Yes	Yes	N/A	Yes	Yes	N/A
HSCSD Symmetric	Yes	Yes	N/A	Yes	Yes	N/A
ECSD	No	No	N/A	No	No	N/A
EDGE	No	No	N/A	No	No	N/A
UDI	No	No	N/A	No	No	N/A
HSDPA	No	No	N/A	No	No	N/A
HSUPA	No	No	N/A	No	No	N/A
ADDITIONAL NETWORK FEATURES AND OTHER SERVICES						
LCS	Yes	Yes	N/A	Yes	Yes	N/A
Value Added Services (VAS)	Yes	Yes	N/A	Yes	Yes	N/A
Optimal Routing	No	No	N/A	No	No	N/A
WLAN	N/A	N/A	Yes	N/A	N/A	Yes
LTE						
LTE Indicator	N/A	Yes	N/A	N/A	Yes	N/A
Voice Over LTE	N/A	Yes	N/A	N/A	Yes	N/A
SMS Over LTE	N/A	Yes	N/A	N/A	Yes	N/A
Data Over LTE	N/A	Yes	N/A	N/A	Yes	N/A
LTE Free Text						

3.3 Inter Operator Tariff (IOT) information

3.3.1 Currency information

IOT Currency	EUR
--------------	-----

For the purpose of the scenarios, the exchange rate for EUR to SDR is 10:1 on 24 October 1998 and 12:1 starting 25 October 1998.

3.3.2 Tax definition

Tax Applicable	Yes
----------------	-----

Tax Name	National	International
Tax Type	National	International
VAT Indicator	No	No
Tax Rate Type	Percentage	Percentage

Fixed Tax Value		
Tax Rate	10.00000	15.00000
Tax Recoverable Indicator	No	No
Applicable to All IOT Rates Indicator	No	No
Tax on Tax Indicator	No	No
List of Tax Names for Tax on Tax		

3.3.3 Time band definition

Time Band Name	Peak
Time Band Day	Monday
Time Band Day	Tuesday
Time Band Day	Wednesday
Time Band Day	Thursday
Time Band Day	Friday
Time Band Time Interval	06:00:00 to 18:00:00

Time Band Name	Off Peak
Time Band Day	Monday
Time Band Day	Tuesday
Time Band Day	Wednesday
Time Band Day	Thursday
Time Band Day	Friday
Time Band Time Interval	18:00:00 to 23:59:59
Time Band Time Interval	00:00:00 to 06:00:00
Time Band Day	Saturday
Time Band Day	Sunday
Time Band Time Interval	00:00:00 to 23:59:59

3.3.4 Destination band name definitions

Destination Band Name	National
Destination Name	National
Destination Country Code	43

Destination Band Name	Emergency
Destination Name	Emergency
Destination Country Code	43
Destination Special	Emergency Call

Destination Band Name	International
Destination Name	Euroland
Destination Country Code	23
Destination Name	France
Destination Country Code	33
Destination Name	United Kingdom
Destination Country Code	44

Destination Band Name	Satellite
Destination Name	Satelite 1
Destination Country Code	881
Destination Name	Satelite 2
Destination Country Code	882

3.3.5 APN band definition

The following APNs are used during the scenarios. However, these are not applicable to charging as rates do not differ by APN.

APN Band Name	APN	All other APNs Indicator
Internet	internet	False
WEB Connect	WEB_CONNECT	False
Others		True

3.3.6 Hot spot band definition

Hot Spot Band Name	Hot Spot	All other Hot Spots Indicator
Own WLAN	wlan.mobilcom.at	False
Other WLAN		True

3.3.7 Charging policy

Charging Policy	
Charging from Channel Seizure Indicator	No
Call Duration Segmentation Policy	Not Applicable
Charging of Unsuccessful Call Attempts	No
WLAN Session Setup Attempt	No
PSD Available	Yes

Minimum Charge per Partial	No
Minimum Charge applied for Zero Volume	No
TAP Partials Independently Rated and Rounded	Yes
Number of TAP Partials	2
PSD Session Setup Attempt	No
VoLTE Available	Yes
Charging for underlying bearer usage for VoLTE	No
VoLTE bearer usage included in TAP	No
VoLTE specific APNs charged	No

3.3.8 Mobile Originated Call (MOC) tariffs

Service	Location	Destination Band	CTL1	CTL2	CTL3	IAC	Time Band	Charged Item	Charge Type	Rate	Interval	Applicable Tax
Telephony	N/A	National	1 (National)	1 (Mobile)	3	N/A	N/A	Duration	Total Charge	60.00	Per minute	National (10%)
	N/A	National	1 (National)	2 (PSTN)	3	N/A	N/A	Duration	Total Charge	60.00	Per minute	National (10%)
	N/A	International	2 (International)	2 (PSTN)	2	N/A	N/A	Duration	Total Charge	60.00	Per minute	International (15%)
	N/A	International	2 (International)	1 (Mobile)	2	N/A	N/A	Duration	Total Charge	60.00	Per minute	International (15%)
	N/A	Satellite	1 National	5 (Satellite)	3	N/A	N/A	Duration	Total Charge	6.00	Per second	National (10%)
	N/A	Satellite	2 (International)	5 (Satellite)	3	N/A	N/A	Duration	Total Charge	6.00	Per second	International (15%)
Emergency Call	N/A	National	1 (National)	3 (Non-Geo)	1	N/A	N/A	Duration	Total Charge	00.00	Per minute	N/A
Synchronous Data (Video Telephony)	N/A	National	1 (National)	1 (Mobile)	3	N/A	N/A	Duration	Total Charge	60.00	Per minute	National (10%)
	N/A	National	1 (National)	2 (PSTN)	3	N/A	N/A	Duration	Total Charge	60.00	Per minute	National (10%)
	N/A	International	2 (International)	2 (PSTN)	2	N/A	Peak	Duration	Total Charge	60.00	Per minute	International (15%)
	N/A	International	2 (Inter-	1 (Mobile)	2	N/A	Peak	Duration	Total	60.00	Per	International

Service	Location	Destination Band	CTL1	CTL2	CTL3	IAC	Time Band	Charged Item	Charge Type	Rate	Interval	Applicable Tax
			national)						Charge		minute	(15%)
	N/A	Satellite	2 (Inter-national)	5 (Satellite)	3	N/A	Peak	Duration	Total Charge	6.00	Per second	International (15%)
HSCSD Asymmetric	N/A	National	1 (National)	1 (Mobile)	3	N/A	N/A	Duration	Total Charge	60.00	Per minute	National (10%)
	N/A	National	1 (National)	2 (PSTN)	3	N/A	N/A	Duration	Total Charge	60.00	Per minute	National (10%)
	N/A	International	2 (Inter-national)	2 (PSTN)	2	N/A	N/A	Duration	Total Charge	60.00	Per minute	International (15%)
	N/A	International	2 (Inter-national)	1 (Mobile)	2	N/A	N/A	Duration	Total Charge	60.00	Per minute	International (15%)
	N/A	Satellite	2 (Inter-national)	5 (Satellite)	3	N/A	N/A	Duration	Total Charge	120.00	Per minute	International (15%)
HSCSD Symmetric	N/A	National	1 (National)	1 (Mobile)	3	N/A	N/A	Duration	Total Charge	60.00	Per minute	National (10%)
	N/A	National	1 (National)	2 (PSTN)	3	N/A	N/A	Duration	Total Charge	60.00	Per minute	National (10%)
	N/A	International	2 (Inter-national)	2 (PSTN)	2	N/A	N/A	Duration	Total Charge	60.00	Per minute	International (15%)
	N/A	International	2 (Inter-national)	1 (Mobile)	2	N/A	N/A	Duration	Total Charge	60.00	Per minute	International (15%)
	N/A	Satellite	2 (Inter-national)	5 (Satellite)	3	N/A	N/A	Duration	Total Charge	120.00	Per minute	International (15%)

CAMEL Invocation Fee Type	Value	Applicable Tax
CAMEL Invocation Fee Basic	12.00	International (15%)
CAMEL Invocation Fee Medium	12.00	International (15%)
CAMEL Invocation Fee High	24.00	International (15%)
CAMEL Invocation Fee Maximum	24.00	International (15%)

3.3.9 Mobile Terminated Call (MTC) tariffs

MTC Charged	Yes
-------------	-----

Service	Location	CTL1	CTL2	CTL3	Time Band	Charged Item	Charge Type	Rate	Interval	Applicable Tax
MTC	N/A	0 (Unknown)	6 (Forwarded)	0	N/A	Duration	Total Charge	0.0	Per minute	National (10%)
	N/A	0 (Unknown)	7 (Non-Forwarded)	0	N/A	Duration	Total Charge	60.0	Per minute	National (10%)

CAMEL Invocation Fee Type	Value	Applicable Tax
CAMEL Invocation Fee Basic	12.00	International (15%)
CAMEL Invocation Fee Medium	12.00	International (15%)
CAMEL Invocation Fee High	24.00	International (15%)
CAMEL Invocation Fee Maximum	24.00	International (15%)

3.3.10 Mobile Originated SMS (MO SMS) tariffs

Service	Location	Destination Band	CTL1	CTL2	CTL3	Time Band	Rate	Applicable Tax
SMSMO	N/A	National	1 (National)	0 (Unknown)	2	N/A	9.0	National (10%)
	N/A	International	2 (International)	0 (Unknown)	3	N/A	9.0	International (15%)
CAMEL Invocation Fee Type				Value		Applicable Tax		
CAMEL Invocation Fee Basic				12.00		International (15%)		
CAMEL Invocation Fee Medium				12.00		International (15%)		
CAMEL Invocation Fee High				24.00		International (15%)		
CAMEL Invocation Fee Maximum				24.00		International (15%)		

3.3.11 Mobile Terminated SMS (MT SMS) tariffs

SMS-MT Charged			Yes				
Service	Location	CTL1	CTL2	CTL3	Time Band	Rate	Applicable Tax
SMSMT	N/A	0 (Unknown)	0 (Unknown)	4	N/A	24.0	National (10%)
CAMEL Invocation Fee Type				Value		Applicable Tax	
CAMEL Invocation Fee Basic				12.00		International (15%)	
CAMEL Invocation Fee Medium				12.00		International (15%)	
CAMEL Invocation Fee High				24.00		International (15%)	
CAMEL Invocation Fee Maximum				24.00		International (15%)	

3.3.12 Supplementary Service Event (SSE) tariffs

Service	Location	Time Band	Rate	Applicable Tax	
Activation of CCBS	N/A	N/A	10.0	National (10%)	

3.3.13 Packet Switched Data (PSD) tariffs

Location	APN Band	CTL1	CTL2	CTL3	Time Band	Charged Item	Charge Type	Rate	Interval	Applicable Tax
N/A	N/A	11 (VGGSN/VP-GW)	11 (Narrowband)	0 (Best Effort)	N/A	Duration	Total Charge	1.0	Per Second	National (10%)
N/A	N/A	10 (HGGSN/HP-GW)	11 (Narrowband)	0 (Best Effort)	N/A	Duration	Total Charge	1.0	Per Second	National
N/A	N/A	11 (VGGSN/VP-GW)	10 (Broadband)	0 (Best Effort)	N/A	Duration	Total Charge	2.0	Per Second	National
N/A	N/A	11 (VGGSN/VP-GW)	11 (Narrowband)	1 (Other QoS)	N/A	Duration	Total Charge	1.0	Per Second	National (10%)
N/A	N/A	10 (HGGSN/HP-GW)	11 (Narrowband)	1 (Other QoS)	N/A	Duration	Total Charge	1.0	Per Second	National
N/A	N/A	11 (VGGSN/VP-GW)	10 (Broadband)	1 (Other QoS)	N/A	Duration	Total Charge	2.0	Per Second	National
N/A	N/A	11 (VGGSN/VP-GW)	11 (Narrowband)	1 (Other QoS)	Peak	Total Volume	Total Charge	1.0	Per bytes 64	International
N/A	N/A	10 (HGGSN/HP-GW)	11 (Narrowband)	1 (Other QoS)	Peak	Total Volume	Total Charge	1.0	Per bytes 64	International
N/A	N/A	11 (VGGSN/VP-GW)	10 (Broadband)	1 (Other QoS)	Peak	Total Volume	Total Charge	1.0	Per bytes 64	International

3.3.14 WLAN tariffs

Location	Hot Spot	CTL1	CTL2	CTL3	Time Band	Charged Item	Charge Type	Rate	Interval	Applicable Tax
N/A	N/A	100 (WLAN)	0 (Unknown)	0	N/A	Duration	Total Charge	1.0	Per Second	National (10%)

3.3.15 Content service tariffs

There are two different payment models provided in the examples:

4. Customer pays by monthly phone bill

A customer accesses a portal and a content provider to download information (ring tones for instance), for each EUR he pays through his monthly phone bill, each party in the chain will take 0.05 EUR commission for facilitating the download. When the customer has paid, the HPMN pays 0.95 EUR to the VPMN, the VPMN pays 0.90 EUR to the portal and the portal pays 0.85 EUR to the content provider.

In this scenario, the subscriber can cancel the transaction within the 24 hours following that transaction.

5. Customer pays by credit card

The customer has a business relationship directly with the content provider and pays by using a credit card or through a separate account with the content provider.

When a customer buys a good (CDs for instance) from the content provider and charges the price to a credit card, the content provider offers a 20 % commission to the portal who in turns offers 50 % of that to the VPMN. The VPMN offers part of the commission to the HPMN.

The HPMN can choose to pass part of that commission to the customer, who could have been promised 5 EUR off every CD bought at the content provider when using his phone.

3.3.16 Location service tariffs

Each location estimate will cost 360 EUR regardless of the type of request (such as current location, continuous tracking, accuracy, latency etc...). For periodic tracking, each location estimate will be charged as per above with each minute of tracking costing an additional 1.2 EUR.

3.4 Network parameters

3.4.1 Subscriber parameters

Parameter names are used in the filled out forms irrespective of national numbering plans. The following table summarises all parameter names for a subscriber:

Subscriber	Parameter Name
Ea	Msc1-ea Msc2-ea La1-ea La2-ea La3-ea La4-ea Ci1-ea Ci2-ea Ci3-ea Ci4-ea
Eb	Msc-eb La-eb Ci-eb
Ed	Msc-ed La-ed Ci-ed
Ee	Msc-ee La-ee Ci1-ee Ci2-ee
Oa	06643313540 source
Ob	06643313500 source
Oc	06643313514 source
Px	013300471
Ix	+2337283917
Pb	+33140768000
CAMEL	+436642100091

Table 2: Subscriber parameter names

Note: The length of the definition of the parameter iac-o can be different in each country.

3.4.2 PMN parameters

Parameter names are used in the filled out forms. The following table summarises all parameter names for a subscriber:

Description	Parameter Name	UTC Time OffSet	Period
UTC Time OffSet (1)	Utc-a (national summer time)	+0200	From 1st May To 30th September (02:00 hours is the switching time)
UTC Time OffSet (2)	Utc-b (national normal time)	+0100	From 1st October To 30th April (02:00 hours is the switching time)

Table 3: PMN parameter name

Note: It is possible to transfer 'non-zero-priced' MTCs in TAP but there is no example within this document.

3.4.3 SMS SC parameter

E.164 Number	Smsc-number
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Table 4: SMS SC Parameter

3.4.4 CAMEL Server parameter

E.164 Number	Camel Server Number
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Table 5: CAMEL Server Parameter

3.4.5 Destination parameters

The Called Place and Called Region depend on the direction of the call and are defined as:

Description	Parameter Name
Called Place national	CITY OF VISITED NETWORK
Called Region national	REGION OF VISITED NETWORK
Called Place international	COUNTRY OF EUROGNET

Table 6: Destination Parameters

3.4.6 Location Area Aode and Cell Identify parameters

The Local Area Code (LAC) and the Cell Identify (Cell ID) are defined corresponding to TS 23.003:

Name of Location	LAC	Definition	Cell ID	Definition	Msc-address
Stephansdom	2107	la1-ea	31911	ci1-ea	ARSENAL1
Arsenal/FZG	4101	la2-ea	311	ci2-ea	ARSENAL1
Brigitten.Laende/ Klosterneuburgerstrasse	3106	la3-ea	32901	ci3-ea	ARSENAL2
Schwechat/VIA	12302	la4-ea	2313	ci4-ea	ARSENAL2
Zell am See Zentrum	8203	la5-ea	2012	ci5-ea	ZELL/SEE

Gmuend/VSt	10302	la-eb	41503	ci1-eb	ST. POELTEN
Gmuend/Hoheneich	10302	la-eb	4903	ci2-eb	ST. POELTEN
Kitzbuehel/VSt	6704	la-ed	4117	ci1-ed	INNSBRUCK1
Kirchberg in Tirol	6704	la-ed	1007	ci2-ed	INNSBRUCK1
Dr. Lister Gasse	7600	la-ee	25816	ci1-ee	GRAZ G258
Innere Stadt	7600	la-ee	20116	ci2-ee	GRAZ G258

Table 7: LAC and Cell ID

3.4.7 Information provider

In this document the number of the Information Provider is 43234455664.

3.4.8 IP addresses

In this document the IP addresses are defined as below:

Description	Address
GGSN – EUROGNET	123.45.67.89
GGSN – Visited Network	124.6.10.101
SGSN – Visited Network-1	124.6.10.201
SGSN – Visited Network-2	124.6.10.202
S-GW – Visited Network	124.6.11.101
P-GW – Visited Network	124.6.11.201
P-CSCF – Visited Network	124.6.11.215
SMS IP Gateway	123.45.67.0

Table 8: Network Node IP addresses

4 Scenarios Events

4.1 Scenario List

Event	Time/Date	Activity
1001	24/10/98 10:15:00	Subscriber Oa calls subscriber Eb. The call lasts two minutes and twenty seconds.
1002	24/10/98 10:31:15	Subscriber Ea registers (and automatically activates) call forwarding unconditional for the telephony service to number lx that is a number in the local (to his home PMN) ISDN.
1003	24/10/98 10:31:25	Subscriber Eb receives a call from subscriber lx in the ISDN in his own country. The call lasts for six minutes and three seconds.
1004	24/10/98 11:22:36	Subscriber Ea makes an emergency call with his SIM activated. The call lasts for two minutes and fifty-five seconds.
1005	24/10/98 12:06:29	Subscriber Eb calls a subscriber on his own network Ec. The length of the call is 260 seconds.

Event	Time/Date	Activity
1006	24/10/98 13:07:42	Subscriber Eb calls subscriber Ob. The call lasts two hours, twenty minutes and six seconds. The PMNs' MSC outputs two Call event Details to cover this call; the first for two hours, the second for twenty minutes and six seconds.
1007	24/10/98 14:09:37	Subscriber Ea calls subscriber Oa. The call lasts for five minutes and seventeen seconds. The call is discounted with five percent.
1008	24/10/98 15:18:43	Subscriber Oa calls subscriber Ea. The call lasts for three minutes and twenty-seven seconds.
1009	24/10/98 17:23:22	Subscriber Ec calls subscriber Eb. The call lasts for ten minutes and forty-nine seconds.
1010	24/10/98 23:15:27	Subscriber Eb sends data to subscriber Ec using bearer service "Data Circuit Duplex Asynchronous 300 b/s" in non-transparent mode. The transfer takes 10 seconds.
1011	24/10/98 23:47:46	Subscriber Eb sends data to subscriber Oa using a data circuit duplex asynchronous bearer service in transparent mode at 1200 bit/s. The transfer takes one minute and three seconds.
1012	24/10/98 23:53:11	Subscriber Eb sends CS data to subscriber Oa using a 9600 bit/s data packet duplex synchronous bearer service in transparent mode. The transfer takes one second.
1013	25/10/98 00:07:19	Subscriber Ea erases (and automatically deactivates) call forwarding unconditional that he had previously set.
1014	25/10/98 00:12:24	Subscriber Ea receives a call from subscriber Ec followed after 10 seconds by data sent on a 9600 bit/s data circuit duplex asynchronous bearer service in transparent mode. The call lasts for one minute and twenty seconds, including two seconds for the transfer of data. Scenario deleted
1015	25/10/98 02:16:43 (nat. summer-time)	Subscriber Eb calls subscriber Oa. The call lasts for three minutes and nineteen seconds.
1016	25/10/98 02:15:43 (nat. normal time)	Subscriber Eb calls subscriber Oc. The call lasts for thirteen minutes exactly.
1017	25/10/98 03:23:27	Subscriber Eb calls subscriber lx, who is in the ISDN in his own country. The call lasts four minutes and thirteen seconds. A "Half-Rate" radio channel is requested but only a "Full-Rate" channel is available. Scenario deleted
1018	25/10/98 07:30:12	Subscriber Eb calls subscriber Px, who is in the fixed network in your own country. The call lasts three minutes and twenty-two seconds.
1019	25/10/98 12:00:27	Subscriber Ea registers (and automatically activates) call forwarding on no reply for speech to number of lx.

Event	Time/Date	Activity
1020	25/10/98 12:13:14	Subscriber Oa calls subscriber Ea. Ea does not reply. The call is forwarded to Ix and lasts one minute.
1021	25/10/98 12:15:16	Subscriber Ea erases (and automatically deactivates) call forwarding on no reply that he had previously set.
1022	25/10/98 12:16:17	Subscriber Ea registers (and automatically activates) call forwarding unconditional for speech to subscriber Eb.
1023	25/10/98 12:18:19	Subscriber Oa calls subscriber Ea. The call is forwarded to Eb and lasts two minutes.
1024	25/10/98 12:24:25	Subscriber Ea erases (and automatically deactivates) call forwarding unconditional to subscriber Eb
1025	25/10/98 13:51:13	Subscriber Ea registers (and automatically activates) call forwarding not reachable for speech to subscriber Ix.
1026	25/10/98 14:13:00	Subscriber Oa calls subscriber Ea after IMSI was detached. The call is forwarded to Ix and lasts one minute.
1027	25/10/98 14:51:00	Subscriber Ea erases (and automatically deactivates) call forwarding not reachable to subscriber Ix.
1028	25/10/98 14:58:00	Subscriber Ea activates barring of all incoming calls.
1029	25/10/98 14:59:12	Subscriber Eb calls subscriber Ea.
1030	25/10/98 15:00:00	Subscriber Ea deactivates barring of all incoming calls.
1032	25/10/98 16:00:00	Subscriber Ea sets up a connection to subscriber Oa indicating the use of "alternate speech and group 3 facsimile". After exactly 2 minutes of conversation, Ea sends a fax to Oa. The transmission of the fax takes exactly 1 minute. Having sent the fax Ea and Oa converse for further 2 minutes. Scenario deleted
1033	25/10/98 16:30:00	Subscriber Ea activates call waiting for all basic service groups.
1034	25/10/98 16:35:00	Subscriber Ea sets up a telephony connection to subscriber Px. Shortly thereafter, subscriber Oa sets up a telephony connection to Ea and Ea is informed that this additional incoming call is waiting for his attention. At 16:36:00 subscriber Ea decides to release the existing call to Px and to simultaneously answer the call from Oa. The call between Ea and Oa lasts for 35 seconds. There is no requirement to produce a Call event Detail for the invocation of "Call Waiting".
1035		Scenario removed

Event	Time/Date	Activity
1036	25/10/98 19:00:00	<p>Subscriber Ea sets up a telephony connection to subscriber Eb. The call is answered at 19:00:00.</p> <p>After a further 5 minutes, Px sets up a connection to Ea and Ea receives an indication that a call is waiting.</p> <p>At 19:05:30. Ea holds the active call to Eb and answers the waiting call from Px</p> <p>After 30 seconds of conversation with Px, Ea switches between the active and held calls.</p> <p>Finally, after a further 2 minutes of conversation with Eb, Ea releases the call.</p>
1037	25/10/98 20:00:00	<p>Subscriber Px sets up a telephony connection to subscriber Ea. The call is answered at 20:00:00.</p> <p>After a further 5 minutes, Ea places the call to Px on hold and sets up a second connection to subscriber Eb.</p> <p>The call to Eb is answered at 20:05:30.</p> <p>After 30 seconds of conversation with Eb, Ea conferences the two calls by invoking the multi-party service.</p> <p>After 1 minute of further conversation, Ea sets up a call to Oa thereby placing the multi-party call on hold.</p> <p>The call to Oa is answered at 20:08:00</p> <p>After 30 seconds of private conversation with Oa, Ea adds Oa to the multi-party call.</p> <p>At 20:09:00 Ea separates Px from the multi-party call for a private conversation.</p> <p>After 60 seconds of conversation with Px, Ea switches between the held multi-party call and the active call to Px.</p> <p>At 20:10:30 Ea adds Px back to the multi-party call.</p> <p>At 20:11:00 Ea disconnects Eb from the call.</p> <p>12.Finally, at 20:12:00 Ea releases the multi-party call.</p>
1038	25/10/98 20:15:00	Subscriber Ea sends a Mobile Originated Short Message Point to Point to a Short Message Service Centre located in the HPMN, to be delivered to subscriber Ec
1039	25/10/98 20:20:00	Subscriber Ea receives a Mobile Terminated Short Message Point to Point from a Short Message Service Centre located in the HPMN, submitted by subscriber Ec
1040	25/10/98 20:30:00	Ea registers (and automatically activates) Call Forwarding on Subscriber busy for the telephony service to number Ix.
1041	25/10/98 20:31:00	Subscriber Ea calls subscriber Oa. The call lasts for exactly five minutes.
1042	25/10/98 20:32:00	<p>Subscriber Eb calls Subscriber Ea. Subscriber Ea is busy (call with Oa). Call of Eb is forwarded to Ix.</p> <p>Call Forwarding on Subscriber busy terminated leg for Ea.</p> <p>Call Forwarding on Subscriber busy. Supplementary Service Call event Detail for the forwarded call.</p> <p>4. Call Forwarding on Subscriber busy – originated leg for Ea.</p>

Event	Time/Date	Activity
1043	25/10/98 20:40:00	Ea deactivates and erases Call Forwarding on Subscriber busy.
1044	25/10/98 20:50:00	Subscriber Px sets up a telephony connection to subscriber Ea. The call is answered. After 20 seconds of conversation Ea places the call to Px on hold and sets up a second connection to subscriber Eb. After 5 seconds the call is answered by Eb After a conversation of 35 seconds with Eb, Ea invokes Explicit Call Transfer (ECT). The conversation between Eb and Px lasts for 2 minutes.
1045	25/10/98 21:00:00	Subscriber Ea tries to call subscriber Px. As Px is busy Ea activates CCBS by pressing '5<send>' 10 seconds after the call attempt. The CCBS-Timer within the network expires after 15 minutes without that Px has become idle. Accordingly CCBS is automatically deactivated. After further 5 minutes and 50 seconds subscriber Ea interrogates CCBS and finds out that no CCBS request is currently active. Subscriber Ea retries to call subscriber Px. As Px is still busy, Ea again activates CCBS by pressing '5<send>' Exactly 1 minute after the interrogation. After further 3 minutes Subscriber Ea receives a CCBS recall indicating that Px has become idle. Ea accepts the CCBS recall. The call is answered by Px. The call lasts for 2 minutes and 30 seconds.
1046	25/10/98 21:30:00	Subscriber Ec sends a SMS to subscriber Ea (MO point-to-point) using the SMS SC of your network Subscriber Ea receives the message sent by subscriber Ec at 21:40:00
1047	25/10/98 21:45:00	Subscriber Ec has requested the delivery of the current Definition of the Eurognet share (thus invoking the SMS Based information service provided by your network). It is charged by deposit. At 21:50:00 Ec receives a SMS containing the Information he has requested.
1048	25/10/98 23:30:00	The SIM Toolkit sends a signal that the Coke supply needs to be refuelled (Subscriber Ea sends a Mobile Originated Short Message Point to Point to a Short Message Service Centre located in the HPMN ; short code 12345)
1049	26/10/98 05:40:20	Subscriber Ea accesses the public internet via the GGSN of your network. The session lasts for 40 minutes thus the boundary from peak to off peak tariff time at 6:00 a.m. is crossed. Note (1): The scenario shows the creation of an assembled SGSN/GGSN ticket. It is at the discretion of the VPMN whether for this type of scenario an assembled SGSN/GGSN ticket or two separate tickets are produced. Note (2): Subscriber Ea requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.
1050	26/10/98 07:05:00	Ed calls subscriber Px by dialling the shortcode '2213'. The call is answered by Px and lasts for 2 minutes.
1051	26/10/98 07:10:00	Ed tries to call Eb. The call is barred by CAMEL, as Eb does not belong to the VPN Ed belongs to

Event	Time/Date	Activity
1052	26/10/98 07:20:00	Ed calls subscriber Ea by dialling the short code '2215'. The call is answered by Ea and lasts for 5 minutes.
1053	26/10/98 07:27:00	Ed is called by subscriber Px. The call is answered by Ed. On Ed's mobile the short code '2213' is displayed, applicable to Px inside the VPN considered. The call lasts for 2 minutes.
1054	27/10/98 05:40:20	<p>Subscriber Ea accesses the public internet via the GGSN of his home network. The session lasts for 40 minutes thus the boundary from off-peak to peak tariff time at 6:00 a.m. is crossed.</p> <p>Note (1): For this scenario only an SGSN ticket is created. .</p> <p>Note (2): Subscriber Ea requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.</p> <p>Scenario deleted (duplicate with 1049)</p>
1055	26/10/98 10:20:00	Ee calls subscriber Ec. The call is answered by Ec and lasts for 5 minutes.
1056	26/10/98 10:30:00	Ee calls subscriber Ec. The call is answered by Ec. The call is terminated after 2 minutes, as the prepaid account balance of Ee has become 0.
1057	26/10/98 12:15:45	<p>Subscriber Eb downloads his email messages thereby accessing the internet via the GGSN of your network. The session lasts for 5 minutes. At 12:18:00 the bandwidth allocated from the serving network changes due to downgrading initiated by the network.</p> <p>Note (1): The scenario shows the creation of an assembled SGSN/GGSN ticket. It is at the discretion of the VPMN whether for this type of scenario an assembled SGSN/GGSN ticket or two separate tickets are produced.</p> <p>Note (2): By subscription option subscriber Eb is enabled to request an arbitrary QoS from the serving network. The scenario illustrates this option. According to the IOT applied by your network the data session is charged by both volume and duration.</p>
1058	26/10/98 15:00:00	<p>Subscriber Ea transfers data to subscriber Oa using the HSCSD feature in transparent mode. The data call lasts for 25 seconds.</p> <p>At 15:00:20 the allocation of traffic channels (i.e. the number of traffic channels and channel coding) changes due to request from the network.</p>
1059	26/10/98 16:00:00	<p>Subscriber Ea transfers data to subscriber Oa using the HSCSD feature in non-transparent mode. The data call lasts for 40 seconds.</p> <p>At call set-up time Ea requests a transmission rate of 28.8 Kbit/s from the network. During the connection at 16:00:23 Ea requests a transmission rate of 57.6 Kbit/s.</p>
1060	26/10/98 19:27:00	Ed is called by subscriber Ea outside business hours. The call is forwarded by CAMEL to the service hotline of the company, answered there and lasts for 30 seconds.

Event	Time/Date	Activity
1061	26/10/98 20:00:00	Subscriber Ea sends a Mobile Originated Short Message Point to Point to Ec using a Short Message Service Centre located in the HPMN. Ea uses the option to send the SMS over GPRS.
1062	27/10/98 11:45:00	Subscriber Eb calls a subscriber on his own network Ec. The length of the call is 5100 seconds.
1063	27/10/98 11:47:30	Subscriber Ed calls subscriber Px by dialling the shortcode '2213'. Px does not answer the call and a follow on call is initiated to lx. This call lasts for 2 minutes. The CAMEL Service Environment writes 40 octets of Free Format to the call data record.
1064	27/10/98 12:24:57	Subscriber Ed calls subscriber Oa. Subscriber Oa is not reachable and a follow on call is initiated to Oc. This call lasts for 1 minute.
1065	27/10/98 12:32:00	Subscriber Ed calls subscriber Px by dialling the shortcode '2213'. The call is answered by Px. The call lasts for 2 minutes. Px then releases the call and a follow on call is made for Ed to lx. This call lasts for 1 minute.
1066	27/10/98 12:52:00	Subscriber Ee calls subscriber Ea. Ea answers the call. After 90 seconds, a warning tone is played to the call, indicating low credit. The call is terminated after 2 minutes, as the prepaid account balance of Ee has become 0.
1067	27/10/98 13:10:00	Subscriber Ed calls Oa. Before the call is set up, a 15-second announcement within the home network is played to Ed. After this announcement is complete, the call is set up to Oa and lasts 90 seconds.
1068	27/10/98 13:15:00	Subscriber Ed calls Ob. Before the call is set up, a 30-second announcement within the visited network is played. After this announcement is complete, the call is set up to Ob and lasts 2 minutes.
1069	27/10/98 13:25:00	Subscriber Ed has CFNRy (Call Forward on No Reply) set to 2213. Subscriber Ea calls Subscriber Ed who is not answering the call. The call is forwarded to Px and lasts one minute.
1070	27/10/98 13:30:00	Subscriber Ed calls subscriber Oa. Oa answers the call, which lasts for 2 minutes. Advice of charge information is sent.
1071	24/10/98 10:00:00	Subscriber Ea accessed the public internet via the GGSN of your network. UMTS is used instead of GSM and the session lasts for 40 minutes as the boundary of setting off at 10:00 was crossed. The first part of the call, which started on 24/10/98 09:40:00, was transferred in file no. 00000 Note (1): The scenario shows the use of UMTS and the creation of the PDP Context Start Time Stamp. Note (2): Subscriber Ea requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.
1072	26/10/98 04:40:20	Subscriber Ef accesses the public internet via the WLAN Access Point at Vienna Airport. The subscriber is authenticated by username@realm, IMSI is not available. The session lasts for 40 minutes.

Event	Time/Date	Activity									
1073	27/10/98 07:00:00	<p>The customer (Ea) accesses the Portal and the Content Provider via the public Internet. He then downloads ten ring tones and pays 10 EUR through his monthly phone bill. Each party in the Definition chain will take 0.5 EUR commission for facilitating the download.</p> <p>When the customer has paid, the HPMN pays 9.5 EUR to the VPMN, the VPMN pays 9 EUR to the Portal and the Portal pays 8.5 EUR to the Content Provider.</p>									
1074	27/10/98 08:00:00	<p>The customer buys two CDs from the Content Provider and charges 240 EUR to a credit card.</p> <p>The Content Provider offers a 20 % commission (48 EUR) to the Portal who in turns offers 50 % of that (24 EUR) to the VPMN. The VPMN offers part of the commission (15 EUR) to the HPMN.</p> <p>The HPMN can choose to pass part of that commission to the customer, who could have been promised 5 EUR off every CD bought at the Content Provider using his GPRS phone.</p>									
1075	27/10/98 09:00:00	After the scenario 1073 is completed, the subscriber Ea realises that the downloaded data does not work properly. He then asks for a refund.									
1076	24/10/98 16:00:22	Non-roaming subscriber Ec requests location of subscriber Ea who is roaming in Austria.									
1077	24/10/98 13:22:01	Non-roaming subscriber Ec requests periodic tracking of customer Ea (who is roaming in Austria) for 1 hour with updates every 30 minutes.									
1078	24/10/98 18:15:23	Roaming subscriber Ea requests the location of the nearest ATM to his current location									
1079	27/10/98 13:35:00	Subscriber Ea makes a video telephone call to subscriber Oa using circuit switching. The call duration is 2 minutes and 20 seconds.									
1080	25/10/98 23:55:20	<p>Subscriber Ea logs in into the public internet over an IP connection over GPRS. The session lasts for 4 hours 2 minutes and 25 seconds. Access to the IP network is provided by using a public access via the HGGSN operated by Eurognet. The session starts within the geographical area served by sgsn-1 and ends within the geographical area served by sgsn-2.</p> <p>Note (1): The scenario shows the creation of partial SGSN tickets. It is at the discretion of the VPMN after which limits a ticket will be closed. For this scenario the limits are as followed:</p> <table border="1"> <thead> <tr> <th>Call Event Details</th><th>Cause for Termination</th><th>Conditions</th></tr> </thead> <tbody> <tr> <td>1/2</td><td>n.a.</td><td>End of Day</td></tr> <tr> <td>2/2</td><td>n.a</td><td>End of session</td></tr> </tbody> </table> <p>Note (2): Subscriber Ea requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.</p>	Call Event Details	Cause for Termination	Conditions	1/2	n.a.	End of Day	2/2	n.a	End of session
Call Event Details	Cause for Termination	Conditions									
1/2	n.a.	End of Day									
2/2	n.a	End of session									
1081	28/10/98 09:02:43	Subscriber Ea makes a voice call to subscriber Oa using voice over LTE. The call duration is 2 minutes and 55 seconds.									
1082	28/10/98 09:07:10	Subscriber Ea sends an SMS to subscriber Oa using voice over LTE.									

Event	Time/Date	Activity
1083	28/10/98 09:15:25	Subscriber Ea makes a voice call to the number lx (Ea's home ISDN number) using voice over LTE by home routing. The call duration is 2 minutes and 55 seconds.

Table 9: Scenario List

4.2 TAP Headers

File Name	GSM Transferred Account
Record Type	Batch Control Information

Key Information	Value	Definition
Data Transfer		
Transfer Batch		
Batch Control Information		
Sender	AUTPT	Home Net
Recipient	EUR01	EUROGNET
File Sequence Number	00001	
File Creation Timestamp	19981031022500	CCYYMMDDHHMMSS
UTC Time Offset	+0100	National normal time
Transfer Cut Off Timestamp	19981031022200	CCYYMMDDHHMMSS
UTC Time Offset	+0100	National normal time
File Available Timestamp	19981031023000	CCYYMMDDHHMMSS
UTC Time Offset	+0100	National normal time
Specification Version Number	3	Specification Version 03
Release Version Number	12	Release Version Number 12
File Type Indicator	T	Testfile
Accounting Information		
Taxation (1)		
Tax Rate Code (1)	1	
Tax Type (1)	01	National
Tax Rate (1)	1000000	Percent
Taxation (2)		
Tax Rate Code (2)	2	
Tax Type (2)	01	National
Tax Rate (2)	1500000	Percent
Taxation (3)		
Tax Rate Code (3)	3	
Tax Type (3)	01	National
Tax Rate (3)	1500000	Percent
Charge Type	01	Airtime
Taxation (4)		
Tax Rate Code (4)	4	
Tax Type (4)	01	National
Tax Rate (4)	1500000	Percent

Key Information	Value	Definition
Charge Type	03	Toll
Taxation (5)		
Tax Rate Code (5)	5	
Tax Type (5)	04	Local
Tax Rate (5)	1500000	Percent
Taxation (6)		
Tax Rate Code (6)	6	
Tax Type (6)	01	National
Discounting		
Discount Code	1	
Discount applied		
Discount Rate	500	5%
Discount Code	2	
Discount applied		
Fixed Discount Definition	250	Fixed Discount: 0.25 SDR
Local Currency	EUR	EUR
Currency Conversion (1)		
Exchange Rate Code (1)	1	Exchange Rate until 24 th October
Number Of Decimal Places (1)	3	Three digits after "Point"
Exchange Rate (1)	10000	10:1
Currency Conversion (2)		
Exchange Rate Code (2)	2	Exchange Rate from 25 th October
Number Of Decimal Places (2)	3	Three digits after "Point"
Exchange Rate (2)	12000	12:1
TAP Decimal Places	3	Three digits after "Point"
Network Information		
UTC Time Offset Information (1)		
UTC Time Offset Code (1)	1	National summer time
UTC Time Offset (1)	+0200	utc-a
UTC Time Offset Information (2)		
UTC Time Offset Code (2)	2	National normal time
UTC Time Offset (2)	+0100	utc-b
Recording Entity Information (1)		
Recording Entity Code (1)	1	
Recording Entity Type (1)	1	MSC (Mobile Services Switching Centre)
Recording Entity Identification (1)	ARSENAL1	msc1-ea
Recording Entity Information (2)		

Key Information	Value	Definition
Recording Entity Code (2)	2	
Recording Entity Type (2)	1	MSC (Mobile Services Switching Centre)
Recording Entity Identification (2)	ARSENAL2	msc2-ea
Recording Entity Information (3)		
Recording Entity Code (3)	3	
Recording Entity Type (3)	1	MSC (Mobile Services Switching Centre)
Recording Entity Identification (3)	ST. POELTEN	msc-eb
Recording Entity Information (4)		
Recording Entity Code (4)	4	
Recording Entity Type (4)	1	MSC (Mobile Services Switching Centre)
Recording Entity Identification (4)	INNSBRUCK1	msc-ed
Recording Entity Information (5)		
Recording Entity Code (5)	5	
Recording Entity Type (5)	2	SMSC (Short Messages Service Centre)
Recording Entity Identification (5)	43664680147	smsc number-Visited Network
Recording Entity Information (6)		
Recording Entity Code (6)	6	
Recording Entity Type (6)	3	GGSN (Gateway GPRS Support Node)
Recording Entity Identification (6)	124.6.10.101	GGSN
Recording Entity Information (7)		
Recording Entity Code (7)	7	
Recording Entity Type (7)	3	GGSN (Gateway GPRS Support Node)
Recording Entity Identification (7)	123.45.67.89	GGSN-EUROGNET
Recording Entity Information (8)		
Recording Entity Code (8)	8	
Recording Entity Type (8)	4	SGSN (Serving GPRS Support Node)
Recording Entity Identification (8)	124.6.10.201	SGSN-Visited Network-1
Recording Entity Information (9)		
Recording Entity Code (9)	9	
Recording Entity Type (9)	4	SGSN (Serving GPRS Support Node)
Recording Entity Identification (9)	124.6.10.202	SGSN-Visited Network-2
Recording Entity Information (10)		
Recording Entity Code (10)	10	
Recording Entity Type (10)	1	MSC (Mobile Services Switching Centre)
Recording Entity Identification (10)	GRAZ G258	msc-ee
Recording Entity Information (11)		
Recording Entity Code (11)	11	

Key Information	Value	Definition
Recording Entity Type (11)	2	SMSC (Short Messages Service Centre)
Recording Entity Identification (11)	2392251111	smsc number-Eurognet
Recording Entity Information (12)		
Recording Entity Code (12)	12	
Recording Entity Type (12)	6	WLAN Billing Recording Entity
Recording Entity Identification (12)	124.6.10.42	IP Address
Recording Entity Information (13)		
Recording Entity Code (13)	13	
Recording Entity Type (13)	4	SGSN (Serving GPRS Support Node)
Recording Entity Identification (13)	436649900003	SGSN-VPMM-3 (MSISDN)
Recording Entity Information (14)		
Recording Entity Code (14)	14	
Recording Entity Type (14)	5	GMLC (Gateway Mobile Location Centre)
Recording Entity Identification (14)	123.12.10.8	Ipv4 GLMC address
Recording Entity Information (15)		
Recording Entity Code (15)	15	
Recording Entity Type (15)	8	S-GW (Serving Gateway)
Recording Entity Identification (15)	124.6.11.101	Ipv4 S-GW address
Recording Entity Information (16)		
Recording Entity Code (16)	16	
Recording Entity Type (16)	7	P-GW (Packet Gateway)
Recording Entity Identification (16)	124.6.11.201	Ipv4 P-GW address
Recording Entity Information (17)		
Recording Entity Code (17)	17	
Recording Entity Type (17)	9	P-CSCF (Proxy Call Session Control Function)
Recording Entity Identification (17)	124.6.11.215	Ipv4 P-CSCF address
Message Description Information (1)		
Message Description Code (1)	1	
Message Description (1)	MO point to point	Bilateral Agreement
Message Description Information (2)		
Message Description Code (2)	2	
Message Description (2)	Information provider msg	Bilateral Agreement
Call Event Details (1)		

4.3 TAP Call Event Details

1001	24/10/98 10:15:00	Subscriber Oa calls subscriber Eb. The call lasts two minutes and twenty seconds.
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Mobile Terminated call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Call Originator		
Calling Number	436643313540	cc + msisdn-oa
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1001, Record 1 out of 1	

1002	24/10/98 10:31:15	Subscriber Ea registers (and automatically activates) call forwarding unconditional for the telephony service to number lx which is a number in the local (to his home PMN) ISDN.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	21	Call forwarding unconditional
Action Code	0	Registration
Supplementary Service Parameters	2337283917	isdn-ix
Operator Specific Information	Scenario 1002, Record 1 out of 1	

1003	24/10/98 10:31:25	Subscriber Eb receives a call from subscriber lx in the ISDN in his own country. The call lasts for six minutes and three seconds.
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Mobile Terminated call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Call Originator		
Calling Number	2337283917	isdn-lx
Network Location		
Recording Entity Code	3	msc-eb
Call Reference	11220003	Reference of the local MSC
Location Area Code	10302	la-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1003, Record 1 out of 1	

1004	24/10/98 11:22:36	Subscriber Ea makes an emergency call with his SIM activated. The call lasts for two minutes and fifty-five seconds.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Dialled Digits	112	Emergency Call
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1004, Record 1 out of 1	

1005	24/10/98 12:06:29	Subscriber Eb calls a subscriber on his own network Ec. The length of the call is 260 seconds.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Destination		
Called Number	239222800858	
Dialled Digits	00239222800858	iac + msisdn-ec
Network Location		
Recording Entity Code	3	msc-eb
Call Reference	11220004	Reference of the local MSC
Location Area Code	10302	la-eb
Cell Identity	4903	ci2-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1005, Record 1 out of 1	

1006	24/10/98 13:07:42	Subscriber Eb calls subscriber Ob. The call lasts two hours, twenty minutes and six seconds. The PMNs' MSC outputs two records to cover this call; the first for two hours, the second for twenty minutes and six seconds.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	Imsi-eb
MSISDN	239227362532	Msisdn-eb
Destination		
Called Number	436643313500	
Dialled Digits	00436643313500	Msisdn-ob
Network Location		
Recording Entity Code	3	Msc-eb
Location Area Code	10302	la-eb
Cell Identity	4903	Ci2-eb
Equipment Identifier		
IMEI	444788070366510	Imei-eb
Operator Specific Information	Scenario 1006, Record 1 out of 1	

1007	24/10/98 14:09:37	Subscriber Ea calls subscriber Oa. The call lasts for five minutes and seventeen seconds. The call is discounted with five percent
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	Msisdn-ea
Destination		
Called Number	436643313540	Msisdn-oa
Dialled Digits	06643313540	Msisdn-oa
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1007, Record 1 out of 1	

1008	24/10/98 15:18:43	Subscriber Oa calls subscriber Ea. The call lasts for three minutes and twenty-seven seconds.
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No Call event Detail will be transferred by TAP because Ea has activated the supplementary service "Call forwarding unconditional" (all Call event Details will be generated in the HPMN of Ea)

1009	24/10/98 17:23:22	Subscriber Ec calls subscriber Eb. The call lasts for ten minutes and forty-nine seconds.
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Mobile Terminated call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	Imsi-eb
MSISDN	239227362532	Msisdn-eb
Call Originator		
Calling Number	239222800858	Msisdn-ec
Network Location		
Recording Entity Code	3	Msc-eb
Location Area Code	10302	la-eb
Cell Identity	4903	Ci2-eb
Equipment Identifier		
IMEI	444788070366510	Imei-eb
Operator Specific Information	Scenario 1009, Record 1 out of 1	

1010	24/10/98 23:15:27	Subscriber Eb sends data to subscriber Ec using bearer service "Data Circuit Duplex Asynchronous 300 b/s" in non-transparent mode. The transfer takes ten seconds.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	Imsi-eb
MSISDN	239227362532	Msisdn-eb
Destination		
Called Number	239222800858	
Dialled Digits	00239222800858	Msisdn-Ec
Network Location		
Recording Entity Code	3	Msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	Ci1-eb
Equipment Identifier		
IMEI	444788070366510	Imei-eb
Operator Specific Information	Scenario 1010, Record 1 out of 1	

1011	24/10/98 23:47:46	Subscriber Eb sends data to subscriber Oa using a data circuit duplex asynchronous bearer service in transparent mode at 1200 bit/s. The transfer takes one minute and three seconds.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Destination		
Called Number	436643313540	
Dialled Digits	00436643313540	msisdn-oa
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1011, Record 1 out of 1	

1012	24/10/98 23:53:11	Subscriber Eb sends CS data to subscriber Oa using a 9600 bit/s data packet duplex synchronous bearer service in transparent mode via Internet. The transfer takes 10 seconds.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Destination		
Called Number	436643313540	
Dialled Digits	00436643313540	msisdn-oa
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1012, Record 1 out of 1	

1013	25/10/98 00:07:19	Subscriber Ea erases (and automatically deactivates) call forwarding unconditional that he had previously set.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	12302	la4-ea
Cell Identity	2313	ci4-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	21	Call forwarding unconditional
Action Code	1	Erasure
Operator Specific Information	Scenario 1013, Record 1 out of 1	

1014	25/10/98 00:12:24	Subscriber Ea receives a call from subscriber Ec. First they talk for 10 seconds. Then data is sent on a 9600 bit/s data circuit duplex asynchronous bearer service in transparent mode for 2 seconds. Then Ec and Ea talk for another 68 seconds.
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Scenario Deleted

1015	25/10/98 02:16:43 (nat. summer-time)	Subscriber Eb calls subscriber Oa. The call lasts for three minutes and nineteen seconds.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Destination		
Called Number	436643313540	
Dialled Digits	00436643313540	msisdn-oa
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1015, Record 1 out of 1	

1016	25/10/98 02:15:43 (nat. normal time)	Subscriber Eb calls subscriber Oc. The call lasts for thirteen minutes exactly.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Destination		
Called Number	436643313514	
Dialled Digits	00436643313514	msisdn-oc
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1016, Record 1 out of 1	

1017	25/10/98 03:23:27	Subscriber Eb calls subscriber lx, who is in the ISDN in his own country. The call lasts four minutes and thirteen seconds. A "Half-Rate" radio channel is requested but only a "Full-Rate" channel is available.
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Scenario Deleted

1018	25/10/98 07:30:12	Subscriber Eb calls subscriber Px, who is in the fixed network in your own country. The call lasts three minutes and twenty-two seconds.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Destination		
Called Number	4313300471	isdn-px
Dialled Digits	004313300471	
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1018, Record 1 out of 1	

1019	25/10/98 12:00:27	Subscriber Ea registers (and automatically activates) call forwarding on no reply for speech to number of lx.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	2A	Call forwarding on no reply
Action Code	0	Registration
Supplementary Service Parameters	2337283917	isdn-lx
Operator Specific Information	Scenario 1019, Record 1 out of 1	

1020	25/10/98 12:13:14	Subscriber Oa calls subscriber Ea. Ea does not reply. The call is forwarded to Ix and lasts one minute.
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Mobile Originated Call (Record 1/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	2337283917	isdn-ix
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Code	2A	Call Forwarding on no Reply
Third Party Number	436643313540	Msisdn-oa
Operator Specific Information	Scenario 1020, Record 1 out of 2	

Mobile Terminated call (Record 2/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Call Originator		
Calling Number	436643313540	msisdn-oa
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1020, Record 2 out of 2	

1021	25/10/98 12:15:16	Subscriber Ea erases (and automatically deactivates) call forwarding on no reply that he had previously set.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	2A	Call forwarding on no reply
Action Code	1	Erasure
Operator Specific Information	Scenario 1021, Record 1 out of 1	

1022	25/10/98 12:16:17	Subscriber Ea registers (and automatically activates) call forwarding unconditional for speech to subscriber Eb.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	21	Call forwarding unconditional
Action Code	0	Registration
Supplementary Service Parameters	239227362532	msisdn-Eb
Operator Specific Information	Scenario 1022, Record 1 out of 1	

1023	25/10/98 12:18:19	Subscriber Oa calls subscriber Ea. The call is forwarded to Eb and lasts two minutes.
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Mobile Terminated call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Call Originator		
Calling Number	239228473214	msisdn-ea
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1023, Record 1 out of 1	

1024	25/10/98 12:24:25	Subscriber Ea erases (and automatically deactivates) call forwarding unconditional to subscriber Eb
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	21	Call forwarding unconditional
Action Code	1	Erasure
Operator Specific Information	Scenario 1024, Record 1 out of 1	

1025	25/10/98 13:51:13	Subscriber Ea registers (and automatically activates) call forwarding not reachable for speech to subscriber Ix.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	2B	Call forw. On subs. Not reachable
Action Code	0	Registration
Supplementary Service Parameters	2337283917	isdn-lx (forwarded to number)
Operator Specific Information	Scenario 1025, Record 1 out of 1	

1026	25/10/98 14:13:00	Subscriber Oa calls subscriber Ea after IMSI was detached. The call is forwarded to Ix and lasts one minute.
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No Call event Detail will be transferred by TAP for subscriber Ea because he has activated the supplementary service "Call forwarding on not reachable" and IMSI was detached (all Call event Details will be generated in the HPMN of Ea)

1027	25/10/98 14:51:00	Subscriber Ea erases (and automatically deactivates) call forwarding not reachable to subscriber lx.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	2B	Call Forward on subscriber Not Reachable
Action Code	1	Erase
Operator Specific Information	Scenario 1027, Record 1 out of 1	

1028	25/10/98 14:58:00	Subscriber Ea activates barring of all incoming calls.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	9A	Barring of all incoming calls
Action Code	2	Activation
Operator Specific Information	Scenario 1028, Record 1 out of 1	

1029	25/10/98 14:59:12	Subscriber Eb calls subscriber Ea.
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No MTC Call event Detail will be generated for subscriber Ea because he has activated the supplementary service "Barring of all incoming calls".

No MOC Call event Detail will be generated for subscriber Eb because subscriber Ea has activated the supplementary service "Barring of all incoming calls".

1030	25/10/98 15:00:00	Subscriber Ea deactivates barring of all incoming calls.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	9A	Barring of all incoming calls
Action Code	3	Deactivation
Operator Specific Information	Scenario 1030, Record 1 out of 1	

Scenario 1031 deleted

1032	25/10/98 16:00:00	Subscriber Ea sets up a connection to subscriber Oa indicating the use of "alternate speech and group 3 facsimile". After exactly 2 minutes of conversation, Ea sends a fax to Oa. The transmission of the fax takes exactly 1 minute. Having sent the fax Ea and Oa converse for further 2 minutes.
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Scenario deleted

1033	25/10/98 16:30:00	Subscriber Ea activates call waiting for all basic service groups.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	41	Call waiting
Action Code	2	Activation
Operator Specific Information	Scenario 1033, Record 1 out of 1	

1034	25/10/98 16:35:00	Subscriber Ea sets up a telephony connection to subscriber Px. Shortly thereafter, subscriber Oa sets up a telephony connection to Ea and Ea is informed that this additional incoming call is waiting for his attention. At 16:36:00 subscriber Ea decides to release the existing call to Px and to simultaneously answer the call from Oa. The call between Ea and Oa lasts for 35 seconds. There is no requirement to produce any Call event Detail for the invocation of "Call Waiting".
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Mobile Originated Call (Record 1/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	4313300471	
Dialled Digits	013300471	isdn-px
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1034, Record 1 out of 2	

Mobile Terminated call (Record 2/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Call Originator		
Calling Number	436643313540	msisdn-oa
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1034, Record 2 out of 2	

1036	25/10/98 19:00:00	<p>Subscriber Ea sets up a telephony connection to subscriber Eb. The call is answered at 19:00:00.</p> <p>After a further 5 minutes, Px sets up a connection to Ea and Ea receives an indication that a call is waiting.</p> <p>At 19:05:30. Ea holds the active call to Eb and answers the waiting call from Px</p> <p>After 30 seconds of conversation with Px, Ea switches between the active and held calls.</p> <p>Finally, after a further 2 minutes of conversation with Eb, Ea releases the calls.</p>
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Mobile Originated Call (Record 1/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	Imsi-ea
MSISDN	239228473214	Msisdn-ea
Destination		
Called Number	239227362532	Msisdn-eb
Dialled Digits	00239227362532	
Network Location		
Recording Entity Code	2	Msc1-ea
Location Area Code	2107	La1-ea
Cell Identity	31911	Ci1-ea
Equipment Identifier		
IMEI	49010041059856	Imei-ea
Supplementary Service Code	42	Call hold
Operator Specific Information	Scenario 1036 , Record 1 out of 3	

Mobile Terminated call (Record 2/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Call Originator		
Calling Number	239228437214	msisdn-ea
Network Location		
Recording Entity Code	2	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ce1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1036, Record 2 out of 3	

Mobile Terminated call (Record 3/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Call Originator		
Calling Number	4313300471	isdn-px
Network Location		
Recording Entity Code	2	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1036, record 3 out of 3	

1037	25/10/98 20:00:00	<p>Subscriber Px sets up a telephony connection to subscriber Ea. The call is answered at 20:00:00.</p> <p>After a further 5 minutes, Ea places the call to Px on hold and sets up a second connection to subscriber Eb.</p> <p>The call to Eb is answered at 20:05:30.</p> <p>After 30 seconds of conversation with Eb, Ea conferences the two calls by invoking the multi-party service.</p> <p>After 1 minute of further conversation, Ea sets up a call to Oa thereby placing the multi-party call on hold.</p> <p>The call to Oa is answered at 20:08:00</p> <p>After 30 seconds of private conversation with Oa, Ea adds Oa to the multi-party call.</p> <p>At 20:09:00 Ea separates Px from the multi-party call for a private conversation.</p> <p>After 60 seconds of conversation with Px, Ea switches between the held multi-party call and the active call to Px.</p> <p>At 20:10:30 Ea adds Px back to the multi-party call.</p> <p>At 20:11:00 Ea disconnects Eb from the call.</p> <p>Finally, at 20:12:00 Ea releases the multi-party call.</p>
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Mobile Terminated call (Record 1/4)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Call Originator		
Calling Number	4313300471	isdn-px
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		

IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1037, Record 1 out of 4	

Mobile Originated Call (Record 2/4)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	239227362532	msisdn-eb
Dialled Digits	00239227362532	
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Code	51	Multi Party Service
Operator Specific Information	Scenario 1037, Record 2 out of 4	

Mobile Terminated call (Record 3/4)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Call Originator		
Calling Number	239228473214	msisdn-ea
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	4903	ci2-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1037, Record 3 out of 4	

Mobile Originated Call (Record (4/4))		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdh-ea
Destination		
Called Number	436643313540	msisdh-oa
Dialled Digits	00436643313540	
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Code	51	Multi party service
Operator Specific Information	Scenario 1037, Record 4 out of 4	

1038	25/10/98 20:15:00	Subscriber Ea sends a Mobile Originated Short Message Point to Point to a Short Message Service Centre located in the HPMN, to be delivered to subscriber Ec
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	2392251111	SMSC-Number
Sms Destination Number	239222800858	Msisdn-ec
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Teleservice Code	22	Short Message MO/PP
Operator Specific Information	Scenario 1038, Record 1 out of 1	

1039	25/10/98 20:20:00	Subscriber Ea receives a Mobile Terminated Short Message Point to Point from a Short Message Service Centre located in the HPMN, submitted by subscriber Ec
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Mobile Terminated call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Call Originator		
Calling Number	2392251111	SMSC-Number
SMS Originator	239222800858	Msisdn-ec
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1039, Record 1 out of 1	

1040	25/10/98 20:30:00	Ea registers (and automatically activates) Call Forwarding on Subscriber busy for the telephony service to number lx.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	29	CF on mobile subscriber busy
Action Code	0	Registration
Supplementary Service Parameters	2337283917	isdn-lx
Operator Specific Information	Scenario 1040, Record 1 out of 1	

1041	25/10/98 20:31:00	Subscriber Ea calls subscriber Oa. The call lasts for exactly five minutes.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	436643313540	
Dialled Digits	06643313540	msisdn-oa
Network Location		
Recording Entity Code	1	msc1-ea
Call Reference	11220047	Reference of the local MSC
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1041, Record 1 out of 1	

1042	25/10/98 20:32:00	<p>Subscriber Eb calls Subscriber Ea. Subscriber Ea is busy (call with Oa). Call of Eb is forwarded to lx. The call takes two minutes.</p> <p>Call Forwarding on Subscriber busy terminated leg for Ea.</p> <p>Call Forwarding on Subscriber busy. Supplementary Service Information for the forwarded call.</p> <p>4. Call Forwarding on Subscriber busy – originated leg for Ea.</p>
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Mobile Originated Call (Record 1/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Destination		
Called Number	239228473214	Msisdn-ea
Dialled Digits	00239228473214	
Network Location		
Recording Entity Code	3	Msc-eb
Location Area Code	10302	la-eb
Cell Identity	4903	Ci2-eb
Equipment Identifier		
IMEI	444788070366510	Imei-eb
Operator Specific Information	Scenario 1042, Record 1 out of 3	

Mobile Terminated call (Record 2/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Call Originator		
Calling Number	239227362532	msisdn-eb
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		

Operator Specific Information	Scenario 1042, Record 2 out of 3
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Mobile Originated Call (Record 3/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	2337283917	isdn-ix
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
Supplementary Service Code	29	CF on mobile subscriber busy
Third Party Number	239227362532	msisdn-eb
Operator Specific Information	Scenario 1042, Record 3 out of 3	

1043	25/10/98 20:40:00	Ea deactivates and erases Call Forwarding on Subscriber busy.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	29	CF on mobile subscriber busy
Action Code	1	Erasure
Operator Specific Information	Scenario 1043, Record 1 out of 1	

1044	25/10/98 20:50:00	<p>Subscriber Px sets up a telephony connection to subscriber Ea. The call is answered.</p> <p>After 20 seconds of conversation Ea places the call to Px on hold and sets up a second connection to subscriber Eb.</p> <p>After 5 seconds the call is answered by Eb</p> <p>After a conversation of 35 seconds with Eb, Ea invokes Explicit Call Transfer (ECT).</p> <p>The conversation between Eb and Px lasts for 2 minutes.</p>
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Mobile Terminated call (Record 1/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Call Originator		
Calling Number	4313300471	isdn-px
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1044, Record 1 out of 3	

Mobile Originated Call (Record 2/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	239227362532	msisdn-eb
Dialled Digits	00239227362532	
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea

Supplementary Service Code	31	Call Transfer
Operator Specific Information	Scenario 1044, Record 2 out of 3	

Mobile Terminated call (Record 3/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Call Originator		
Calling Number	239228437214	msisdn-ea
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	4903	ci2-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1044, record 3 out of 3	

1045	25/10/98 21:00:00	<p>1. Subscriber Ea tries to call subscriber Px. As Px is busy Ea activates CCBS by pressing '5<send>' 10 seconds after the call attempt.</p> <p>2.The CCBS-Timer within the network expires after 15 minutes without that Px has become idle. Accordingly CCBS is automatically deactivated.</p> <p>3.After further 5 minutes and 50 seconds subscriber Ea interrogates CCBS and finds out that no CCBS request is currently active.</p> <p>4.Subscriber Ea retries to call subscriber Px. As Px is still busy, Ea again activates CCBS by pressing '5<send>' Exactly 1 minute after the interrogation.</p> <p>5.After further 3 minutes Subscriber Ea receives a CCBS recall indicating that Px has become idle. Ea accepts the CCBS recall. The call is answered by Px. The call lasts for 2 minutes and 30 seconds.</p>
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Supplementary Service Event (Record 1/3)		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Location Information		
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	43	Completion of calls to busy subscribers
Action Code	2	Activation
Operator Specific Information	Scenario 1045, Record 1 out of 3	

Supplementary Service Event (Record 2/3)		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	43	Completion of calls to busy subscribers
Action Code	2	Activation
Operator Specific Information	Scenario 1045, Record 2 out of 3	

Mobile Originated Call (Record 3/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	4313300471	
Dialled Digits	013300471	isdn-px
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ce1-eb
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Code	43	Completion of calls to busy subscribers
Operator Specific Information	Scenario 1045, Record 3 out of 3	

1046	25/10/98 21:30:00	Subscriber Ec sends a SMS to subscriber Ea (MO point-to-point) using the SMS SC of your network Subscriber Ea receives the message sent by subscriber Ec at 21:40:00
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Mobile Terminated call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdh-ea
Call Originator		
Calling Number	43664680147	smsc-number
SMS Originator	239222800858	Msisdn-ec
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
TeleService Code	21	Short Message MT/PP
Operator Specific Information	Scenario 1046, Record 1 out of 1	

1047	25/10/98 21:45:00	<p>Subscriber Ec has requested the delivery of the current Definition of the Eurognet share (thus invoking the SMS Based information service provided by your network). It is charged by deposit.</p> <p>At 21:50:00 Ec receives a SMS containing the Information he has requested.</p>
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Service Centre Usage		
Key Information	Value	Definition
SCU Chargeable Subscriber		
GSM Chargeable Subscriber		
IMSI	262090001643543	IMSI-ec
MSISDN	239222800858	msisdh-ec
Charged Party Status	1	Terminating
Non Charged Number	43234455664	Information Provider
Originating Network	EUR01	EUROGNET
Destination Network	AUTPT	HOME NET
Recording Entity Code	5	SMSC (Short Messages Service Centre)
Operator Specific Information	Scenario 1047, Record 1 out of 1	

1048	25/10/98 23:30:00	The SIM Toolkit sends the weekly signal that the Coke supply needs to be refuelled (Subscriber Ea sends a Mobile Originated Short Message Point to Point to a Short Message Service Centre located in the HPMN ; short code 12345)
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdh-ea
Destination		
Called Number	2392251111	smcsc – Number
SMS Destination Number	12345	Coke supply server
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1048, Record 1 out of 1	

1049	26/10/98 05:40:20	<p>Subscriber Ea accesses the public internet via the GGSN of your network. The session lasts for 40 minutes thus the boundary from off-peak to peak tariff time at 6:00 a.m. is crossed.</p> <p>Notes:</p> <p>(1) The scenario shows the creation of an assembled SGSN/GGSN ticket. It is at the discretion of the VPMN whether for this type of scenario an assembled SGSN/GGSN ticket or two separate tickets are produced.</p> <p>(2) Subscriber Ea requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.</p>
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GPRS Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdh-ea
PDP Address	134.5.252.123	
GPRS Destination		
Access Point Name NI	internet	
Access Point name OI	Internet	Assembled SGSN/GGSN ticket
GPRS Network Location		
Recording Entity Code (1)	6	ggsn
Recording Entity Code (2)	8	sgsn-1
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1049, Record 1 out of 1	

1050	26/10/98 07:05:00	Ed calls subscriber Px by dialling the shortcode '2213'. The call is answered by Px and lasts for 2 minutes
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Destination		
Dialled Digits	2213	CAMEL short cut – px
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	ce1-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	1	medium
CAMEL Service Key	139	CAMEL Service Key
3G CAMEL Destination		
CAMEL Destination Number	4313300471	lsdn-px
Operator Specific Information	Scenario 1050, Record 1 out of 1	

1051	26/10/98 07:10:00	Ed tries to call Eb. The call is barred by CAMEL, as Eb does not belong to the VPN Ed belongs to.
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No TAP information will be generated for subscriber Ed because the call is barred by CAMEL, as Eb does not belong to the VPN Ed belongs to. Therefore, no TAP information is raised, as your network does not charge for unsuccessful call attempts.

1052	26/10/98 07:20:00	Ed calls subscriber Ea by dialling the short code '2215'. The call is answered by Ea and lasts for 5 minutes.
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Mobile Originated Call (Record 1/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Destination		
Dialled Digits	2215	CAMEL ShortCut-ea
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	1007	ce2-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	1	Medium
CAMEL Service Key	12345	
3G CAMEL Destination		
CAMEL Destination Number	23922843214	msisdn ea
Operator Specific Information	Scenario 1052 , Record 1 out of 2	

Mobile Terminated call (Record 2/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Call Originator		
Calling Number	239222255566	msisdn-ed
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	12302	la4-ea
Cell Identity	2313	ci4-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1052, Record 2 out of 2	

1053	26/10/98 07:27:00	Ed is called by subscriber Px. The call is answered by Ed. On Ed's mobile the short code '2213' is displayed, applicable to Px inside the VPN considered. The call lasts for 2 minutes.
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Mobile Terminated call		
Key Information	Definition	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Call Originator		
Calling Number	4313300471	isdn-px
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	ce1-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	1	Medium
CAMEL Service Key	12348	
3G CAMEL Destination		
CAMEL Destination Number	2213	CAMEL – Shortcut of Px
Operator Specific Information	Scenario 1053, Record 1 out of 1	

1054	27/10/98 05:40:20	<p>Subscriber Ea accesses the public internet via the GGSN of his home network. The session lasts for 40 minutes thus the boundary from off-peak to peak tariff time at 6:00 a.m. is crossed.</p> <p>Notes:</p> <p>(1) For this scenario only an SGSN ticket is created.</p> <p>(2) Subscriber Ea requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.</p>
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Scenario deleted

1055	26/10/98 10:20:00	Ee calls subscriber Ec. The call is answered by Ec and lasts for 5 minutes.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555697	imsi-ee
MSISDN	239222255588	msisdn-ee
Destination		
Called Number	239222800858	msisdn-ec
Dialled Digits	00239222800858	
Network Location		
Recording Entity Code	10	msc-ee
Location Area Code	7600	la-ee
Cell Identity	25816	ce1-ee
Equipment Identifier		
IMEI	490502101891099	imei-ee
CAMEL Service Used		
CAMEL Service Level	3	Maximum Level of CAMEL service
CAMEL Service Key	27	Eurognet Prepaid Service
3G CAMEL Destination		
CAMEL Destination Number	23922800858	msisdn-ec
CSE Information	50 50 55 3A 20 35 20 2F 20 50 50 42 3A 20 32	Hex representation of PPU: 5 / PPB: 2 (Prepaid usage for the current call and account balance after the call). Note: blanks in this Definition are just for better visibility and must not occur in TAP record. The length of the CSE Information in this example is 15 bytes.
Operator Specific Information	Scenario 1055, Record 1 out of 1	

1056	26/10/98 10:30:00	Ee calls subscriber Ec. The call is answered by Ec. The call is terminated after 2 minutes, as the prepaid account balance of Ee has become 0.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555697	imsi-ee
MSISDN	239222255588	msisdn-ee
Destination		
Called Number	239222800858	msisdn-ec
Dialled Digits	00239222800858	
Cause For Termination	5	CAMEL initiated call release
Network Location		
Recording Entity Code	10	msc-ee
Location Area Code	7600	la-ee
Cell Identity	25816	ce1-ee
Equipment Identifier		
IMEI	490502101891099	imei-ee
CAMEL Service Used		
CAMEL Service Level	3	Maximum Level of CAMEL service
CAMEL Service Key	27	Eurognet Prepaid Service
3G CAMEL Destination		
CAMEL Destination Number	239222800858	Msisdn-ec
CSE Information	50 50 55 3A 20 32 20 2F 20 50 50 42 3A 20 30	Hex representation of PPU: 2 / PPB: 0 (Prepaid usage for the current call and account balance after the call). Note: blanks in this Definition are just for better visibility and must not occur in TAP record. The length of the CSE Information in this example is 15 bytes.
Operator Specific Information	Scenario 1056, Record 1 out of 1	

1057	26/10/98 12:15:45	<p>Subscriber Eb downloads his email messages thereby accessing the internet via the GGSN of your network. The session lasts for 5 minutes. At 12:18:00 the bandwidth allocated from the serving network changes due to downgrading initiated by the network.</p> <p>Notes:</p> <p>(1) The scenario shows the creation of an assembled SGSN/GGSN ticket. It is at the discretion of the VPMN whether for this type of scenario an assembled SGSN/GGSN ticket or two separate tickets are produced.</p> <p>(2) By subscription option subscriber Eb is enabled to request an arbitrary QoS from the serving network. The scenario illustrates this option. According to the IOT applied by your network the data session is charged by both volume and duration.</p>
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GPRS Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
PDP Address	134.5.252.97	
GPRS Destination		
Access Point Name NI	internet	
Access Point Name OI	Internet	Assembled SGSN/GGSN ticket
GPRS Network Location		
Recording Entity Code (1)	6	ggsn
Recording Entity Code (2)	9	sgsn-2
Location Area Code	10302	la-eb
Cell Identity	4903	ci2-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 1057, Record 1 out of 1	

1058	26/10/98 15:00:00	Subscriber Ea transfers data to subscriber Oa using the HSCSD feature in transparent mode. The data call lasts for 25 seconds. At 15:00:20 the allocation of traffic channels (i.e. the number of traffic channels and channel coding) changes due to request from the network.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	436643313540	Msisdn-Oa
Dialled Digits	+436643313540	
Network Location		
Recording Entity Code	1	msc-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Bearer Service Code	27	General data Circuit Asynchronous Service
HSCSD Indicator	1	HSCSD used
Operator Specific Information	Scenario 1058, Record 1 out of 1	

1059	26/10/98 16:00:00	Subscriber Ea transfers data to subscriber Oa using the HSCSD feature in non-transparent mode. The data call lasts for 40 seconds. At call setup time Ea requests a transmission rate of 28.8 Kbit/s from the network. During the connection at 16:00:23 Ea requests a transmission rate of 57.6 Kbit/s.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	436643313540	msisdn-oa
Dialled Digits	+436643313540	
Network Location		
Recording Entity Code	1	msc-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
IMEI	49010041059856	imei-ea
Bearer Service Code	27	General data Circuit Asynchronous Service
HSCSD Indicator	1	HSCSD used
Operator Specific Information	Scenario 1059, Record 1 out of 1	

1060	26/10/98 19:27:00	Ed is called by subscriber Ea outside the business hours. The call is forwarded by CAMEL to the service hotline of the company, answered there and lasts for 30 seconds.
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Mobile Originated Call		
Key Information	Definition	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	239222255566	msisdn-ed
Dialled Digits	+239222255566	
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	12302	la4-ea
Cell Identity	2313	ci4-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1060, Record 1 out of 1	

1061	26/10/98 20:00:00	Subscriber Ea sends a Mobile Originated Short Message Point to Point to Ec using a Short Message Service Centre located in the HPMN. Ea uses the option to send the SMS over GPRS. Two SMS-MO Events have been created as the SMS exceeds the 160 characters limit.
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The Short Message Service is independent of the transport mechanism – Circuit Switched or GPRS – and in TAP is always reported in a MOC or MTC record. Because SMS over GPRS does not require an active PDP context, it is not a GPRS call. Circuit switched SMS and SMS over GPRS are distinguished by the recording entity type: MSC for CS SMS; SGSN for SMS over GPRS.

Mobile Originated Call		
Key Information	Definition	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	2392251111	SMSC-Number
SMS Destination Number	23922800858	Msisdn-ec
CallEventStartTimeStamp		
LocalTimeStamp	19981026200000	SMS-MO submission time by ea
UtcTimeOffsetCode	2	Utc-b
Network Location		
Recording Entity Code	13	sgsn-3
CallReference	11550095	Reference provided by the Mobile Station
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1061, Record 1 out of 2	

Mobile Originated Call		
Key Information	Definition	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	2392251111	SMSC-Number

SMS Destination Number	23922800858	Msisdn-ec
CallEventStartTimeStamp		
LocalTimeStamp	19981026200001	SMS-MO submission time by ea
UtcTimeOffsetCode	2	Utc-b
Network Location		
Recording Entity Code	13	sgsn-3
Call Reference	11550096	Reference provided by the Mobile Station
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1061, Record 2 out of 2	

1062	27/10/98 11:45:00	Subscriber Eb calls a subscriber on his own network Ec. The length of the call is 5100 seconds.
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Mobile Originated Call		
Key Information	Definition	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Destination		
Called Number	239222800858	msisdn-ec
Dialled Digits	00239222800858	
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	lmei-eb
Operator Specific Information	Scenario 1062, Record 1 out of 1	

1063	27/10/98 11:47:30	Subscriber Ed calls subscriber Px by dialling the shortcode '2213'. Px does not answer the call and a follow on call is initiated to lx. This call lasts for 2 minutes. The CAMEL Service Environment writes 40 octets of Free Format to the call data record.
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The first unsuccessful leg of the call is not present in the TAP file because the VPMN does not charge for call attempt.

Mobile Originated Call		
Key Information	Definition	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Destination		
Dialled Digits	2213	CAMEL short cut – px
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	ci1-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	1	Medium
CAMEL Service Key	139457	CAMEL Service Key
3G CAMEL Destination		
CAMEL Destination Number	2337283917	isdn-ix
CSE Information	66 6F 72 77 61 72 64 65 64 20 6F 6E 20 6E 6F 20 72 65 73 70 6F 6E 73 65	Hex representation of Forwarded on no response (Information downloaded). Note: blanks in this Definition are just for better visibility and must not occur in TAP record. The length of the CSE Information in this example is 24 bytes.
Operator Specific Information		Scenario 1063, Record 1 out of 1

1064	27/10/98 12:24:57	Subscriber Ed calls subscriber Oa. Subscriber Oa is not reachable and a follow on call is initiated to Oc. This call lasts for 1 minute.
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The first unsuccessful leg of the call is not present in the TAP file because the VPMN does not charge for call attempt.

Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Destination		
Called Number	436643313540	msisdn-oa
Dialled Digits	00436643313540	
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	ci1-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	1	Medium
CAMEL Service Key	1291	CAMEL Service Key
3G CAMEL Destination		
CAMEL Destination Number	436643313514	msisdn-oc
Operator Specific Information	Scenario 1064, Record 1 out of 1	

1065	27/10/98 12:32:00	Subscriber Ed calls subscriber Px by dialling the shortcode '2213'. The call is answered by Px. The call lasts for 2 minutes. Px then releases the call and a follow on call is made for Ed to lx. This call lasts for 1minute.
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Two MOCs are present in the TAP File but as it is one CAMEL call, only one is charged considering CAMEL INVOCATION FEE.

Mobile Originated Call (Record 1/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	Imsi-ed
MSISDN	239222255566	Msisdn-ed
Destination		
Dialled Digits	2213	CAMEL short cut – px
Network Location		
Recording Entity Code	4	Msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	Ci1-ed
Equipment Identifier		
IMEI	490502101891077	Imei-ed
CAMEL Service Used		
CAMEL Service Level	1	Medium
CAMEL Service Key	14518	CAMEL Service Key
3G CAMEL Destination		
CAMEL Destination Number	4313300471	Isdn-px
Operator Specific Information	Scenario 1065, Record 1 out of 2	

Mobile Originated Call (Record 2/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	Imsi-ed
MSISDN	239222255566	Msisdn-ed
Destination		
Dialled Digits	2213	CAMEL short cut – px
Network Location		
Recording Entity Code	4	Msc-ed
Call Reference	11220059	Reference of the local MSC
Location Area Code	6704	la-ed
Cell Identity	4117	Ci1-ed
Equipment Identifier		
IMEI	490502101891077	Imei-ed
CAMEL Service Used		
CAMEL Service Key	13927	CAMEL Service Key
3G CAMEL Destination		
CAMEL Destination Number	2337283917	isdn-ix
Operator Specific Information	Scenario 1065, Record 2 out of 2	

1066	27/10/98 12:52:00	Subscriber Ee calls subscriber Ea. Ea answers the call. After 90 seconds, a warning tone is played to the call, indicating low credit. The call is terminated after 2 minutes, as the prepaid account balance of Ee has become 0.
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Mobile Originated Call (Record 1/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555697	Imsi-ee
MSISDN	239222255588	Msisdn-ee
Destination		
Called Number	2392228473214	Msisdn-ea
Dialled Digits	002392228473214	
Cause For Termination	5	CAMEL initiated call release
Network Location		
Recording Entity Code	10	Msc-ee
Location Area Code	7600	la-ee
Cell Identity	25816	Ci1-ee
Equipment Identifier		
IMEI	490502101891099	Imei-ee
CAMEL Service Used		
CAMEL Service Level	3	Maximum Level of CAMEL service
CAMEL Service Key	27	Eurognet Prepaid Service
CSE Information	50 50 55 3A 20 32 20 2F 20 50 50 42 3A 20 30	Hex representation of PPU: 2 / PPB: 0 (Prepaid usage for the current call and account balance after the call). Note: blanks in this Definition are just for better visibility and must not occur in TAP record. The length of the CSE Information in this example is 15 bytes.
Operator Specific Information	Scenario 1066, Record 1 out of 2	

Mobile Terminated call (Record 2/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdh-ea
Call Originator		
Calling Number	239222255588	msisdh-Ee
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	12302	la4-ea
Cell Identity	2313	ci4-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1066, Record 2 out of 2	

1067	27/10/98 13:10:00	Subscriber Ed calls Oa. Before the call is set up, a 15-second announcement within the home network is played to Ed. After this announcement is complete, the call is set up to Oa and lasts 90 seconds.
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Two MOCs are present in the TAP File but as it is one CAMEL call, only one is charged considering CAMEL INVOCATION FEE. Please note that depending on the network implementation there could be only one Call Event Detail.

Mobile Originated Call (Record 1/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Destination		
Called Number	436643313540	msisdn-oa
Dialled Digits	00436643313540	
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	ci1-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	1	Medium
CAMEL Service Key	1487	CAMEL Service Key
3G CAMEL Destination		
CAMEL Destination Number	2392265432	HPMN vocal server
Operator Specific Information	Scenario 1067, Record 1 out of 2	

Mobile Originated Call (Record 2/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Destination		
Called Number	436643313540	msisdn-oa
Dialled Digits	00436643313540	
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	Ci1-ed
Equipment Identifier		
IMEI	490502101891077	lmei-ed
CAMEL Service Used		
CAMEL Service Key	384	CAMEL Service Key
Operator Specific Information	Scenario 1067, Record 2 out of 2	

1068	27/10/98 13:15:00	Subscriber Ed calls Ob. Before the call is set up, a 30-second announcement within the visited network is played. After this announcement is complete, the call is set up to Ob and lasts 2 minutes.
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Two MOCs are present in the TAP File but as it is one CAMEL call, only one is charged considering CAMEL INVOCATION FEE.

Mobile Originated Call (Record 1/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Destination		
Called Number	436643313500	Msisdn-ob
Dialled Digits	00436643313500	
Network Location		
Recording Entity Code	4	Msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	Ci1-ed
Equipment Identifier		
IMEI	490502101891077	Imei-ed
CAMEL Service Used		
CAMEL Service Level	1	Medium
CAMEL Service Key	978	CAMEL Service Key
3G CAMEL Destination		
CAMEL Destination Number	436642111000	VPMN vocal server
Operator Specific Information	Scenario 1068, Record 1 out of 2	

Mobile Originated Call(Record 2/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdh-ed
Destination		
Called Number	436643313500	msisdh-ob
Dialled Digits	00436643313500	
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	ci1-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Key	48572	CAMEL Service Key
Operator Specific Information	Scenario 1068, Record 2 out of 2	

1069	27/10/98 13:25:00	Subscriber Ed has CFNRy (Call Forward on No Reply) set to 2213. Subscriber Ea calls Subscriber Ed who is not answering the call. The call is forwarded to Px and lasts one minute.
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Two MOCs and an MTC are present in the TAP File. The first MOC is the leg from Ea to Ed. Ea is not a CAMEL subscriber so this Call Event Details is not CAMEL. The second Call Event Detail is the MTC (call received by Ed). This leg is CAMEL as Ed is a CAMEL subscriber. It is charged considering CAMEL INVOCATION FEE. The third Call Event Detail is the second leg of the call (forward of the call to 2213). This part is CAMEL but as it is the same CAMEL call, this one is not charged considering CAMEL INVOCATION FEE.

Mobile Originated Call (Record 1/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	239222255566	msisdn-ed
Dialled Digits	00239222255566	
Network Location		
Recording Entity Code	1	msc-ea
Location Area Code	2107	la1-ea
Cell Identity	31911	ci1-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1069, Record 1 out of 3	

Mobile Terminated call (Record 2/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Call Originator		
Calling Number	239228473214	msisdn-ea
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	ci1-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed

CAMEL Service Used		
CAMEL Service Level	1	medium
CAMEL Service Key	12	CAMEL Service Key
Operator Specific Information	Scenario 1069, Record 2 out of 3	

Mobile Originated Call (Record 3/3)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Destination		
Dialled Digits	2213	CAMEL short cut – px
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	ci1-ed
Equipment Identifier		
IMEI	490502101891077	lmei-ed
Supplementary Service Code	2A	Call forwarding on no reply
Third Party Information		
Third Party Number	239228473214	msisdn-ea
CAMEL Service Key	9854	CAMEL Service Key Would this be the same CAMEL Service Key within the MOC i.e. 12 ?
3G CAMEL Destination		
CAMEL Destination Number	4313300471	lsdn-px
Operator Specific Information	Scenario 1069, Record 3 out of 3	

1070	27/10/98 13:30:00	Subscriber Ed calls subscriber Oa. Oa answers the call, which lasts for 2 minutes. Advice of charge information is sent.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	msisdn-ed
Destination		
Called Number	436643313540	
Dialled Digits	06643313540	msisdn-oa
Network Location		
Recording Entity Code	4	msc-ed
Location Area Code	6704	la-ed
Cell Identity	4117	ci1-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	3	maximum ('charging activities have been performed')
CAMEL Service Key	7841	CAMEL Service Key
Operator Specific Information	Scenario 1070, Record 1 out of 1	

1071	24/10/98 10:00:00	<p>Subscriber Ea accessed the public internet via the GGSN of your network. UMTS is used instead of GSM and the session lasts for 40 minutes as the boundary of setting off at 10:00 was crossed. The first part of the call, which started on 24/10/98 09:40:00, was transferred in a previous file. Notes:</p> <p>(1) The scenario shows the use of UMTS and the creation of the PDP Context Start Time Stamp.</p> <p>(2) Subscriber Ea requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.</p>
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GPRS Call		
Key Information	Value	Definition
GPRS Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
PDP Address	134.5.252.123	
GPRS Destination		
Access Point Name NI	internet	
Access point Name OI	Internet	
GPRS Network Location		
Recording Entity Code (1)	6	ggsn
Recording Entity Code (2)	8	sgsn-1
Location Area Code	8203	la5-ea
Cell Identity	2012	ci5-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1071, Record 1 out of 1	

1072	26/10/98 04:40:20	Subscriber Ef accesses the public internet via the WLAN Access Point at Vienna Airport. The subscriber is authenticated by username@realm, IMSI is not available. The session lasts for 40 minutes.
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GPRS Call		
Key Information	Value	Definition
GPRS Chargeable Subscriber		
IMSI	26209	As per the roaming agreements
Network Access Identifier	ef@eurognet.com	Unique subscriber identifier, RADIUS Username
GPRS Destination		
Access Point Name NI	0	Default Venue Class 0
GPRS Network Location		
Recording Entity Code	12	WLAN Billing Recording Entity
Geographic Location		
Serving Location Description	Vienna Airport	Hot Spot Name
Operator Specific Information	Scenario 1072, record 1 out of 1	

1073	27/10/98 07:00:00	<p>The customer (Ea) accesses the Portal and the Content Provider via the public Internet. He then downloads ten ring tones and pays 10 EUR though his monthly phone bill. Each party in the Definition chain will take 0.5 EUR commission for facilitating the download.</p> <p>When the customer has paid, the HPMN pays 9.5 EUR to the VPMN, the VPMN pays 9 EUR to the Portal and the Portal pays 8.5 EUR to the Content Provider.</p>
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Content Transaction		
Key Information	Value	Definition
Charged Party Identification		
Charged Party Identifier	262092464569171	Imei-ea
Charged Party Home Identification		
Home Identifier	EURO1	Eurognet
Charged Party Location		
Location Identifier	AUTPT	
Charged Party Equipment		
Equipment Identifier	49010041059856	imei-ea
Serving Parties Information		
Content Provider Name	MOBILE FUN WEBSHOP INC	
Content Provider		
Content Provider Id Type	1	
Content Provider Identifier	MOBILE FUN WEBSHOP	
Internet Service Provider		
ISP Id Type	1	
ISP Identifier	AOL	
Content Service Used		
Content Transaction Code	3	Pull
Content Transaction Type	12	Download
Object Type	23	Ring Tone - Wave
Operator Specific Information	Scenario 1073, Record 1 out of 1	

1074	27/10/98 08:00:00	<p>The customer buys two CDs from the Content Provider and charges 240 EUR to a credit card.</p> <p>The Content Provider offers a 20 % commission (48 EUR) to the Portal who in turns offers 50 % of that (24 EUR) to the VPMN. The VPMN offers part of the commission (15 EUR) to the HPMN.</p> <p>The HPMN can choose to pass part of that commission to the customer, who could have been promised 5 EUR off every CD bought at the Content Provider using his GPRS phone.</p>
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Content Transaction		
Key Information	Value	Definition
Charged Party Identification		
Charged Party Identifier	262092464569171	Imsi-ea
Charged Party Home Identification		
Home Identifier	EURO1	Eurognet
Charged Party Location		
Location Identifier	AUTPT	
Charged Party Equipment		
Equipment Identifier	49010041059856	Imei-ea
Serving Parties Information		
Content Provider Name	AMAZON INC	
Content Provider		
Content Provider Id Type	1	
Content Provider Identifier	AMAZON	
Internet Service Provider		
ISP Id Type	1	
ISP Identifier	AOL	
Content Service Used		
Content Transaction Code	0	Goods
Content Transaction Type	4	Buy
Transaction Short Description	CD	
Transaction Detail Description	2 CD- BEST OF ROLLING STONES	
Operator Specific Information		
1074, Record 1 out of 1		

1075	27/10/1998 09:00:00	After the scenario 1073 is completed, the subscriber Ea realises that the downloaded data doesn't not work properly. He then asks for a refund.
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Content Transaction		
Key Information	Value	Definition
Charged Party Identification		
Charged Party Identifier	262092464569171	imsi-ea
Charged Party Home Identification		
Home Identifier	EURO1	Eurognet
Charged Party Location		
Location Identifier	AUTPT	
Charged Party Equipment		
Equipment Identifier	49010041059856	imei-ea
Serving Parties Information		
Content Provider Name	MOBILE FUN WEBSHOP INC	
Content Provider		
Content Provider Id Type	1	
Content Provider Identifier	MOBILE FUN WEBSHOP	
Internet Service Provider		
ISP Id Type	1	
ISP Identifier	AOL	
Content Service Used		
Content Transaction Code	3	Pull
Content Transaction Type	12	Download
Object Type	23	Ring Tones Wave
Transaction Description suppression	1	Suppression requested
Transaction Short Description	RING TONES	
Transaction Detail Description	TEN RING TONES – ROLLING STONES PACKAGE	
Operator Specific Information	Scenario 1075, Record 1 out of 1	

1076	24/10/98 16:00:22	Non-roaming subscriber Ec requests location of subscriber Ea who is roaming in Austria.
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Location Service		
Key Information	Value	Definition
Recording Entity Code	14	Gmlc-ea
Tracking Customer Identification		
Customer Identifier	262 09 0001643543	imsi-ec (Note: may not always be present)
Tracking Customer Home Id		
Home Identifier	EUR01	Eurognet
LCS SP Identification		
Content Provider Identifier	GSM TRACKER	
Internet Service Provider		
ISP Identifier	www.aol.com	
Tracked Customer Identification (1)		
Customer Identifier (1)	23 922 8473214	msisdn-ea
Tracked Customer Identification (2)		
Customer Identifier (2)	262 09 2464569171	imsi-ea
Tracked Customer Home Id		
Home Identifier	EUR01	Eurognet
Tracked Customer Location (1)		
Location Identifier (1)	AUT	Austria
Location Identifier (2)	Kitzbuhel	
Tracked Customer Equipment		
Equipment Id	49010041059856	imei-ea
Operator Specific Information	Scenario 1076, Record 1 out of 1	

1077	24/10/98 13:22:01	Non-roaming subscriber Ec requests periodic tracking of customer Ea (who is roaming in Austria) for 1 hour with updates every 30 minutes.
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Location Service		
Key Information	Value	Definition
Recording Entity Code	14	Gmlc-ea
Tracking Customer Identification		
Customer Identifier	262 09 0001643543	imsi-ec (Note: may not always be present)
Tracking Customer Home Id		
Home Identifier	EUR01	Eurognet
LCS SP Identification		
Content Provider Identifier	GSM TRACKER	
Internet Service Provider		
ISP Identifier	AOL	
Tracked Customer Identification (1)		
Customer Identifier (1)	23 922 8473214	msisdn-ea
Tracked Customer Identification (2)		
Customer Identifier (2)	262 09 2464569171	imsi-ea
Tracked Customer Home Id		
Home Identifier	EUR01	Eurognet
Tracked Customer Location		
Location Identifier	AUT	Austria
Tracked Customer Equipment		
Equipment Id	49010041059856	imei-ea
Operator Specific Information	Scenario 1077, Record 1 out of 1	

1078	24/10/98 18:15:23	Roaming subscriber Ea requests the location of the nearest ATM to his current location
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GPRS Call (Record 1/3)		
Key Information	Value	Definition
GPRS Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
PDP Address	134.5.252.123	
GPRS Destination		
Access Point Name NI	Internet	
Access Point OI	Internet	
GPRS Network Location		
Recording Entity Code (1)	6	ggsn
Recording Entity Code (2)	8	sgsn-1
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1078, Record 1 out of 3	

Content Transaction (Record 2/3)		
Key Information	Value	Definition
Charged Party Identification		
Charged Party Identifier	262 09 2464569171	imsi-ea
Charged Party Home Identification		
Home Identifier	EUR01	TADIG code of Eurognet
Charged Party Location		
Location Identifier	Vienna	
Charged Party Equipment		
Equipment Identifier	49010041059856	imei-ea
Content Provider		
Content Provider Identifier	Where's my nearest.com	
Internet Service Provider		
ISP Identifier	AOL	
Content Service Used		
Content Transaction Code	3	Pull

Content Transaction Type	2	Retrieve
Transaction Short Description	Request for nearest ATM	
Transaction Detail Description	Location based service to find nearest ATM to subscribers location	
Operator Specific Information	Scenario 1078, Record 2 out of 3	

Location Service (Record 3/3)		
Key Information	Value	Definition
Recording Entity Code	12	Gmlc-ea
Tracking Customer Identification		
Customer Identifier	262 09 2464569171	imsi-ea
Tracking Customer Home Id		
Home Identifier	EUR01	Eurognet
Tracking Customer Location		
Location Identifier	AUTPT	
Tracking Customer Equipment		
Equipment Id	49010041059856	imei-ea
LCS SP Identification		
Content Provider Identifier	WHERE'S MY NEAREST.COM	
Internet Service Provider		
ISP Identifier	www.aol.com	
Tracked Customer Identification (1)		
Customer Identifier (1)	23 922 8473214	msisdn-ea
Tracked Customer Identification (2)		
Customer Identifier (2)	262 09 2464569171	imsi-ea
Tracked Customer Home Id		
Home Identifier	EUR01	Eurognet
Tracked Customer Location (1)		
Location Identifier (1)	AUT	Austria
Tracked Customer Location (2)		
Location Identifier (2)	Vienna	
Tracked Customer Equipment		
Equipment Id	49010041059856	imei-ea
Operator Specific Information	Scenario 1078, Record 3 out of 3	

1079	27/10/98 13:35:00	Subscriber Ea makes a video telephone call to subscriber Oa using circuit switching. The call duration is 2 minutes and 20 seconds.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	436643313540	
Dialled Digits	+436643313540	
Network Location		
Recording Entity Code	1	msc-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Basic Service		
Bearer Service Code	37	General Data Circuit Synchronous Service. Note: Where the exact bearer service code is not available from the network, the service code 30 can be used.
Transparency Indicator	0	Transparent
Fixed Network User Rate	8	64 kbits per second
User Protocol Indicator	4	H.223 & H.245
Operator Specific Information	Scenario 1079, Record 1 out of 1	

1080	25/10/98 23:55:20	<p>Subscriber Ea logs in into the public internet over an IP connection over GPRS. The session lasts for 4 hours 2 minutes and 25 seconds. Access to the IP network is provided by using a public access via the HGGSN operated by Eurognet. The session starts within the geographical area served by sgsn-1 and ends within the geographical area served by sgsn-2.</p> <p>Notes:</p> <p>(1) The scenario shows the creation of partial SGSN tickets. It is at the discretion of the VPMN after which limits a ticket will be closed. For this scenario the limits are as followed:</p> <table border="1"> <tr> <th>Call Event Details</th><th>Cause for Termination</th><th>Conditions</th></tr> <tr> <td>1/2</td><td>n.a.</td><td>End of Day</td></tr> <tr> <td>2/2</td><td>n.a</td><td>End of session</td></tr> </table> <p>(2) Subscriber Ea requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.</p> <p>(3) GPRS network partials will be aggregated in order to meet the limit of TAP GPRS partials per context per day as defined in BARG PRD BA.12 [1] (not needed in this example)</p>	Call Event Details	Cause for Termination	Conditions	1/2	n.a.	End of Day	2/2	n.a	End of session
Call Event Details	Cause for Termination	Conditions									
1/2	n.a.	End of Day									
2/2	n.a	End of session									

GPRS Call (Record 1/2)		
Key Information	Value	Definition
GPRS Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
PDP Address	134.5.252.123	
Partial Type Indicator	F	First
GPRS Destination		
Access Point Name NI	WEB_CONNECT	
Access point Name OI	WEB_CONNECT	
Call Event Start Timestamp	19981025235520	CCYYMMDDHHMMSS
GPRS Network Location		
Recording Entity Code (1)	7	ggsn-eurognet
Recording Entity Code (2)	8	sgsn-1
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1080, Record 1 out of 2	

GPRS Call (Record 2/2)		
Key Information	Value	Definition
GPRS Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
PDP Address	134.5.252.123	
GPRS Destination		
Access Point Name NI	WEB_CONNECT	
Access Point Name OI	WEB_CONNECT	
Partial Type Indicator	L	Last
GPRS Network Location		
Recording Entity Code (1)	7	ggsn-eurognet
Recording Entity Code (2)	9	sgsn-2
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 1080, Record 2 out of 2	

1081	28/10/98 09:02:43	Subscriber Ea makes a voice call to subscriber Oa using voice over LTE. The call duration is 2 minutes and 55 seconds.
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Mobile Session		
Key Information	Value	Definition
Mobile Session Service	1	MO Voice over LTE
Charged Party		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Public User ID	arthur.mccallan@provider.net	PublicUserId-ea
IMEI	49010041059856	Imei-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Event Reference	icid-value=1234bc9876e	
Recording Entity Code(1)	15	Reference to S-GW
Recording Entity Code(2)	16	Reference to P-GW
Recording Entity Code(3)	17	Reference to P-CSCF
Service Start Timestamp	19981028090243	
UTC Time Offset Code	2	utc-b
Total Call Event Duration	175	seconds
Non Charged Party		
Non Charged Party Number	436643313540	Oa number to which the call has been routed
Non Charged Public User ID	louise-594@provider.org	PublicUserID-oa
Requested Destination		
Requested Number	436643313540	Original destination requested by Ea
Requested Public User ID	louise-594@provider.org	PublicUserID-oa
Operator Specific Information	Scenario 1081 (1 of 1)	

1082	28/10/98 09:07:10	Subscriber Ea sends an SMS to subscriber Oa using voice over LTE.
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Messaging Event		
Key Information	Value	Definition
Messaging Event Service	1	MO SMS over IP
Charged Party		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Public User ID	arthur.mccallan@provider.net	PublicUserId-ea
IMEI	49010041059856	Imei-ea
Event Reference	icid-value=1434bc7976e	
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Service Start Timestamp	19981028090710	
UTC Time Offset Code	2	utc-b
Non Charged Party		
Non Charged Party Number	23 922 51111	SMSC needs to be populated in the field "Non-Charged Party Number"
Non Charged Public User ID		Not available
Operator Specific Information	Scenario 1082 (1 of 1)	

1083	28/10/98 09:15:25	Subscriber Ea makes a voice call to the number lx (Ea's home ISDN number) using voice over LTE by home routing. The call duration is 2 minutes and 55 seconds.
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Mobile Session		
Key Information	Value	Definition
Mobile Session Service	1	MO Voice over LTE
Charged Party		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Public User ID	arthur.mccallan@provider.net	PublicUserId-ea
IMEI	49010041059856	lmei-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Event Reference	icid-value=1234bc9876e	
Recording Entity Code(1)	15	Reference to S-GW
Recording Entity Code(2)	16	Reference to P-GW
Recording Entity Code(3)	17	Reference to P-CSCF
Service Start Timestamp	19981028091525	
UTC Time Offset Code	2	utc-b
Total Call Event Duration	175	Seconds
Non Charged Party		
Non Charged Party Number		Not available
Non Charged Public User ID	IMS@eurognet.com	SIP URI to which the call has been routed
Requested Destination		
Requested Number	2337283917	isdn-lx (original requested destination by Ea)
Requested Public User ID		PublicUserID of lx is not available
Operator Specific Information	Scenario 1083 (1 of 1)	

5 Special scenarios

This section contains special scenarios that show how the TAP should be used for certain special cases. The special cases that are presented in this section are:

- Breakout of airtime and toll charges
- Calls made on satellite networks
- Handling of multiple taxes per Call Event Detail

Fundamentally the same rules are valid as within the basic section except for the modifications stated in particular.

5.1 Breakout of airtime and toll charges

5.1.1 Purpose

The purpose of these call event details is to show the use of the Charge Type when the roaming agreement between the two operators states that charges have to be separated into airtime and toll charges.

Additional tariffs associated with the events in these scenarios are as follows:

- Toll is charged by 10% of the call charge for national calls and 15% for international calls.

5.1.2 Scenario events

There is just one example to document the breakout of airtime and toll charges; the remaining scenarios are handled like stated in the standard section (with the exception of the additional use of the Charge Type).

2001	29/10/98 12:00:27	Subscriber Ea registers (and automatically activates) call forwarding on no reply for speech to number of lx.
2002	29/10/98 12:13:14	Subscriber Oa calls subscriber Ea. Ea does not reply. The call is forwarded to lx and lasts one minute.
2003	29/10/98 12:15:16	Subscriber Ea erases (and automatically deactivates) call forwarding on no reply that he had previously set.

Table 10: Scenario Events

2001	29/10/98 12:00:27	Subscriber Ea registers (and automatically activates) call forwarding on no reply for speech to number of lx.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Network Location		
Recording Entity Code	2	msc2-ea
Call Reference	00ACE1D3	Reference of the local MSC
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	2A	Call forwarding on no reply
Action Code	0	Registration
Supplementary Service Parameters	2337283917	isdn-ix
Operator Specific Information	Scenario 2001, Record 1 out of 1	

2002	29/10/98 12:13:14	Subscriber Oa calls subscriber Ea. Ea does not reply. The call is forwarded to Ix and lasts one minute.
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Mobile Originated Call (Record 1/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	2337283917	isdn-ix
Dialled Digits	002337283917	
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Code	2A	Call forwarding on no reply
Third Party Information		
Third Party Number	436643313540	msisdn-oa
Operator Specific Information	Scenario 2002, Record 1 out of 2	

Mobile Terminated call (Record 2/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Call Originator		
Calling Number	436643313540	msisdn-oa
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 2002, Record 2 out of 2	

2003	29/10/98 12:15:16	Subscriber Ea erases (and automatically deactivates) call forwarding on no reply that he had previously set.
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Supplementary Service Event		
Key Information	Value	Definition
Chargeable subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdh-ea
Network Location		
Recording Entity Code	2	msc2-ea
Location Area Code	3106	la3-ea
Cell Identity	32901	ci3-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Supplementary Service Used		
Supplementary Service Code	2A	Call forwarding on no reply
Action Code	1	Erase
Operator Specific Information	Scenario 2003, Record 1 out of 1	

5.2 Calls made on satellite networks

This section gives an example when the PMN under test is a Satellite Operator.

5.2.1 Purpose

The purpose of these call event details is to show the required Definitions for a Satellite Operator under test. The difference between the basic version and the Satellite Operator Call Details is that Satellite Operators need to include more information for location, i.e. longitude, latitude. Also, this particular Satellite Operator also offers terrestrial network service, which is shown in the use of the Network Type and the Called Number Analysis Code. The call on the satellite network is charged with 6 units of local currency per second.

5.2.2 Scenario events

There is just one example to document the necessary information for a Satellite Operator; the remaining scenarios are handled like stated in the standard section (with the exception of the additional use of mandatory fields for Satellite Operators).

3001	30/10/98 14:09:37	Subscriber Ea calls subscriber Oa. The call lasts for five minutes and seventeen seconds. This call is made on a satellite network, and subscriber Ea is located at Longitude +165,000 and Latitude +36,000 (Austrian Alps). The UTC Time Offset for this location is defined by the UTC Time Offset Code of 1. The location area code is las-ea and the cell identity is cis-ea. The MSC used is msc-sat that serves all satellite calls.
3002	30/10/98 22:09:37	At exactly eight hours after the start of the first call, subscriber Ea again calls subscriber Oa. The call lasts for 1 minute. This call is now made on a GSM terrestrial network.

Table 11: Scenario Events

3001	30/10/98 14:09:37	Subscriber Ea calls subscriber Oa. The call lasts for five minutes and seventeen seconds. This call is made on a satellite network, and subscriber Ea is located at Longitude +165,000 and Latitude +36,000 (Austrian Alps). The UTC Time Offset for this location is defined by the UTC Time Offset Code of 1. The location area code is las-ea and the cell identity is cis-ea. The MSC used is msc-sat that serves all satellite calls. The call is charged with 2 units of home currency per second.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	436643313540	Msisdn-oa
Dialled Digits	011436643313540	
Network Location		
Recording Entity Code	2	Msc-sat
Location Area Code	8501	Las-ea
Cell Identity	15762	Cis-ea
Equipment Identifier		
IMEI	49010041059856	Imei-ea
Operator Specific Information	Scenario 3001, Record 1 out of 1	

3002	30/10/98 22:09:37	At exactly eight hours after the start of the first call, subscriber Ea again calls subscriber Oa. The call lasts for 1 minute. This call is now made on a GSM terrestrial network.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092464569171	imsi-ea
MSISDN	239228473214	msisdn-ea
Destination		
Called Number	436643313540	
Dialled Digits	06643313540	msisdn-oa
Network Location		
Recording Entity Code	1	msc1-ea
Location Area Code	4101	la2-ea
Cell Identity	311	ci2-ea
Equipment Identifier		
IMEI	49010041059856	imei-ea
Operator Specific Information	Scenario 3002, Record 1 out of 1	

5.3 Handling of multiple taxes per Call Event Detail

5.3.1 Purpose

The purpose of this section is to show the required Definitions when multiple taxes are applied to a single call event.

5.3.2 Scenario event

There is just one example to document the use of multiple taxes per call event; the remaining scenarios are handled like stated in the standard section (with the exception of the additional use of mandatory fields for multiple taxes).

4001	31/10/98 02:16:43	Subscriber Eb calls subscriber Oa. The call lasts for three minutes and nineteen seconds. This call is a national call and for this multiple tax scenario 2 taxes are applicable - local and absolute/fixed. The local tax rate is 10% and the absolute tax Definition is equivalent to 0.5 SDRs.
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Table 12: Scenario Events

4001	31/10/98 02:16:43	<p>Subscriber Eb calls subscriber Oa. The call lasts for three minutes and nineteen seconds.</p> <p>This call is a national call and for this multiple tax scenario 2 taxes are applicable - local and absolute/fixed.</p> <p>The local tax rate is 10% and the absolute tax Definition is equivalent to 0.5 SDRs.</p>
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262097352084232	imsi-eb
MSISDN	239227362532	msisdn-eb
Destination		
Called Number	436643313540	
Dialled Digits	06643313540	msisdn-oa
Network Location		
Recording Entity Code	3	msc-eb
Location Area Code	10302	la1-eb
Cell Identity	41503	ci1-eb
Equipment Identifier		
IMEI	444788070366510	imei-eb
Operator Specific Information	Scenario 4001, Record 1 out of 1	

5.4 CAMEL service relevant to GPRS Call Event

5.4.1 Purpose

The purpose of this section is to show an example of CAMEL service relevant to GPRS

5.4.2 Scenario event

There are two examples to document the use of CAMEL within GPRS call event

5001	27/10/98 12:00:00	<p>Subscriber Ed provided CAMEL service relevant for GPRS data transmission. Ed logs into the public internet and the session lasts for 1 hour.</p> <p>Access to the internet is provide via the HGGSN operated by Eurognet. APN is altered at PDP context set-up as available from the Camel server on Eurognet side.</p>
5002	26/10/98 07:00:00	<p>Subscriber Ed provisioned CAMEL service relevant for GPRS data transmission. . Ed logs into his corporate network and the session lasts for 24 hours. The session starts within the geographical area served by sgsn-1 and ends within the geographical area served by sgsn-2.</p> <p>Access to the corporate network is provided via the HGGSN operated by Eurognet. APN is altered at PDP context setup as available from the Camel Server on Eurognet side</p> <p>Notes:</p> <p>(1) The scenario shows the creation of partial SGSN tickets. It is at the discretion of the VPMN after which limits a ticket will be closed. For this scenario SGSN ticket is closed in case the limit "End of Day" is reached.</p> <p>(2) Subscriber Ed requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.</p> <p>(3) GPRS network partials will be aggregated in order to meet the limit of TAP GPRS partials per context per 24 hours as defined in BARG PRD BA.12 [1].</p> <p>(4) CAMEL information is available in each GPRS partial.</p> <p>(5) The CSE has modified the original APN entered by the subscriber (DIGITAL.COM) to CORPORATE.DIGITAL.COM.</p> <p>(6) Original APN may be available in each GPRS partial call record however , this is subject to availability from the network.</p>

Table 13: Scenario Events

5001	27/10/98 12:00:00	Subscriber Ed provisioned CAMEL service relevant for GPRS data transmission. Ed logs into the public internet and the session lasts for 1 hour. Access to the internet is provided via the HGGSN operated by Eurognet. APN is altered at PDP context set-up as available from the Camel Server on Eurognet side
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GPRS Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262 09 2222555664	imsi-ed
MSISDN	23 922 2255566	Msisdn-ed
PDP Address	134.5.252.144	
GPRS Destination		
Access Point Name NI	internet	
Access Point Name OI	mnc009.mcc262.gprs	Eurognet PLMN
GPRS Network Location		
Recording Entity Code (1)	7	Eurognet Ggsn
Recording Entity Code (2)	9	sgsn-2
Location Area Code	6704	la-ed
Cell Identity	1007	ci2-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	0	Basic Level of CAMEL service
CAMEL Service Key	52948	
Default Call Handling Indicator	0	Continue GPRS session
3G CAMEL Destination		
GPRS Destination		
Access Point Name NI	worldwideweb	Modified APN NI
Access Point Name OI	mnc009.mcc262.gprs	Eurognet PLMN
Operator Specific Information	Scenario 5001 , Record 1 out of 1	

5002	26/10/98 07:00:00	<p>Subscriber Ed provisioned CAMEL service relevant for GPRS data transmission. . Ed logs into his corporate network and the session lasts for 24 hours. The session starts within the geographical area served by sgsn-1 and ends within the geographical area served by sgsn-2.</p> <p>Access to the corporate network is provided via the HGGSN operated by Eurognet. APN is altered at PDP context setup as available from the Camel Server on Eurognet side</p> <p>Notes:</p> <p>(1) The scenario shows the creation of partial SGSN tickets. It is at the discretion of the VPMN after which limits a ticket will be closed. For this scenario SGSN ticket is closed incase the limit "End of Day" is reached.</p> <p>(2) Subscriber Ed requests 'best effort QoS' from the serving network. Therefore only the duration of the data session is taken into account for charging in line with the charging policy applied by your network.</p> <p>(3) GPRS network partials will be aggregated in order to meet the limit of TAP GPRS partials per context per 24 hours as defined in BARG PRD BA.12 [1].</p> <p>(4) CAMEL information is available in each GPRS partial.(5) The CSE has modified the original APN entered by the subscriber (DIGITAL.COM) to CORPORATE.DIGITAL.COM.</p> <p>(6) Original APN may be available in each GPRS partial call record however , this is subject to availability from the network.</p>
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GPRS Call (Record 1/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262 09 2222555664	imsi-ed
MSISDN	23 922 2255566	Msisdn-ed
PDP Address	134.5.252.192	
GPRS Destination		
Access Point Name NI	CORPORATE.DIGITAL.COM	Modified APN NI
Access Point Name OI	mnc009.mcc262.gprs	Eurognet PLMN
GPRS Network Location		
Recording Entity Code (1)	7	Ggsn
Recording Entity Code (2)	8	sgsn-1
Location Area Code	6704	la-ed
Cell Identity	4117	ci2-ed
Equipment Identifier		

IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	0	Basic Level of CAMEL service
CAMEL Service Key	91452	
3G CAMEL Destination		
GPRS Destination		
Access Point Name NI	DIGITAL.COM	Original APN NI
Access Point Name OI	mnc009.mcc262.gprs	Eurognet PLMN
Operator Specific Information	Scenario 5002 , Record 1 out of 2	

GPRS Call (Record 2/2)		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262 09 2222555664	imsi-ed
MSISDN	23 922 2255566	Msisdn-ed
PDP Address	134.5.252.192	
GPRS Destination		
Access Point Name NI	CORPORATE.DIGITAL.COM	Modified APN NI
Access Point Name OI	mnc009.mcc262.gprs	Eurognet PLMN
GPRS Network Location		
Recording Entity Code (1)	7	Ggsn
Recording Entity Code (2)	9	sgsn-2
Location Area Code	6704	la-ed
Cell Identity	1007	ci2-ed
Equipment Identifier		
IMEI	490502101891077	imei-ed
CAMEL Service Used		
CAMEL Service Level	0	Basic Level of CAMEL service
CAMEL Service Key	91452	
3G CAMEL Destination		This group may be missing where not available from the network
GPRS Destination		
Access Point Name NI	DIGITAL.COM	Original APN NI
Access Point Name OI	mnc009.mcc262.gprs	Eurognet PLMN
Operator Specific Information	Scenario 5002 , Record 2 out of 2	

5.5 Handling of Call Type Levels for CS CAMEL Call

5.5.1 Purpose

The purpose of this section is to show the required Call Type Levels for CAMEL Calls. In general the Call Type Levels for a CAMEL call are based on the CAMEL Destination Number, Depending on the HPMN implementation the routing of a call, CAMEL Destination Number can vary for different Roamers on the VPMN network dialling the same dialled digits.

5.5.2 Scenario event

There is just one example to populate the call type levels for CS camel call, the remaining scenarios are handled like stated in the standard section (with the exception of the additional use of mandatory fields for camel call).

6001	31/10/98 02:16:43	Subscriber Ed calls subscriber Oa. Camel service is used. The camel server of the HPMN does not modify the number, so the call is routed to the dialled number.
6002	31/10/98 03:16:43	Subscriber Ee calls subscriber Oa. Camel service is used. The camel server of the HPMN modifies the called number, so the call is routed to the modified number, shown as Camel Destination Number in TAP.

Table 14: Scenario Events

6001	31/10/98 02:16:43	Subscriber Ed calls subscriber Oa. Camel service is used. The camel server of the HPMN does not modify the number, so the call is routed to the dialled number.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555664	imsi-ed
MSISDN	239222255566	Msisdn-ed
Destination		
Called Number	436643313540	
Dialled Digits	06643313540	msisdn-oa
Call type levels		
Call type level 1	1	National
Call type level 2	1	Mobile
Call type level 3	15	
Operator Specific Information	Scenario 6001, Record 1 out of 1	

6002	31/10/98 03:16:43	Subscriber Eecalls subscriber Oa. Camel service is used. The camel server of the HPMN modifies the called number, so the call is routed to the modified number, shown as Camel Destination Number in TAP.
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Mobile Originated Call		
Key Information	Value	Definition
Chargeable Subscriber		
IMSI	262092222555697	imsi-ee
MSISDN	239222255588	msisdn-ee
Destination		
Called Number	436643313540	
Dialled Digits	06643313540	msisdn-oa
3G CAMEL Destination		
CAMEL Destination Number	2313455678	
Call type levels		
Call type level 1	2	International
Call type level 2	0	
Call type level 3	2	

Operator Specific Information	Scenario 6002, Record 1 out of 1
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5.6 Audit Control Information

Audit Control Information		
Key Information	Value	Definition
Earliest Call Timestamp	19981024100000	CCYYMMDDHHMMSS
UTC Time Offset	+0200	national summer time
Latest Call Timestamp	19981031021643	CCYYMMDDHHMMSS
UTC Time Offset	+0200	national normal time
Total Charge	13406307	SDR
Total Charge Refund	795	SDR
Total Tax Refund	80	SDR
Total Tax Value	1812532	SDR
Total Discount Value	2085	SDR
Total Advised Charge Value List		
Advised Charge Currency	EUR	
Total Advised Charge	250000	
Total Advised Charge Refund	10000	
Total Commission	15000	
Call Event Details Count	108	Items
Operator Specific Information	Audit Control Information	

Annex A Document Management

A.1 Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
Draft	June, 1999	New PRD evolved from TD.40, describing the scenarios for TAP3.	TADIG	Pierre Dupire/ Orange France
3.01.00	September 1999	CR.01, Error correction	TADIG	Pierre Dupire/ Orange France
3.01.01	January 2000	CR.02, Error correction	TADIG	Pierre Dupire/ Orange France
3.01.02	March 2000	CR.03, Error correction	TADIG	Pierre Dupire/ Orange France
3.02.00	September 2000	CR.04, Editorial Changes; CR.05, Error correction; CR.06, Additions; CR.07, CR.08, to bring TD.60 in line with TD.57 CR.09, CR.10, CR.11; Error correction	TADIG	Pierre Dupire/ Orange France
3.02.01	February 2001	CR.13, Add CAMEL phase 2 Scenarios CR.14, Correction of the Definitions for Chargeable Units in GPRS Scenarios CR.15, Bring TD.60 in line with TAP3.2 to populate the Tax Rate with five decimal places instead of two CR.16, Correct the Definition of the Total Call Event Duration in scenario 1046	TADIG	Pierre Dupire/ Orange France
3.03.00	July 2001	CR.17, Error correction CR.18, Bring TD.60 in line with TAP 3.4 CR.19, Error correction CR.20, Error correction	TADIG	Pierre Dupire/ Orange France
3.03.01	November 2001	CR.21, Error correction CR.22, Error correction CR.23, Error correction	TADIG	Pierre Dupire/ Orange France
3.09.00	May 2002	CR.24, Error correction CR.25, Error correction CR.26, Error correction CR.27, Error correction	TADIG	Pierre Dupire/ Orange France

		Note that version numbers 3.4-3.8 were skipped in order to bring TD.60 in line with the TD.57 version numbers		
3.10.00	November 2002	CR.28, Editorial Error correction, CR.29, Additional Scenario, CR.30, Bring TD.60 in line with TD.57, CR.31, New scenario for WLAN, CR.32, Additional subscriber definitions for new scenario	TADIG	Pierre Dupire/ Orange France
3.10.01	June 2003	CR.33, Multiple Taxes Scenario Update, CR.34, Scenario 1031 Update, CR.35, Scenario 1071 Update (Partial Type Indicator) CR.36, Addition of Video Telephony Example, CR.37, Content Charging Scenarios CR.38, LCS Scenarios, CR.39, Multiple Taxes Scenario (2002) Update, CR.40, SMS over GPRS Correction, CR.41, GPRS Partial Tickets, CR.42, Inconsistency Corrections,	TADIG	Pierre Dupire/ Orange France
3.10.02	December 2003	CR.43, Error correction, CR.44, Error corrections	TADIG	Pierre Dupire/ Orange France
3.10.03	June 2004	CR.45, Error corrections, CR.46, Correction of CSE Information	TADIG	Pierre Dupire/ Orange France
3.11.00	May 2005	Bring TD60 in line with TD57 3.11.02 and re-arrange as per TADIG#57 & #58 discussions	TADIG	Pierre Dupire/ Orange France
3.11.01	May 2005	CR 47, CAMEL service relevant to GPRS Call Event scenario Deleted; Refer to CR48	TADIG	Pierre Dupire/ Orange France
3.11.01	1st June 2005	CR 48, CAMEL service relevant to GPRS Call Event scenario	TADIG	Pierre Dupire/ Orange France
3.11.02	14 th October 2005	CR 49, Default Call Handling Conditionality CR 50, IOT inclusion CR 51, Summer/Winter Time settings CR 52, Alignment of timestamps with TD 61	TADIG	Pierre Dupire/ Orange France

3.11.03	18 th May 2006	CR 53, Amendment of Call Type Levels for Emergency Calls CR 54, Creation of Partial GPRS Call Event Scenario relevant to CAMEL	TADIG	Pierre Dupire/ Orange France
3.11.04	9 th November 2006	CR55, Inclusion of call type levels for CS Camel call in special scenarios.	TADIG	Pierre Dupire/ Orange France
3.11.5	7 th June 2007	CR56, In the examples given in the document IP Addresses like 134.5.262.X (X stands for a number) are used for PDP Addresses in some places. All these occurrences should be changed to 134.5.252.X	TADIG	Pierre Dupire/ Orange France
3.11.6	29 th November 2007	CR57, In scenario 1042 the IMEI has been removed from records 2 and 3 as this scenario is an example of forwarded call case. This new version is the opportunity to correct a typing error in scenario 1055 : a digit '2' was missing in the Camel Destination Number (239222800858) In paragraph 1.1 page 6 (Scope) the version of related documents TD61 and TD62 has been updated to v3.11.6 as well.	TADIG	Pierre Dupire/ Orange France
3.11.7	22 nd May 2008	CR58, to show in scenario 1061 that SMS-MO Events can be uniquely identified by the Call reference element in TAP where more than one SMS-MO CDR has been created for a single SMS message i.e. the SMS exceeds the 160 character limit. New GSMA template applied (4 December 2008)	TADIG	Pierre Dupire/ Orange France
3.11.8	09 Nov 2009	Minor CR 059 (TADIG Doc 68_035). Correction to the LAC and Cell-ID table as it is not possible that two MSCs serve the same Location area at the same time. In addition, MSC Address names made uppercase.	TADIG #68	Pierre Dupire/ Orange France
28.0	09 March 2010	Minor CR 060 (TADIG Doc 69_007). Removing reference to TD.57,	TADIG #69	Pierre Dupire/ Orange Group

		TD.61 and TD.62 version numbers. A comment to the field "Release version Number" was also corrected.		
30.0	28 Dec 2011	Major CR 061 (TADIG Doc 72_054). Addition of VoLTE scenarios. Bringing AA.14 part up-to-date. New PRD template applied.	TADIG #72 EMC #99	Christer Gullstrand / Syniverse Technologies
30.1	01 May 2012	Minor CR 062 (TADIG Doc 73_13) correct a Tax Type 08 which was defined for fix tax before TAP 3.11 but is not any more since TAP 3.11. Minor CR 063 (TADIG Doc 73_14) correct the last segment of IP Address for P-CSCF to be in allowed range. .	TDS #43	Yuemei Chen / T-Mobile Austria
30.2	09 Oct 2012	Minor CR 064 (TADIG Doc 74_27) Correct scenario 1080 usage of Cause For Termination	TDS #46	Yuemei Chen / T-Mobile Austria
30.2	3 Dec 2012	Editorial update: New GSMA template.	N/A	Yuemei Chen / T-Mobile Austria
30.3	01.02.2013	Minor CR TD.60 CR 1001 (TDS 48_007) To be compliant with TD.57 the APNNI element in Wi-Fi scenario 1072 must contain a Venue Class, default 0	TDS#48	Yuemei Chen / T-Mobile Austria
30.4	15 th May 2014	Major CR TD.60 CR1002 - Add a new scenario 1083 to cover the usage of the new field "Requested Destination" to support the implementation of VoLTE and corrections of 1081 and 1082 – approved at TADIG#77 (Doc_77_028)	TADIG#77	Yuemei Chen / T-Mobile Austria

A.2 Other Information

Type	Description
Document Owner	TADIG
Editor / Company	Yuemei Chen, T-Mobile Austria

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Your comments or suggestions & questions are always welcome.