

TECHNICAL REQUIRMENTS AND TESTING

1. Responsibilities

- 1.1 The Wholesale Roaming Access Services as described in Annex 2 will be facilitated via the below stated interfaces.
- 1.2 The implementation of the TAP records necessary to provide the Wholesale Roaming Access Service according to this Agreement shall be in accordance with the GSM Association Permanent Reference Documents.

2. Data Exchange Procedure

- 2.1 Interchange of TAP records shall be performed by Electronic Data Interchange (EDI). Transfer shall be within the standard timescale and the standard frequency as defined in the GSM Association Permanent Reference Documents.
- 2.2 Tele2 will make TAP3 files available daily over the interface specified in this Annex 6.
- 2.3 When no charging data are available Notification files will be sent.
- 2.4 EDI Address as well as contact points for enquiries and complaints are specified in Annex 11, List of Contacts.

3. Fall-back Procedure

- 3.1 In case of EDI failures or delays in EDI transfer the fall-back procedure shall come into effect as specified by TADIG in GSM Association Permanent Reference Documents.
- 3.2 The fall-back procedure as specified by TADIG will only be used in exceptional circumstances and the method of transfer shall be as follows:
 - CD-ROMs shall be sent by express mail or courier to the stated contact point of the Access Seeker as stated in Annex 11 List of contacts, not later than 15 days after the cut-off.
- 3.3 The use of the fall-back procedure does not change the liability as defined under Data Exchange Procedure above.

4. Changes in the time schedules

- 4.1 Any changes in the time schedules concerning the exchange of TAP files shall be agreed before the Commercial Launch.

5. Data Clearing House

- 5.1 In case of using Data Clearing House for data interchange, the responsibilities of Tele2 remain as they are defined by the GSM Association and in Permanent Reference Documents.

6. Information On Signalling Interconnection And/Or IP Connectivity

- 6.1 The implementation of the Signalling Protocols and/or Inter-PLMN backbone (as defined in IREG PRDs) shall be in accordance with the Technical Specifications and relevant GSM Association Permanent Reference Documents with the exception of Public Mobile Network specific deviations and/or chosen options agreed by both Parties during the testing phase.
- 6.2 The technical information relevant for International Roaming shall be exchanged between the Parties as part of IREG testing procedures and IREG PRDs.
- 6.3 Each Party agrees to adhere to the processes set out in PRD IR.21, Article 4: *Procedures for Updating the Database*, when making changes in the numbering and addressing information with an impact on International Roaming.

7. Certification of testing

- 7.1 Tele2 shall execute IREG and TADIG tests which includes testing of the TAP procedures according to the Test Specifications of GSM Association Permanent Reference Documents.
- 7.2 Access Seeker shall send Completion Certificates to Tele2 confirming successful execution of IREG & TADIG tests as stated in Section 7.1 above.
- 7.3 A Completion Certificates need to be provided to Tele2 prior to the Commercial Launch.

8. Testing of Service availability

- 8.1 Tele2 agrees to perform relevant tests of service availability, according to the IREG and TADIG Test Specifications, every time a major change which has an impact on International Roaming and SMS Interworking.

9. Testing SIM and/or USIM-Cards

- 9.1 Access Seeker will make the bilaterally agreed number of test SIM and/or USIM-cards available to Tele2 under the following conditions:
- 9.2 Send test SIM and/or USIM-card(s) as agreed bilaterally in a written notice without any activation fee or any subscription fee. Tele2 will be treated as a Roaming Customer to the Access Seeker.
- 9.3 All necessary information concerning the SIM and/or USIM-card(s), i.e. IMSI, MSISDN, PIN, PUK, shall be forwarded to Tele2 prior to testing.
- 9.4 The SIM and/or USIM-card(s) remain in the property of the Access Seeker.
- 9.5 The test SIM and/or USIM-card(s) shall only be used in Tele2's Public Mobile Network for the purpose of testing of international roaming functions.
- 9.6 TAP-data for traffic generated by these test SIM and/or USIM-card(s) shall be included in the normal billing and accounting procedures and thereby also invoiced by Tele2.
- 9.7 None of the above shall be construed to allow reselling the SIM and/or USIM-card(s) or in any other way forward the SIM and/or USIM-card on conditions that could be negative for the Access Seeker.
- 9.8

10. Tests before the Commercial launch and during the term of Agreement

- 10.1 As a general principle, it is agreed that Tele2 using test-SIM and/or USIM-card(s) will not receive a payable bill from the issuing Access Seeker for the test calls made in the public mobile network under test. TAP-data and bills will only be sent for test purposes.
- 10.2 Unless otherwise agreed, it is the sole responsibility of Tele2 to block Roaming Customers of Access Seeker during the pre-commercial phase and in no case the Access Seeker has to bear the costs incurred by its customers roaming in Tele2's Public Mobile Network.
- 10.3 As a general principle it is agreed that before the Commercial Launch and during the term of the Agreement the usage of test SIM and/or USIM-card(s) is fully chargeable for traffic charges. The Access Seeker shall therefore have the right to send a (single) bill to Tele2 for the traffic generated by the exchanged SIM and/or USIM-card(s), however, only if the amount exceeds the bilaterally agreed non chargeable value. The amount charged is only the amount exceeding the non-chargeable value calculated on a monthly basis. The non-chargeable monthly value per test SIM/for the total of test SIMs is 100 EUR.
- 10.4 The tariff used shall be the Price as stated in Annex 3 in this Agreement.

11. Test Calls made in non-Tele2 mobile networks

- 11.1 All costs occurring for calls made with test SIM and/or USIM cards issued to Tele2 outside Tele2s network will be charged by the Access Seeker.
- 11.2 The tariff used will be the Access Seekers retail tariff. The Access Seeker will attach an itemised bill to the invoice for control purposes.
- 11.3 Using best endeavours, the Access Seeker will inform Tele2 and bar the test SIM and/or USIM card(s) being used outside Tele2's Network.
- 11.4 Tele2 is fully liable for all call costs as detailed above, damages and costs (as limited by this Agreement) incurred by misuse of test SIM and/or USIM cards outside Tele2 for the first 180 calendar days or until it is informed by the Access Seeker, whichever is the smaller.

12. Lost or stolen test SIM and/or USIM cards

- 12.1 In the event that Tele2 determines it is no longer in possession of the Access Seeker Test SIM and/or USIM cards, Tele2 must immediately notify the Access Seeker in written form and request that the missing card(s) be deactivated. Once sufficient notification has been delivered to the Access Seeker, the liability of Tele2 ceases for all further usage on the missing cards(s) which occurs beyond the date of notification. However, the burden is on Tele2 to provide sufficient proof that adequate notification was given to the Access Seeker.

13. Authentication

- 13.1 The Parties agree to implement Customer Identity Authentication for Roamers on their network. The purpose and mechanism for authentication are described in GSM 02.09 and in GSMA PRD SG.15.
- 13.2 The Parties agree that authentication shall be performed as specified below:

For Roaming Customers (at the commencement of GSM service or 3G service) authentication is to be performed at every occasion of:-

- Network access using IMSI
- Location updating involving VLR change
- Network access for at least 1 in 9 mobile originated and terminated call set-ups (incl. SMS) for Tele2. (The value of x should be less than 10)
- Supplementary service operation outside call
- Cipher key sequence number mismatch

13.3 If GPRS is supported, authentication is also to be performed at every occasion of:

- GPRS attach routing area updating involving SGSN change
- PDP context activation
- P-TIMSI (P- Temporary IMSI) signature mismatch, if P-TMSI signature is used
- P-TMSI signature not inserted in a Attach Request or Routing Area Update Request

14. Authentication during a malfunction of the network

- 14.1 The Parties agree that if a mobile station (MS) is registered and has been successfully authenticated, whether active or not active on a call, calls are permitted (including continuation and handover) and the Access Seeker will receive the charge.
- 14.2 If an MS attempts to register or re-register and cannot be successfully authenticated due to the network malfunction, calls are not permitted.
- 14.3 If an MS has already been registered on the network, and has already been authenticated, and cannot be successfully re-authenticated due to network malfunction (e.g. the Access Seeker was not able to provide authentication pairs RAND, SRES),
- 14.4 The Parties agree that calls are not permitted and that the will not receive any charges.

15. Billing and Transfer Information

15.1 The Access Seeker shall fill in below information prior to Commercial launch.

	Access Seeker
Country Abbreviation	
Mobile Country Code	
Mobile Network Code(s)	
Country Code (ITU E. 164)	
TAP Source Code(s) (TD.13)	
TAP version(s) able to receive	
Preferred TAP Currency to receive	
Preferred TAP Transfer frequency to receive	
Receipt of SMS MT TAP records required	
Receipt of SMS MT NRTRDE records required	
Preferred Settlement Currency on Invoices	
Receipt of Paper Invoices required	
Different invoices required for each TADIG code	
Electronic Invoicing able to send	
TADIG Code for Financial Clearing Agent	
Financial Clearing Agent	
TADIG Code for Data Clearing Agent	
Data Clearing Agent	
TADIG Code for NRTRDE Agent	
NRTRDE Agent	
Definition of Criteria for Suspected Fraud	
International Direct Dialing Access Code	
Old Data (non-MTC) acceptable days without contact	
Old Data (MTC) acceptable days without contact	
Old Data (non-MTC) maximum acceptable days with contact	
Old Data (MTC) maximum acceptable days with contact	
NRTRDE Implementation Date	
NRTRDE version(s) able to receive	