GSMA Roaming Database
IR.21 Data

RAEX IR.21 Information

Creation date:	2021-05-21
Creation time:	14:05:48+02:00
File type:	IR.21
Sender TADIG:	DEUE2
Publish Comment:	LPWA section added
TADIG-GEN schema version:	2.4
RAEX-IR.21 schema version:	14.0

ORGANISATION INFORMATION

Section ID: 1 (Mandatory)

Organisation name:	Telefónica Germany GmbH & Co. OHG
Country initials:	DEU

History of changes

TADIG Code	Section ID	Section	Date	Description
DEUE2	13	Network Elements Information	2021-05-21	Network nodes updated
DEUE2	20	LTE Roaming Information	2021-05-19	5G NSA data updated
DEUE2	27	LPWA Roaming Information Section	2021-05-12	LPWA section added
DEUE2	5	International SCCP Gateway	2020-11-23	Telekom Austria STP Name updated
DEUE2	21	Contact Information	2020-11-23	24/7 Contact updated
DEUE2	26	VoLTE Roaming Information Section	2020-11-23	S8HR VoLTE Roaming
DEUE2	4	Routing Information	2020-06-12	Additional Information updated
DEUE2	20	LTE Roaming Information	2020-06-12	QoS Profile updated
DEUE2	20	LTE Roaming Information	2019-11-18	VoLTE Profile added
DEUE2	17	IP Roaming/Networking Information	2019-11-12	Syniverse removed as IPX provider
DEUE2	13	Network Elements Information	2019-05-24	SCP node GT added
DEUE2	16	Packet Data Service Information	2019-05-24	IPv4v6 support updated
DEUE2	20	LTE Roaming Information	2019-05-24	IPv4v6 support updated
DEUE2	13	Network Elements Information	2018-11-27	Network Elements updated
DEUE2	4	Routing Information	2018-11-26	BICS SMS Hub added
DEUE2	4	Routing Information	2018-11-26	MNP data updated
DEUE2	16	Packet Data Service Information	2018-11-26	APN Type updated
DEUE2	20	LTE Roaming Information	2018-11-26	EPC Realm updated
DEUE2	21	Contact Information	2018-06-07	Contact details updated
DEUE1	21	Contact Information	2018-06-07	Contact details updated
DEUE2	13	Network Elements Information	2017-09-12	Network Nodes updated
DEUE2	17	IP Roaming/Networking Information	2017-09-12	Former E-Plus ASN 64594 removed
DEUE2	20	LTE Roaming Information	2017-09-12	LTE scenarios updated
DEUE2	21	Contact Information	2017-09-12	Contact Details updated
DEUE1	21	Contact Information	2017-09-12	Contact Details updated
DEUE2	4	Routing Information	2017-09-11	SMS Homerouting introduced
DEUE2	20	LTE Roaming Information	2017-04-24	LTE scenarios updated
DEUE2	4	Routing Information	2017-03-20	MSISDN lenght updated
DEUE2	21	Contact Information	2017-03-20	IR21 Distribution Email Address updated
DEUE1	21	Contact Information	2017-03-20	IR21 Distribution Email Address updated
DEUE2	14	USSD Information	2017-03-13	USSD section added
DEUE2	4	Routing Information	2017-03-10	MSRN GT Range updated
DEUE2	13	Network Elements Information	2017-03-10	SGSN-MME 14 IP address corrected
DEUE2	20	LTE Roaming Information	2017-03-10	FQDN data updated
DEUE2	21	Contact Information	2017-03-10	Roaming Troubleshooting 24/7 contact deleted
DEUE1	21	Contact Information	2017-03-10	Troubleshooting 24/7 contact deleted
DEUE2	4	Routing Information	2017-03-01	E-Plus NDC data added
DEUE2	5	International SCCP Gateway	2017-02-28	E-Plus data added
DEUE2	8	Subscriber Identity Authentication	2017-02-28	E-Plus data added
DEUE2	13	Network Elements Information	2017-02-28	Update of Merged Network Element data
DEUE2	16	Packet Data Service Information	2017-02-28	E-Plus data added
DEUE2	18	MMS Interworking Information	2017-02-28	MMS Hub updated
DEUE2	20	LTE Roaming Information	2017-02-28	E-Plus realm data added
DEUE1	4	Routing Information	2017-02-28	E-Plus IR.21 data added
DEUE1	21	Contact Information	2017-02-28	E-Plus contacts added
DEUE2	7	SCCP Protocol	2017-02-27	E-Plus data added

TADIG Code	Section ID	Section	Date	Description
DEUE2	9	Test Numbers Information	2017-02-27	E-Plus data added
DEUE2	10	MAP	2017-02-27	E-Plus data added
DEUE2	11	MAP Optional Routing	2017-02-27	E-Plus data added
DEUE2	12	MAP Inter Operator SMS Enhancement	2017-02-27	E-Plus data added
DEUE2	15	CAMEL Information	2017-02-27	E-Plus data added
DEUE2	17	IP Roaming/Networking Information	2017-02-27	E-Plus IP Range and ASN data added
DEUE2	21	Contact Information	2017-02-27	Int_Planning added
DEUE2	5	International SCCP Gateway	2016-12-14	SCCP carrier name changed to TIWS
DEUE2	13	Network Elements Information	2016-12-14	MSC node GT added
DEUE2	17	IP Roaming/Networking Information	2016-12-14	iBasis added as new GRX, Telekom Austria removed
DEUE2	17	IP Roaming/Networking Information	2016-12-14	Telefonica GRX name changed to TIWS
DEUE2	20	LTE Roaming Information	2016-12-14	LTEInfo updated
DEUE2	4	Routing Information	2016-04-22	LTE Roaming for E-Plus IMSI - Realm to be implemented -
DEUE2	4	Routing Information	2015-12-14	Important Guidelines to Steering (SoR) and Radio Consolidation
DEUE2	5	International SCCP Gateway	2015-12-14	SCCP Carrier Deutsche Telekom removed
DEUE2	11	MAP Optional Routing	2015-12-14	DEUO2 removed
DEUE2	12	MAP Inter Operator SMS Enhancement	2015-12-14	DEUO2 removed
DEUE2	15	CAMEL Information	2015-11-05	CAMEL support updated
DEUE2	10	MAP	2015-07-15	26208 (DEUO2) removed
DEUE2	18	MMS Interworking Information	2015-07-15	26208 (DEUO2) removed
DEUE2	13	Network Elements Information	2015-07-14	SCP nodes added and SW version updated
DEUE2	15	CAMEL Information	2015-07-14	CAMEL Rerouting Numbers updated
DEUE2	4	Routing Information	2015-07-13	Additional Info regarding first phase of "Network Merger" added
DEUE2	16	Packet Data Service Information	2015-07-13	DEUO2 APN removed
DEUE2	17	IP Roaming/Networking Information	2015-07-13	IMSI Range 26208 (DEUO2) removed
DEUE2	21	Contact Information	2015-07-13	IMSI Range 26208 (DEUO2) removed
DEUE2	20	LTE Roaming Information	2015-05-15	Added LTE INFO
DEUE2	21	Contact Information	2015-05-15	No 24/7 troubleshooting, updated contact details
DEUE2	5	International SCCP Gateway	2015-01-11	Added new SCCP Carrier TGS Traffic to be migrated upon request of Telefonica Global Solutions
DEUE2	18	MMS Interworking Information	2014-09-05	corrected PLMN
DEUE2	4	Routing Information	2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
DEUE2	5	International SCCP Gateway	2014-07-18	Added PLMN whereas 26208 DEUO2 only HPMN
DEUE2	9	Test Numbers Information	2014-07-18	RAEX IR 21 Information applies to both IMSI Ranges, 26207 (DEUE2) and 26208 (DEUO2) whereas 26207 acts only as HPMN
DEUE2	10	MAP	2014-07-18	RAEX IR21 information applies to both imsi ranges 26207 (DEUE2)+26208 (DEUO2), whereas 26207 (DEUO2) only HPMN
DEUE2	11	MAP Optional Routing	2014-07-18	RAEX IR21 information applies to both imsi ranges 26207 (DEUE2)+26208 (DEUO2), whereas 26207 (DEUO2) only HPMN
DEUE2	12	MAP Inter Operator SMS Enhancement	2014-07-18	RAEX IR21 information applies to both imsi ranges 26207 (DEUE2)+26208 (DEUO2), whereas 26207 (DEUO2) only HPMN
DEUE2	13	Network Elements Information	2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
DEUE2	15	CAMEL Information	2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
DEUE2	16	Packet Data Service Information	2014-07-18	APNOperatorIdentifierList Included info for second IMSI Range 26208 (DEUO2), only HPMN
DEUE2	16	Packet Data Service Information	2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
DEUE2	17	IP Roaming/Networking Information	2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
DEUE2	18	MMS Interworking Information	2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN

TADIG Code	Section ID	Section	Date	Description
DEUE2	18	MMS Interworking Information	2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
DEUE2	4	Routing Information	2014-07-16	Fixed minor mistake to NDCs
DEUE2	4	Routing Information	2014-07-14	Raex IR21 version
DEUE2	5	International SCCP Gateway	2014-07-14	IR21 RAEX TEF GERMANY
DEUE2	9	Test Numbers Information	2014-07-14	RAEX Ir21
DEUE2	10	MAP	2014-07-14	IR21 rAEX version
DEUE2	13	Network Elements Information	2014-07-14	RAEX IR21
DEUE2	13	Network Elements Information	2014-07-14	RAEX IR21 VERSION
DEUE2	15	CAMEL Information	2014-07-14	IR21 REX version
DEUE2	16	Packet Data Service Information	2014-07-14	RAEX IR21
DEUE2	17	IP Roaming/Networking Information	2014-07-14	RAEX IR 21Versio
DEUE2	18	MMS Interworking Information	2014-07-14	RAEX IR21
DEUE2	18	MMS Interworking Information	2014-07-14	RAEX IR21
DEUE2	5	International SCCP Gateway	2014-07-11	IC2 Raex Input
DEUE2	13	Network Elements Information	2014-07-11	IC2 RAEX Update
DEUE2	16	Packet Data Service Information	2014-07-11	EU Internet APN Added
DEUE2	13	Network Elements Information	2013-07-12	more NW Elements added
DEUE2	21	Contact Information	2013-07-12	IR21 email list
DEUE2	4	Routing Information	2013-07-11	Ranges Added
DEUE2	5	International SCCP Gateway	2013-07-11	Added SCCP Carrier by invitation only
DEUE2	7	SCCP Protocol	2013-07-11	ITU/ANSI information included
DEUE2	8	Subscriber Identity Authentication	2013-07-11	Subscriber Identity Authentication
DEUE2	10	MAP	2013-07-11	MAP information added
DEUE2	11	MAP Optional Routing	2013-07-11	MAP Optinaml Routing Info added
DEUE2	12	MAP Inter Operator SMS Enhancement	2013-07-11	Added Inter OPerator SMS Enhancement
DEUE2	4	Routing Information	2013-07-10	Routing Information added
DEUE2	5	International SCCP Gateway	2013-07-10	SCCP Carrier Information Update
DEUE2	9	Test Numbers Information	2013-07-10	Adding Test Numbers
DEUE2	15	CAMEL Information	2013-07-10	SCP Adresses Camel
DEUE2	16	Packet Data Service Information	2013-07-10	GPRS Information
DEUE2	17	IP Roaming/Networking Information	2013-07-10	IP Information added
DEUE2	18	MMS Interworking Information	2013-07-10	MMS IW Info Added

NETWORK

TADIG code: DEUE2
Section ID: 2 (Mandatory, Repeating)

TADIG code:	DEUE2
Network name:	Telefónica Germany GmbH & Co. OHG
Network type:	Terrestrial
Technology:	**Frequency list:**
2G-GSM frequencies:	GSM 900, DCS 1800
3G-UTRA/FDD frequencies:	1 - IMT 2.1 GHz
3G-UTRA/TDD frequencies:	Unsupported
4G-E-UTRAN frequencies:	20 - 800 MHz EDD, 3 - DCS 1800, 7 - 2.6 GHz, 1 - IMT 2.1 GHz, 8 - 900 MHz, 28 - 700 MHz APAC
4G-E-UTRAN-MIoT-LTE-M frequencies:	20 - 800 MHz EDD
4G-E-UTRAN-MIoT-NB-IoT frequencies:	20 - 800 MHz EDD
MIoT-NB-IoT deployment modes:	2 - Guardband, 3 - In-band
5G NR:	n78, n28, n3
Presentation of country initials and MNN:	GER Telefónica Germany
Abbreviated MNN:	o2 - de

NETWORK INFORMATION

TADIG code: DEUE2
Section ID: 3 (Mandatory)

The following information refer to the network identified by TADIG code DEUE2

ROUTING INFORMATION

TADIG code: DEUE2
Section ID: 4 (Mandatory)
Effective date of change: 2021-05-19

CCITT E.164 Number series	Country Code (CC)	National Destination Code (NDC)	SN Range Start	SN Range Stop	Primary International DPC	Secondary International DPC	MVNO Number	Location
MSISDN number ranges (s)								
	49	176	00000000	99999999				
	49	179	0000000	9999999				
	49	1590	0000000	9999999				
	49	177	0000000	9999999				
	49	178	0000000	9999999				
	49	163	0000000	9999999				
	49	1570	0000000	9999999				
	49	1575	0000000	9999999				
	49	1577	0000000	9999999				
	49	1578	0000000	9999999				
	49	1573	0000000	9999999				
	49	1579	0000000	9999999				
Network Nodes Global Title Number Range(s)								
	49	1760	000000	999999				
	49	1770	000000	999999				
	49	15790	000000	999999				
MSRN Number Range(s)								
	49	1760	0000000	9999999				
	49	1770	000000	999999				

E. 212 Number series	Mobile Country Code (MCC)	Mobile Network Code (MNC)
	262	07

E. 214 Mobile Global Title (MGT)	Country Code of MGT (CC)	Network Code of MGT (NC)
	49	176

Does Number Portability apply ?	Yes

Is 15 Digit MSISDN Supported ?	No

E. 164 Number Ranges due to Number Portability	CC	NDC	SN Range Start	SN Range Stop
	49	151	0000000	9999999
	49	160	0000000	9999999
	49	170	0000000	9999999
	49	171	0000000	9999999
	49	175	0000000	9999999
	49	162	0000000	9999999
	49	172	0000000	9999999
	49	173	0000000	9999999
	49	174	0000000	9999999
	49	152	0000000	9999999

Additional Information
E-Plus (26203) and Telefonica O2 (26207) are merged to one network Telefonica Germany where still technical nodes from both networks are used. For Outbound Roaming both IMSIs 26203 and 26207 are still valid. Please keep IMSI analysis 26203 --> 49177
(i) Radio Access Consolidation

Additional Information
The radio network of E-Plus and Telefonica O2 is consolidated. The radio network is operating with E-Plus PLMN 26203.
The consolidated radio network is connected to the common core network (CS and PS).
(ii) Guidelines to Inbound Steering (Your customers in Germany)
SS7 Steering
Merge in your SoR system both networks E-Plus (IMSI 26203, GT 49177) and Telefonica O2 (IMSI 26207, GT 49176) to a new network "Telefonica Germany" (IMSI 26203/26207, GT 49177/49176).
Your SoR system must consider both GT's as equivalent and associate them to the same network.
OTA Steering
For successful OTA traffic steering for 2G-3G-4G customers it is important to populate the SIM-list with PLMN 26203 on top. Please add also 26207 to the SIM-list (lower position).
SS7 SMS Hub Provider: Syniverse & BICS
Telefonica Germany applies SMS Home Routing to all incoming SMS requests.
Telefonica SMC Mobile Operations is 24/7 Troubleshooting contact

History of changes

Date	Description
2020-06-12	Additional Information updated
2018-11-26	BICS SMS Hub added
2018-11-26	MNP data updated
2017-09-11	SMS Homerouting introduced
2017-03-20	MSISDN lenght updated
2017-03-10	MSRN GT Range updated
2017-03-01	E-Plus NDC data added
2016-04-22	LTE Roaming for E-Plus IMSI - Realm to be implemented -
2015-12-14	Important Guidelines to Steering (SoR) and Radio Consolidation
2015-07-13	Additional Info regarding first phase of "Network Merger" added
2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
2014-07-16	Fixed minor mistake to NDCs
2014-07-14	Raex IR21 version
2013-07-11	Ranges Added
2013-07-10	Routing Information added

INTERNATIONAL SCCP GATEWAY

TADIG code: DEUE2
Section ID: 5 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2020-11-23

International SCCP carrier list	

SCCP carrier name:	Telekom Austria
Connectivity information:	Primary
MNO TADIG code list:	

DPC info:	
Signature:	VIE_A
Type:	SCCP_STP
International DPC:	2.65.0
Comments:	Assigned per operator- Telekom Austria

DPC info:	
Signature:	LINZ_FA
Type:	SCCP_STP
International DPC:	2.65.2
Comments:	Assigned per operator- Telekom Austria

SCCP carrier name:	TIWS (Telefonica International Wholesale Services)
Connectivity information:	Primary
Comments:	Traffic to be migrated upon request of TIWS
MNO TADIG code list:	

DPC info:	
Signature:	ITU EUROPE
Type:	SCCP_STP
International DPC:	2.31.5
Comments:	To be used as primary option (without loadsharing) 2.31.5 is the alias point code used for TIWS Madrid STP (2.31.4) and Frankfurt STP (2.242.6)

DPC info:	
Signature:	ITU AMERICA
Type:	SCCP_STP
International DPC:	3.191.7
Comments:	To be used as secondary option (without loadsharing) 3.191.7 is the alias point code used for TIWS Miami STP (3.182.2) and Puerto Rico STP (3.60.0)

History of changes

Date	Description
2020-11-23	Telekom Austria STP Name updated
2017-02-28	E-Plus data added
2016-12-14	SCCP carrier name changed to TIWS
2015-12-14	SCCP Carrier Deutsche Telekom removed
2015-01-11	Added new SCCP Carrier TGS Traffic to be migrated upon request of Telefonica Global Solutions
2014-07-18	Added PLMN whereas 26208 DEUO2 only HPMN

Date	Description
2014-07-14	IR21 RAEX TEF GERMANY
2014-07-11	IC2 Raex Input
2013-07-11	Added SCCP Carrier by invitation only
2013-07-10	SCCP Carrier Information Update

SCCP Protocol available at PMN for connection for International SS7 Roaming
TADIG code: DEUE2
Section ID: 7 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2017-02-28

SCCP Protocol available at PMN	Availability (Yes / No)
ETSI (ITU):	Yes
ANSI:	Yes

History of changes

Date	Description
2017-02-27	E-Plus data added
2013-07-11	ITU/ANSI information included

SUBSCRIBER IDENTITY AUTHENTICATION

TADIG code: DEUE2
Section ID: 8 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2017-02-28

Authentications	Performed (Yes / No)
Authentication performed for Roaming subscribers at the commencement of GSM service	Yes
Authentication performed for roaming subscribers in case of GPRS	Yes
A5 Cipher Algorithm version in use	yes

History of changes

Date	Description
2017-02-28	E-Plus data added
2013-07-11	Subscriber Identity Authentication

SUBSCRIBER IDENTITY AUTHENTICATION

TADIG code: DEUE2

Test Numbers Information
TADIG code: DEUE2
Section ID: 9 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2017-02-28

Number Type	Test Number	Location	Comments
AAC	+491790168625		answering device
AAC	+4917601686250		answering device
AAC	+49176016862000		answering device
AAC	+49176035111111		answering device
AAC	+49176035222222		

History of changes

Date	Description
2017-02-27	E-Plus data added
2014-07-18	RAEX IR 21 Information applies to both IMSI Ranges, 26207 (DEUE2) and 26208 (DEUO2) whereas 26207 acts only as HPMN
2014-07-14	RAEX Ir21
2013-07-10	Adding Test Numbers

MOBILE APPLICATION PART (MAP)

TADIG code: DEUE2
Section ID: 10 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2017-02-28

Interworking specifically for roaming				
Application context name	**Current version in**			**Comments**
	Inbound roaming		**Outbound roaming**	
	MSC/VLR	**SGSN**	**Outbound roaming**	
networkLocUp	MAPv3	N/A	MAPv3	
roamingNumberEnquiry	MAPv3	N/A	MAPv3	
InfoRetrieval	MAPv3	MAPv2	MAPv3	
subscribeDataMngt	MAPv3	MAPv3	MAPv3	
networkFunctionalSs	MAPv2	N/A	MAPv2	
mwdMngt	MAPv2	-	MAPv2	
shortMsgMT-Relay (called shortMsgRelay in v1)	MAPv2	-	MAPv2	
shortMsgMO-Relay (called shortMsgRelay in v1)	MAPv3	-	MAPv2	
ss-InvocationNotification	MAPv2	N/A	MAPv3	
subscriberInfoEnquiry	MAPv3	-	MAPv3	
gprsLocationUpdate	N/A	MAPv3	MAPv3	
locationCancellation	MAPv3	MAPv3	MAPv3	
msPurging	MAPv3	MAPv3	MAPv3	
reset	-	-	MAPv2	
networksUnstructuredSs	MAPv2	N/A	MAPv2	
reporting	-	N/A	MAPv3	
callCompletion	-	N/A	MAPv3	
istAlerting	-	N/A	-	
service Termination	-	N/A	-	
locationSvcGateway	N/A	N/A	MAPv3	
mm-EventReporting	-	N/A	MAPv3	
authenticationFaillureReport	-	-	MAPv3	
imsiRetrieval	-	N/A	MAPv2	
gprsNotifyContext	N/A	-	-	
gprsLocationInfoRetrieval	N/A	-	MAPv3	
faillureReport	N/A	-	-	
secureTransportHandling	-	-	-	

History of changes

Date	Description
2017-02-27	E-Plus data added
2015-07-15	26208 (DEUO2) removed
2014-07-18	RAEX IR21 information applies to both imsi ranges 26207 (DEUE2)+26208 (DEUO2), whereas 26207 (DEUO2) only HPMN
2014-07-14	IR21 rAEX version
2013-07-11	MAP information added

MAP Optimal Routing Section
TADIG code: DEUE2
Section ID: 11 (Optional)

Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2017-02-28

MAP Optimal Routing of mobile - to - mobile calls				
Application Context Name	**Current version in**			**Comments**
	MSC	**GMSC**	**HLR**	
CallControlTransfer	-	-	N/A	N/A
LocationInfoRetrieval	N/A	-	MAPv3	

History of changes

Date	Description
2017-02-27	E-Plus data added
2015-12-14	DEUO2 removed
2014-07-18	RAEX IR21 information applies to both imsi ranges 26207 (DEUE2)+26208 (DEUO2), whereas 26207 (DEUO2) only HPMN
2013-07-11	MAP Optinaml Routing Info added

MAP Inter Operator SMS Enhancement
TADIG code: DEUE2
Section ID: 12 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2017-02-28

Inter - Operator SMS Enhancement				
Application context name	**Current version in**			**Comments**
	SMS - IWMSC	**SMS - GMSC**	**HLR**	
shortMsgGateway	N/A	MAPv2	MAPv2	
shortMsgAlert	MAPv2	N/A	MAPv2	

History of changes

Date	Description
2017-02-27	E-Plus data added
2015-12-14	DEUO2 removed
2014-07-18	RAEX IR21 information applies to both imsi ranges 26207 (DEUE2)+26208 (DEUO2), whereas 26207 (DEUO2) only HPMN
2013-07-11	Added Inter OPerator SMS Enhancement

NETWORK ELEMENTS INFORMATION

TADIG code: DEUE2
Section ID: 13 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2021-05-21

Node type	Node ID	GT address / Address range	IP address / Address range	IPv6 address / Address range	Vendor info	SW / HW version	UTC offset
GGSN	GGSN-PGW 1		82.113.118.176/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 10		212.23.109.192/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 11		212.23.107.64/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 12		212.23.112.64/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 13		212.23.109.32/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 14		212.23.109.64/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 15		212.23.109.96/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 16		212.23.107.0/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 17		212.23.107.32/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 18		212.23.107.160/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 19		212.23.107.192/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 20		212.23.107.224/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 21		212.23.109.224/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 5		82.113.117.240/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 6		82.113.118.32/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 7		82.113.118.224/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 8		82.113.118.112/28		Huawei	V900R019	+01:00
GGSN	GGSN-PGW 9		212.23.113.32/28		Huawei	V900R019	+01:00
HLR		49 176 0000800 / 0000899			Nokia	HLR Release 19	+01:00
HLR		49 176 0003000 / 0003099			Nokia	HLR Release 19	+01:00
HLR		49 176 0003100 / 0003199			Nokia	HLR Release 19	+01:00
HLR		49 176 0003200 / 0003299			Nokia	HLR Release 19	+01:00
HLR		49 176 0003300 / 0003399			Nokia	HLR Release 19	+01:00
MMSC	MMSC				Xura	3.2	+01:00
MSC/VLR-2G+3G		49 1760000083			Nokia	openMSS CM CFP5	+01:00
MSC/VLR-2G+3G		49 1760000084			Nokia	openMSS CM CFP5	+01:00
MSC/VLR-2G+3G		49 1760000085			Nokia	openMSS CM CFP5	+01:00
MSC/VLR-2G+3G		49 1760000086			Nokia	openMSS CM CFP5	+01:00
MSC/VLR-2G+3G		49 1760000087			Nokia	openMSS CM CFP5	+01:00
MSC/VLR-2G+3G		49 1760000088			Nokia	openMSS CM CFP5	+01:00
MSC/VLR-2G+3G		49 1760000089			Nokia	openMSS CM CFP5 Cloud	+01:00
SCP		49 176 0000300 / 0000399			HUAWEI		+01:00
SCP		49 176 0000500 / 0000599			HUAWEI		+01:00
SCP		49 176 0000600 / 0000699			HUAWEI		+01:00
SCP		49 176 0000900 / 0000999			HUAWEI		+01:00
SCP		49 1760007017					+01:00
SCP		49 1760007019					+01:00
SCP		49 1760007020					+01:00
SCP		49 1760007021					+01:00
SGSN	SGSN-MME 1	49 1760001045	82.113.117.192/26		Huawei	V900R019	+01:00
SGSN	SGSN-MME 10	49 1770695700	212.23.107.88/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 11	49 1770695710	212.23.112.80/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 12	49 1770695720	212.23.112.88/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 13	49 1760001047	212.23.113.48/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 14	49 1760001027	212.23.107.80/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 15	49 1760001028	212.23.107.88/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 16	49 1760001011	82.113.118.206/31		Huawei	V900R019	+01:00
SGSN	SGSN-MME 17	49 1760001012	82.113.119.48/31		Huawei	V900R019	+01:00
SGSN	SGSN-MME 18	49 1760001013	82.113.119.50/31		Huawei	V900R019	+01:00

Node type	Node ID	GT address / Address range	IP address / Address range	IPv6 address / Address range	Vendor info	SW / HW version	UTC offset
SGSN	SGSN-MME 19	49 1760001033	82.113.119.36/31		Huawei	V900R019	+01:00
SGSN	SGSN-MME 2	49 1760001016	82.113.117.176/28		Huawei	V900R019	+01:00
SGSN	SGSN-MME 20	49 1760001034	82.113.119.38/31		Huawei	V900R019	+01:00
SGSN	SGSN-MME 21	49 1760001050	212.23.109.128/31		Huawei	V900R019	+01:00
SGSN	SGSN-MME 22	49 1760001051	212.23.109.130/31		Huawei	V900R019	+01:00
SGSN	SGSN-MME 23	49 1760001052	212.23.109.132/31		Huawei	V900R019	+01:00
SGSN	SGSN-MME 3	49 1760001023	82.113.119.160/27		Huawei	V900R019	+01:00
SGSN	SGSN-MME 4	49 1760001032	82.113.119.128/27		Huawei	V900R019	+01:00
SGSN	SGSN-MME 5	49 1770695650	212.23.113.48/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 6	49 1770695660	212.23.113.56/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 7	49 1770695670	212.23.109.208/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 8	49 1770695680	212.23.109.216/29		Huawei	V900R019	+01:00
SGSN	SGSN-MME 9	49 1770695690	212.23.107.80/29		Huawei	V900R019	+01:00
SGW	SGW 1		82.113.118.208/28		Huawei	V900R019	+01:00
SGW	SGW 10		212.23.108.200/29		Huawei	V900R019	+01:00
SGW	SGW 11		212.23.109.48/28		Huawei	V900R019	+01:00
SGW	SGW 12		212.23.109.80/28		Huawei	V900R019	+01:00
SGW	SGW 13		212.23.109.112/28		Huawei	V900R019	+01:00
SGW	SGW 14		212.23.107.16/28		Huawei	V900R019	+01:00
SGW	SGW 15		212.23.107.48/28		Huawei	V900R019	+01:00
SGW	SGW 16		212.23.107.176/28		Huawei	V900R019	+01:00
SGW	SGW 17		212.23.107.208/28		Huawei	V900R019	+01:00
SGW	SGW 18		212.23.107.240/28		Huawei	V900R019	+01:00
SGW	SGW 19		212.23.109.240/28		Huawei	V900R019	+01:00
SGW	SGW 3		82.113.118.80/28		Huawei	V900R019	+01:00
SGW	SGW 4		82.113.119.24/28		Huawei	V900R019	+01:00
SGW	SGW 5		82.113.118.0/28		Huawei	V900R019	+01:00
SGW	SGW 6		82.113.118.192/28		Huawei	V900R019	+01:00
SGW	SGW 7		212.23.113.72/29		Huawei	V900R019	+01:00
SGW	SGW 8		212.23.109.136/29		Huawei	V900R019	+01:00
SGW	SGW 9		212.23.107.136/29		Huawei	V900R019	+01:00
SMSC	SMSC OTA 1	49 1770674120			G&D	DP10	+01:00
SMSC	SMSC OTA 2	49 1770674130			G&D	DP10	+01:00
SMSC	SMSC OTA 3	49 1760000940			G&D	DP10	+01:00
SMSC	SMSC Range	49 176 0000400 / 0000499			Acision	V5.4	+01:00
SMSC	SMSC specific	49 1760007018					+01:00

History of changes

Date	Description
2021-05-21	Network nodes updated
2019-05-24	SCP node GT added
2018-11-27	Network Elements updated
2017-09-12	Network Nodes updated
2017-03-10	SGSN-MME 14 IP address corrected
2017-02-28	Update of Merged Network Element data
2016-12-14	MSC node GT added
2015-07-14	SCP nodes added and SW version updated
2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
2014-07-14	RAEX IR21
2014-07-14	RAEX IR21 VERSION
2014-07-11	IC2 RAEX Update
2013-07-12	more NW Elements added

USSD Information

TADIG code: DEUE2
Section ID: 14 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2017-03-14

USSD capability available	Yes
Supported phase	Phase 2

History of changes

Date	Description
2017-03-13	USSD section added

CAMEL INFO

TADIG code: DEUE2
Section ID: 15 (Conditional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2017-02-28

gsmSSF/MSC	
CAP Version supported (Inbound)	**CAP Version supported (Outbound)**
CAPv1 CAPv2	CAPv1

CAPv4 Partial Implementations		
CAMEL Phase 4 CSIs:	**Supported (Yes / No)**	*Planned Date*
MT-SMS-CSI		
MG-CSI		
PSI Enhancements		

CAMEL Rerouting Numbering
+49176011X1-X5
+49176012X1-X5
+49176037X1-X5
+49176039X1-X5
(where X = 0-9)
Max. 13 digits

History of changes

Date	Description
2017-02-27	E-Plus data added
2015-11-05	CAMEL support updated
2015-07-14	CAMEL Rerouting Numbers updated
2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
2014-07-14	IR21 REX version
2013-07-10	SCP Adresses Camel

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Packet Data Services Information
TADIG code: DEUE2
Section ID: 16 (Conditional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2019-05-24

List of APN Operator Identifiers		
APN Operator Identifier	**Description**	**Example**
mnc007.mcc262.gprs		
mnc003.mcc262.gprs		

List of APN's available for testing and troubleshooting

APN WEB List					
APN Credential			**APN Type**	**ISP DNS IP address (primary)**	**ISP DNS IP address (secondary)**
APN	**Username**	**Password**			
internet			H-APN		

APN WAP List							
APN Credential			**APN Type**	**WAP Gateway**	**WAP Server URL**	**WAP Port ver 1**	**WAP Port ver 2**
APN	**Username**	**Password**		**IP address**			
internet			H-APN	82.113.100.5	internet		

APN MMS List				
APN Credential			**WAP Gateway IP address for MMS**	**Messaging Server URL**
APN	**Username**	**Password**		
internet			82.113.100.5	http://10.81.0.7:8002

IPv6 Connectivity Information		
	IPv6 PDP Supported	**IPv4v6 PDP Supported**
SGSN Support	No	Yes
GGSN Support	No	Yes

List of 2G/3G QOS profiles	
Profile name:	2G/3G
Traffic class:	Background
ARP:	1
Evolved ARP support:	Yes
Evolved ARP priority level:	1
Evolved APR preemption vulnerability list:	
Evolved APR preemption capability list:	

GTP Version	
SGSN	GTPv1
GGSN	GTPv1

List of Data Service supported

2G Data Services	Multislot Class Capability
EDGE	
GPRS	

3G Data Services	UE 3G Category
3GPS	
HSDPA	
HSUPA	

Multiple PDP Context Support	
Number of Primary PDP Context	Not supported

History of changes

Date	Description
2019-05-24	IPv4v6 support updated
2018-11-26	APN Type updated
2017-02-28	E-Plus data added
2015-07-13	DEUO2 APN removed
2014-07-18	APNOperatorIdentifierList Included info for second IMSI Range 26208 (DEUO2), only HPMN
2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
2014-07-14	RAEX IR21
2014-07-11	EU Internet APN Added
2013-07-10	GPRS Information

IP - Roaming and IP - Interworking Information
TADIG code: DEUE2
Section ID: 17 (Conditional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2019-11-12

List of All IP address ranges used by PMN for connection to inter - PMN IP backbone	IP Address Range
	82.113.117.0/24
	82.113.118.0/24
	82.113.119.0/24
	82.113.120.0/24
	82.113.127.192/26
	212.23.101.0/24
	212.23.100.0/24
	212.23.107.0/24
	212.23.108.0/24
	212.23.99.0/24
	212.23.112.0/24
	212.23.109.0/24
	212.23.113.0/24

List of Autonomous System Number (ASN):	ASN
	64572

List of Autonomous System Number (ASN4B):	ASN4B

List of PMN authoritative DNS server IP addresses and names		
IP address	**IPv6 address**	**DNS Name**
82.113.117.113		gpdnsfra1.mnc007.mcc262.gprs
82.113.117.132		gpdnsdus1.mnc007.mcc262.gprs

List of PMN local caching DNS server IP addresses and names		
IP address	**IPv6 address**	**DNS Name**
82.113.117.113		gpdnsfra1.mnc007.mcc262.gprs

List of GRX Providers	GRX Provider
	TIWS iBasis

History of changes

Date	Description
2019-11-12	Syniverse removed as IPX provider
2017-09-12	Former E-Plus ASN 64594 removed
2017-02-27	E-Plus IP Range and ASN data added
2016-12-14	iBasis added as new GRX, Telekom Austria removed
2016-12-14	Telefonica GRX name changed to TIWS
2015-07-13	IMSI Range 26208 (DEUO2) removed
2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
2014-07-14	RAEX IR 21Versio
2013-07-10	IP Information added

MMS Interworking Information

TADIG code: DEUE2
Section ID: 18 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2017-02-28

MMS Elements Data						
Domain name of MMSC	**IP Address**	*Max. size of MMS allowed*	**Delivery Report allowed? (Yes / No)**	**Read Report allowed? (Yes / No)**	**IP address(es) of Incoming MTA**	**IP address(es) of Outgoing MTA**
mnc007.mcc262.gprs	82.113.100.5	300	Yes	Yes	82.113.117.121	82.113.117.122

List of MMS IW Hub Provider	*MMS IW Hub Provider Name*	*GT address(es)*
	Syniverse	

History of changes

Date	Description
2017-02-28	MMS Hub updated
2015-07-15	26208 (DEUO2) removed
2014-09-05	corrected PLMN
2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
2014-07-18	Included info for second IMSI Range 26208 (DEUO2), only HPMN
2014-07-14	RAEX IR21
2014-07-14	RAEX IR21
2013-07-10	MMS IW Info Added

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LTE Roaming Information
TADIG code: DEUE2
Section ID: 20 (Optional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2021-05-19

IPX Provider Name	IPX DA Realm Used	Diameter Architecture
TIWS		

Primary IP address of DA	Secondary IP address of DA

IPX Provider Name	IPX DA Realm Used	Diameter Architecture
iBasis		

Primary IP address of DA	Secondary IP address of DA

Roaming Interconnection

EPC Realms For Roaming	
	epc.mnc007.mcc262.3gppnetwork.org
	epc.mnc003.mcc262.3gppnetwork.org

FQDN Diameter Edge Agent

FQDN	Primary IP Address DEA FQDN	Secondary IP Address DEA FQDN
epc.mnc007.mcc262.3gppnetwork.org and epc.mnc003.mcc262.3gppnetwork.org	82.113.120.148 82.113.120.132 82.113.120.164 82.113.120.180	

S6a Supported without IWF	S6a MAP IWF supported to HSS	S6a MAP IWF supported to MME
true	false	false

S6d used for legacy SGSN	S9 used for PCC
false	false

SMS ITW

SMS delivery over IP	SMS delivery over SGs
false	true

Voice ITW

CSFB

Roaming CS Fallback

Not Supported

		HPMN	VPMN
LTE Roaming Agreement Only	**LTE Only Roaming Supported**	No	No
2G/3G Roaming Agreement Only	**Scenario 2 Supported**	Yes	Yes
	Scenario 3 Supported	Yes	Yes
2G/3G/LTE Roaming Agreement	**Scenario 1 Supported**	Yes	Yes
	Scenario 2 Supported	Yes	Yes
	Scenario 3 Supported	Yes	No
	Scenario 4 Supported	Yes	No
	Scenario 5 Supported	No	No
	Scenario 6 Supported	No	No

List of LTE QOS profiles	
Profile name:	**Internet**
QCI Value List:	9
QOS ARP List:	3
ARP Preemption Vulnerability List:	1
ARP Preemption Capability List:	0
Profile name:	**SIP**
QCI Value List:	5
QOS ARP List:	1
ARP Preemption Vulnerability List:	0
ARP Preemption Capability List:	1
Maximum bit rate uplink:	512

Maximum bit rate downlink:	512
Profile name:	**Voice**
QCI Value List:	1
QOS ARP List:	1
ARP Preemption Vulnerability List:	0
ARP Preemption Capability List:	1
Maximum bit rate uplink:	64
Maximum bit rate downlink:	64
Guaranteed bit rate uplink:	52
Guaranteed bit rate downlink:	52
Profile name:	**Video**
QCI Value List:	2
QOS ARP List:	2
ARP Preemption Vulnerability List:	0
ARP Preemption Capability List:	1
Maximum bit rate uplink:	512
Maximum bit rate downlink:	512
Guaranteed bit rate uplink:	440
Guaranteed bit rate downlink:	440

IPv6 Connectivity Information		
	IPv6 PDP Supported	**IPv4v6 PDP Supported**
MME Support	No	Yes
SGW Support	No	Yes
PGW Support	No	Yes

5G early drop support		
	As HPMN	**AS VPMN**
5G NSA (non-standalone access) supported	Yes	Yes
DNS PGW NAPTR includes +nc-nr	Yes	Yes
NSA options for EN-DC		3x
ARD set to support of NR as secondary RAT	Yes	
Restrict NR access if HSS is not set to support NR as secondary RAT		Yes

History of changes

Date	Description
2021-05-19	5G NSA data updated
2020-06-12	QoS Profile updated
2019-11-18	VoLTE Profile added
2019-05-24	IPv4v6 support updated
2018-11-26	EPC Realm updated
2017-09-12	LTE scenarios updated
2017-04-24	LTE scenarios updated
2017-03-10	FQDN data updated
2017-02-28	E-Plus realm data added
2016-12-14	LTEInfo updated
2015-05-15	Added LTE INFO

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VoLTE Roaming Information Section
TADIG code: DEUE2
Section ID: 26 (Conditional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2020-11-23

VoLTE roaming architectures		
Architecture	**VPMN**	**HPMN**
LBO HR	Unsupported	Unsupported
LBO VR	Unsupported	Unsupported
S8HR	Supported	Supported

Mobility and voice continuity		
Technology	**VPMN**	**HPMN**
Single Radio Voice Call Continuity	Not supported	Not supported

S8HR roaming constraints	
VPLMN technology Strategy for EC	IMS, CS Fallback
Lawful Interception	Yes
EPS QoS to be enforced	SIP

Local emergency numbers in use at the VPMN	
Number	**Service**
112	**Fire, Ambulance**
110	**Police**

History of changes

Date	Description
2020-11-23	S8HR VoLTE Roaming

LPWA Roaming Information Section
TADIG code: DEUE2
Section ID: 27 (Conditional)
Section is also applicable for the following TADIG codes:
DEUE1

Effective date of change: 2021-06-01

LTE-M services supported as HPMN	
Power saving mode (PSM)	Supported
Extended discontinuous reception (eDRX)	Unsupported
Connected mode mobility (CMM)	Unsupported
Coverage enhancement (CE) mode A	Supported
Coverage enhancement (CE) mode B	Unsupported
SMS	Supported
VoLTE	Unsupported

LTE-M services supported as VPMN	
Power saving mode (PSM)	Supported
Extended discontinuous reception (eDRX)	Unsupported
Connected mode mobility (CMM)	Unsupported
Coverage enhancement (CE) mode A	Supported
Coverage enhancement (CE) mode B	Unsupported
SMS	Supported
VoLTE	Unsupported

NB-IoT services supported as HPMN	
Power saving mode (PSM)	Supported
Extended discontinuous reception (eDRX)	Unsupported
Coverage extension	Supported
SMS	Supported

NB-IoT services supported as VPMN	
Power saving mode (PSM)	Supported
Extended discontinuous reception (eDRX)	Unsupported
Coverage extension	Supported
SMS	Supported

History of changes

Date	Description
2021-05-12	LPWA section added

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CONTACT INFORMATION

TADIG code: DEUE2
Section ID: 21 (Optional, Repeating)
Effective date of change: 2020-11-23

List of Roaming Troubleshooting Contact Information				
Roaming Troubleshooting Contact Information				
Location		Madrid		
Office Time Zone in UTC		+01:00		
Office Hours	Week Day (s)	Start Time		End Time
	all week days	00:00:00		23:59:00
Main Contact for Troubleshooting (Office Hours)				
Team Name	Tel.	Mobile	Fax	Email
SMC Mobile Operations	+34910553221			smc.mobile.tiws@telefonica.com
Escalation Contact for Troubleshooting				
Person Name	Tel.	Mobile	Fax	Email
Roaming Team, Roaming and International Services				roaming-de@telefonica.com
24 x 7 Troubleshooting (contact out of Office Hours)				
Team Name	Tel.	Mobile	Fax	Email
SMC Mobile Operations	+34910553221			smc.mobile.tiws@telefonica.com
Roaming Troubleshooting Ticketing System Information				
Ticket system web address				
Ticket system email address				
Additional Contacts				
SCCP Inquires and ordering of SS7 Routes				

SCCP Inquires and ordering of SS7 Routes

	Person Name	Tel.	Mobile	Fax
	SS7 Carrier Telefonica			
	JobTitle		**Email**	
	Int. Signaling Carrier		ss7carrier@telefonica.com	
	Person Name	**Tel.**	**Mobile**	**Fax**
	Int_Planning Team			
	JobTitle		**Email**	
	Technical IR-Co-ordinator		int_planning@telefonica.com	

Roaming Coordinator

	Person Name	Tel.	Mobile	Fax
	Roaming Team, Roaming and International Services			
	JobTitle		**Email**	
	Roaming Coordinators		roaming-de@telefonica.com	

IREG Tests

	Person Name	Tel.	Mobile	Fax
	IREG Team, Available Mo-Fr 9am-5pm	+498924425611		
	JobTitle		**Email**	
	No support outside office hours		ireg-de@telefonica.com	

TADIG Tests

	Person Name	Tel.	Mobile	Fax
	Roaming Team, Roaming and International Services			
	JobTitle		**Email**	
	Roaming Coordinators		roaming-de@telefonica.com	

CAMEL Tests

	Person Name	Tel.	Mobile	Fax
	Roaming Team, Roaming and International Services			
	JobTitle		**Email**	
	Roaming Coordinators		roaming-de@telefonica.com	

GPRS Tests

	Person Name	Tel.	Mobile	Fax
	Roaming Team, Roaming and International Services			
	JobTitle		**Email**	
	Roaming Coordinators		roaming-de@telefonica.com	

Contact Person(s) in PMN for GRX connectivity

	Person Name	Tel.	Mobile	Fax
	Int_Planning Team			
	JobTitle		**Email**	
	Technical IR-Co-ordinator		int_planning@telefonica.com	

Contact Person(s) in PMN for GRX Provider

	Person Name	Tel.	Mobile	Fax
	Int_Planning Team			
	JobTitle		**Email**	
	Technical IR-Co-ordinator		int_planning@telefonica.com	

Contact person(s) for IW MMS

	Person Name	Tel.	Mobile	Fax
	Roaming Team, Roaming and International Services			
	JobTitle		**Email**	
	Roaming Coordinators		roaming-de@telefonica.com	

Contact Person(s) for WLAN

	Person Name	Tel.	Mobile	Fax
	Roaming Team, Roaming and International Services			
	JobTitle		**Email**	
	Roaming Coordinators		roaming-de@telefonica.com	

Other contact(s)

	Person Name	Tel.	Mobile	Fax
	IREG Team, Available Mo-Fr 9am-5pm	+498924425611		
	JobTitle		**Email**	
	No support outside office hours		ireg-de@telefonica.com	

IR21 Distribution Email Address	Email
	DEUE2-IR21@telefonica.com
	ireg-de@telefonica.com
	int_planning@telefonica.com
	smc.mobile.tiws@telefonica.com

History of changes

Date	Description
2020-11-23	24/7 Contact updated
2018-06-07	Contact details updated
2017-09-12	Contact Details updated
2017-03-20	IR21 Distribution Email Address updated
2017-03-10	Roaming Troubleshooting 24/7 contact deleted
2017-02-27	Int_Planning added
2015-07-13	IMSI Range 26208 (DEUO2) removed
2015-05-15	No 24/7 troubleshooting, updated contact details
2013-07-12	IR21 email list

SECTIONS NOT IN USE

TADIG Code	Section ID	Section Name
DEUE2	6	Domestic SCCP Gateway
DEUE2	19	WLAN Information
DEUE2	22	Hosted Networks
DEUE2	23	M2M Roaming Information
DEUE2	24	MVNO Information

NETWORK

TADIG code: DEUE1
Section ID: 2 (Mandatory, Repeating)

TADIG code:	DEUE1
Network name:	Telefónica Germany GmbH & Co. OHG
Network type:	Terrestrial
Technology:	**Frequency list:**
2G-GSM frequencies:	GSM 900, DCS 1800
3G-UTRA/FDD frequencies:	1 - IMT 2.1 GHz
3G-UTRA/TDD frequencies:	Unsupported
4G-E-UTRAN frequencies:	20 - 800 MHz EDD, 3 - DCS 1800, 7 - 2.6 GHz, 1 - IMT 2.1 GHz
4G-E-UTRAN-MIoT-LTE-M frequencies:	20 - 800 MHz EDD
4G-E-UTRAN-MIoT-NB-IoT frequencies:	20 - 800 MHz EDD
MIoT-NB-IoT deployment modes:	2 - Guardband, 3 - In-band
Presentation of country initials and MNN:	GER Telefonica Germany
Abbreviated MNN:	o2-de

NETWORK INFORMATION

TADIG code: DEUE1
Section ID: 3 (Mandatory)

The following information refer to the network identified by TADIG code DEUE1

ROUTING INFORMATION

TADIG code: DEUE1
Section ID: 4 (Mandatory)
Effective date of change: 2017-02-28

CCITT E.164 Number series	Country Code (CC)	National Destination Code (NDC)	SN Range Start	SN Range Stop	Primary International DPC	Secondary International DPC	MVNO Number	Location
MSISDN number ranges (s)								
	49	177	0000000	9999999				
Network Nodes Global Title Number Range(s)								
	49	1770	000000	999999				
MSRN Number Range(s)								
	49	1770	000000	999999				

E. 212 Number series	Mobile Country Code (MCC)	Mobile Network Code (MNC)
	262	03

E. 214 Mobile Global Title (MGT)	Country Code of MGT (CC)	Network Code of MGT (NC)
	49	177

Does Number Portability apply ?	Yes

Is 15 Digit MSISDN Supported ?	No

Additional Information
Pease refer to the DEUE2 (Telefonica O2) part of this IR.21 for most data. New Telefonica Germany is a network combining the former network data IMSI 26203 GT 49177 and IMSI 26207 GT 49176

History of changes

Date	Description
2017-02-28	E-Plus IR.21 data added

Telefonica
O₂

CONTACT INFORMATION

TADIG code: DEUE1
Section ID: 21 (Optional, Repeating)
Effective date of change: 2018-06-07

List of Roaming Troubleshooting Contact Information				
Roaming Troubleshooting Contact Information				
Location		Madrid		
Office Time Zone in UTC		+01:00		
Office Hours	**Week Day (s)**	**Start Time**		**End Time**
	all week days	00:00:00		23:59:00
Main Contact for Troubleshooting (Office Hours)				
Team Name	**Tel.**	**Mobile**	**Fax**	**Email**
SMC Mobile Operations	+34910553221			smc.mobile.tiws@telefonica.com
Escalation Contact for Troubleshooting				
Person Name	**Tel.**	**Mobile**	**Fax**	**Email**
Roaming Team, Roaming and International Services				roaming-de@telefonica.com
24 x 7 Troubleshooting (contact out of Office Hours)				
Team Name	**Tel.**	**Mobile**	**Fax**	**Email**
SMC Mobile Operations	+34910553221			smc.mobile.tiws@telefonica.com
Roaming Troubleshooting Ticketing System Information				
Ticket system web address				
Ticket system email address				
Additional Contacts				

SCCP Inquires and ordering of SS7 Routes				
	Person Name	**Tel.**	**Mobile**	**Fax**
	SS7 Carrier Telefonica			
	JobTitle		**Email**	
	Int. Signaling Carrier		ss7carrier@telefonica.com	

Roaming Coordinator				
	Person Name	**Tel.**	**Mobile**	**Fax**
	Roaming Team, Roaming and International Services			
	JobTitle		**Email**	
	Roaming Coordinators		roaming-de@telefonica.com	

IREG Tests				
	Person Name	**Tel.**	**Mobile**	**Fax**
	IREG Team, Available Mo-Fr 9am-5pm	+498924425611		
	JobTitle		**Email**	
	No support outside office hours		ireg-de@telefonica.com	

TADIG Tests				
	Person Name	**Tel.**	**Mobile**	**Fax**
	Roaming Team, Roaming and International Services			
	JobTitle		**Email**	
	Roaming Coordinators		roaming-de@telefonica.com	

IR21 Distribution Email Address	**Email**
	DEUE2-IR21@telefonica.com
	ireg-de@telefonica.com
	int_planning@telefonica.com
	mobile.ir21.gpoc.businesssolutions@telefonica.com

History of changes

Date	Description
2018-06-07	Contact details updated
2017-09-12	Contact Details updated
2017-03-20	IR21 Distribution Email Address updated
2017-03-10	Troubleshooting 24/7 contact deleted

Date	Description
2017-02-28	E-Plus contacts added

Date	Description
2017-02-28	E-Plus contacts added

SECTIONS NOT IN USE

TADIG Code	Section ID	Section Name
DEUE1	5	International SCCP Gateway
DEUE1	6	Domestic SCCP Gateway
DEUE1	7	SCCP Protocol available at PMN for connection for International SS7 Roaming
DEUE1	8	Subscriber Identity Authentication
DEUE1	9	Test Numbers Information
DEUE1	10	Mobile Application Part (MAP) Section
DEUE1	11	MAP Optimal Routing Section
DEUE1	12	MAP Inter Operator SMS Enhancement
DEUE1	13	Network Elements Information
DEUE1	14	USSD Information
DEUE1	15	CAMEL Information
DEUE1	16	Packet Data Services Information
DEUE1	17	IP-Roaming and IP-Interworking Information
DEUE1	18	MMS Interworking Information
DEUE1	19	WLAN Information
DEUE1	20	Roaming in Long Term Evolution
DEUE1	22	Hosted Networks
DEUE1	23	M2M Roaming Information
DEUE1	24	MVNO Information
DEUE1	26	VoLTE Roaming Information Section
DEUE1	27	LPWA Roaming Information Section