NP-030213

3GPP TSG CN Plenary Meeting #20 4th – 6th June 2003 Hämeenlinna, FINLAND.

Source:	TSG CN WG4
Title:	Corrections on TEI R97
Agenda item:	7.11
Document for:	APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
03.08	A040		N4-030382	R97	Distinction between Roaming Restriction Due To Unsupported Feature and Roaming Restricted in the SGSN Due To Unsupported Feature	F	6.5.0
03.08	A041		N4-030383	R98	Distinction between Roaming Restriction Due To Unsupported Feature and Roaming Restricted in the SGSN Due To Unsupported Feature	A	7.4.0
23.008	119		N4-030384	R99	Distinction between Roaming Restriction Due To Unsupported Feature and Roaming Restricted in the SGSN Due To Unsupported Feature	A	3.7.0
23.008	120		N4-030385	Rel-4	Distinction between Roaming Restriction Due To Unsupported Feature and Roaming Restricted in the SGSN Due To Unsupported Feature	A	4.2.0
23.008	121		N4-030386	Rel-5	Distinction between Roaming Restriction Due To Unsupported Feature and Roaming Restricted in the SGSN Due To Unsupported Feature	A	5.4.0

3GPP TSG CN WG4 Meeting #19 San Diego, CA, USA, 19th – 23rd May 2003

N4-030382

			С	HANG	E RE	QUE	EST	Г				CR-Form-v7
ж	0	<mark>3.08</mark>	CR <mark>/</mark>	\040	жrе	v -	ж	Current	versio	^{on:} 6.	.5.0	ж
For <u>HELP</u> on	using t	this forr	n, see l	bottom of ti	his page	or look	at th	ne pop-up i	text o	ver the	e X syn	nbols.
Proposed change	e affec	ts: U	IICC ap	ps #	ME	Ra	adio A	Access Net	twork	<mark></mark> C	ore Ne	etwork X
Title:				en Roamin SGSN Due				Unsuppor ature	rted F	eature	and R	oaming
Source:	fe Voo	dafone										
Work item code:	₿ TE	l						Date	e: #	04/04/	2003	
Category: S	Deta be fo	F (corror A (corr B (add C (func D (edita iled exp und in 3 GSM Unsu SGSI items To Un same the S allow	ection) responds ition of fe ctional mo orial moo lanation 3GPP TF 03.16 a pported N Due T of subs nsuppor data ite GSN to ed in the	odification of dification) s of the abo 21.900. Feature (v o Unsupport ted Feature m in the H support all e SGSN, w	tion in an of feature, we catego which ap orted Fe a. Howey re as app HLR repli I the fea when the	h show plies to ature (v ver GSI olying to cated i tures re VLR fa	y Roa b the which M 03 b botl n the equire ails to	R97 R98 R99 Rel-4 Rel-4 Rel-4 Rel-4 VLR) and I applies to .08 shows h the VLR SGSN and ed for a sult support a	e of th (((F (F (F 4 (F 5 (F 6 (F Roam and th d the bscrib critic	GSM PH Release Release Release Release Release Release Release SGSN) ning Re SGSN) ning Re SGSN) NLR. It per, so al featu	nase 2) 1996) 1997) 1998) 1999) 4) 5) 6) 5) 6) To estricted as dist estricted SN, wit t is pos that se ure, so	d in the tinct on Due h the ssible for trvice is that
Summary of char	nge: Ж	in the The o SGSI This Limit add n featur	HLR. concept N of "Lo is an es subclau iew sub re".	of Location cation Are ssential co use on "Ro clause for	n Area is a not allo orrection aming R "Roamir	enot us owed" i estrictions g Rest	ed in s "Ro on du ricteo	ersa). Distin the SGSN puteing Are te to unsup d in the SG	l; the ea not oporte	counte allowe ed featu ue to u	erpart in ed". ure" to insuppo	the VLR;
Consequences if not approved:	¥	allow Unne the V	ed" cessary LR and	<mark>r linkage b</mark> o	etween r estrictior	oaming due to	g rest	/LR; add n riction due upported fe ervice.	to un	suppo	rted fea	ature in

Clauses affected:	% 2.4.12; 2.4.14 (new); 2.4.15; 2.4.15.2; 2.4.15.3 (new); Table 2
Other specs affected:	Y N X Other core specifications % X Test specifications % X O&M Specifications %
Other comments:	An editorial error in the presence requirement for the GGSN number in the HLR in Table 2 has been corrected. Later releases of the specification show it as
	mandatory (M); it certainly is not copyright (©)!

*** First modified section ***

2.4.11 MSC area restricted flag

MSC area restricted flag is a parameter which can take either of the following values:

- MSC area restricted;
- MSC area not restricted.

The parameter is set in the HLR during updating of the VLR. Handling of unsupported services and information received from the VLR based on national roaming or regionally restricted subscription (subclause 2.4.10) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "MSC area not restricted".

The MSC area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.12 LA not allowed flag

The LA not allowed flag is set in the VLR and the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restriction Due To UnsSupported Feature, see GSM 09.02. It is applied to restrict service on a location area basis.

The LA not allowed flag is temporary subscriber data stored in the VLR-and the SGSN.

2.4.13 SGSN area restricted flag

SGSN area restricted flag is a parameter which can take either of the following values:

- SGSN area restricted;
- SGSN area not restricted.

The parameter is set in the HLR during updating of the SGSN. Handling of unsupported services and information received from the SGSN based on national roaming or regionally restricted subscription (subclause 2.4.7) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "SGSN area not restricted".

The SGSN area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.14 RA not allowed flagVoid

The RA not allowed flag is set in the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restricted in the SGSN Due To Unsupported Feature, see GSM 09.02. It is applied to restrict service on a routeing area basis.

The RA not allowed flag is temporary subscriber data stored in the SGSN.

2.4.15 Service restriction data induced by roaming

If in the course of roaming or at updating of the VLR or SGSN the HLR is informed that the VLR or SGSN does not support certain sensitive services or features, or, the HLR is informed in data request that the VLR or the SGSN supports only specific services, features or phases which do not correspond to subscribed services, features or phases, the HLR takes appropriate measures to restrict service for the mobile station in that VLR or SGSN by setting and sending network induced replacing services such as available services, features or phases, barring programs or the roaming restriction for the MSC or SGSN area.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the VLR, from the permanent subscriber data of the call barring supplementary services, from the barring related data that can be modified by the subscriber or from the permanent regional subscription data.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the SGSN, from the permanent regional subscription data.

The network induced data take precedence over the subscriber data of the user where they are in conflict. If, in the course of roaming, restrictions caused by a service are lifted, the original subscriber data have to be re-installed both in HLR, in SGSN and in VLR when applicable, regarding any remaining restrictions due to other service replacements.

All network-induced restriction data are temporary subscriber data.

For ODB, GSM 03.15 recommends mainly barring programs to replace this feature. The replacing barring data are conditionally stored in the HLR and VLR. In the VLR they cannot be distinguished from the permanent supplementary services data with the available signalling means, and no additional storage is needed. Interrogation shall reflect in both HLR and VLR the valid setting of the replacing temporary data; to prevent interference with Subscriber Controlled Input and to inform the customer on the restriction, the "control of barring services" subscription option is also temporarily set to the value "by the service provider".

CUG is also replaced by Outgoing Call Barring as described in GSM 03.85.

Roaming restriction in the MSC area due to unsupported features is used to replace AoCC, see GSM 03.86, and Zone Codes for regional subscription, see subclause 2.4.10 and GSM 09.02. A flag in <u>the HLR and the VLR</u>, see subclause 2.4.15.2, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

Roaming restriction in the SGSN area due to unsupported features is used to replace Zone Codes for regional subscription, see subclause 2.4.10 and GSM 09.02. A flag in <u>the HLR and the SGSN</u>, see subclause 2.4.15.<u>3</u>, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

2.4.15.1 ODB-induced barring data

ODB-induced barring data are temporary data stored conditionally in the HLR; they include the necessary replacing barring programs for outgoing and incoming calls depending on the ODB profile. The subscription option "control of barring services" is set to "by the service provider". The corresponding barring supplementary services for outgoing calls are set by the HLR and sent to the VLR.

2.4.15.2 Roaming restriction due to unsupported feature

Roaming restriction due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the MSC or the SGSN, resulting in roaming restriction in the MSC area or SGSN area. It can take either of the following values:

- roaming restricted;
- roaming not restricted.

The parameter governs the "LA not allowed flag" in the VLR (see subclause 2.4.12) and the "MSC area restricted flag" in the HLR (see subclause 2.4.11);, or the "LA not allowed flag" in the SGSN (see subclause 2.4.12) and the "SGSN area restricted flag" in the HLR (see subclause 2.4.13); see also GSM 09.02.

The flag "roaming restriction due to unsupported feature" is temporary subscriber data stored in the VLR, SGSN and in the HLR.

2.4.15.3 Roaming restricted in the SGSN due to unsupported feature

Roaming restricted in the SGSN due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the SGSN, resulting in roaming restriction in the SGSN area. It can take either of the following values:

roaming restricted;

- roaming not restricted.

The parameter governs the "RA not allowed flag" in the SGSN (see subclause 2.4.14) and the "SGSN area restricted flag" in the HLR (see subclause 2.4.13); see also GSM 09.02.

The flag "roaming restricted in the SGSN due to unsupported feature" is temporary subscriber data stored in the SGSN and in the HLR.

*** Next modified section ***

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN TYPE	
IMSI	2.1.1.1	M	M	M	M	P Note
Network Access Mode	2.1.1.2	M	-	C (a)	-	P Note
International MS ISDN number	2.1.2	М	М	M	-	Т
multinumbering MSISDNs	2.1.3	С	-	-	-	T Note
Basic MSISDN indicator	2.1.3.1	С	-	-	-	Т.
MSISDN-Alert indicator	2.1.3.2	С	-	-	-	Т
P-TMSI	2.1.5	-	-	С	-	T Note
TLLI	2.1.6	-	-	С	-	Т
Random TLLI	2.1.7	-	-	С	-	T Note
IMEI	2.1.9	-	-	С	-	Ţ
RAND/SRES and Kc	2.3.1	M	-	M	-	T T
Ciphering Key Sequence Number	2.3.2	-	-	M	-	T T
Selected Ciphering Algorithm	2.3.3	-	-	M	-	T T
Current Kc P TMSL Signature	2.3.4 2.3.5	-	-	M C	-	Ť
P-TMSI Signature Routing Area Identity	2.3.5	-	-	M	-	Ť
Cell Global Identification	2.4.3	-	-	C	-	Ť
SGSN Number	2.4.4	M	C (Gs)		-	T Note
GGSN Number	2.4.8.2	M©	-	_	_	P Note
VLR Number	2.4.5	M	_	C (Gs)	-	T
RSZI Lists	2.4.10.1	C	-	-	-	P
Zone Code List	2.4.10.2	-	-	С	-	P
<u>L</u> RA not allowed flag	2.4.1 <mark>42</mark>	-	-	M	-	T
SGSN area restricted flag	2.4.13	М	-	-	-	Т
Roaming Restrictedion in the SGSN due to unsupported	2.4.15. <mark>3</mark> 2	М	-	М	-	Т
feature	_					
Cell ID	2.4.16	-	-	С	-	Т
Provision of teleservice	2.5.2	С	-	С	-	Р
Transfer of SM option	2.5.4	M	-	-	-	Р
Subscriber Status	2.8.1	С	-	С	-	Р
Barring of outgoing calls	2.8.2.1	С	-	С	-	Р
Barring of roaming	2.8.2.3	С	-	-	-	Р
ODB PLMN-specific data	2.8.3	С	-	С	-	P
MM State	2.7.3	-	-	M	-	T T
Subscriber Data Confirmed by HLR Indicator	2.7.4.2	-	-	M	-	T T
Location Info Confirmed by HLR Indicator	2.7.4.3	-	-	M	-	T T
MS purged for GPRS flag MNRG	2.7.6 2.7.2	M M	-	M	-	T T
MNRG	2.7.2	C	-	-	M -	Ť
Trace Activated in SGSN	2.11.7	c	-	C	-	P
PDP Type	2.13.1	c	-	c	M	P
PDP Address	2.13.2	č	_	c	M	P
NSAPI	2.13.3	-	-	č	C	Ť
PDP State	2.13.4	-	-	č	-	Ť
New SGSN Address	2.13.5	-	-	Č	-	T
Access Point Name	2.13.6	С	-	Č	С	P/T Note
GGSN Address in Use	2.13.7	-	-	Ċ	-	Т
VPLMN Address Allowed	2.13.8	С	-	С	-	Р
Dynamic Address	2.13.9	-	-	-	С	Т
SGSN Address	2.13.10	-	-	-	М	Т
GGSN-list	2.13.11	Μ	-	-	-	Т
Quality of Service Subscribed	2.13.12	С	-	С	-	Р
Quality of Service Requested	2.13.13	-	-	С	-	Ţ
Quality of Service Negotiated	2.13.14	-	-	С	М	Ţ
SND	2.13.15	-	-	С	С	T
SNU	2.13.16	-	-	С	С	T
DRX Parameters	2.13.17	-	-	M	-	T T
Compression	2.13.18	-	-	C C	-	T T
NGAF	2.13.19	-	-	C (Gs)	-	T T
Classmark	2.13.20	-	-	M	-	T T
-TID Radio Briarity	2.13.21	-	-	C	С	T T
Radio Priority	2.13.22	-	-	C	-	T T
Radio Priority SMS	2.13.23	-	-	C C	-	T T
PDP Context Identifier	2.13.24	С		U		I

*** End of document ***

3GPP TSG CN WG4 Meeting #19 San Diego, CA, USA, 19th – 23rd May 2003

N4-030383

			<u> </u>		CE			ст	-					CR-Form-v7
			Ľ	HAN	GE	REQ	UE	31						
ж	03	3.08	CR	A041	9	€ rev	-	ж	Curre	ent ver	sion:	7.4	.0	ж
For <u>HELP</u> on u	sina t	his for	m. see	bottom c	of this r	age or	look	at th	e pop-	up tex	t ovei	r the ¥	svn	nbols.
<u></u>	onig t		,		n uno p	age of	loon		o pop				, cyn	
Dranaad abarras		(a.			1			طائم ۸		Nature	u l c	Com	o N o	tu co al c V
Proposed change a	arreci	S. (JICC a	ops #		ME	Rad		ccess	Netwo	rk		e ne	twork X
Title: ೫				en Roan SGSN D						oporteo	d Fea	ture ar	nd R	oaming
Source: ж		lafone												
Work item code: #									0)ata: 4	2 04	104/20	02	
	1 []								D	Date: #	5 U4	/04/20	03	
Category: %	Α									ase: #		-		
			the follo rection)	wing cate	gories:					e <u>one</u> of 2		ollowing M Phas		ases:
				ls to a con	rection	in an ea	rlier re	eleas		<u>-</u> R96		ease 19		
		B (add	dition of	feature),						R97		ease 19		
				nodificatio		ature)				R98		ease 19		
				dification)		otogorio				R99		ease 19		
				ns of the a <u>R 21.900</u> .		ategone	s can			Rel-4 Rel-5		ease 4) ease 5)		
	0010		<u>-</u>	<u></u> .						Rel-6		ease 6)		
											-	-		
Reason for change	e: X			and GSN										
				d Feature										
				To Unsu										
				scriber d										
				orted Fea tem in the										
				o support										
				ne SGSN										
				ot allowed										
			e HLR.			,			,					
		The	concep	t of Loca	tion Ar	ea is no	ot use	ed in	the SC	GSN; tł	ne co	unterp	art ir	n the
		SGS	N of "L	ocation A	rea no	t allow	ed" is	"Ro	uteing	Area r	ot all	owed"	-	
Summary of chang	ye: %	Limit	subcla	<mark>use on "I</mark>	Roamiı	ng Rest	trictio	n du	e to un	suppo	rted f	eature	e" to f	he VLR;
-		add i	new sul	oclause f										
		featu												
				use on "l	LA not	allowed	d" to t	he V	/LR; ad	dd new	subc	lause	for "	RA not
		allow	/ed"											
Conconvonce #	ഹ	Linne			hotur		mine	root		dua ta		nnarta	dfee	sture in

Clauses affected:	₭ 2.4.13; 2.4.14a (new); 2.4.15; 2.4.15.2; 2.4.15.3 (new); Table 2
Other specs affected:	Y N X Other core specifications % X Test specifications % X O&M Specifications %
Other comments:	¥

*** First modified section ***

2.4.12 MSC area restricted flag

MSC area restricted flag is a parameter which can take either of the following values:

- MSC area restricted;
- MSC area not restricted.

The parameter is set in the HLR during updating of the VLR. Handling of unsupported services and information received from the VLR based on national roaming or regionally restricted subscription (subclause 2.4.10) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "MSC area not restricted".

The MSC area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.13 LA not allowed flag

The LA not allowed flag is set in the VLR and the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restriction Due To UnsSupported Feature, see GSM 09.02. It is applied to restrict service on a location area basis.

The LA not allowed flag is temporary subscriber data stored in the VLR-and the SGSN.

2.4.14 SGSN area restricted flag

SGSN area restricted flag is a parameter which can take either of the following values:

- SGSN area restricted;
- SGSN area not restricted.

The parameter is set in the HLR during updating of the SGSN. Handling of unsupported services and information received from the SGSN based on national roaming or regionally restricted subscription (subclause 2.4.7) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "SGSN area not restricted".

The SGSN area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.14a RA not allowed flag

The RA not allowed flag is set in the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restricted in the SGSN Due To Unsupported Feature, see GSM 09.02. It is applied to restrict service on a location area basis.

The RA not allowed flag is temporary subscriber data stored in the SGSN.

2.4.15 Service restriction data induced by roaming

If in the course of roaming or at updating of the VLR or SGSN the HLR is informed that the VLR or SGSN does not support certain sensitive services or features, or the HLR is informed in data request that the VLR or the SGSN supports only specific services, features or phases which do not correspond to subscribed services, features or phases, the HLR takes appropriate measures to restrict service for the mobile station in that VLR or SGSN by setting and sending network induced replacing services such as available services, features or phases, barring programs or the roaming restriction for the MSC or SGSN area.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the VLR, from the permanent subscriber data of the call barring supplementary services, from the barring related data that can be modified by the subscriber or from the permanent regional subscription data.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the SGSN, from the permanent regional subscription data.

The network induced data take precedence over the subscriber data of the user where they are in conflict. If, in the course of roaming, restrictions caused by a service are lifted, the original subscriber data have to be re-installed both in HLR, in SGSN and in VLR when applicable, regarding any remaining restrictions due to other service replacements.

All network-induced restriction data are temporary subscriber data.

For ODB, GSM 03.15 recommends mainly barring programs to replace this feature. The replacing barring data are conditionally stored in the HLR and VLR. In the VLR they cannot be distinguished from the permanent supplementary services data with the available signalling means, and no additional storage is needed. Interrogation shall reflect in both HLR and VLR the valid setting of the replacing temporary data; to prevent interference with Subscriber Controlled Input and to inform the customer on the restriction, the "control of barring services" subscription option is also temporarily set to the value "by the service provider".

CUG is also replaced by Outgoing Call Barring as described in GSM 03.85.

Roaming restriction in the MSC area due to unsupported features is used to replace AoCC, see GSM 03.86, and Zone Codes for regional subscription, see subclause 2.4.10 and GSM 09.02. A flag in <u>the HLR and the VLR</u>, see subclause 2.4.15.2, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

Roaming restriction in the SGSN area due to unsupported features is used to replace Zone Codes for regional subscription, see subclause 2.4.10 and GSM 09.02. A flag in <u>the HLR and the SGSN</u>, see subclause 2.4.15.<u>3</u>, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

2.4.15.1 ODB-induced barring data

ODB-induced barring data are temporary data stored conditionally in the HLR; they include the necessary replacing barring programs for outgoing and incoming calls depending on the ODB profile. The subscription option "control of barring services" is set to "by the service provider". The corresponding barring supplementary services for outgoing calls are set by the HLR and sent to the VLR.

2.4.15.2 Roaming restriction due to unsupported feature

Roaming restriction due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the MSC-or the SGSN, resulting in roaming restriction in the MSC area-or SGSN area. It can take either of the following values:

- roaming restricted;
- roaming not restricted.

The parameter governs the "LA not allowed flag" in the VLR (see subclause 2.4.132) and the "MSC area restricted flag" in the HLR (see subclause 2.4.124);, or the "LA not allowed flag" in the SGSN (see subclause 2.4.124); or the "LA not allowed flag" in the SGSN (see subclause 2.4.124); or the "LA not allowed flag" in the SGSN (see subclause 2.4.124); see also GSM 09.02.

The flag "roaming restriction due to unsupported feature" is temporary subscriber data stored in the VLR, SGSN and in the HLR.

2.4.15.3 Roaming restricted in the SGSN due to unsupported feature

Roaming restricted in the SGSN due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the SGSN, resulting in roaming restriction in the SGSN area. It can take either of the following values:

roaming restricted;

- roaming not restricted.

The parameter governs the "RA not allowed flag" in the SGSN (see subclause 2.4.14a) and the "SGSN area restricted flag" in the HLR (see subclause 2.4.14); see also GSM 09.02.

The flag "roaming restricted in the SGSN due to unsupported feature" is temporary subscriber data stored in the SGSN and in the HLR.

*** Next modified section ***

Table 2: Overview of data used for GPRS Network Access Mode

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN TYPE	
IMSI	2.1.1.1	М	М	М	М	P Note
Network Access Mode	2.1.1.2	М	-	C (a)	-	P Note
International MS ISDN number	2.1.2	М	М	M	-	Т
multinumbering MSISDNs	2.1.3	С	-	-	-	T Note
Basic MSISDN indicator	2.1.3.1	С	-	-	-	Τ.
MSISDN-Alert indicator	2.1.3.2	С	-	-	-	Т
P-TMSI	2.1.5	-	-	С	-	T Note
TLLI	2.1.6	-	-	С	-	Т
Random TLLI	2.1.7	-	-	С	-	T Note
IMEI	2.1.9	-	-	С	-	Т
RAND/SRES and Kc	2.3.1	М	-	М	-	Т
Ciphering Key Sequence Number	2.3.2	-	-	М	-	Т
Selected Ciphering Algorithm	2.3.3	-	-	М	-	Т
Current Kc	2.3.4	-	-	М	-	Т
P-TMSI Signature	2.3.5	-	-	С	-	Т
Routing Area Identity	2.4.3	-	-	М	-	Т
Cell Global Identification	2.4.4	-	-	С	-	Т
VLR Number	2.4.5	М	-	C (Gs)	-	Т
SGSN Number	2.4.8.1	М	C (Gs)	-	-	T Note
GGSN Number	2.4.8.2	M	-	-	-	P Note
RSZI Lists	2.4.10.1	C	-	-	-	P
Zone Code List	2.4.10.2	-	-	С	-	P
LRA not allowed flag	2.4.14a ²	-	-	M	-	T
SGSN area restricted flag	2.4.143	М	-	-	-	T
Roaming Restricted in the SGSN due to	2.4.15. <u>3</u> 2	M	-	М	-	T
unsupported feature	2					
Cell ID	2.4.16	-	-	С	-	Т
LSA Identity	2.4.17.1	С	С	C	-	P
LSA Priority	2.4.17.2	C	C	C	-	P
LSA Preferential Access Indicator	2.4.17.2A	C	C	C	-	P
LSA Active Mode Support Indicator	2.4.17.2B	C	C	C	_	P
LSA Only Access Indicator	2.4.17.3	C	C	C	-	P
LSA Active Mode Indicator	2.4.17.4	C	C	C	-	P
VPLMN Identifier	2.4.17.5	C	-	-	-	P
Provision of teleservice	2.5.2	C	-	С	-	P
Transfer of SM option	2.5.4	M	-	-	-	P
MNRG	2.7.2	M	-	М	М	T
MM State	2.7.3	-	-	M	-	T
Subscriber Data Confirmed by HLR Indicator	2.7.4.2	-	-	M	-	T
Location Info Confirmed by HLR Indicator	2.7.4.3	-	-	M	-	T
MS purged for GPRS flag	2.7.6	М	-	-	-	T
MNRR	2.7.7	C	-	-	-	T
Subscriber Status	2.8.1	C	-	С	-	P
Barring of outgoing calls	2.8.2.1	C	-	C	-	P
Barring of roaming	2.8.2.3	C	-	C	-	P
ODB PLMN-specific data	2.8.3	C	-	-	-	P
Trace Activated in SGSN	2.11.7	C	-	С	-	P
PDP Type	2.13.1	C	-	C	М	P
PDP Address	2.13.2	C	-	C	M	P
NSAPI	2.13.3	-	-	C	C	T
PDP State	2.13.4	-	-	C	-	T
New SGSN Address	2.13.5	-	-	C	-	T
Access Point Name	2.13.6	C	-	C	C	P/T Note
GGSN Address in Use	2.13.7	-		C	-	T
VPLMN Address Allowed	2.13.7	- C	£	C		P
	2.13.0		+		- C	+
Dynamic Address		1-	1-	17		11
Dynamic Address					M	т
Dynamic Address SGSN Address GGSN-list	2.13.10	- M	-	-	М	Т

Table 2 (concluded): Overview of data used for GPRS Network Access Mode

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN TYPE	
Quality of Service Subscribed	2.13.12	С	-	С	-	Р
Quality of Service Requested	2.13.13	-	-	С	-	Т
Quality of Service Negotiated	2.13.14	-	-	С	М	Т
SND	2.13.15	-	-	С	С	Т
SNU	2.13.16	-	-	С	С	Т
DRX Parameters	2.13.17	-	-	М	-	Т
Compression	2.13.18	-	-	С	-	Т
NGAF	2.13.19	-	-	C (Gs)	-	Т
Classmark	2.13.20	-	-	М	-	Т
TID	2.13.21	-	-	С	С	Т
Radio Priority	2.13.22	-	-	С	-	Т
Radio Priority SMS	2.13.23	-	-	С	-	Т
PDP Context Identifier	2.13.24	С		С		Т

*** End of document ***

3GPP TSG CN WG4 Meeting #19 San Diego, CA, USA, 19th – 23rd May 2003

N4-030384

										CR-Form-v7
		(CHANGE	REQ	UE	ST				
ж	23.0	<mark>08</mark> CR	119	жrev	-	ж	Current vers	sion:	3.7.0	ж
For <u>HELP</u> on u	ising this	form, see	bottom of this	s page or	look a	at th	e pop-up text	over	the syı	nbols.
Proposed change	affects:	UICC a	pps #	ME	Rad	lio A	.ccess Netwo	rk	Core Ne	etwork X
				D		-				
Title: ೫			een Roaming SGSN Due T					r⊦eat	ure and F	coaming
Source: #	Vodaf	one								
		one						/		
Work item code: ¥	TEI						Date: ೫	04/	04/2003	
Category: #	A Non one	of the felle	wing categorie	o <i>.</i>			Release: ೫ Use <u>one</u> of		-	20000:
	F (correction)					2	(GSN	1 Phase 2)	
		correspon addition of	ds to a correctic feature),	on in an ea	rlier re	lease	e) R96 R97		ase 1996) ase 1997)	
	C	functional	modification of a	feature)			R98 R99	(Rele	ase 1998) ase 1999)	
	Detailed	explanatio	ns of the above	e categorie	s can		Rel-4	(Rele	ase 4)	
	be found	d in 3GPP	<u>FR 21.900</u> .				Rel-5 Rel-6		ase 5) ase 6)	
								•		
Reason for change			and GSM 09. d Feature (wh							d in the
	S	GSN Due	To Unsuppor	ted Featu	re (wł	hich	applies to the	SGS	SN) as dis	tinct
			oscriber data. orted Feature							
			item in the HL							
			o support all t							
			he SGSN, wh ot allowed in t							
	ir	the HLR.								
			ot of Location							n the
	S	GSN of "L	ocation Area	not allowe	ed" is	"Ro	uteing Area n	ot allo	owed".	
Summary of chang			use on "Roar							
		dd new su eature".	bclause for "F	Roaming F	Restric	cted	in the SGSN	due f	o unsupp	orted

allowed"
Consequences if not approved:
Consequences if not approved:

Limit subclause on "LA not allowed" to the VLR; add new subclause for "RA not

Clauses affected:	₭ 2.4.13; 2.4.14a (new); 2.4.15; 2.4.15.2; 2.4.15.3 (new); Table 2
Other specs affected:	Y N X Other core specifications % X Test specifications % X O&M Specifications %
Other comments:	¥

*** First modified section ***

2.4.12 MSC area restricted flag

MSC area restricted flag is a parameter which can take either of the following values:

- MSC area restricted;
- MSC area not restricted.

The parameter is set in the HLR during updating of the VLR. Handling of unsupported services and information received from the VLR based on national roaming or regionally restricted subscription (subclause 2.4.11) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "MSC area not restricted".

The MSC area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.13 LA not allowed flag

The LA not allowed flag is set in the VLR and the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restriction Due To Un<u>S</u>supported Feature, see 3GPP TS 29.002. It is applied to restrict service on a location area basis.

The LA not allowed flag is temporary subscriber data stored in the VLR-and the SGSN.

2.4.14 SGSN area restricted flag

SGSN area restricted flag is a parameter which can take either of the following values:

- SGSN area restricted;
- SGSN area not restricted.

The parameter is set in the HLR during updating of the SGSN. Handling of unsupported services and information received from the SGSN based on national roaming or regionally restricted subscription (subclause 2.4.11) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "SGSN area not restricted".

The SGSN area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.14a RA not allowed flag

The RA not allowed flag is set in the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restricted in the SGSN Due To Unsupported Feature, see 3GPP TS 29.002. It is applied to restrict service on a location area basis.

The RA not allowed flag is temporary subscriber data stored in the SGSN.

2.4.15 Service restriction data induced by roaming

If in the course of roaming or at updating of the VLR or SGSN the HLR is informed that the VLR or SGSN does not support certain sensitive services or features, or, the HLR is informed in data request that the VLR or the SGSN supports only specific services, features or phases which do not correspond to subscribed services, features or phases, the HLR takes appropriate measures to restrict service for the mobile station in that VLR or SGSN by setting and sending network induced replacing services such as available services, features or phases, barring programs or the roaming restriction for the MSC or SGSN area.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the VLR, from the permanent subscriber data of the call barring supplementary services, from the barring related data that can be modified by the subscriber or from the permanent regional subscription data.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the SGSN, from the permanent regional subscription data.

The network induced data take precedence over the subscriber data of the user where they are in conflict. If, in the course of roaming, restrictions caused by a service are lifted, the original subscriber data have to be re-installed both in HLR, in SGSN and in VLR when applicable, regarding any remaining restrictions due to other service replacements.

All network-induced restriction data are temporary subscriber data.

For ODB, 3GPP TS 23.015 recommends mainly barring programs to replace this feature. The replacing barring data are conditionally stored in the HLR and VLR. In the VLR they cannot be distinguished from the permanent supplementary services data with the available signalling means, and no additional storage is needed. Interrogation shall reflect in both HLR and VLR the valid setting of the replacing temporary data; to prevent interference with Subscriber Controlled Input and to inform the customer on the restriction, the "control of barring services" subscription option is also temporarily set to the value "by the service provider".

CUG is also replaced by Outgoing Call Barring as described in 3GPP TS 23.085.

Roaming restriction in the MSC area due to unsupported features is used to replace AoCC, see 3GPP TS 23.086, and Zone Codes for regional subscription, see subclause 2.4.11 and 3GPP TS 29.002. A flag in <u>the HLR and the VLR</u>, see subclause 2.4.15.2, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

Roaming restriction in the SGSN area due to unsupported features is used to replace Zone Codes for regional subscription, see subclause 2.4.11 and 3GPP TS 29.002. A flag in <u>the HLR and the SGSN</u>, see subclause 2.4.15.<u>3</u>, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

2.4.15.1 ODB-induced barring data

ODB-induced barring data are temporary data stored conditionally in the HLR; they include the necessary replacing barring programs for outgoing and incoming calls depending on the ODB profile. The subscription option "control of barring services" is set to "by the service provider". The corresponding barring supplementary services for outgoing calls are set by the HLR and sent to the VLR.

2.4.15.2 Roaming restriction due to unsupported feature

Roaming restriction due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the MSC-or the SGSN, resulting in roaming restriction in the MSC area or SGSN area. It can take either of the following values:

- roaming restricted;
- roaming not restricted.

The parameter governs the "LA not allowed flag" in the VLR (see subclause 2.4.13) and the "MSC area restricted flag" in the HLR (see subclause 2.4.12);, or the "LA not allowed flag" in the SGSN (see subclause 2.4.13) and the "SGSN area restricted flag" in the HLR (see subclause 2.4.14), see also 3GPP TS 29.002.

The flag "roaming restriction due to unsupported feature" is temporary subscriber data stored in the VLR, SGSN and in the HLR.

2.4.15.3 Roaming restricted in the SGSN due to unsupported feature

Roaming restricted in the SGSN due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the SGSN, resulting in roaming restriction in the SGSN area. It can take either of the following values:

roaming restricted;

- roaming not restricted.

The parameter governs the "RA not allowed flag" in the SGSN (see subclause 2.4.14a) and the "SGSN area restricted flag" in the HLR (see subclause 2.4.14); see also 3GPP TS 29.002.

The flag "roaming restricted in the SGSN due to unsupported feature" is temporary subscriber data stored in the SGSN and in the HLR.

*** Next modified section ***

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
MSI	2.1.1.1	М	М	М	М	Р
Network Access Mode	2.1.1.2	М	-	C note1	-	Р
International MS ISDN number	2.1.2	М	М	М	Μ	Т
multinumbering MSISDNs	2.1.3	С	-	-	-	Т
Basic MSISDN indicator	2.1.3.1	С	-	-	-	Т.
MSISDN-Alert indicator	2.1.3.2	С	-	-	-	Т
P-TMSI	2.1.5	-	-	С	-	Т
TLLI	2.1.6	-	-	С	-	Т
Random TLLI	2.1.7	-	-	C	-	Т
MEI	2.1.9	-	-	С	-	Т
RAND/SRES and Kc	2.3.1		-	С	-	Т
RAND, XRES, CK, IK, AUTN	2.3.2	М	-	С	-	Т
Ciphering Key Sequence Number	2.3.3	-	-	М	-	Т
Key Set Identifier (KSI)	2.3.4	-	-	М	-	Т
Selected Ciphering Algorithm	2.3.5	-	-	М	-	Т
Current Kc	2.3.6	-	-	М	-	Т
P-TMSI Signature	2.3.7	-	-	С	-	Т
Routing Area Identity	2.4.3	-	-	М	-	Т
VLR Number	2.4.5	М	-	C note2	-	Т
SGSN Number	2.4.8.1	М	C note2	-	-	Т
GGSN Number	2.4.8.2	М	-	-	-	Р
RSZI Lists	2.4.11.1	С	-	-	-	Р
Zone Code List	2.4.11.2	-	-	С	-	Р
RA not allowed flag	2.4.1 <mark>4a</mark> ə	-	-	М	-	Т
SGSN area restricted flag	2.4.14	М	-	-	-	Т
Roaming Restrictedion in the SGSN due to	2.4.15. <mark>32</mark>	М	-	М	-	Т
unsupported feature						
Cell Global ID or Service Area ID	2.4.16	-	-	С	-	Т
LSA Identity	2.4.17.1	С	С	С	-	Р
LSA Priority	2.4.17.2	С	С	С	-	Р
LSA Preferential Access Indicator	2.4.17.2A	С	С С С С	C C		Р
LSA Active Mode Support Indicator	2.\$.17.2B	С	С	С		Р
LSA Only Access Indicator	2.4.17.3	С	C C	С	-	Р
LSA Active Mode Indicator	2.4.17.4	С	С	С	-	Р
VPLMN Identifier	2.4.17.5	С	-	-	-	Р
Provision of teleservice	2.5.2	С	-	С	-	Р
Transfer of SM option	2.5.4	М	-	-	-	Р
MNRG	2.7.2	М	-	М	Μ	Т
MM State	2.7.3	-	-	М	-	Т
Subscriber Data Confirmed by HLR Indicator	2.7.4.2	-	-	М	-	Т
Location Info Confirmed by HLR Indicator	2.7.4.3	-	-	М	-	Т
MS purged for GPRS flag	2.7.6	М	-	-	-	Т
MNRR	2.7.7	С	-	-	-	Т
Subscriber Status	2.8.1	С	-	С	-	Р
Barring of outgoing calls	2.8.2.1	С	-		-	Р
Barring of roaming	2.8.2.3	С	-	С	-	Р
ODB PLMN-specific data	2.8.3	С	-	С	-	Р
Notification to CSE flag for ODB	2.8.4	С	-	-	-	Т
gsmSCF address list for ODB	2.8.5	С	-	-	-	Р
Trace Activated in SGSN	2.11.7	Ċ	-	С	-	Р
PDP Type	2.13.1	С	-	С	М	Р
PDP Address	2.13.2	Č	-	С	M	P
NSAPI	2.13.3	-	-	С	С	Т
PDP State	2.13.4	-	-	č	-	Ť
New SGSN Address	2.13.5	-	-	Ċ	-	Ť
Access Point Name	2.13.6	С	-	с с с	С	P/T
GGSN Address in Use	2.13.7	-	-	Ċ	-	Т
VPLMN Address Allowed	2.13.8	С	-	č	-	P
Dynamic Address	2.13.9	-	-	-	С	T
SGSN Address	2.13.10	-	-	-	М	Т

Table 2: Overview of data used for GPRS Network Access Mode

I

I

(continued)

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
Quality of Service Subscribed	2.13.12	С	-	С	-	Р
Quality of Service Requested	2.13.13	-	-	С	-	Т
Quality of Service Negotiated	2.13.14	-	-	С	М	Т
SND	2.13.15	-	-	С	С	Т
SNU	2.13.16	-	-	С	С	Т
DRX Parameters	2.13.17	-	-	Μ	-	Т
Compression	2.13.18	-	-	С	-	Т
NGAF	2.13.19	-	-	C note2	-	Т
Classmark	2.13.20	-	-	Μ	-	Т
TEID	2.13.21	-	-	С	С	Т
Radio Priority	2.13.22	-	-	С	-	Т
Radio Priority SMS	2.13.23	-	-	С	-	Т
PDP Context Identifier	2.13.24	С	-	С	-	Т
PDP Context Charging Characteristics	2.13.25	С	-	С	С	Р
Short Message Service CAMEL Subscription	2.14.4.1/1.8	С	-	С	-	Р
Information (SMS-CSI)						
GPRS CAMEL Subscription Information (GPRS-CSI)	2.14.4.2/1.9	С	-	С	-	С
SMS-CSI SGSN Negotiated CAMEL Capability	2.14.2.1	С	-	-	-	Т
Handling						
GPRS-CSI Negotiated CAMEL Capability Handling	2.14.2.1	С	-	-	-	Т
SGSN Supported CAMEL Phases	2.14.2.3	С	-	-	-	Т
GsmSCF address for CSI	2.14.2.4	С	-	-	-	Р
Age Indicator	2.16.1	С	-	С	-	Т
Subscribed Charging Characteristics	2.19.1	С	-	С	С	Р

Table 2 (concluded): Overview of data used for GPRS Network Access Mode

*** End of document ***

3GPP TSG CN WG4 Meeting #19 San Diego, CA, USA, 19th – 23rd May 2003

N4-030385

		CHANGE	REQ	UESI					
ж	23.008	CR <mark>120</mark>	жrev	- *	Current version	^{n:} 4.2.0 [#]			
For <u>HELP</u> on u	sing this forr	m, see bottom of this	s page or l	look at the	e pop-up text ov	/er the % symbols.			
Proposed change a	affects: L	JICC apps #	ME	Radio A	ccess Network	Core Network	X		
Title: ೫		between Roaming in the SGSN Due T				eature and Roamin	ng		
Source: ೫	Vodafone								
Work item code: #	TEI				Date: ೫ (04/04/2003			
Category: ೫	F (corr A (corr B (add C (func D (edite Detailed exp	the following categories rection) responds to a correction lition of feature), ctional modification of f orial modification) planations of the above 3GPP <u>TR 21.900</u> .	n in an ear feature)		Use <u>one</u> of the 2 (G e) R96 (F R97 (F R98 (F R98 (F R99 (F Rel-4 (F Rel-5 (F	Rel-4 e following releases: GSM Phase 2) Release 1996) Release 1997) Release 1998) Release 1999) Release 4) Release 5) Release 6)			
Reason for change	Unsu SGSI items To Un same the S allow servic in the The c SGSI	03.16 and GSM 09. pported Feature (wh N Due To Unsupport of subscriber data. nsupported Feature data item in the HL GSN to support all t ed in the SGSN, wh ce is not allowed in t HLR.	ich applie ted Featur However as applyir R replicate he feature en the VLR he VLR (c Area is no not allowe	s to the V e (which GSM 03.0 ng to both ed in the S s required R fails to or vice ver t used in d" is "Rou	/LR) and Roami applies to the S 08 shows Roam the VLR and the SGSN and the V d for a subscribe support a critica rsa). Distinct inco the SGSN; the out uteing Area not	ing Restricted in the GGSN) as distinct ing Restriction Due the SGSN, with the VLR. It is possible f er, so that service i al feature, so that dicators are required counterpart in the allowed".	e for is d		
Summary of chang	add r featu	subclause on "LA ne	Roaming R	estricted	in the SGSN du	ue to unsupported			

Clauses affected:	₭ 2.4.13; 2.4.14a (new); 2.4.15; 2.4.15.2; 2.4.15.3 (new); Table 2
Other specs affected:	Y N X Other core specifications % X Test specifications % X O&M Specifications %
Other comments:	¥

*** First modified section ***

2.4.12 MSC area restricted flag

MSC area restricted flag is a parameter which can take either of the following values:

- MSC area restricted;
- MSC area not restricted.

The parameter is set in the HLR during updating of the VLR. Handling of unsupported services and information received from the VLR based on national roaming or regionally restricted subscription (subclause 2.4.11) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "MSC area not restricted".

The MSC area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.13 LA not allowed flag

The LA not allowed flag is set in the VLR and the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restriction Due To Un<u>S</u>supported Feature, see 3GPP TS 29.002. It is applied to restrict service on a location area basis.

The LA not allowed flag is temporary subscriber data stored in the VLR-and the SGSN.

2.4.14 SGSN area restricted flag

SGSN area restricted flag is a parameter which can take either of the following values:

- SGSN area restricted;
- SGSN area not restricted.

The parameter is set in the HLR during updating of the SGSN. Handling of unsupported services and information received from the SGSN based on national roaming or regionally restricted subscription (subclause 2.4.11) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "SGSN area not restricted".

The SGSN area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.14a RA not allowed flag

The RA not allowed flag is set in the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restricted in the SGSN Due To Unsupported Feature, see 3GPP TS 29.002. It is applied to restrict service on a location area basis.

The RA not allowed flag is temporary subscriber data stored in the SGSN.

2.4.15 Service restriction data induced by roaming

If in the course of roaming or at updating of the VLR or SGSN the HLR is informed that the VLR or SGSN does not support certain sensitive services or features, or, the HLR is informed in data request that the VLR or the SGSN supports only specific services, features or phases which do not correspond to subscribed services, features or phases, the HLR takes appropriate measures to restrict service for the mobile station in that VLR or SGSN by setting and sending network induced replacing services such as available services, features or phases, barring programs or the roaming restriction for the MSC or SGSN area.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the VLR, from the permanent subscriber data of the call barring supplementary services, from the barring related data that can be modified by the subscriber or from the permanent regional subscription data.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the SGSN, from the permanent regional subscription data.

The network induced data take precedence over the subscriber data of the user where they are in conflict. If, in the course of roaming, restrictions caused by a service are lifted, the original subscriber data have to be re-installed both in HLR, in SGSN and in VLR when applicable, regarding any remaining restrictions due to other service replacements.

All network-induced restriction data are temporary subscriber data.

For ODB, 3GPP TS 23.015 recommends mainly barring programs to replace this feature. The replacing barring data are conditionally stored in the HLR and VLR. In the VLR they cannot be distinguished from the permanent supplementary services data with the available signalling means, and no additional storage is needed. Interrogation shall reflect in both HLR and VLR the valid setting of the replacing temporary data; to prevent interference with Subscriber Controlled Input and to inform the customer on the restriction, the "control of barring services" subscription option is also temporarily set to the value "by the service provider".

CUG is also replaced by Outgoing Call Barring as described in 3GPP TS 23.085.

Roaming restriction in the MSC area due to unsupported features is used to replace AoCC, see 3GPP TS 23.086, and Zone Codes for regional subscription, see subclause 2.4.11 and 3GPP TS 29.002. A flag in <u>the HLR and the VLR</u>, see subclause 2.4.15.2, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

Roaming restriction in the SGSN area due to unsupported features is used to replace Zone Codes for regional subscription, see subclause 2.4.11 and 3GPP TS 29.002. A flag in <u>the HLR and the SGSN</u>, see subclause 2.4.15.<u>3</u>, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

2.4.15.1 ODB-induced barring data

ODB-induced barring data are temporary data stored conditionally in the HLR; they include the necessary replacing barring programs for outgoing and incoming calls depending on the ODB profile. The subscription option "control of barring services" is set to "by the service provider". The corresponding barring supplementary services for outgoing calls are set by the HLR and sent to the VLR.

2.4.15.2 Roaming restriction due to unsupported feature

Roaming restriction due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the MSC or the SGSN, resulting in roaming restriction in the MSC area or SGSN area. It can take either of the following values:

- roaming restricted;
- roaming not restricted.

The parameter governs the "LA not allowed flag" in the VLR (see subclause 2.4.13) and the "MSC area restricted flag" in the HLR (see subclause 2.4.12);, or the "LA not allowed flag" in the SGSN (see subclause 2.4.13) and the "SGSN area restricted flag" in the HLR (see subclause 2.4.14), see also 3GPP TS 29.002.

The flag "roaming restriction due to unsupported feature" is temporary subscriber data stored in the VLR, SGSN and in the HLR.

2.4.15.3 Roaming restricted in the SGSN due to unsupported feature

Roaming restricted in the SGSN due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the SGSN, resulting in roaming restriction in the SGSN area. It can take either of the following values:

roaming restricted;

- roaming not restricted.

The parameter governs the "RA not allowed flag" in the SGSN (see subclause 2.4.14a) and the "SGSN area restricted flag" in the HLR (see subclause 2.4.14); see 3GPP TS 29.002.

The flag "roaming restricted in the SGSN due to unsupported feature" is temporary subscriber data stored in the SGSN and in the HLR.

*** Next modified section ***

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
IMSI	2.1.1.1	M	M	M	M	P
Network Access Mode	2.1.1.2	M	-	C note1	-	Р
International MS ISDN number	2.1.2	М	М	М	М	Т
multinumbering MSISDNs	2.1.3	С	-	-	-	Т
Basic MSISDN indicator	2.1.3.1	С	-	-	-	Т.
MSISDN-Alert indicator	2.1.3.2	С	-	-	-	Т
P-TMSI	2.1.5	-	-	С	-	Т
TLLI	2.1.6	-	-	С	-	Т
Random TLLI	2.1.7	-	-	С	-	Т
IMEI	2.1.9	-	-	С	-	Т
RAND/SRES and Kc	2.3.1		-	С	-	Т
RAND, XRES, CK, IK, AUTN	2.3.2	М	-	С	-	Т
Ciphering Key Sequence Number	2.3.3	-	-	М	-	T
Key Set Identifier (KSI)	2.3.4	-	-	М	-	T T
Selected Ciphering Algorithm	2.3.5	-	-	М	-	T
Current Kc	2.3.6	-	-	M	-	T
P-TMSI Signature	2.3.7	-	-	С	-	T
Routing Area Identity	2.4.3	-	-	M	-	T
VLR Number	2.4.5	M	-	C note2	-	T T
SGSN Number	2.4.8.1	M	C note2	-	-	Т
GGSN Number	2.4.8.2	M	-	-	-	Р
RSZI Lists	2.4.11.1	C -	-	Ċ	-	P P
Zone Code List	2.4.11.2		-			Р Т
LRA not allowed flag	2.4.1 <u>4a</u> 3 2.4.14	- M	-	M -	-	T
SGSN area restricted flag Roaming Restrictedion in the SGSN due to	2.4.14 2.4.15. <u>3</u> 2	M	-	- M	-	T
unsupported feature	2.4.10. <u>0</u> 2	IVI	-	IVI	-	1
Cell Global ID or Service Area ID	2.4.16	_	_	С	-	Т
LSA Identity	2.4.17.1	C	C	c	_	P
LSA Priority	2.4.17.2	c	c	c	_	P
LSA Preferential Access Indicator	2.4.17.2A	č	c	č		P
LSA Active Mode Support Indicator	2.\$.17.2B	č	č	č		P
LSA Only Access Indicator	2.4.17.3	č	č	č	-	P
LSA Active Mode Indicator	2.4.17.4	Č	Č	Č	-	P
VPLMN Identifier	2.4.17.5	Č	-	-	-	P
Provision of teleservice	2.5.2	С	-	С	-	Р
Transfer of SM option	2.5.4	М	-	-	-	Р
MNRG	2.7.2	М	-	М	Μ	Т
MM State	2.7.3	-	-	М	-	Т
Subscriber Data Confirmed by HLR Indicator	2.7.4.2	-	-	М	-	Т
Location Info Confirmed by HLR Indicator	2.7.4.3	-	-	М	-	Т
MS purged for GPRS flag	2.7.6	М	-	-	-	Т
MNRR	2.7.7	С	-	-	-	Т
Subscriber Status	2.8.1	С	-	С	-	Р
Barring of outgoing calls	2.8.2.1	С	-	_	-	Р
Barring of roaming	2.8.2.3	С	-	С	-	P
Barring of Packet Oriented Services	2.8.2.8	С	-	C	-	Р
ODB PLMN-specific data	2.8.3	С	-	С	-	P
Notification to CSE flag for ODB	2.8.4	С	-	-	-	Т
gsmSCF address list for ODB	2.8.5	С	-	-	-	Р
Trace Activated in SGSN	2.11.7	С	-	C	-	Р
PDP Type	2.13.1	С	-	C	M	P
PDP Address	2.13.2	С	-	C C	M	Р Т
NSAPI PDP State	2.13.3	-	-	c	С	T
	2.13.4	-	-	c	-	T
New SGSN Address	2.13.5	- C	-	c	- C	т Р/Т
Access Point Name GGSN Address in Use	2.13.6 2.13.7	U	-	c		P/T T
VPLMN Address Allowed	2.13.7 2.13.8	c	-	c	-	г Р
Dynamic Address	2.13.8	Ū.	-	<u> </u>	c	Р Т
SGSN Address	2.13.10	-	-	-	M	T
GGSN-list	2.13.10	- M	-	-	-	T
	2.10.11	IVI	-	-	-	I

Table 2: Overview of data used for GPRS Network Access Mode

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
Quality of Service Subscribed	2.13.12	С	-	С	-	Р
Quality of Service Requested	2.13.13	-	-	С	-	Т
Quality of Service Negotiated	2.13.14	-	-	С	Μ	Т
SND	2.13.15	-	-	С	С	Т
SNU	2.13.16	-	-	С	С	Т
DRX Parameters	2.13.17	-	-	Μ	-	Т
Compression	2.13.18	-	-	С	-	Т
NGAF	2.13.19	-	-	C note2	-	Т
Classmark	2.13.20	-	-	Μ	-	Т
TEID	2.13.21	-	-	С	С	Т
Radio Priority	2.13.22	-	-	С	-	Т
Radio Priority SMS	2.13.23	-	-	С	-	Т
PDP Context Identifier	2.13.24	С	-	C C	-	Т
PDP Context Charging Characteristics	2.13.25	С	-	С	С	Р
Short Message Service CAMEL Subscription	2.14.4.1/1.8	С	-	С	-	Р
Information (SMS-CSI)						
GPRS CAMEL Subscription Information (GPRS-CSI)	2.14.4.2/1.9	С	-	С	-	С
SMS-CSI SGSN Negotiated CAMEL Capability	2.14.2.1	С	-	-	-	Т
Handling						
GPRS-ČSI Negotiated CAMEL Capability Handling	2.14.2.1	С	-	-	-	Т
SGSN Supported CAMEL Phases	2.14.2.3	С	-	-	-	Т
GsmSCF address for CSI	2.14.2.4	С	-	-	-	Р
Age Indicator	2.16.1	С	-	С	-	Т
Subscribed Charging Characteristics	2.19.1	С	-	С	С	Р
Privacy Exception List	2.16.1.1	Ċ	-	Ċ	-	Р
GMLC Numbers	2.16.1.2	С	-	С	-	Р
MO-LR List	2.16.1.3	C	-	Ċ	-	Р

*** End of document ***

3GPP TSG CN WG4 Meeting #19 San Diego, CA, USA, 19th – 23rd May 2003

N4-030386

										CR-Form-v7
CHANGE REQUEST										
ж	23.00	<mark>)8</mark> CR	121	жrev	-	ж	Current vers	ion:	5.4.0	ж
For <u>HELP</u> on u	ising this	form, see	bottom of this	s page or	look a	at the	e pop-up text	over ti	he % syr	nbols.
Proposed change	affects:	UICC a	apps #	ME	Radi	io A	ccess Networ	k	Core Ne	etwork X
						-				
T :4- 00		C b t	Design	Destriction		-		F (.)		
Title: ೫			een Roaming SGSN Due T					reatu	re and R	oaming
Source: ೫	Vodafo	ne								
Work item code: #	TEI						Date: ೫	04/0	4/2003	
Category: Ж	Use <u>one</u> F ((A (B (C (D (Detailed	correction) correspond addition of functional editorial m explanatic	ds to a correctio	n in an ear eature)		lease	R97 R98 R99	the folk (GSM (Relea (Relea (Relea	owing rele Phase 2) se 1996) se 1997) se 1998) se 1999) se 4) se 5)	ases:
Reason for change	U Se To Sa th al Se in	nsupporte GSN Due ems of sul o Unsupp ame data e SGSN to lowed in to ervice is no the HLR.	and GSM 09. d Feature (wh To Unsupport bscriber data. orted Feature item in the HL to support all the sGSN, who ot allowed in t	tich applie ted Featur However as applyin R replicate he feature en the VL he VLR (co Area is no	es to the re (wh GSM ng to be ed in the s request R fails or vice	he V nich 03.0 ooth the uired s to ver	/LR) and Roa applies to the 08 shows Roa the VLR and SGSN and the d for a subscr support a criti rsa). Distinct i	ming F SGSN aming the So e VLR iber, s cal fea ndicate	Restricter N) as dis Restriction GSN, with It is postored to that see ature, so ors are re- nterpart in	tinct on Due th the ssible for ervice is that equired
Summary of chang	a		ause on "Roan Ibclause for "R							

Limit subclause on "LA not allowed" to the VLR; add new subclause for "RA not allowed"
Consequences if % Unnecessary linkage between roaming restriction due to unsupported feature in

Clauses affected: Other specs affected:	% 2.4.13; 2.4.14a (new); 2.4.15; 2.4.15.2; 2.4.15.3 (new); 5.2 % X X Other core specifications X Test specifications X O&M Specifications
Other comments:	%

*** First modified section ***

2.4.12 MSC area restricted flag

MSC area restricted flag is a parameter which can take either of the following values:

- MSC area restricted;
- MSC area not restricted.

The parameter is set in the HLR during updating of the VLR. Handling of unsupported services and information received from the VLR based on national roaming or regionally restricted subscription (subclause 2.4.11) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "MSC area not restricted".

The MSC area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.13 LA not allowed flag

The LA not allowed flag is set in the VLR and the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restriction Due To Un<u>S</u>supported Feature, see 3GPP TS 29.002. It is applied to restrict service on a location area basis.

The LA not allowed flag is temporary subscriber data stored in the VLR-and the SGSN.

2.4.14 SGSN area restricted flag

SGSN area restricted flag is a parameter which can take either of the following values:

- SGSN area restricted;
- SGSN area not restricted.

The parameter is set in the HLR during updating of the SGSN. Handling of unsupported services and information received from the SGSN based on national roaming or regionally restricted subscription (subclause 2.4.11) determine its value. The parameter contributes to the "MS Not Reachable" state for handling of terminating traffic in the HLR. The default value is "SGSN area not restricted".

The SGSN area restricted flag is temporary subscriber data and is contained in the HLR.

2.4.14a RA not allowed flag

The LA not allowed flag is set in the SGSN depending on National Roaming, Regionally Restricted Subscription and Roaming Restricted in the SGSN Due To Unsupported Feature, see 3GPP TS 29.002. It is applied to restrict service on a location area basis.

The RA not allowed flag is temporary subscriber data stored in the SGSN.

2.4.15 Service restriction data induced by roaming

If in the course of roaming or at updating of the VLR or SGSN the HLR is informed that the VLR or SGSN does not support certain sensitive services or features, or, the HLR is informed in data request that the VLR or the SGSN supports only specific services, features or phases which do not correspond to subscribed services, features or phases, the HLR takes appropriate measures to restrict service for the mobile station in that VLR or SGSN by setting and sending network induced replacing services such as available services, features or phases, barring programs or the roaming restriction for the MSC or SGSN area.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the VLR, from the permanent subscriber data of the call barring supplementary services, from the barring related data that can be modified by the subscriber or from the permanent regional subscription data.

These network-induced data have to be kept separate in the HLR, and where possible as discussed below in the SGSN, from the permanent regional subscription data.

The network induced data take precedence over the subscriber data of the user where they are in conflict. If, in the course of roaming, restrictions caused by a service are lifted, the original subscriber data have to be re-installed both in HLR, in SGSN and in VLR when applicable, regarding any remaining restrictions due to other service replacements.

All network-induced restriction data are temporary subscriber data.

For ODB, 3GPP TS 23.015 recommends mainly barring programs to replace this feature. The replacing barring data are conditionally stored in the HLR and VLR. In the VLR they cannot be distinguished from the permanent supplementary services data with the available signalling means, and no additional storage is needed. Interrogation shall reflect in both HLR and VLR the valid setting of the replacing temporary data; to prevent interference with Subscriber Controlled Input and to inform the customer on the restriction, the "control of barring services" subscription option is also temporarily set to the value "by the service provider".

CUG is also replaced by Outgoing Call Barring as described in 3GPP TS 23.085.

Roaming restriction in the MSC area due to unsupported features is used to replace AoCC, see 3GPP TS 23.086, and Zone Codes for regional subscription, see subclause 2.4.11 and 3GPP TS 29.002. A flag in <u>the HLR and the VLR</u>, see subclause 2.4.15.2, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

Roaming restriction in the SGSN area due to unsupported features is used to replace Zone Codes for regional subscription, see subclause 2.4.11 and 3GPP TS 29.002. A flag in <u>the HLR and the SGSN</u>, see subclause 2.4.15.<u>3</u>, collects the sources of network-induced roaming restriction which are also kept separate by the HLR.

2.4.15.1 ODB-induced barring data

ODB-induced barring data are temporary data stored conditionally in the HLR; they include the necessary replacing barring programs for outgoing and incoming calls depending on the ODB profile. The subscription option "control of barring services" is set to "by the service provider". The corresponding barring supplementary services for outgoing calls are set by the HLR and sent to the VLR.

2.4.15.2 Roaming restriction due to unsupported feature

Roaming restriction due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the MSC-or the SGSN, resulting in roaming restriction in the MSC area or SGSN area. It can take either of the following values:

- roaming restricted;
- roaming not restricted.

The parameter governs the "LA not allowed flag" in the VLR (see subclause 2.4.13) and the "MSC area restricted flag" in the HLR (see subclause 2.4.12); or the "LA not allowed flag" in the SGSN (see subclause 2.4.13) and the "SGSN area restricted flag" in the HLR (see subclause 2.4.14), see <u>also</u> 3GPP TS 29.002.

The flag "roaming restriction due to unsupported feature" is temporary subscriber data stored in the VLR, SGSN and in the HLR.

2.4.15.3 Roaming restricted in the SGSN due to unsupported feature

Roaming restricted in the SGSN due to unsupported feature is a parameter which indicates that one or several services or features are not supported by the SGSN, resulting in roaming restriction in the SGSN area. It can take either of the following values:

roaming restricted;

- roaming not restricted.

The parameter governs the "RA not allowed flag" in the SGSN (see subclause 2.4.14a) and the "SGSN area restricted flag" in the HLR (see subclause 2.4.14); see also 3GPP TS 29.002.

The flag "roaming restricted in the SGSN due to unsupported feature" is temporary subscriber data stored in the SGSN and in the HLR.

*** Next modified section ***

5.2 GPRS Network Access Mode Storage

Table 2: Overview of data used for GPRS Network Access Mode

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
IMSI	2.1.1.1	M	M	M	M	P
Network Access Mode	2.1.1.2	M	-	C note1	-	P
International MS ISDN number	2.1.2	M	М	M	М	Т
multinumbering MSISDNs	2.1.2	C	-	-	-	Ť
Basic MSISDN indicator	2.1.3.1	c	-	_	_	Τ.
MSISDN-Alert indicator	2.1.3.1	c	-	-	-	T.
P-TMSI		-	-	-	-	T
	2.1.5	-	-	C	-	T
TLLI	2.1.6	-	-	С	-	
Random TLLI	2.1.7	-	-	С	-	T
	2.1.9	-	-	С	-	T
RAND/SRES and Kc	2.3.1		-	С	-	T T
RAND, XRES, CK, IK, AUTN	2.3.2	М	-	С	-	T
Ciphering Key Sequence Number	2.3.3	-	-	М	-	Ţ
Key Set Identifier (KSI)	2.3.4	-	-	М	-	Т
Selected Ciphering Algorithm	2.3.5	-	-	M	-	Т
Current Kc	2.3.6	-	-	М	-	Т
P-TMSI Signature	2.3.7	-	-	С	-	Т
Routing Area Identity	2.4.3	-	-	М	-	Т
VLR Number	2.4.5	М	-	C note2	-	Т
SGSN Number	2.4.8.1	Μ	C note2	-	-	Т
GGSN Number	2.4.8.2	Μ	-	-	-	Р
RSZI Lists	2.4.11.1	С	-	-	-	Р
Zone Code List	2.4.11.2	-	-	С	-	Р
LRA not allowed flag	2.4.1 <mark>4a</mark> 3	-	-	М	-	Т
SGSN area restricted flag	2.4.14	М	-	-	-	Т
Roaming Restrictedion in the SGSN due to	2.4.15. <mark>32</mark>	М	-	М	-	Т
unsupported feature						-
Cell Global ID or Service Area ID	2.4.16	-	-	С	-	Т
LSA Identity	2.4.17.1	С	С	Ċ	-	P
LSA Priority	2.4.17.2	č	с с с с	C C C	-	P
LSA Preferential Access Indicator	2.4.17.2A	č	C	C		P
LSA Active Mode Support Indicator	2.4.17.2B	č	Č	č		P
LSA Only Access Indicator	2.4.17.3	č	Č	č	_	P
LSA Active Mode Indicator	2.4.17.4	c	C C	c	_	P
VPLMN Identifier	2.4.17.5	c	-	0	_	P
Provision of teleservice	2.5.2	c	-	C	-	P
Transfer of SM option	2.5.4	M	-	C	-	P
		M	-	-	M	T
MNRG	2.7.2		-	M		
MM State	2.7.3	-	-	M	-	T
Subscriber Data Confirmed by HLR Indicator	2.7.4.2	-	-	M	-	T
Location Info Confirmed by HLR Indicator	2.7.4.3	-	-	М	-	T
MS purged for GPRS flag	2.7.6	М	-	-	-	T
MNRR	2.7.7	С	-	-	-	Т
Subscriber Status	2.8.1	C	-	С	-	Р
Barring of outgoing calls	2.8.2.1	С	-		-	Р
Barring of roaming	2.8.2.3	С	-	С	-	Р
Barring of Packet Oriented Services	2.8.2.8	С	-	С	-	Р
ODB PLMN-specific data	2.8.3	С	-	С	-	Р
Notification to CSE flag for ODB	2.8.4	С	-	-	-	Т
gsmSCF address list for ODB	2.8.5	С	-	-	-	Р
Trace Activated in SGSN	2.11.7	С	-	С	-	Р
PDP Type	2.13.1	С	-	С	Μ	Р
PDP Address	2.13.2	С	-	С	Μ	Р
NSAPI	2.13.3	-	-	С	С	Т
PDP State	2.13.4	-	-	С	-	Т
New SGSN Address	2.13.5	-	-	Č	-	Ť
Access Point Name	2.13.6	С	-	č	С	P/T
GGSN Address in Use	2.13.7	-	-	č	-	T
				-		•

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
VPLMN Address Allowed	2.13.8	С	-	С	-	Р
Dynamic Address	2.13.9	-	-	-	С	Т
SGSN Address	2.13.10	-	-	-	Μ	Т
GGSN-list	2.13.11	Μ	-	-	-	Т
Quality of Service Subscribed	2.13.12	С	-	С	-	Р
Quality of Service Requested	2.13.13	-	-	С	-	Т
Quality of Service Negotiated	2.13.14	-	-	С	Μ	Т
SND	2.13.15	-	-	С	С	Т
SNU	2.13.16	-	-	С	С	Т
DRX Parameters	2.13.17	-	-	Μ	-	Т
Compression	2.13.18	-	-	С	-	Т
NGAF	2.13.19	-	-	C note2	-	Т
Classmark	2.13.20	-	-	Μ	-	Т
TEID	2.13.21	-	-	С	С	Т
Radio Priority	2.13.22	-	-	С	-	Т
Radio Priority SMS	2.13.23	-	-	С	-	Т
PDP Context Identifier	2.13.24	С	-	С	-	Т
PDP Context Charging Characteristics	2.13.25	С	-	С	С	Р
GPRS CAMEL Subscription Information (GPRS-CSI)	2.14.1.10/2.1	С	-	С	-	С
,	4.4.4					
MO Short Message Service CAMEL Subscription	2.14.1.8/2.14.	С	-	С	-	С
Information(MO-SMS-CSI)	4.1					
MT Short Message Service CAMEL Subscription	2.14.1.9/2.14.	С	-	С	-	С
Information(MT-SMS-CSI)	4.2.					
MO-SMS-CSI SGSN Negotiated CAMEL Capability	2.14.2.1	С	-	-	-	Р
Handling						
MT-SMS-CSI SGSN Negotiated CAMEL Capability	2.14.2.1	С	-	-	-	Р
Handling						
Mobility Management for GPRS event notification	2.14.1.12/2.14.	С	-	С	-	С
(MG-CSI)	4.4					
MG-CSI Negotiated CAMEL Capability Handling	2.14.2.1	С	-	-	-	Р
GPRS-CSI Negotiated CAMEL Capability Handling	2.14.2.1	С	-	-	-	Т
SGSN Supported CAMEL Phases	2.14.2.3	Ċ	-	-	-	Т
SGSN Offered CAMEL4 CSIs	2.14.2.2A	С	-	-	-	Т
GsmSCF address for CSI	2.14.2.4	Č	-	-	-	P
Age Indicator	2.16.1	С	-	С	-	T
Subscribed Charging Characteristics	2.19.1	Č	-	č	С	P
Privacy Exception List	2.16.1.1	С	-	С	-	P
GMLC Numbers	2.16.1.2	č	-	č	-	P
MO-LR List	2.16.1.3	Č	-	č	-	P
Service Types	2.16.1.4	č	-	č	-	P
				-		

The HLR column indicates only GPRS related use, i.e. if the HLR uses a parameter in non-GPRS Network Access Mode but not in GPRS Network Access Mode, it is not mentioned in this table 2.

Note 1: This parameter is relevant in the SGSN only when the Gs interface is installed.

Note 2: The VLR column is applicable if Gs interface is installed. It only indicates GPRS related data to be stored and is only relevant to GPRS subscribers registered in VLR.

For special condition of storage see in clause 2. See clause 3 for explanation of M, C, T and P in table 2.

*** End of document ***