



WRIX-d UDR to RTDR mapping

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1 Introduction

1.1 Overview

Wi-Fi Home Service Providers (HSPs) and Visited Network Providers (VNP) can use two different wholesale billing formats (WRIX-d UDR and TAP). Operators using TAP require the ability to roam with partners who use a WRIX-d UDR and vice versa.

The standard financial reporting mechanism for TAP is the Roaming Traffic Data Report (RTDR) as defined by BA.61 [1] and TD.91 [2]. In order to minimise cost and avoid maintaining more than one financial reporting standard, this document has been defined to describe high-level what needs to be considered for populating RTDR using WRIX-d UDR as the source. This is primarily intended for the case when both VNP and HSP use WRIX-d UDR. It could also be used for the case where the HSP uses WRIX-d UDR, and the VNP uses TAP but that should be a rare occurrence.

1.2 Scope

The scope of this PRD is to provide mapping instructions as help for companies creating RTDRs using WRIX-d UDR as source information. It is not foreseen to create RTDRs from WRIX-d SFD information.

1.3 Abbreviations

Term	Description
DCH	Data Clearing House
DRTDR	Daily RTDR
GSM	Global System for Mobile communications (originally Groupe Spécial Mobile)
GSMA	GSM Association
FCA	Financial Clearing Agent
HPMN	Home PMN
HSP	Home Service Provider
MRTDR	Monthly RTDR
PMN	Public Mobile Network
PRD	Permanent Reference Document
RTDR	Roaming Traffic Data Report
SDR	Special Drawing Right
SFD	Summary Financial Data report
TADIG	Transferred Account Data Interchange Group
TAP	Transferred Account Procedure
UD	Usage Data
UDR	Usage Data Record
UTC	Universal Time Co-ordinated
VNP	Visited Network Provider
VPMN	Visited PMN
WRIX-d	Wireless Roaming Intermediary eXchange – data clearing

1.4 References

Ref	Doc Number	Title
[1]	GSMA PRD BA.61	Roaming Traffic Data Report (RTDR) Requirements
[2]	GSMA PRD TD.91	RTDR Format Specification

2 Creating RTDR using WRIX-d UDR as source

This section contains details of how to populate RTDR using WRIX-d UDR as source as follows:

- For the monthly RTDR, WRIX-d UDR files cleared during the same billing month (using WRIX-d UDR field BillingMonth).
- For the daily RTDR, WRIX-d UDR files cleared during a calendar day.

Note: Due to the difference between WRIX-d UDR and TAP file frequency, the rules for what WRIX-d UDR files will be included into the monthly RTDR (and invoice), may differ from the rules for what TAP files would be included. If the WRIX-d UDR file frequency is increased to be aligned more with TAP, then the RTDR contents would be the same. If not, the RTDR contents could be different depending on the source file format (WRIX-d UDR or TAP).

WRIX-d UDR field	RTDR field	Comments
	RTDRFileHeader	
	Prefix	MRTDR for monthly RTDR. DRTDR for daily RTDR.
	Sender	Create with the TADIG Code of the DCH sending the RTDR
	Recipient	Create with the TADIG Code of the FCA receiving the RTDR.
VNP (header) or HSP (body) depending on who is the DCH client for whom the RTDR is produced	PMN	Convert the client Operator Id on whose behalf the RTDR is produced into TADIG Code using a mapping table. Note: When the clearing is performed on behalf on an aggregator, this will be the TADIG code of the aggregator. The VPMN and HPMN TADIG codes can be the aggregator or the individual networks, depending on the configuration of the DCH client.
	ReportSeqNo	Generate.
	RTDRReferenceID	Does not need to be created.
	TADIGGenSchemaVersion	Populate with actual generic schema version (currently 2.4).
	RTDRSchemaVersion	Populate with actual RTDR schema version (currently 4.1).
	CreationTmstp	When the RTDR file is created.
	SenderSignature	Does not need to be created.
	ConnectionList	

WRIX-d UDR field	RTDR field	Comments
	Connection	
VNP (header)	VPMN	Convert the VNP Operator Id into the VPMN TADIG code using a mapping table.
HSP (body)	HPMN	Convert the HSP Operator Id into the HPMN TADIG code using a mapping table.
	FileItem	
	FileItem	
	FileID	Populate with unique ID for this WRIX-d UDR file.
FileCreationTimestamp (header)	ExchTmstp	Copy across, converted to right date format (UTC time).
	FileType	Set to InitTAP.
SequenceNumber (header)	TAPSeqNo	Copy across. Note: WRIX-d UDR is being changed to have 5 digits in the SequenceNumber from previous 6. If the SequenceNumber contains 6 digits, then the first digit should be dropped.
	NotifFileInd	Set to "true" if the WRIX-d UDR file has no body records, otherwise don't create
	ChargeInfo	
FileCreationTimestamp (header) BillingMonth (header)	TAPTxCutoffTmstp	Set to earliest of FileCreationTimestamp or last day of the billing month (take the YYYYMM from the BillingMonth, then add the last day of that month for DD and 23:59:59 for the hhmmss), and finally add the UTC Time Offset for UTC. For the monthly RTDR: Used to include all UD files with the same BillingMonth into the same monthly RTDR.
FileCreationTimestamp (header)	TAPAvailTmstp	Set to latest of TAPTxCutoffTmstp and FileCreationTimestamp (header), and add the UTC Time Offset for UTC.
Currency (header)	TAPCurrency	Copy across. Normally the local currency of VPMN.
	TotalNoOfCalls	Count of UDR body records for that HPMN.
ChargedDurationAmount (body) ChargedVolumeAmount (body) SessionAmount (body)	TotalNetCharge	Sum up all ChargedDurationAmount, ChargedVolumeAmount, and SessionAmount for that HPMN.
TaxAmount (body)	TotalTax	Sum up all TaxAmounts for that HPMN.
	TrafficBreakdownList	
	TrafficBreakdownItem	
	CallEventType	Set to WLAN Calls.
	CamelIndicator	Set to "false"

WRIX-d UDR field	RTDR field	Comments
	CallEventInfo	
	NumberOfEvents	Same as TotalNoOfCalls.
UsedVolumeDownLink (body) UsedVolumeUpLink (body)	TotalVolumeUsed	Sum of all UsedVolumeDownLink + UsedVolumeUpLink for that HPMN, converted from kB to bytes by multiplying with 1024
UsedDuration (body)	TotalDurationUsed	Sum of all UsedDuration for that HPMN
ChargedVolume (body)	TotalVolumeCharged	Sum of all ChargedVolume for that HPMN, converted from kB to bytes by multiplying with 1024
ChargedDuration (body)	TotalDurationCharged	Sum of all ChargedDuration for that HPMN
	TotNetCharge	Same as TotalNetCharge
	TotTaxValue	Same as TotalTax
	AdditionalChargeInfo	
BillingMonth (header)	InvPeriod	Take the YYYYMM from the BillingMonth and convert to YYYY-MM
	TotalNetChargeSDR	Converted into SDR from TotalNetCharge
	TotalTaxSDR	Converted into SDR from TotalTax
	VPMNLocCurr	Normally same as TAPCurrency
	TotalNetChargeVLCSR	Same as TotalNetCharge
	TotalTaxVLCSR	Same as TotalTax
	TotalNetChargeVLCCD	Same as TotalNetCharge
	TotalTaxVLCCD	Same as TotalTax
	AdditionalHPMNChargeInfo	Does not need to be created. This is only needed for TAP DCH clients, and not used by the FCA.

Table 1: WRIX-d UDR to RTDR Mapping

3 WRIX-d UDR Fields not Used in the Mapping

WRIX-d UDR field	Comments
Version (header)	Not needed as the RTDR version is independent from the WRIX-d UDR version
CallEventTimeStamp (body)	Not needed as the RTDR is summarised data
CauseForTermination (body)	Not needed as the RTDR is summarised data
VenueClass (body)	Not needed as the RTDR is summarised data
UserName (body)	Not needed as the RTDR is summarised data
ChargeableUserID (body)	Not needed as the RTDR is summarised data
AccountingSessionID (body)	Not needed as the RTDR is summarised data
LocationName (body)	Not needed as the RTDR is summarised data
DeviceId (body)	Not needed as the RTDR is summarised data
TotalNumberOfSessions (trailer)	Not needed as all totals are calculated from other fields
TotalUsedDuration (trailer)	Not needed as all totals are calculated from other fields
TotalUsedVolumeDownLink (trailer)	Not needed as all totals are calculated from other fields
TotalUsedVolumeUpLink (trailer)	Not needed as all totals are calculated from other fields
TotalChargedDurationAmount (trailer)	Not needed as all totals are calculated from other fields
TotalChargedDuration (trailer)	Not needed as all totals are calculated from other fields
TotalChargedVolumeAmount (trailer)	Not needed as all totals are calculated from other fields
TotalChargedVolume (trailer)	Not needed as all totals are calculated from other fields
TotalSessionAmount (trailer)	Not needed as all totals are calculated from other fields
TotalTaxAmount (trailer)	Not needed as all totals are calculated from other fields

Table 2: WRIX-d UDR Fields not Used in the Mapping

4 RTDR Timelines

Unless the timelines for WRIX-d UDR exchange are brought more in line with the timelines for TAP, it will not be possible to follow the standard RTDR timelines as defined in BA.61 [1]. The last TAP files for the month are received on the 2nd so the MRTDR can be issued on the 4th. The monthly WRIX-d UDR files are now normally received on the 5th, so the MRTDR could in that case not be issued until the 7th. However, the timelines for WRIX-d UDR file exchange and clearing are being reviewed and expected to move to a more frequent time table.

Annex A Document Management

A.1 Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
1.0	4 Jun 2014	New PRD TD.110	TADIG #77 PSMC	Christer Gullstrand / Syniverse

A.2 Other Information

Type	Description
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