Subscriber Data Management

Release 9.1

SDM Documentation Roadmap

910-6703-001 Revision B

June 2013

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Chapter 1

Introduction

Topics:

- *About This Document.....6*

About This Document

The roadmap to the Subscriber Data Management (SDM) customer documentation provides an overview of SDM 9.1 customer documentation deliverables and a brief description of each document.

Chapter 2

SDM Documentation Set

Topics:

- *SDM Documentation Set.....8*
- *Released Revisions.....8*

The documentation set provides information for operators about the product, its features, the hardware platform, and how to configure, provision, monitor, maintain, and troubleshoot.

SDM Documentation Set

The documentation set provides information for operators about the product, its features, the hardware platform, and how to configure, provision, monitor, maintain, and troubleshoot.

The manuals are organized into these groups:

- General Information
- Interface Descriptions
- Configuration and Provisioning
- Monitoring, Maintenance, and Troubleshooting

The user guides provide step-by-step instructions on how to configure, provision, monitor, or troubleshoot. The reference manuals complement the user guides with background information, full details of available options, and system responses.

The SDM documentation set is a comprehensive group of electronic files that is available through the Tekelec Customer Support site (see *Locate Product Documentation on the Customer Support Site*).

Prior to a limited availability (LA) or general availability (GA) of a release, SDM documentation may be available per customer account from the SDM download center. Please contact your sales representative for more details.

A complete Subscriber Data Management (SDM) documentation set consists of the documents listed in this table. The documents are sorted by part number. The part number revisions are aligned with the revision of the orderable high-level documentation-set part number (936-xxxx-201) for this release.

Released Revisions

Table 1: User Manual Revisions per Documentation Set

Part Number	Description	936-0410-201	
		A	B
910-6220-001	TPD Troubleshooting Guide	E	F
910-6561-001	SDM Hardware Roadmap	A	B
910-6425-001	SDM MRF Provisioning Template Examples	A	A
910-6426-001	SDM MRF MIBs	A	A
910-6427-001	SDM MRF Counter Examples	A	A
910-6703-001	SDM Documentation Roadmap	A	B
910-6694-001	SDM Feature Notice	A	A
910-6539-001	SDM Alarm Dictionary	C	D
910-6540-001	SDM Performance Measurements	B	B

Part Number	Description	936-0410-201	
		A	B
910-6695-001	SDM Monitoring, Maintaining, Troubleshooting - User Guide	A	B
910-6696-001	SDM Monitoring, Maintaining, Troubleshooting - Reference Manual	A	A
910-6697-001	SDM Product Description	A	A
910-6698-001	SDM System Configuration - User Guide	A	A
910-6699-001	SDM System Configuration - Reference Manual	A	A
910-6700-001	SDM Subscriber Provisioning - User Guide	A	A
910-6701-001	SDM Subscriber Provisioning - Reference Manual	A	A
910-6702-001	SDM Statement of Compliance	A	B
910-6553-001	SDM XML Notifications - XML Interface Description	B	B
910-6715-001	CxDx Interface Description	A	A
910-6716-001	SIP Interface Description	A	A
910-6717-001	SDM Interface Change Description	A	B
910-6719-001	ShDh Interface Description	A	A
910-6720-001	LTE S6a/S6d Interface Description	A	A
	Legal Information HLR	C	C
	Legal Information SDM	F	F
910-6743-001	Open Source Notice SDM 9.X	A	A

Chapter 3

Documentation Descriptions

Topics:

- *General Information.....11*
- *Interface Descriptions.....12*
- *Configuration and Provisioning.....12*
- *Monitoring, Maintenance and Troubleshooting.....13*
- *Locate Product Documentation on the Customer Support Site.....14*

General Information

SDM Documentation Roadmap

This document provides an overview of SDM 9.1 customer documentation deliverables and a brief description of each document.

SDM Feature Notice

This document introduces new features that were implemented in the main software release.

SDM Product Description

This document provides an overview and technical information about the SDM system, its hardware, software, high availability, fault management, configuration management, accounting management, performance management, security management, ordering information, and technical specifications.

SDM Interface Change Description

This document allows current operators to plan the adaptation of their current operations to the new release interfaces. This document describes the interface changes introduced in the new SDM release. The document focuses on interface changes that impact features and operation modes used for the previous release. This document also lists the existing features configuration (or operation) that was modified by the new release's features

SDM Roadmap to Hardware Documentation

This document aids in navigating to the respective manufacturer online documentation related to this product. The document links to typical hardware-related user information such as hardware descriptions and operation information. The document also provides a sample configuration of the current platform. The specific configuration depends on the customer order and is delivered separately.

SDM Statement of Compliance

This document lists the statements of compliance (ITU-T, ANSI, 3GPP, Gi Interworking) as they apply to the following Tekelec applications:

- Home Location Register (HLR)
- Authentication Center (AuC)
- Home Subscriber Server (HSS)
- Subscription Locator Function (SLF)
- SIP Registrar (SREG)
- SIP Redirection Server (SRES)
- SIP User Agent Gateway (SUAG)
- AAA Server (AAA)

Interface Descriptions

SIP Interface Description

This document describes the technical compliance of the Session Initiation Protocol (SIP) Interface and provides example traces of key messages exchanged between the SIP application server and the external SIP peers. The SIP interface is an available option of the Tekelec ngHLR application.

LTE S6a/S6d Interface Description

This document describes the S6a/S6d Diameter-based interface as supported by SDM. The S6a/S6d interface is part of the LTE-HSS front-end component of the SDM and leverages the centralized Subscriber Data Server (SDS) back-end database for subscriber profile information. This document provides interface compliance details to enable interoperability testing between the Tekelec LTE-HSS and other vendor's Mobility Management Entities (MMEs) and Serving GPRS Support Nodes (SGSNs). For both S6a (MME-HSS) and S6d (SGSN-HSS), the document provides the supported use cases and messages, as well as supported AVPs.

CxDx Interface Descriptions

This document describes the Tekelec SDM Diameter-based Cx and Dx interfaces and their functions. The Cx interface is a basic functionality of the HSS component of the Tekelec SDM platform, while the Dx interface is part of the optional Subscription Locator Function package. The document details technical compliance of the interfaces and provides example call flows of key messages exchanged between the Tekelec HSS/SLF and the external IMS Diameter peers.

ShDh Interface Description

This document describes the Diameter-based Sh and Dh interfaces. The Sh interface is a basic functionality of the HSS component of the Tekelec SDM platform, while the Dh interface is part of the optional Subscription Locator Function package.

SDM XML Notifications - XML Interface Description

This document describes how the Tekelec ngHLR provides an XML interface for sending notifications to external applications based on specific criteria, for example, the reception of a VLR message or on the subscriber roaming into a different country.

Configuration and Provisioning

SDM System Configuration Reference Manual

This document describes the commands and operations to configure the Tekelec ngHLR, HSS, and AAA systems through the Command Line Interface (CLI) and the Web Craft Interface (WebCI). The document provides detailed information for all entities applicable to HLR, SIP, System, SS7, OAM&P,

Database, HSS, SLF, and AAA applications. Each entity provides a description, the CLI navigation path, the CLI command, permitted operations, command syntax, an attributes table, valid input ranges, default values, and a description for the input values.

SDM System Configuration User Guide

This document provides step by step instructions on how to configure the ngHLR, IMS-HSS, SLF, LTE-HSS, ENUM, DNS Server and AAA applications of the Tekelec Subscriber Data Management platform. The document describes how to open, use, and close CLI and WebCI sessions and on which entity to provision the features.

SDM Subscriber Provisioning Reference Manual

This document describes the provisioning interfaces and tools for SOAP, CommandFileLoader, CommandTemplateLoader, XML files, and XML templates. The document also provides a detailed description of the entities useful for subscriber provisioning for the Tekelec ngHLR, SIP, HSS, SLF, AAA and Enum applications.

SDM Subscriber Provisioning User Guide

This document provides step-by-step instructions on how to provision subscribers using the XML interface on the Tekelec ngHLR, HSS and AAA. This document also demonstrates how to use the SOAP protocol, the Command File Loader, Command Template Loader and Command Template Viewer tools. In addition, the document provides a list of the order in which subscribers must be provisioned and gives examples of how XML files with and without templates should be written for the subscriber provisioning of each application.

SDM MRF Provisioning Examples

This document contains machine-readable provisioning templates and examples.

Monitoring, Maintenance and Troubleshooting

SDM Monitoring, Maintaining and Troubleshooting Reference Manual

This document describes the error messages that can be generated by the system as well as the database entities and operations (backup/restore), the OAM&P entities along with the subscriber license, log files generated by the system and the SNMP. The document also describes system entities and operations as well as hardware indications.

SDM Monitoring, Maintaining and Troubleshooting User Guide

This document describes the monitoring tools, maintenance procedures, troubleshooting, and hardware installation instructions. It also describes how to view and modify subscriber profiles from the WebCI.

TPD Troubleshooting Guide

This manual describes all available Tekelec Platform Distribution (TPD) alarms and provides their recovery procedures. TPD alarms are generated by the TPD operating system, which is installed on the application server with most applications.

SDM Performance Measurements

This document provides an overview and technical information on performance measurement counters that have been implemented in the system.

SDM MRF MIBs

This Machine Readable File contains the SDM MIBs.

SDM MRF Counter Examples

This Machine Readable File contains XML examples to retrieve counter information.

SDM Alarm Dictionary

This document lists all the alarms that can be raised by the system and describes for each of them the situation in which they are raised, the effect on the system, and the action that must be taken.

Locate Product Documentation on the Customer Support Site

Access to Tekelec's Customer Support site is restricted to current Tekelec customers only. This section describes how to log into the Tekelec Customer Support site and locate a document. Viewing the document requires Adobe Acrobat Reader, which can be downloaded at www.adobe.com.

1. Log into the *Tekelec Customer Support* site.

   Note: If you have not registered for this new site, click the **Register Here** link. Have your customer number available. The response time for registration requests is 24 to 48 hours.

2. Click the **Product Support** tab.
3. Use the Search field to locate a document by its part number, release number, document name, or document type. The Search field accepts both full and partial entries.
4. Click a subject folder to browse through a list of related files.
5. To download a file to your location, right-click the file name and select **Save Target As**.

Glossary

#

3GPP	3rd Generation Partnership Project. The standards body for wireless communications.

A

AAA	Authentication, Authorization, and Accounting (Rx Diameter command)
AuC	Authentication Center

E

ENUM	T**E**lephone **NU**mber **M**apping

H

HLR	Home Location Register
HSS	Home Subscriber Server A central database for subscriber information.

M

MME	Mobility Management Entity

S

SDM	State Decision Manager Subscriber Data Management
SDS	System Debug Services Subscriber Data Server Provides new ways of accessing, extracting, and finding value from subscriber data, and thus enables operators to leverage the wealth of

S

	subscriber information previously fragmented all over their network. By simplifying the management of subscriber data and profiling customer behavior, the Subscriber Data Server allows carriers to exploit real-time data, deliver monetized personalized services, and even bind to third part services easily.
	Subscriber Database Server
	Subscriber Database Server (SDS) provides the central provisioning of the Full-Address Based Resolution (FABR) data. The SDS, which is deployed geo-redundantly at a Primary and Disaster recovery site, connects with the Query Server and the Data Processor System Operations, Administration, and Maintenance (DP SOAM) servers at each Diameter Signaling Router (DSR) site or a standalone DP site to replicate and recover provisioned data to the associated components.
SGSN	Serving GPRS Support Node
SIP	Session Initiation Protocol
SLF	Subscription Locator Function

T

TPD	Tekelec Platform Distribution
	TPD is a standard Linux-based operating system packaged and distributed by Tekelec. TPD provides value-added features for managing installations and upgrades, diagnostics, integration of 3rd party software (open and closed source), build tools, and server management tools.

V

V

VLR	Visitor Location Register A component of the switching subsystem, within a GSM network. The switching subsystem includes various databases which store individual subscriber data. One of these databases is the HLR database or Home Location Register; and the VLR is another.

W

WebCI	Web Craft Interface

X

XML	eXtensible Markup Language A version of the Standard Generalized Markup Language (SGML) that allows Web developers to create customized tags for additional functionality.