

Subscriber Data Management

Release 9.0

Feature Notice

910-6538-001 Revision A

October 2012



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Chapter 1

Subscriber Data Management

Topics:

- [Introduction.....5](#)

This document includes a brief description on the SDM Product, an overview of the hardware platform, an overview of the software architecture, new feature descriptions, and explains how to find customer documentation on the Customer Support Site.

Introduction

Subscriber Data Management is used to consolidate and manage cross-domain subscriber data as a single logical profile. Data is stored in the back-end database, which supports multiple front-end applications.

Feature notices are distributed to customers with each new release of software.

This *Feature Notice* includes the following topics:

- [SDM Description](#)
- [Hardware Platform Overview](#)
- [Software Architecture](#)
- [New and Enhanced Features](#)

For further details on the SDM product and on each feature covered in this document, refer to the SDM Customer Documentation set's Product Description. The SDM Documentation Roadmap should be your document of reference to get the list of all the SDM Customer Documents available and a description of each of their purpose. This will map you to the right document based on the type of information you need. For instructions on how to locate the SDM Customer Documentation, go to this section: [Locate Product Documentation on the Customer Support Site](#)

SDM Description

The Tekelec Subscriber Data Management (SDM) product family is a multi-profile subscriber management system, designed with an objective to consolidate all the information (or profiles) of a mobile subscriber. It enables centralization of subscriber information/data in one logical place and convergence of subscriber's registration, authentication and call termination at the core of the network, regardless of the access domain (including GSM/UMTS, IMS, SIP, LTE, and others).

The evolved Subscriber Data Management (SDM) solution features a distributed and layered architecture that provides a scalable back-end database, the Subscriber Data Server (SDS), which centralizes subscriber data from multiple front ends such as these applications: 3GPP ngHLR and AuC functions, MNP, SIP-AS, IMS-HSS, LTE-HSS, EIR, LTE-EIR, ENUM, 3GPP AAA (WiMAX AAA), and SPR. In other releases, it can also include other functional elements, or network applications, as depicted in this figure.

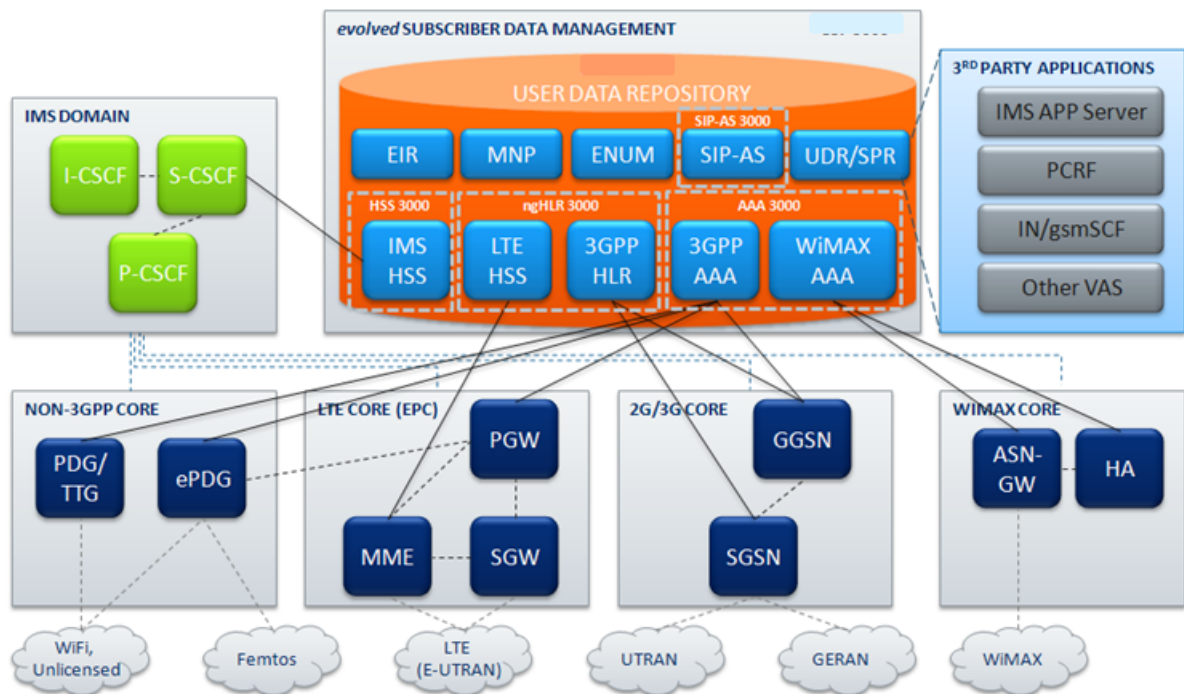


Figure 1: The SDM and typical network architecture

Hardware Platform Overview

The Tekelec Subscriber Data Management (SDM) software solution supports one software stream and can use one of the following hardware platforms:

The EAGLE XG hardware used for the Subscriber Data Management (SDM) application is available for AC and DC power. The hardware consists of the following cabinets and components depending on customer-specific configurations:

- Cabinets
 - HP Enterprise cabinet (AC)
 - Telect CoreMAX seismic cabinet (DC)
- Power distribution units (AC) or panels (DC)
 - HP AC PDU
 - Telect 100A 4-Position Demarcation DC PDP
 - Telect 100A Dual feed DC PDP
- Cisco 4948E/4948E-F aggregation switch
- HP c7000 enclosure with
 - Onboard Administrator
 - Cisco 3020 blade switch
 - HP BL460 G6/Gen8 blade server
 - D2200sb storage blade

- HP DL360 G6 rackmount server
- HP DL380 G6/Gen8 rackmount management/application server

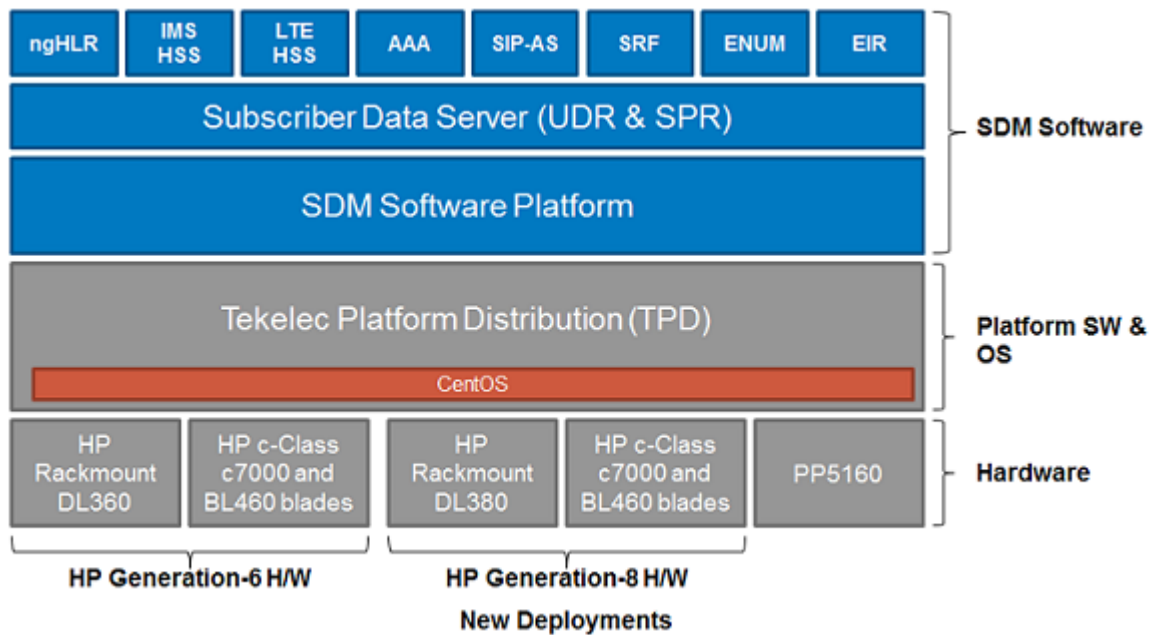


Figure 2: Hardware Platforms

Software Architecture

The figure shows a high level view of the SDM software architecture.

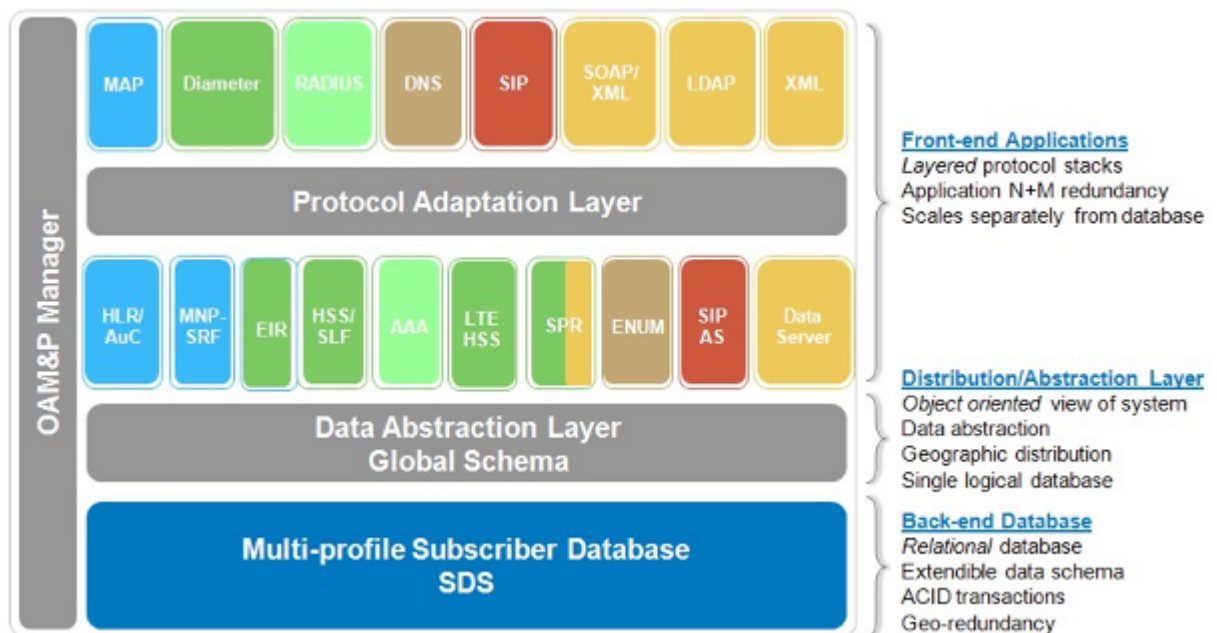


Figure 3: SDM high level software architecture

The system can be composed of up to two DL360 G6 or DL380 Gen8 rackmount servers, and a combination of up to 16 HP c-Class server and storage blades. The SDM can support a system of two, four, eight, twelve or sixteen blades. This means that up to two or sixteen slots can have assigned blades that offer services.

Note: The number of HP server/storage blades supported depends on the configuration of the system.

Chapter 2

New and Enhanced Features

Topics:

- *SPR support for Pass Management.....10*
- *REST-API update of multiple fields in single command.....10*
- *Support for HP G8 hardware (blade servers and rackmounts).....10*

SPR support for Pass Management

The *SPR support for Pass Management* feature enhances the *Pooled Quota* feature by allowing overwrites to the basic quota allowance through Passes (one-time overwrite), Top-ups (modified plan), and Roll-overs (credits). These quota types are available for subscriber and pool data.

The network operator can provision the quota types to change dynamically using the *DynamicQuota* entity or the *PoolDynamicQuota* attribute.

The service indications are mapped as follows:

- *DynamicQuota* > *CamiantDynamicQuotaData*
- *PoolDynamicQuota* > *CamiantPoolDynamicQuotaData*

New Alarms	New Error Messages	New Counters	New Hardware	New Configuration tables/attributes	New Subscriber Provisioning tables/attributes	New Network/Subscriber Provisioning interfaces
N	N	N	N	N/Y	Y/Y	N/N

For more information about Pass Management and dynamic quota, refer to the *SPR Support for Pass Management* feature in the *Product Description* of your SDM 9.0 documentation set.

REST-API update of multiple fields in single command

The SPR XML-REST provisioning interface supports the update of up to three fields in a single command for subscriber or pool data. The update operation uses the PUT method and triggers only a single Sh notification per update request.

New Alarms	New Error Messages	New Counters	New Hardware	New Configuration tables/attributes	New Subscriber Provisioning tables/attributes	New Network/Subscriber Provisioning interfaces
N	N	N	N	N/N	N/N	N/N

For more information about this feature, refer to *REST-API update of multiple fields in single command* in the *Product Description* of the SDM 9.0 documentation set.

Support for HP G8 hardware (blade servers and rackmounts)

SDM Release 9.0 introduces the G8 version of the HP BL460 blade server and the DL380 rackmount server as the new shipping baseline for SDM applications.

The servers come with the latest Intel Xeon E5-2600 series processor (8 core), choice of DDR3 registered or unbuffered DIMMs, and Serial Attached SCSI (SAS) and PCI 3.0 technology. They are fault tolerant and have hot-plug redundant power and fans, mirrored memory, and on-system management using the iLO management engine.

The HP ProLiant G8 BL460 has embedded RAID 0 and RAID 1 capability and expandable memory with up to 16 DIMM slots (8 per processor).

The HP ProLiant G8 DL380 is a 2U rack-mount server with embedded RAID 0/1/1+0/5/5+0 capability and expandable memory with up to 24 DIMM slots. The DL380 is used as the management server for the c-Class platform.

The G8 servers can be installed in existing HP enterprise or Telect CoreMAX cabinets and c-Class enclosures that also support G6 servers, except for replacing a 1U rackmount server with a 2U rackmount server. The servers can be deployed with either AC or DC power.

New Alarms	New Error Messages	New Counters	New Hardware	New Configuration tables/attributes	New Subscriber Provisioning tables/attributes	New Network/Subscriber Provisioning interfaces
N	N	N	Y	N/N	N/N	N/N

For more information on this feature, refer to *Support for HP G8 hardware* in the *Product Description* of the SDM 9.0 documentation set.

Chapter 3

Tekelec Resources and Services

Topics:

- *Customer Care Center.....13*
- *Emergency Response.....15*
- *Customer Training.....15*
- *Locate Product Documentation on the Customer Support Site.....16*

Tekelec provides a number of resources for SDM family. These include the availability of product documentation online, customer training, and access to the Customer Care Center.

Customer Care Center

The Tekelec Customer Care Center is your initial point of contact for all product support needs. A representative takes your call or email, creates a Customer Service Request (CSR) and directs your requests to the Tekelec Technical Assistance Center (TAC). Each CSR includes an individual tracking number. Together with TAC Engineers, the representative will help you resolve your request.

The Customer Care Center is available 24 hours a day, 7 days a week, 365 days a year, and is linked to TAC Engineers around the globe.

Tekelec TAC Engineers are available to provide solutions to your technical questions and issues 7 days a week, 24 hours a day. After a CSR is issued, the TAC Engineer determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not critical, normal support procedures apply. A primary Technical Engineer is assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.

Tekelec Technical Assistance Centers are located around the globe in the following locations:

Tekelec - Global

Email (All Regions): support@tekelec.com

- **USA and Canada**

Phone:

1-888-FOR-TKLC or 1-888-367-8552 (toll-free, within continental USA and Canada)

1-919-460-2150 (outside continental USA and Canada)

TAC Regional Support Office Hours:

8:00 a.m. through 5:00 p.m. (GMT minus 5 hours), Monday through Friday, excluding holidays

- **Caribbean and Latin America (CALA)**

Phone:

USA access code +1-800-658-5454, then 1-888-FOR-TKLC or 1-888-367-8552 (toll-free)

TAC Regional Support Office Hours (except Brazil):

10:00 a.m. through 7:00 p.m. (GMT minus 6 hours), Monday through Friday, excluding holidays

- **Argentina**

Phone:

0-800-555-5246 (toll-free)

- **Brazil**

Phone:

0-800-891-4341 (toll-free)

TAC Regional Support Office Hours:

8:00 a.m. through 5:48 p.m. (GMT minus 3 hours), Monday through Friday, excluding holidays

- **Chile**

Phone:

1230-020-555-5468

- **Colombia**

Phone:

01-800-912-0537

- **Dominican Republic**

Phone:

1-888-367-8552

- **Mexico**

Phone:

001-888-367-8552

- **Peru**

Phone:

0800-53-087

- **Puerto Rico**

Phone:

1-888-367-8552 (1-888-FOR-TKLC)

- **Venezuela**

Phone:

0800-176-6497

- **Europe, Middle East, and Africa**

Regional Office Hours:

8:30 a.m. through 5:00 p.m. (GMT), Monday through Friday, excluding holidays

- **Signaling**

Phone:

+44 1784 467 804 (within UK)

- **Software Solutions**

Phone:

+33 3 89 33 54 00

- **Asia**

- **India**

Phone:

+91 124 436 8552 or +91 124 436 8553

TAC Regional Support Office Hours:

10:00 a.m. through 7:00 p.m. (GMT plus 5 1/2 hours), Monday through Saturday, excluding holidays

- **Singapore**

Phone:

+65 6796 2288

TAC Regional Support Office Hours:

9:00 a.m. through 6:00 p.m. (GMT plus 8 hours), Monday through Friday, excluding holidays

Emergency Response

In the event of a critical service situation, emergency response is offered by the Tekelec Customer Care Center 24 hours a day, 7 days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with the Tekelec Customer Care Center.

Customer Training

Tekelec offers a variety of technical training courses designed to provide the knowledge and experience required to properly provision, administer, operate, and maintain Tekelec products. To enroll in any of the courses or for schedule information, contact the Tekelec Training Center at (919) 460-3064 or E-mail training@tekelec.com.

A complete list and schedule of open enrollment can be found at www.tekelec.com.

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

A

AAA Authentication, Authorization, and Accounting

AS Application Server
A logical entity serving a specific Routing Key. An example of an Application Server is a virtual switch element handling all call processing for a unique range of PSTN trunks, identified by an SS7 DPC/OPC/CIC_range. Another example is a virtual database element, handling all HLR transactions for a particular SS7 DPC/OPC/SCCP_SSN combination. The AS contains a set of one or more unique Application Server Processes, of which one or more normally is actively processing traffic.

AuC Authentication Center

E

EIR Equipment Identity Register
A network entity used in GSM networks, as defined in the 3GPP Specifications for mobile networks. The entity stores lists of International Mobile Equipment Identity (IMEI) numbers, which correspond to physical handsets (not subscribers). Use of the EIR can prevent the use of stolen handsets because the network operator can enter the IMEI of these handsets into a 'blacklist' and prevent them from being

E

registered on the network, thus making them useless.

ENUM

TElephone NUmber Mapping

G

GSM

Global System for Mobile Communications

H

HSS

Home Subscriber Server

A central database for subscriber information.

I

IMS

IP Multimedia Subsystem

These are central integration platforms for controlling mobile communications services, customer management and accounting for mobile communications services based on IP. The IMS concept is supported by 3GPP and the UMTS Forum and is designed to provide a wide range of application scenarios for individual and group communication

L

LTE

Long Term Evolution

The next-generation network beyond 3G. In addition to enabling fixed to mobile migrations of Internet applications such as Voice over IP (VoIP), video streaming, music downloading, mobile TV, and many others, LTE networks will also provide the capacity to support an explosion in demand for connectivity from a new generation of consumer devices tailored to those new mobile applications.

M

MNP

Mobile Number Portability

S

SDM

Subscriber Data Management

SIP

Session Initiation Protocol

SPR

Subscriber Profile Repository

A logical entity that may be a standalone database or integrated into an existing subscriber database such as a Home Subscriber Server (HSS). It includes information such as entitlements, rate plans, etc. The PCRF and SPR functionality is provided through an ecosystem of partnerships

U

UMTS

Universal Mobile
Telecommunications System

The standard for 3G used by GSM service providers. UMTS includes voice and audio services, for fast data, graphic and text transmissions, along with transmission of moving images and video.