# Cisco ROSA Service Information Manager (SIM) Version 5.2

The Cisco® ROSA® Service Information Manager (SIM) is a Client/Server management system that combines several independent software components that work together to create a powerful suite of tools to manage DVB Service Information and Electronic Program Guide on digital transmissions. The Cisco ROSA SIM works closely together with the Cisco Digital Content Manager (DCM), D9600 Series re-multiplexer devices.

Figure 1.   ROSA SIM platform
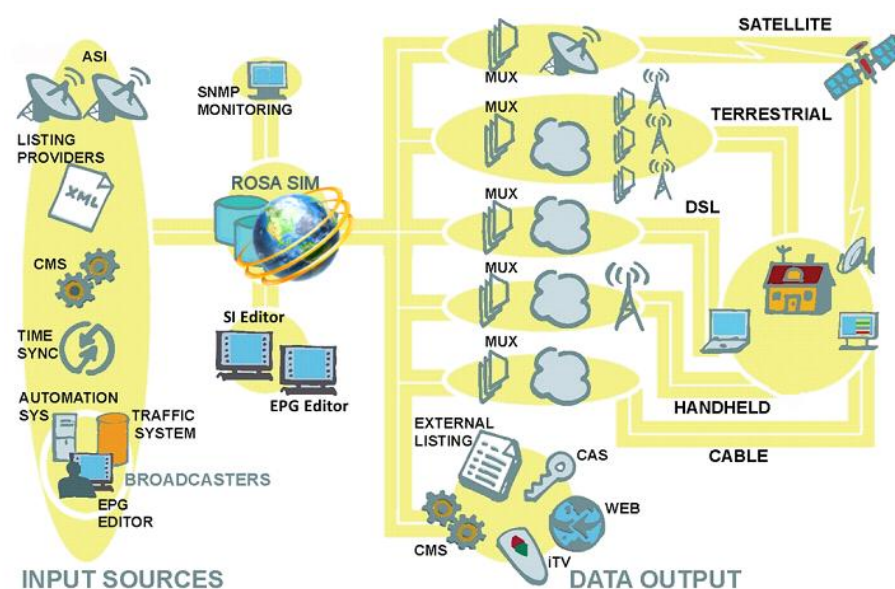
The Cisco ROSA SIM comprises of a DVB-SI system and a DVB-EPG system designed for DVB compliant digital television networks. The SI system configures and generates Service Information (SI) and the EPG system provides tools to enter and edit the Electronic Program Guide (EPG) data.

The ROSA SIM is highly scalable and is designed to meet the requirements of most networks of varying size and complexity. The SI-Manager System supports cable, satellite, terrestrial, IPTV, and hybrid networks. It allows for decentralized or regionalized table generation, resulting in a flexible and distributed solution.

Figure 2.   Interfaces to the SIM platform
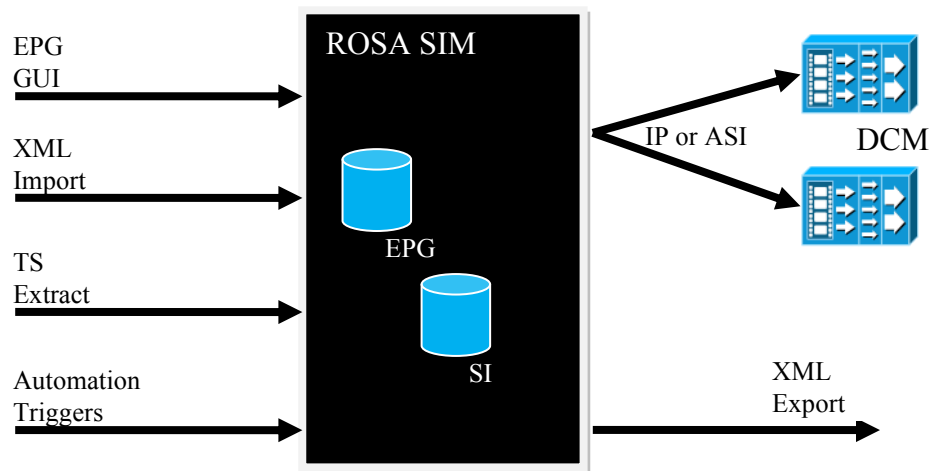
Key Features

DVB-PSI/SI Generation

- Support for SI tables SDT, NIT, Multi-NIT, EIT p/f. EIT Schedule, BAT, TDT, TOT.
- Cross-compilation by automatic generation of other data instantly when actual data changes.
- EIT schedule supporting depth variable up to 64 days with advanced features for optimizing data transmitted.
- Support for descriptors as defined in ETSI EN 300 468 / ISO-IEC 13818-1 and additional user-defined private descriptors.
- Advanced descriptor handling with native support for linkage descriptors, private data, and multiple types of Logical Channel Number descriptors. Descriptors can be compiled and changed dynamically.
- Support for large amount of Services and Transport Streams.
- Support for DVB-T, DVB-S, DVB_S2, and DVB-C networks.
- Support for different SI injection protocols for MUX integration, including DVB Simulcrypt PSIG<->MUX protocol.
- Fixed bit rate ASI and UDP/IP spooling solution interfacing with dedicated Interface card for ASI or GbE.
- Extract and recompile EIT p/f and EIT schedule from ASI input.
- Auto configure TS, services, and networks based on existing SI stream on ASI input.

Redundant Solution

- Guaranteed service uptime provided over High Availability central server solution.
- Support for MUX redundancy 1+1.

EPG data import

- Content providers, live feeds, listing providers, channel management system/traffic system, automation system, manual entry. Multiple sources and protocols within the same system.
- Cisco EPG XML file format.
- Advanced EPG Editor available for local or remote access.

Interfaces[1]

- ASI, IP

Regionalization / Edge Insertion

- Support distributed architecture with central and/or local control and central/regional/edge insertion.

Synchronization

- Triggering and synchronization with external automation system to secure real-time EPG synchronization for PVR support.

TV-Anytime Support

- Support for TV-Anytime for PVR.

Optimizing Bandwidth

- Automatic SI filtering, EIT depth definition, SI propagation via IP, and control of repetition rates.
- Fixed bandwidth configuration for optimal utilization of video bandwidth in the access networks.

Supports the following character sets for SI Generation, Extraction, and EPG Import:

- ISO 6937 (Latin 0)
- ISO-8859-1 to ISO-8859-9, ISO-8859-11, ISO-8859-13, ISO-8859-15
- UTF-8 (covering all of the world's current languages in use including Chinese, Japanese, and Korean)

Cisco Powerkey Support

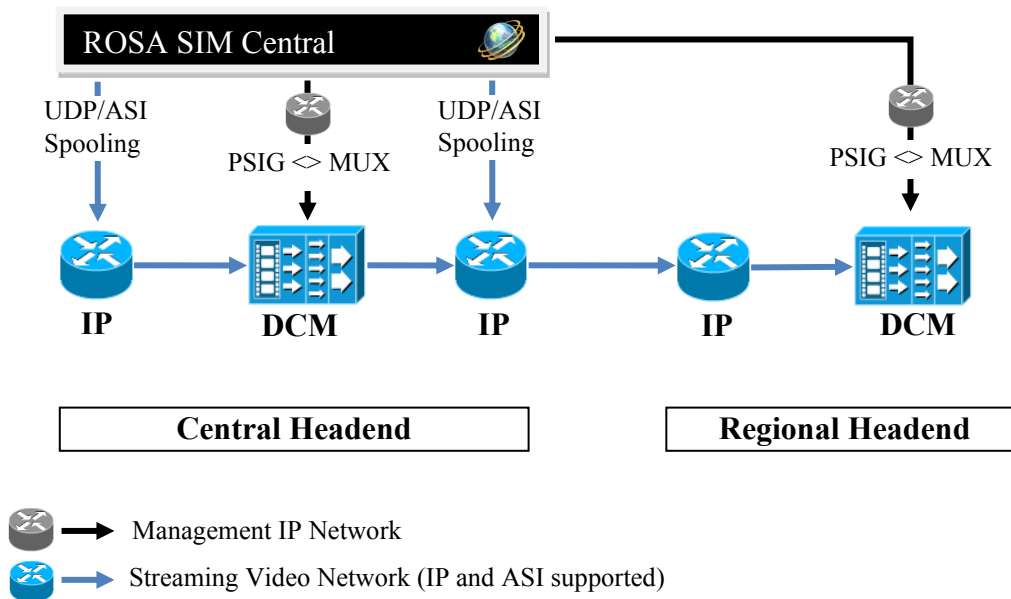- Cable Master Export format support
- Pay Per View Support (PPV)

ROSA SIM – Deployment

ROSA SIM can be deployed as centralized, regionalized, or a combination of both. This provides the extensive flexibility in operating and managing the SI and EPG information in the network.

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[1] EIT extraction is supported over ASI.

Central Operation

Figure 3.   Deployment – Central Deployment

ROSA SIM Central

UDP/ASI Spooling

PSIG ◇ MUX

UDP/ASI Spooling

PSIG ◇ MUX

IP   DCM   IP   IP   DCM

Central Headend   **Regional Headend**

Management IP Network

Streaming Video Network (IP and ASI supported)

With Central Operation deployment, the central Server can insert SI / EPG information in the network over the optional Interface card and/or PSIG<>MUX interface to a DVB-standards compliant MUX (e.g. Cisco DCM).

Where applicable, SI tables could be loaded to the distributed video processing devices over PSIG<>MUX from the central SIM application.

This deployment model typically serves operators or broadcasters that do not need to serve different regions[2] or operators with a limited number of regions.

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[2] Regions are referred to as locations/areas to different service lineups, with related SI and EPG information.

Regional Deployment with Regional ROSA SIM

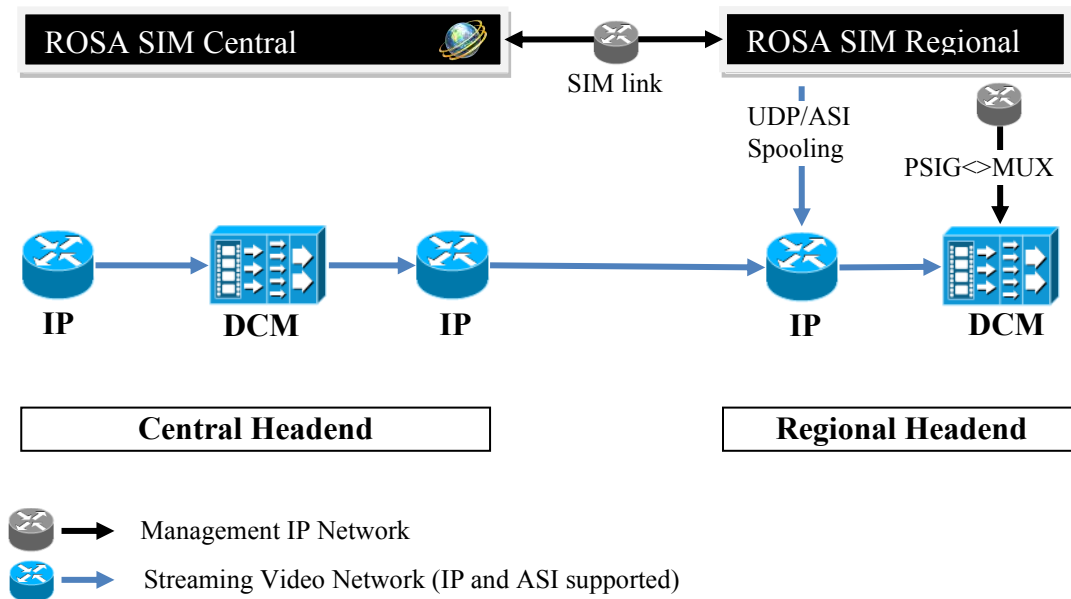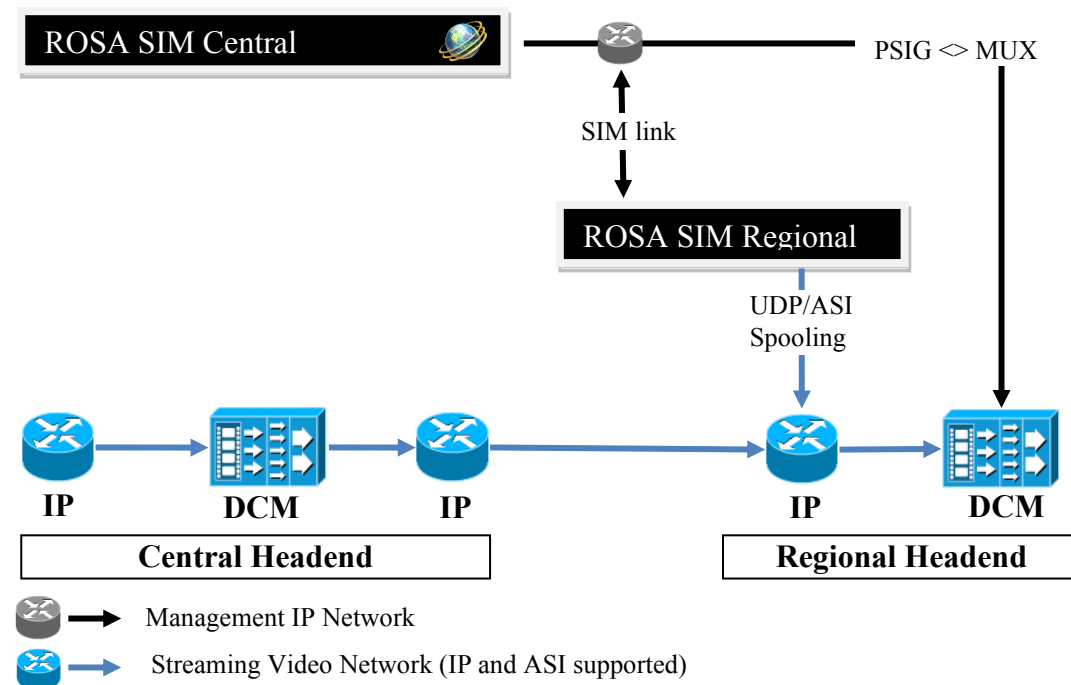**Figure 4.**   Deployment – ROSA SIM Regional with PSIG from SIM Regional

Figure 5.   Deployment – ROSA SIM Regional with PSIG from SIM Central

With a Regional SIM deployment, you typically have a central SIM Server that manages a central database to which Regional SIM servers are connecting.

This operation typically serves large-scale deployments, and deployments where the EPG /EIT information is transported over IP networks that are limited in bandwidth capacity, typically the management IP network. The SIM link provides the capability to operate in an environment where the regional SIM connects to the central SIM server over the management IP network.

The Regional SIM server is then capable of spooling over UDP or ASI into the regional Headend or loading the tables to a PSIG<>MUX compliant device, such as the DCM. Note that the PSIG <> MUX can also be configured from SIM Central, as shown in Figure 5.

ROSA SIM Redundancy

The ROSA SIM High-Availability (ROSA SIM HA) is a heartbeat solution where two identical ROSA SIM Central Servers are synchronized over a connection between the two servers. It allows for a warm standby operation of the Central SIM Server solution.

For more information on ROSA SIM redundancy, contact your local Cisco account representative.

ROSA SIM Client – PC Applications

The remote client user interface allows access to all the applications present on the ROSA SIM server platform. It can be installed on any PC, running a Windows XP or Windows 7 operating system.

ROSA SIM Server – Server Software and Requirements

Operating System Requirements

Windows

- Windows Server 2003 Standard Edition (with Service Pack 2)
- Windows Server 2008 R2 Standard Edition (with Service Pack 1)

Oracle

- Oracle 11g package (included in ROSA SIM offer)

Table 1.   Cisco ROSA SIM 5.2 System Requirements: Minimum Server System Requirements

Microsoft Windows (Memory and Hardware Recommendations)
Intel Xeon processor 5400 series, 2 GB RAM, 10 GB free disk space

Table 2.   Cisco ROSA SIM 5.2 System Requirements: Recommended Server System Requirements

Microsoft Windows (Memory and Hardware Recommendations)
Intel Xeon processor 5600 series or better, 8 GB RAM, 40 GB free disk space

Cisco Unified Computing System (UCS) Support

Cisco ROSA SIM 5.2 is supported on the UCS C-series rack mount servers. The server requirements on Cisco UCS servers are the same as specified in Table 1 above for Windows servers.

The supported processor in UCS C-series rack mount servers is Intel Xeon 5500 Series processors with their choices mentioned explicitly. For more information, refer to the data sheet at:

http://www.cisco.com/en/US/products/ps10493/products_data_sheets_list.html.

For a configuration example, see "Example of reference – Cisco UCS Server Hardware Platform" at the end of this data sheet.

Ordering Information

Cisco ROSA SIM 5.2 is available for purchase through regular Cisco sales and distribution channels worldwide. To place an order, visit the Cisco Ordering Homepage.

Table 3.   Ordering Information – Cisco ROSA SIM

Description	Part Number
ROSA SIM Software Suite, Licenses and Upgrades	ROSA-LIC-SIM-UPG
ROSA SIM Central System	
SIM Lic Package: Central System	LROSA-S-CENTRAL
SIM Deploy: High-Availability System	LROSA-S-HA
ROSA SIM Regional System	
SIM Lic Package: Regional System / Spooler	LROSA-S-REGIONAL
ROSA SIM Features	
SIM EPG Pack Lic. : Import, Export, EIT p/f sch. Generation	LROSA-S-EITGEN
SIM EPG Lic. Count: EIT License Counts	LROSA-S-EITCNT
ROSA SIM Optional Hardware	
UCS Platform - DekTec-spooling and extraction card (PCI-E) : ASI (3) / GBE (1) interface	4038504
HP platform - DekTec-spooling and extraction card: ASI (3) / GBE (1) interface	4030587
ROSA SIM Software Upgrade	
SIM SW Upgrade option to V5X	LROSA-S-UP-V5X-K9

Performance Specifications

Performance specifications refer to a setup with Spooling capabilities on a Single central or regional server using Dual Core – Intel Xeon Processor 2.33 GHz, 4 Gbyte RAM and a single DEKTEC DTA-160 spooler card. Additional servers are needed if higher capacity is required.

Table 4. Central Deployment Benchmark (typical DVB-S/DVB-C deployment)

Specification	Value
Maximum Number of Services	250
Maximum Number of TS (MUX) with full correlation of EIT schedule	1
EIT Schedule days look ahead	7
Maximum Number of Events Per Day	48
Average Event data size Per Event (bytes)	300

Table 5. Regionalized Deployment Benchmark per Slave Server (typical DVB-C deployment)

Specification	Value
Maximum Number of Regions	3
Maximum Number of TS(MUX) Per Region	25
Maximum Number of Services Per Region	250
Maximum Number of TS (MUX) with full correlation of EIT schedule per Region (aka home TS)	1
EIT Schedule days look ahead	7
Maximum Number of Events Per Day	48
Average Event data size Per Event (bytes)	300

Table 6. Regionalized Deployment Benchmark per Slave Server (typical DVB-T deployment)

Specification	Value
Maximum Number of Regions	16
Maximum Number of TS(MUX) Per Region	4
Maximum Number of Services Per Region	40
Maximum Number of TS (MUX) with full correlation of EIT schedule per Region (aka home TS)	1
EIT Schedule days look ahead	7
Maximum Number of Events Per Day	48
Average Event data size Per Event (bytes)	300

Table 7. General

Specification	Value
Maximum number of connected ROSA SIM Clients	10
Minimum required bandwidth between Client and Server	512 kbit/s

Example of reference – Cisco UCS Server Hardware Platform

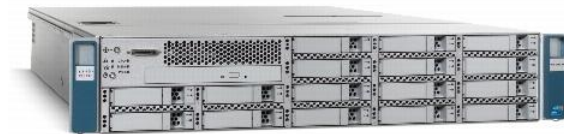**Figure 6.** ROSA SIM Server or ROSA SIM spooler are supported on the Cisco UCS Series Rack server[3]

Table 8. Example[4] configuration for C210-M2

Specification	Value
Processor	1x Intel Xeon E5640 CPU
Memory	2 x 4 GB DDR3-1333 MHz RDIMM
Raid Controller	LSI 1064E Mezzanine Card (RAID 1 enabled)
Extra Communication Ports	1 x Broadcom 5709 Quad Port 10/100/1 Gb NIC
Hard Disks	2 x 146 Gb 6 Gb SAS 10K RPM SFF HDD
Software	Microsoft Windows Server 2008 R2 Standard Edition SP1
Power Supply	2 x 650 W Power Supply

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[3] Cisco ROSA SIM 5.2 is tested and released on C-Series C210-M2 with system requirements as presented above.
[4] This is a configuration example for the C210-M2. Customers can use another platform, with this example as a reference.

Service and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners provide a broad portfolio of end-to-end services and support that can help increase your network's business value and return on investment. This approach defines the minimum set of activities needed by technology and by network complexity to help you successfully deploy and operate Cisco technologies and optimize their performance throughout the lifecycle of your network.

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