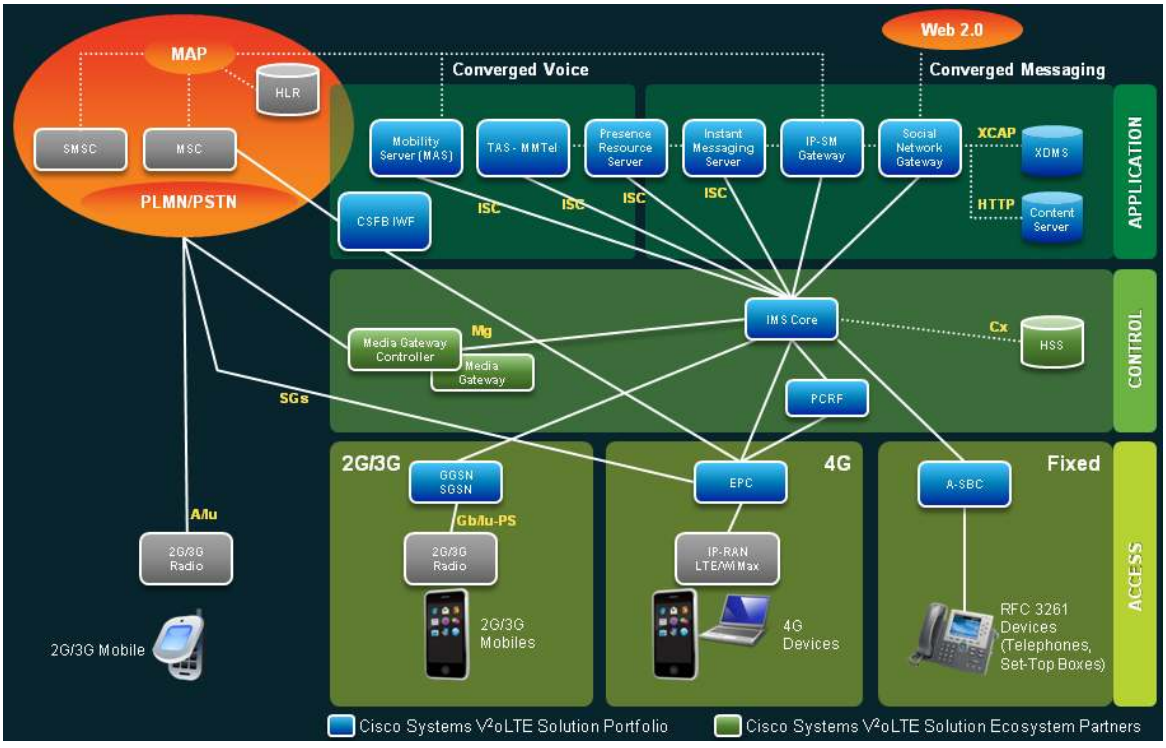
Cisco ASR 5000 Session Control Manager

Mobile subscribers expect easy and ubiquitous connection to information, entertainment, friends, family, and work. Mobile operators want to deliver converged voice, data, and multimedia services, and provide connectivity that exceeds subscriber expectations.

For mobile operators seeking entry to the IP Multimedia Subsystem (IMS) in their networks, Cisco® provides the industry's only session-management solution that intelligently blends Session Initiation Protocol (SIP) session control with mobility management in a scalable, high-performance solution.

Operators can easily deploy SIP-based services and migrate to the IMS architecture with Cisco's ASR 5000 Session Control Manager (SCM). Operators can launch a full suite of SIP-based solutions with a comprehensive service experience, including, Voice and Video over Long-Term Evolution (V^2oLTE), converged messaging, Rich Communications Suite (RCS), femtocell, push-to-talk over cellular (PoC), presence, and many others. Figure 1 shows how the Cisco ASR 5000 SCM, together with Cisco's end-to-end V^2oLTE solution portfolioto deliver enhanced voice and video over LTE.

Figure 1. Cisco's End-to-End Solution Portfolio



Cisco ASR 5000 SCM consists of an IETF-compliant SIP Proxy and Registrar, a 3GPP IMS-compliant Proxy Call Session Control Function (P-CSCF), an Interrogating Call Session Control Function (I-CSCF), a Serving Call Session Control Function (S-CSCF), an Emergency Call Session Control Function (E-CSCF), a Breakout Gateway Control Function (BGCF), and an Access Border Gateway (A-BG).

This network element performs SIP routing, translation and mobility, admission control, authentication, and registration; admits or denies packet network access based on preestablished policies and procedures; performs localized policy selection and enforcement for rapid decisions; and provides multimedia call detail records.

Cisco ASR 5000 SCM can be combined with the mobile industry's most powerful Home Agent, Gateway GPRS Support Node (GGSN), and Evolved Packet Core (EPC) functions, allowing operators to take advantage of the Cisco ASR 5000 platform's market-leading performance, unparalleled intelligence, distributed architecture, and high-availability characteristics, for a solution that will scale to meet demands for years to come. This reduces the cost of entry and the cost of transition to voice and video over LTE, lowering operating expenses while reducing the number of network elements, network interfaces, and call setup latency.

As the logical anchor point within a packet core network, the Cisco ASR 5000 SCM improves the user experience with device and location independence, enhancing subscriber control and policy enforcement with faster, more intelligent decisions for multimedia services.

Features

- Intelligent integration into other network elements
- High-performance scalable call engine
- Simple software upgrade for deployed platforms: no new hardware to install or manage.
- 3GPP-compliant, x-CSCF features that include registration; authentication; SIP routing, translation, and interworking; emergency services; and Cisco IP Solution Center (ISC) interface
- Support for local call features, including call forwarding, call waiting, and three-way calling
- Routing engine that deploys SIP in a secure and controlled fashion through autodiscovery of SIP elements, subscriber privacy, call fraud prevention, network security, and thwarting network overload conditions
- IP mobility that provides access-independent connectivity to a multitude of technologies, such as LTE, High-Speed Packet Access (HSPA), Code Division Multiple Access (CDMA), WiMAX, femtocells, and unlicensed technologies such as Wi-Fi
- Advanced regulatory service support, including local number portability, emergency calling, and lawful intercept
- High-value inline services that enhance network efficiency and new revenue opportunities

Specifications

Table 1 lists the specifications for the Cisco SCM.

Table 1. Cisco Session Control Manager Specifications

Description	Specification
Interfaces	• Gigabit Ethernet • Fast Ethernet
Logical interfaces	• IETF: SIP Proxy and Registrar • 3GPP: Mw, Gm, Gq/Rx, Rf,Cx,Dx, Mg,Ma, ISC, E2, MI • 3GPP2: Mw, Gm, Tx, Rf, ,Cx, Dx, Mg, Ma, ISC, MI
Authentication, authorization, and accounting (AAA)	• RADIUS and DIAMETER
IP address allocation	• AAA assignment • Local pools (dynamic or static) • Overlapping private IP address pools

Description	Specification
Security	• TLS • IPSEC • SRTP • SIP denial of service (DoS) prevention
Routing	• Emergency call routing • Digit manipulation • 8xx and 4xx routing • Number translation • Time of the day, round robin, and weighted routing
Additional features	• IPv6 support • IPv4 and v6 interworking • Support for RFC3261 clients and interworking • Reregistration optimization towards core • Signaling Compression (SigComp) • Priority routing for 911 calls • ALG function as B2BUA • Multitenant handling • Session recovery • Geographical redundancy • Cx interface messaging optimization • Overload control • Lawful Intercept support • ENUM support
Management interfaces	• Stateful session and subscriber-aware control • Autodiscovery, subscriber privacy, network security, call fraud prevention, and thwarting network overload conditions • CORBA-based, web Element Management System (EMS) • Simple Network Management Protocol Version 1 (SNMPv1), v2c, v3 • Statistics, command history log
Compliance	3GPP: • TS 23.003, TS 23.228, TS 23.806, TS 24.228, TS 24.229, TS 32.225, TS 33.203, TS 33.210 3GPP2: • X.S0013-000-A, X.S0013-002-A, X.S0013-003-A, X.S0013-004-A, X.S0013-007-A, X.S0013-008-A IETF: • RFC 2327, RFC 2976, RFC 3261, RFC 3262, RFC 3263, RFC 3264, RFC 3311, RFC 3313, RFC 3320, RFC 3325, RFC 3329, RFC 3455, RFC 3486, RFC 3588, RFC 3608, RFC 3680, RFC 3986, RFC 4028, RFC 4032

For More Information

For more information, please visit www.cisco.com/go/mobile.

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