

Service Exchange Framework

Building the Foundation for Mobile Next-Generation Networks

Cisco Service Exchange Framework helps mobile operators move toward a converged IP-based next-generation network. As the global community becomes more mobile, staying connected while on the move is no longer a luxury—it is a business necessity. This increased demand for new mobile services, along with advances in innovative technology, has created unprecedented opportunity for mobile operators.



Mobility

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Consumers have access to a wide array of communications, entertainment, and online services, usually from a wide variety of broadband service providers. These services traverse multiple network types, each with its own unique capabilities, and they originate and terminate on many different devices. To address these diverse service needs, mobile operators need to consider simplifying their networks and migrating to a single infrastructure that can support a new array of profitable services to boost revenues while lowering operational costs. The emergence of these converged networks will create new challenges that will require mobile operators to identify subscribers and manage and control IP application traffic on cellular and fixed wireless networks as well as on existing broadband networks.

Increase Network Control While Delivering Valuable New Services

To help you deliver a rich variety of services to a wide range of devices over multiple access means, Cisco Systems® offers the Cisco® Service Exchange Framework (SEF). It contains three elements - Cisco Mobile Exchange, Cisco Service Control Engine, and Cisco Call Session Control Platform. The Cisco SEF allows you to control customer access and use of services, without limiting the types of applications that can be deployed. The access-independent, open Cisco SEF helps you achieve better understanding, visibility, and control of your network. It helps you assess how the network can be dynamically controlled and indicates where the users and their devices are at any given time. With greater granular visibility and control, you can achieve new levels of insight into customer activity and can deliver differentiated and valuable new services, more securely and more profitably.

Anchoring the IP Next-Generation Network

As the anchor for the critical service convergence layer of the IP Next-Generation Network (IP NGN) architecture, Cisco SEF provides a variety of service-enabling control technologies that empower you with the following essential subscriber and service information:

Who? Who are the users—what device and services are they trying to access?

What? What are subscribers allowed to do? What is the policy directing the delivery of the service? What timeframe can they do it in?

How? How can the network's resources be dynamically controlled? How can service providers monitor and charge for a service on a per-user and per-usage basis? How can the network be made self-aware of the demands on it? How can the network interwork with other carrier networks to provide rich media control?

Where? Where can the user roam? Where are the user and device now? Where is the service offered and can the session be maintained across other networks?

To achieve true service convergence, you must have intelligent networks that enable you to operate, bill, and manage an unlimited number of services over a range of fixed and mobile access mediums. Today, Cisco SEF addresses a number of service control areas including subscriber awareness and identity management, policy and resource management, dynamic session management, and mobility service and management.

Cisco SEF allows you to:

- Offer a single point to sign on to the network with access to a multitude of service offerings based on user profile
- Provide more granular usage analysis on an individual subscriber and application basis
- Manage and disseminate policies in real time to avoid revenue leakage, test new business models, or address network threats
- Deliver, analyze, manage, and control existing as well as new applications

- Implement new security policies as part of an overall service offering
- Provide subscriber-aware and application-aware services
- Bundle and manage service pricing down to the transaction level using a common IP network
- Offer application-level quality of service (QoS)
- Track transactions by content type, device type, or by subscriber

Cisco Service Control Engine: Facilitating Flexible Service Convergence

Service control technology within the network infrastructure facilitates service convergence by enabling you to analyze, manage, and control existing as well as new applications; providing subscriber and application-aware security; and allowing you to track transactions by content type and subscriber.

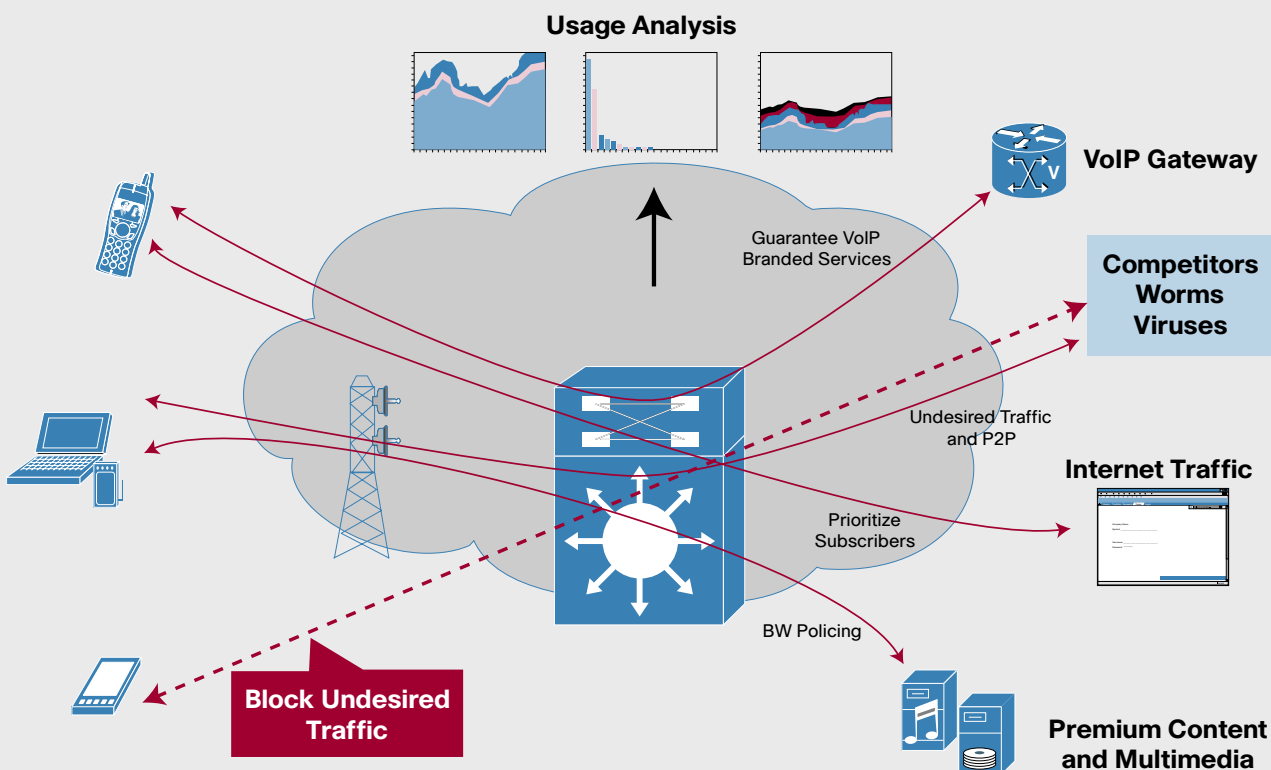
Cisco Service Control Engine is transport and content agnostic, fully extensible, fully programmable, and easily integrates into the fabric of existing networks. It allows providers to identify and control services such as voice over IP (VoIP), Web browsing, music downloads, video streaming, and peer-to-peer (P2P) traffic. Cisco Service Control Engine accomplishes this by adding a programmable service layer to networks that allows operators to:

- Identify and classify applications and protocols
- Identify subscribers and determine their application and network usage patterns
- “Shape” traffic to guarantee service performance and ensure that traffic usage conforms to the required business model
- Rapidly create and deliver a variety of unique application- and content-based services

Cisco Mobile Exchange: The Framework for Enabling the Mobile Internet

Cisco applies its undisputed IP leadership to the mobile Internet with the Cisco Mobile Exchange, a standards-based framework that links the Radio Access Network (RAN) to IP networks and their value-added services. This framework delivers solutions that simplify and enhance service delivery independent of underlying technologies. Cisco Mobile Exchange takes advantage of the proven performance of Cisco switch and router platforms, offering mobile operators an affordable insertion cost, almost unlimited scalability, and the carrier-class reliability that service providers expect from Cisco. Cisco Mobile Exchange is an open platform that provides an intelligent enforcement layer within the operator's network and easily interfaces to all of the control elements in the IP network. Cisco Mobile Exchange has proven interoperability with all major RAN, AAA, content billing, and content filtering and compression vendors. It provides three primary functions—access and service control, easy mobility, and deep packet inspection. Cisco Mobile Exchange is comprised of several components including packet gateways, mobile services, load balancing, network management, and network operations, delivered on a range of Cisco platforms and application modules. Together, these components successfully solve the many challenges you face while seeking profitability from your second-generation (2G), 2.5G, or 3G mobile packet infrastructures.

Service Exchange Framework





Cisco Call Session Control Platform: The Foundation for Delivering Rich Multimedia Communications Services

With the Cisco Call Session Control Platform, you can now harness the power of Session Initiation Protocol (SIP)—the standard created by the Internet Engineering Task Force (IETF) to define P2P, multimedia signaling—to develop an infrastructure for delivering converged multimedia communications applications. With this powerful foundation, you can provide a differentiated multimedia communication experience to subscribers with services integrating voice, video, Push-to-Talk (PTT), presence, geo-location, buddy lists, etc. The Cisco Call Session Control Platform offers the following benefits:

Access independent

Services are not tied to clients using a particular access network

Multiple clients

Services work consistently across any device

Rich clients

Supports clients that provide rich features including multimedia capabilities

Service mobility

Users remain mobile, along with their devices

Why Cisco

As the undisputed leader in IP with a proven record of delivering innovative technology solutions, Cisco helps mobile operators move toward IP next-generation networks. Twenty years of networking expertise, world-class service and support, and global resources dedicated to the evolving mobile network market enable Cisco to offer the most installed, flexible, and scalable mobile services management and charging platform in the industry.

For More Information

For more information on Service Exchange Framework visit www.cisco.com/go/mobile/sef

Learn more about Cisco Systems products and technologies for mobile operators, including Cisco Mobile Exchange, by contacting your account manager or visiting www.cisco.com/go/mobile

