

IBM WebSphere IP Multimedia Subsystem Connector

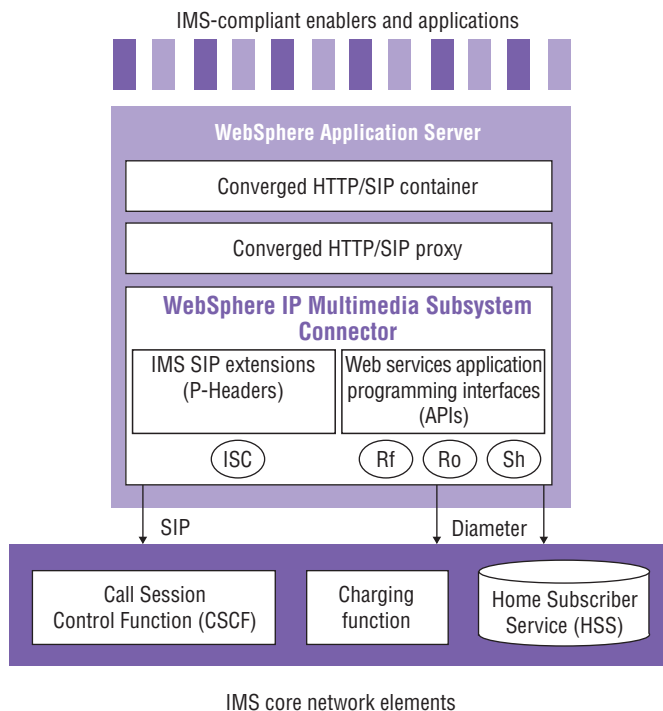
Highlights

- Build and deploy “converged” next-generation applications on a single service execution platform to flexibly meet evolving customer expectations
- Leverage integrated SIP support and standards-based extensions to WebSphere Application Server to support IMS in a telecom service provider environment
- Create and deploy new revenue-enhancing services more quickly with prebuilt, standard interfaces
- Help provide innovative multimedia-based services to your customers
- Enable a broad range of ISVs to more simply and cost-efficiently build rich new converged HTTP and SIP applications to be deployed in a service provider environment

Meet customers’ rising service expectations

For telecommunications service providers, there’s little doubt that both consumers and business customers demand — and are very quickly adopting — new forms of communication. Along with excellent service quality, they expect ubiquitous access, personalization and richer multimedia features. But until now, independent software vendors (ISVs) and integrators have been forced to use separate platforms to create Web (HTTP)-based and real-time communications (Session Initiation Protocol [SIP])-based services, and deploy them in parallel run-time environments — one for HTTP and one for SIP. To address this problem, IBM offers WebSphere® Application Server, which combines both SIP and HTTP into one platform.

IBM WebSphere IP Multimedia Subsystem (IMS) Connector — combined with IBM WebSphere Application Server — powers the WebSphere telecom service execution platform. WebSphere IMS Connector extends the industry-leading



WebSphere IP Multimedia Subsystem Connector extends the WebSphere Application Server platform to more flexibly and efficiently connect with IMS control plane network elements — helping facilitate delivery of rich, next-generation services.

Establish a flexible, high-performance execution platform for next-generation services

The proliferation of Internet Protocol (IP) technologies such as SIP — and the development of open standards like the IMS framework and Parlay X Web services — create the opportunity for telecommunications service providers to deliver enhanced services to their customers more rapidly. Further, they can help cut the costs of developing and managing these services, while overcoming the challenges of inflexible legacy infrastructure. By leveraging these technologies, service providers can use a single platform to support rich, converged applications and communications traffic — voice, video or data — over fixed and mobile networks, independent of the underlying network infrastructure.

WebSphere IMS Connector is part of the IBM next-generation services platform for telecommunications. Based on SOA principles — reusing individual service components and separating the creation and execution of new service applications from the underlying network — the IBM next-generation services platform provides a flexible execution environment for rich IP-based services. As part of this telecom service platform, IBM has developed IMS-compliant service enablers — WebSphere IP Multimedia Subsystem Connector, IBM WebSphere Presence Server, IBM WebSphere Telecom Web Services Server and IBM WebSphere XML Document Management Server (XDMS) — to help minimize the cost and time to deliver rich, composite services to market.

WebSphere Application Server platform and delivers an SIP application server that is intended specifically for telecom applications and complies with IMS standards. WebSphere Application Server is a proven, high-performance transaction engine that helps you build, run, integrate and manage dynamic applications. It also includes extensive Web Services support, which helps make it easier to integrate applications inside your enterprise, as well as externally with customers, partners and suppliers.

WebSphere IMS Connector facilitates flexible service oriented architecture (SOA) deployments by interfacing with IMS network elements through industry-standard interfaces and supporting flexible application development through Web services application programming interfaces (APIs). Because it supports IMS-ready HTTP and SIP applications in a single application server, WebSphere IMS Connector allows service providers and their partners to build and deploy “converged” IMS applications on a single service execution platform. As a result, it helps reduce the complexity of developing — and the costs of operating — IMS-compliant services.

Leverage deeply integrated SIP support and standardized IMS interfaces

To provide a dynamic IMS service platform to telecom service providers, IBM embedded telecom-specific

capabilities right into the core application server. SIP support has been deeply integrated into the WebSphere Application Server foundation at the same level as HTTP, including the load-balancing proxy server. By doing this IBM has implemented a truly converged SIP and HTTP container. As a result, converged applications can be written with much less software and thus much less complexity. The IBM converged execution platform is compliant with industry standards and requirements specific to the telecom industry.

WebSphere IMS Connector adds key IMS-compliant interface elements to the core WebSphere Application Server platform:

- IMS Service Control (ISC) interface allows standards-based connectivity to Call Session Control Functions (CSCF) in the IMS control plane. The ISC interface facilitates session control, supporting communications between applications running on WebSphere Application Server and the CSCF of the IMS control plane.
- SIP extensions, such as IMS-specific private headers and parameters, are made available to the service plane applications.
- Diameter stack and interfaces support subscriber management and charging functions in accordance with IMS standards. They include a standard Sh interface for subscriber profile management, a standard Rf interface for offline charging and a standard Ro interface for online charging.

The SIP protocol is deeply integrated into WebSphere Application Server. WebSphere IMS Connector enables and licenses the use of the SIP-based ISC interface and provides the Diameter interfaces, which enable the WebSphere platform to be easily deployed in IMS deployments. As a result:

- IMS-compliant applications can be built and deployed on the industry-leading carrier-grade application server platform.
- Applications can manage subscriber profiles from Home Subscriber Server (HSS) in a more reliable, secure fashion, leveraging the Sh interface.
- Applications can easily leverage Diameter-based IMS charging methods that support both a postpaid billing model (offline charging, using the Rf interface) and a credit/debit billing model (online charging, using the Ro interface).

The WebSphere IMS Connector software package also includes two additional capabilities:

- To help enhance security, the IMS Security Trust Association Interceptor (TAI) provides an efficient mechanism to take advantage of the authentications performed at the boundaries of the SIP and HTTP networks.
- The IBM Tivoli® Netcool®/System Service Monitor Simple Network Management Protocol (SNMP) agent and subagent support the statistical information management capabilities in WebSphere Application Server.

Simplify the creation and deployment of new revenue-enhancing IMS services

WebSphere IMS Connector provides a host of APIs that helps simplify the development and deployment of IMS services. WebSphere IMS Connector helps minimize the programming complexity of the Diameter protocol to the application developer, because it provides a Web services layer to all supported APIs such as the Sh, Rf and Ro interfaces. These simple Web services abstractions hide the complexities of interfacing with Diameter network elements using binary protocols. They can also be used as component APIs for service orchestration and choreography in an SOA.

WebSphere IMS Connector and WebSphere Application Server also help speed and simplify IMS service creation with support for SIP Servlet APIs. Furthermore, IBM also provides an IMS enablement toolkit that includes several IMS integration APIs — such as the one for IBM WebSphere Presence Server — as Eclipse plug-ins (sample applications are also included).

IBM also actively engages with Network Equipment Providers (NEPs) to enhance the interoperability of WebSphere IP Multimedia Subsystem Connector with IMS core network elements that NEPs provide, helping to maximize interoperability and deployment speed in an IMS environment.

Deploy innovative IMS multimedia applications for subscribers

Together, WebSphere Application Server and WebSphere IMS Connector not only help provide benefits to your company — they also help provide significant benefits to your customers by giving them innovative multimedia applications and services. A few examples of those kinds of applications might include:

- *Multiplayer games with conference:* Subscribers can set up action games between several mobile devices and talk to each other during the game, over the same device.
- *Real-time call management:* An application intercepts a call from one user to another, when both users are on IMS-capable phones. The application checks the presence of the second user, and if that user is unavailable, opens a browser window for the first user, who is offered several options: leave a message, notify me when available or initiate call when available.
- *Flexible billing methods:* Applications and services can be billed in both per-call and credit- or debit-based, IMS-compliant methods. Each subscriber could then choose the method that is most convenient.

These types of value-added services can help you retain and grow your customer base and increase average revenue and profit per user (ARPU and APPU), as well as reduce customer churn.



WebSphere IP Multimedia Subsystem Connector at a glance

Prerequisite:

IBM WebSphere Application Server Network Deployment, Version 6.1

For details on all hardware and software requirements, visit ibm.com/software/pervasive/multisubcon/sysreqs

Take advantage of a growing community of external services developers for service innovation

WebSphere IMS Connector represents a different approach to providing a converged IMS solution to telecom service providers. It helps you minimize the cost and complexity of service creation and implementation for the lines of business and business partners. As an extension of the widely used WebSphere Application Server, it is an attractive tool for enticing ISVs to build their applications on your platform, helping spur application creativity in the telecom market.

A network-side enabler and problem solver for telecom service providers, WebSphere IMS Connector is a powerful extension of the WebSphere Application Server environment to help address the challenges and demands of IMS rollouts.

For more information

To learn more about WebSphere IP Multimedia Subsystem Connector, contact your IBM representative or IBM Business Partner, or visit ibm.com/software/pervasive/multisubcon

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