

# The Sonus IMX 2.1 Multimedia Application Platform

VOICE + MEDIA ... DEVELOP YOUR EDGE

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A SONUS NETWORKS PRODUCT

IMX helps service providers combine the best of the Web and telephony models to deliver a new communications experience.

The Sonus' IMX 2.1 platform is an innovative multimedia environment that enables service providers to quickly develop, integrate, launch and manage enhanced, fully branded telecommunication applications and services.

Just as Web 2.0 services reshaped the Internet landscape with highly personalized, interactive and media-rich applications, the IMX helps service providers combine the best of the Web and telephony models to deliver a new communications experience.

The IMX is a robust platform for creating and delivering voice, video and data services in a highly-scalable, standards-based platform. The IMX enables network operators to offer the range of services that consumers demand, while testing new, highly branded services in order to attract new subscribers.

The IMX 2.1 platform offers fast time-to-delivery of new services and integrates Web-based services, such as Instant Messaging and click-to-dial, with other native and third-party applications, resulting in reduced complexity and costs. Relying on industry standards, the IMX can work across Voice over BroadBand (VoBB) networks or distribute services over traditional wireline and wireless networks. The IMX operates in both third-party environments, or as an integral component of the Sonus Networks IP Multimedia Subsystem (IMS) architecture, a modular, state-of-the-art framework for building end-to-end IP-voice and multimedia networks. Within the IMS architecture, services built on the IMX function as SIP application servers.

**VELOCITY OF DELIVERY /** Telecommunications service providers are known to be meticulous and deliberate in their introduction of services. By contrast, Web-based service providers favor rapid application development tools and methods. In order to compete and keep up with this fast-paced environment, telecom service providers must adopt this "fail-fast" mindset. With the IMX platform, service providers can build or customize new services in days, not months. Using IMX's Service Creation Environment (SCE) and the JSR116-based SIP servlet API, service providers can quickly build service prototypes, socialize them with customers, then modify them according to customer feedback prior to introducing them to the market. This lower cost of innovation and faster time-to-market enables service providers to distinguish themselves from the competition.

The IMX SCE is an easy-to-use interface that provides drag-and-drop generation of call flow logic and IVR dialogs within a single, interactive application. Built using the popular, open source Eclipse framework, the SCE provides a familiar developer environment. With it, developers can produce CCXML, Voice XML and a wide array of business applications for deployment in the IMX runtime environment. The SCE enables developers to rapidly prototype and test applications as well as create production-quality applications.

**RICH APPLICATION DEVELOPMENT** / Application developers can create SIP servlet-based applications natively on the IMX for more serious application development in which applications need to utilize a broader range of SIP methods, implement complex call control and business logic, invoke third-party Web services and perform many other advanced tasks. Sonus provides a cooperative container for both SIP and HTTP-based servlet applications. Using the SIP servlet API, based on the JSR 116 standard, an application developer can write a servlet application without requiring much expertise in telecommunications protocols such as SIP and Diameter. The IMX has a rich programming API for simplifying a variety of programming tasks and exposing the power of the platform to the developer.

**LOWER COST, HIGHER CREATIVITY** / The IMX platform significantly reduces programming and development costs by accelerating application development. Application developers only require expertise in familiar Web-based APIs and tools, such as the servlet API and the Eclipse IDE. Rather than having to train them in proprietary SDKs and industry-specific standards and protocols, service providers can focus on unleashing their creativity using popular Web development methodologies. The IMX platform's adherence to well established standards and languages also enables service creators to tap into a much larger pool of application developers.

**SIMPLE, SEAMLESS INTEGRATION** / Relying on current industry standards, the IMX platform is engineered to integrate with softswitches, gateways, media servers and other network components built by Sonus and other manufacturers. Supporting these standards ensures interoperability, streamlines product development and enhances productivity.

The industry-standard IMS architecture, the fundamental framework for how the overall network should operate, specifies how application platforms like IMX must interact with the rest of the network components. One such interface, the IMS Services Control (ISC) interface, is based on SIP (Session Initiation Protocol) signaling. The interface between application platforms and media servers also uses SIP signaling. Additionally, IMX 2.1 supports the IMS defined Sh interface over the Diameter protocol to access the Home Subscriber Server (HSS). The IMX 2.1 is built to conform to these IMS standard interfaces as well as the latest standards for services development, including:

- > JSR (Java Specification Requests) 116 SIP servlet API for robust SIP support
- > CCXML Standard Markup Language for providing call control functionality
- > VXML Standard Markup Language for providing dialog control (interface to third-party media servers)
- > JDBC/ODBC for accessing external databases
- > Perl scripting for the manipulation of SIP headers and parameters to ensure interoperability
- > Java Server Pages for the runtime service delivery mechanism generated by the IMX SCE

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**CARRIER-GRADE SCALABILITY AND RELIABILITY** / Optimized for high-volume, real-time multimedia services, the IMX platform leverages Sonus' market-leading solutions and the Service Availability Forum (SAF) Availability Management Framework (AMF) for high-volume call processing, load-balancing and high availability. The AMF model supports a cluster architecture with process and server level stand-by capabilities to offer 99.999% availability. The IMX runs on cost-effective Intel-based, NEBS-compliant servers running the Linux operating system. This modular, distributed architecture allows service providers to horizontally scale for performance as their subscriber base continues to grow. The Sonus Insight™ Management System, a comprehensive, Web-based administration tool, manages all applications and services created on the IMX platform. The choice of SAF, Linux and other standards-based platform elements makes the IMX portable between standalone Intel server hardware and carrier-grade ATCA hardware platforms to provide the greatest level of flexibility when deploying IMX in production.

**THE SONUS EDGE: CUTTING-EDGE APPLICATIONS** / The IMX platform enables faster time-to-market for a range of cutting-edge applications in traditional IP-voice, pre-IMS and IMS networks:

- > Presence and location-based services
- > Fixed-mobile convergence
- > Any-to-any messaging
- > Ring tones and ring-back tones
- > Video sharing
- > Broadcast calling
- > Telephony portals
- > Content sharing/collaboration
- > Click-to-dial buddy list conferencing

To learn more about our advantEdge products, call your Sonus sales representative or visit us online at [www.sonusnetworks.com](http://www.sonusnetworks.com).



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