



Network Verification: Helping iBasis Guarantee VoIP Service Quality

INDUSTRY

Internet-based
Communications Services

ORGANIZATION

iBasis, Inc.

BUSINESS PROBLEM

In order to strike the right balance between Internet economics and carrier-class quality, iBasis needs to consistently achieve the best, most cost-effective connectivity possible among its 780 POPs around the world so that the company can reliably offer its customers unsurpassed call quality.

BRIX SOLUTION

HARDWARE:

Brix 1000™ Verifiers and
Brix 2500™ Verifiers

SOFTWARE:

BrixWorx™ Central Site
Software System and
Advanced VoIP Test Suite

KEY BENEFITS

With the Brix System, iBasis personnel can proactively monitor and measure the call quality of its voice services and identify problem areas before their customers do. Additionally, the Brix System helped contribute to iBasis being rated as the best International Wholesale Carrier for the second year in a row in a customer survey by ATLANTIC-ACM, an independent telecommunications research and advisory firm.

Carriers around the world are looking for more efficient, cost-effective alternatives for routing their international voice traffic. Enter iBasis, Inc. (www.ibasis.com), a voice services provider based in Burlington, Mass. The iBasis Network—the world's largest, international, Cisco-Powered Network™ for Internet telephony—is a global Voice over Internet Protocol (VoIP) infrastructure that leverages the attractive economics of Internet-based communications to route calls around the world at greatly reduced cost.

Providing wholesale, international Internet telephony services, iBasis enables carriers and other service providers to reap the advantages of VoIP without the investment in time, equipment and systems, and staff. With more than 170 carriers worldwide—including all of the leading service providers in the U.S.—on their client list, iBasis clearly has the right service at the right time. The key to financial success, however, is striking the right balance between Internet economics and carrier-class quality. After all, if a fax sent from Chicago arrives in London or Beijing as a garbled mess, the customer won't be happy and the cost savings become irrelevant.

"Our goal is to consistently achieve the best, most cost-effective connectivity possible among our POPs around the globe," explains Paul Skelly, manager of network performance at iBasis. "For our customers, call quality is non-negotiable. If we can't achieve the right quality over the Internet, we must use alternative routes that will. However, these 'off-net' routes may cost us more to use than an Internet route. In fact, because we guarantee service quality for our customers, we could lose money on a call that we cannot route over the Internet. So having accurate, real-time measurements of Internet call quality is of strategic importance."

Build vs. Buy Decision

Initially, iBasis set out to develop its own network measurement infrastructure. Led by Skelly, the development effort did produce some useful tools. However, the cost and complexity of building measurement tools on their own soon became clear.

"We didn't want to create a development quagmire that demanded additional staff," Skelly said, explaining why iBasis started looking for off-the-shelf solutions. After evaluating a number of commercial systems from various vendors, iBasis found the right technology partner just 10 minutes up the road in Chelmsford, Mass., at Brix Networks, a provider of real-time, Internet service assurance and performance management solutions.

"The Brix service assurance solution is truly carrier-class, robust, easily managed, and very scalable."

"The Brix service assurance solution is truly carrier-class, robust, easily managed, and very scalable. As a global provider to major carriers, with more than 780 POPs around the world in more than 90 countries, this was critical to us," Skelly says. "The Brix System also has robust data collection, data warehousing, and provisioning capabilities. And it has carrier-grade interfaces, which simplify network integration."

iBasis installed Brix 1000 Verifiers in its eight Internet Central Offices (ICOs) around the world, managing this distributed system with the BrixWorx central-site software and its Network Operations Center (NOC) in Burlington. The Brix System provides iBasis with end-to-end monitoring and measurement of call quality between POPs along multiple paths, aggregating a variety of fundamental performance metrics—

including packet loss, delay, and delay variation, or jitter—in near-real time. The Brix System also measures availability and performance of H.323 and other call set-up services, which often involve multiple cooperating servers and applications.

“Right from the start, the Brix System became our eyeballs on the network,” Skelly notes.

Dynamic, Automatic Routing

Since it was initially deployed, the Brix System has been fully integrated with PathEngine™, a patent-pending component of iBasis' own proprietary Assured Quality Routing® (AQR) system, enabling dynamic, performance-based routing.

“Right from the start, the Brix System became our eyeballs on the network.”

“The Brix System actively verifies performance between different sites on our network, communicating with PathEngine every five minutes,” Skelly explains.

Going Global

The Brix System has also played a key role in another iBasis innovation: the ConnectPoint® Global Access service. Named 2002 Product of the Year by *Internet Telephony* magazine, ConnectPoint offers providers of prepaid and conference services a convenient, cost-effective solution for providing international access using local numbers. Calls placed in Europe or Asia using local numbers are routed back to the service provider's conference bridge in the U.S. over the iBasis Network—offering attractive cost savings for service providers.

ConnectPoint Global Access product manager David Pereira says that, while it's an exciting business model, customers are exacting when it comes to call quality.

“The conferencing market is even more sensitive to quality issues than the wholesale telephony world. These are demand-

ing enterprise customers expecting to join a scheduled meeting—if they can't get through on the first call, they get frustrated,” Pereira explains, noting that iBasis has strict service level agreements (SLAs) with its ConnectPoint customers.

Proactive Performance Testing

To support those SLAs, iBasis uses a Brix 2500 Verifier in its London ICO to generate a call every five minutes to each of the overseas circuits set up for local access numbers, terminating at the customer's conference bridge, which can be located virtually anywhere around the world.

“With the Brix System, we can identify a problem—whether it's in the local circuit, the service provider's bridge, or in our network—before the customer does, which is absolutely critical,” Pereira says. “Our customers appreciate proactive work and they appreciate honesty. The Brix System allows us to deliver on both.”

Award-winning Performance

Up and running for more than two years, the Brix service assurance solution has become a critical link in the iBasis Network, according to both Skelly and Pereira.

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Skelly points to the fact that iBasis was rated as the best International Wholesale Carrier for the second year in a row in a customer survey by ATLANTIC-ACM, an independent telecommunications research and advisory firm.

“One survey area in which we saw significant improvement was voice quality,” Skelly notes. “While no single element of the network can take all the credit, the fact that routing control went fully automatic with the Brix System definitely contributed to that.”

ABOUT IBASIS

Founded in 1996, iBasis is one of the 10 largest carriers of international voice traffic in the world. The company delivers toll-quality, international call-completion services and provides the global infrastructure that enables enhanced services, such as conferencing and calling cards, to expand to international markets quickly and efficiently. iBasis is a preferred provider for many of the largest carriers in the world, and its customers include AT&T, Cable & Wireless, China Mobile, China Unicom, Sprint, Telefonica, Telenor, Telstra, and WorldCom.

ABOUT BRIX NETWORKS

Founded in July 1999, Brix Networks develops and markets real-time service assurance and performance management solutions that verify the quality of advanced, Internet Protocol-based services, such as Voice over Internet Protocol (VoIP), Virtual Private Networks (VPNs), Web-hosted business applications, and streaming media. The company's offerings allow carriers, service providers, large enterprises, and government agencies to build, operate, and assure their IP networks and services by providing proactive, end-to-end, service level management (SLM) and service level agreement (SLA) verification.



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