Second Line Services Over Broadband Internet

IVR Technologies

Background

The Yankee Group, a leading research and consulting firm, forecasts that residential xDSL and cable high-speed data connections in the United States alone will increase from 10.7 million connections in 2001 to 31.1 million connections in 2005. Internet Service Providers, CLECs and Cable operators are now able to take advantage of the growing popularity of broadband technology by offering telephony services to their existing subscriber base and beyond. The ubiquity and connectivity of the Internet extends market reach for companies from a single geographic region to the worldwide market. These new telephony services combine data, voice, and video communications while utilizing the existing network infrastructure. Companies like Vonage are capturing a tremendous amount of market attention as their pioneering leadership is proving that VoIP technology is market ready, available, in demand and financially viable.

The proliferation of the Internet and broadband connectivity, along with next generation signaling protocols like SIP (Session Initiation Protocol) are significantly disrupting the traditional telecommunications industry. The telecommunication barriers of yesterday's closed, proprietary and expensive systems are crumbling. In their place are smaller more nimble, aggressive and responsive companies who can offer more feature rich services at significantly lower cost while still earning significant returns.

Network

The ability to provide second line services over a broadband Internet network could not be possible without the SIP protocol. SIP offers a scalable, extensible and lightweight signaling protocol that allows the seamless integration of multiple vendor products into a single, cohesive network solution.

On the customer's side, along with the prerequisite broadband Internet connection, is an Internet Access Device (IAD) that provides an Ethernet connection (IP), and a standard RJ 11 (phone) connection (TDM). This device allows the caller to make calls into, and receive calls from, the service provider's network using a standard wired or cordless telephone. While most IADs support NAT (Network Address Translation) to allow them to make calls through a residential/business firewall/router, there are also third party SIP products to facilitate far-end firewall transversal.

On the service provider side of the IP cloud, there is a SIP enabled firewall and/or Session/Border Controller for security purposes to police who can

Figure 1.0
Example of a Second Line Broadband Telephony Network

access the network. Behind the firewall, we have a SIP Proxy and Registration Server. The Registration Server is responsible for checking the login credentials of the IADs and validate them into the network. The Proxy Server is responsible for determining how calls are routed between IADs and the Talking SIP IVR and Billing Server (App Server). The Talking SIP App Server provides the intelligent IVR applications to authenticate callers, perform all of the billing functions, stream voice prompts and collect DTMF digits, if required, as well as rate and route the call to its ultimate destination while providing real-time call control and cut-off. Calls can then be routed back to another subscriber (on net to on net call) or to the PSTN (on net to off net call) where the voice payload is converted from IP back to TDM via an Enterprise Gateway or a Trunking Gateway to interface with legacy telephone networks. Enterprise Gateways have densities from a few analog ports, up to four T1s/E1s, whereas a Trunking Gateway typically has a starting density of four T1s/E1s and scales from there.

Opportunity

Infonetics estimates that VoIP service is predicted to grow 18-fold -- from $1.24 billion in 2004 to $23.4 billion in 2009. VoIP is one of the most explosive areas of growth in the telecommunications industry as we enter a period of great opportunity and fundamental change through the merger of traditional telephones and Internet driven applications and web services.

With a core focus on the SIP protocol, we have emerged as an industry leader in second line service over broadband networks by providing crucial network elements, such as the provision of enhanced services, prepaid and post paid billing, invoicing, automatic or DMTF based recharge and web based self subscription and account management.

Call us today for more information about this exciting emerging market -- the future is today at IVR.
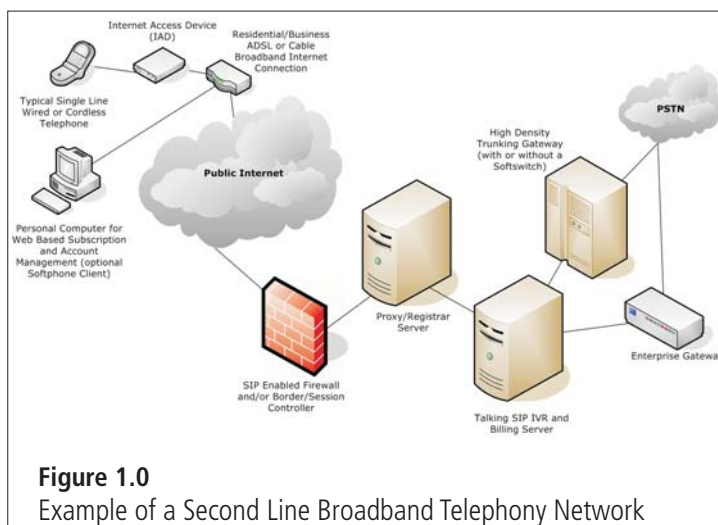
Contact Us

Please visit us on the web at **www.ivr.com**, or contact us directly to find out more information about our products, receive a quotation or locate a value added reseller in your region:

> IVR Technologies, Inc.
> 555 West Fifth Street, 30th Floor
> Los Angeles, CA 90013
> USA

> Telephone: +1.866.856.0301
>   +1.310.943.2721
> Facsimile: +1.310.943.2722
> E-mail: sales@ivr.com

IVRTechnologies