

VoIP gateways: Growing applications, services fuel uptake

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The expanding residential and commercial user base boosts the line amid tightened spending.

China's shipments of VoIP gateways rose 5 to 10 percent in 2009, driven by growing demand for related residential and business services amid tightened spending in other communication areas. This mirrors the rise in the global VoIP services market, which reached \$21 billion in the first six months of 2009, according to Infonetics.

Xiamen BB'S model TA86 VoIP gateway supports 3-way conference calls, speed dialing, forwarding and block setting.

Looking forward, most manufacturers agree that VoIP, being the next-generation telecom technology, has huge growth potential. All interviewed suppliers, in fact, expect demand to continue in the next five years.

To promote their products, some makers are building brand recognition and client rapport. The strategy has seen Hanlong Technology Co. Ltd's VoIP gateway shipments grow by about 20 percent year-on-year, according to general manager Navy Ding. The company began exporting the line in 2008.

The main challenge for VoIP gateway makers is the existence of restrictions in many countries, including China. The emergent technology brings key issues to the table, including its effect on users, providers, regulators and the telecommunications industry as a whole. There are telecom carriers that even elect to block it because VoIP phones are very inexpensive they could affect PSTN services, the traditional revenue stream. VoIP is prohibited in 24 countries and is restricted in 37 others, according to the International Telecommunication Union.

Additionally, in locations where there are no limitations, the major VoIP carriers tend to do business with large device makers such as Linksys and Huawei. This gives most China suppliers little choice but to cater to smaller providers.

Manufacturers get around by producing VoIP virtual private network devices, which allow secure private communications using an Internet connection anywhere in the world. Most makers can provide VoIP gateways with encryption technology, although it is not a common attribute of the product line.

An emerging trend is the inclusion of PoE. Suppliers such as Hanlong have launched VoIP gateways with the feature, which provides a stable power supply.

Beyond the challenge of country restrictions, is the need for makers to improve the VoIP gateway design for easier installation and setup of network settings. Voice quality, which is not even comparable to PSTN, is also an issue.

Other manufacturers are focusing on enhancing VoIP gateway security. Some adopt SRTP instead of RTP for this endeavor.

Products & prices

Taiwan: Wi-Fi promising R&D direction

The HT-600 model from Shenzhen Houtian supports SIP2.0, TCP/UDP/IP, RTP/RTCP, HTTP, ICMP, ARP/RARP, DNS, DHCP, NTP, STUN and TFTP.

Products & prices

Most VoIP gateways and routers from China are analog versions. A typical model is equipped with fewer than 16 ports. Those with more are digital models, called E1 voice gateways, and are usually produced by tier 1 companies such as Huawei, ZTE and Maipu. Leading makers also dominate in VoIP platform design, with most small and midsize suppliers manufacturing the compatible network devices.

There are several types of gateways, including VoIP analog telephone adapters and integrated access devices. These are equipped with one, two, four and eight FXS ports to connect one or more lines of a PSTN phone. The 2 and 4-port network devices used in SOHOs and small to midsize businesses are popular, while digital gateways are suitable for large-scale applications.

Some makers are gearing up to provide whole solutions, including VoIP PBX and gateway down to the phone. The VoIP PBX line is a key indicator of a supplier's R&D capability. Companies with strong product development usually turn out gateways and phones.

Most VoIP gateways from China are classified as low-end and midrange, with fewer than 16 extension ports. The router function is usually integrated.

Units can support SIP, H.323 and MPEG, with the first the most commonly adopted protocol. Network devices for Skype are also available. Functions include call register, speed dial, call forward and block setting.

Prices range from \$20 to \$200. In general, VoIP gateways with one or two ports are \$20 to \$35. These support SIP 2.0 protocol, TCP/UDP/IP, RTP/RTCP, ICMP, ARP/RARP and NTP, and G.711, G.723 and G.726 voice codecs. Gateways with four ports are between \$50 and \$70, while 8-port models go for \$100 to \$200. Sixteen-port devices exceed \$220.

The newly released Unicorn6008 model from Hanlong has eight FXS, one lifeline, LAN and WAN port.

It features silence suppression voice quality, adopts a TI chipset, and is CE-and FCC-certified. The price is about \$116 with a minimum order of 100 units.

Among the interviewed suppliers that focus on the low-end VoIP gateway market is Xiamen BB Electron & Technology Co. Ltd. The maker expects prices of VoIP gateways to drop 5 to 10 percent in the next 12 months.

Taiwan: Wi-Fi promising R&D direction

Wired models make up the bulk of VoIP gateways and routers from Taiwan, although Wi-Fi connectivity is foreseen as a promising R&D direction. Security and VoIP and PSTN bypass functions are also considered important areas for

development.

The industry is generally divided into consumer or home and enterprise segments. Residential-use models typically have two or four ports, while commercial-grade access gateways supporting as many as 24 interfaces are mainstream.

SIP and H.323 are the most common supported protocols, the former being the focus of many suppliers because it is used in most new telephony systems. Skype-compatible models are considered largely high-end.

Two-in-one gateways supporting GSM and VoIP such as Maxcomm Co. Ltd's FCV-500 model make calls through an FXO port and dial from PSTN to VoIP, while also allowing three-way calling. CDMA and 3G VoIP gateways are available as well.

Consumer models for home and small office applications are priced between \$30 and \$40. These have an Ethernet and an FXS port. ATAs and routers or IADs with VoIP function belong to this range.

ADSL2/2+ VoIP IAD/routers are also considered entry-level, and usually have one port each for Ethernet, FXS and FXO.

Quoted from \$50 to \$65, midrange VoIP gateways have one WAN and four LAN Ethernet ports, and two FXS and one FXO interfaces. These are mostly wired models with more than two ports or support wireless connectivity. Some are integrated with GPON or powerline network connectivity, including Billion Electric Co. Ltd's BiPAC 9300VNX model.

Going for \$200 to \$250, 8-port VoIP gateways with four FXS and FXO interfaces support H.323, SIP, and firewall, NAT, DHCP and PPPoE. Versions with half the number of connectivity options are less expensive at \$120 to \$160.

High-end enterprise models with eight to 24 ports can be priced above \$400, with some large-scale Skype-compatible VoIP gateways going beyond \$1,000.

About 50 to 60 Taiwan makers, mostly data and telecom suppliers, offer VoIP gateways and routers. Many also manufacture xDSL, WLAN, FTTx, powerline and other networking devices, or IP PBX, webcall servers, GSM boosters, IP phones and other related products.

Taipei and Hsinchu are the major sourcing hubs in the island, and Crystal Media, 5V Technologies, Realtek, Myson, and MuChip are the key domestic chipset suppliers. Foreign vendors include VoicePump, TI and AudioCodes.

Note: All price quotes in this report are in US dollars unless otherwise specified. FOB prices were provided by the companies interviewed only as reference prices at the time of interview and may have changed.

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