Crossing the Digital Divide (v77)

"VoIP"

by Joseph Feigon

for the Observer

This weeks' topic is about voice. You've heard the "phone companies" want out of the land line business. Surprised? Wire does not last forever. The wires used by Contel (the phone company in town before they sold to GTE, who then got acquired by Verizon, who sold their local facilities to Frontier) have been subjected to heat and cold, trees and squirrels and sunlight. Not only have these wires aged, they've become antiquated. Broadband services work best on fiber, or coax, or with fixed-wireless. Today, a bit of education, Voice_over_Internet_Protocol. This is really cool technology, and when properly implemented, can be a huge time saver for businesses and individuals alike. One Number. Findme/Followme. Unified Communications.

In local terms – with a proper Internet connection, every household can have "dial tone."

Consumer market

A major development that started in 2004 was the introduction of mass-market VoIP services that utilize existing broadband Internet access, by which subscribers place and receive telephone calls in much the same manner as they would via the public switched telephone network (PSTN). Full-service VoIP phone companies provide inbound and outbound service with direct inbound dialing. Many offer unlimited domestic calling for a flat monthly subscription fee. This sometimes includes international calls to certain countries. Phone calls between subscribers of the same provider are usually free when flat-fee service is not available. A VoIP phone is necessary to connect to a VoIP service provider. This can be implemented in several ways:

- Dedicated VoIP phones connect directly to the IP network using technologies such as wired Ethernet or Wi-Fi. They are typically designed in the style of traditional digital business telephones.

- An analog telephone adapter is a device that connects to the network and implements the electronics and firmware to operate a conventional analog telephone attached through a modular phone jack. Some residential Internet gateways and cablemodems have this function built in.

- A softphone is application software installed on a networked computer that is equipped with a microphone and speaker, or headset. The application typically presents a dial pad and display field to the user to operate the application by mouse clicks or keyboard input.

PSTN and mobile network providers

It is becoming increasingly common for telecommunications providers to use VoIP telephony over dedicated and public IP networks to connect switching centers and to interconnect with other telephony network providers; this is often referred to as "IP backhaul".[4][5]

Smartphones and Wi-Fi-enabled mobile phones may have SIP clients built into the firmware or available as an application download.

Corporate use

Because of the bandwidth efficiency and low costs that VoIP technology can provide, businesses are migrating from traditional copper-wire telephone systems to VoIP systems to reduce their monthly

phone costs. In 2008, 80% of all new Private branch exchange (PBX) lines installed internationally were VoIP.[6]

VoIP solutions aimed at businesses have evolved into unified communications services that treat all communications—phone calls, faxes, voice mail, e-mail, Web conferences, and more—as discrete units that can all be delivered via any means and to any handset, including cellphones. Two kinds of competitors are competing in this space: one set is focused on VoIP for medium to large enterprises, while another is targeting the small-to-medium business (SMB) market.[7]

VoIP allows both voice and data communications to be run over a single network, which can significantly reduce infrastructure costs.[8]

The prices of extensions on VoIP are lower than for PBX and key systems. VoIP switches may run on commodity hardware, such as personal computers. Rather than closed architectures, these devices rely on standard interfaces.[8]

VoIP devices have simple, intuitive user interfaces, so users can often make simple system configuration changes. Dual-mode phones enable users to continue their conversations as they move between an outside cellular service and an internal Wi-Fi network, so that it is no longer necessary to carry both a desktop phone and a cell phone. Maintenance becomes simpler as there are fewer devices to oversee.[8]

Skype, which originally marketed itself as a service among friends, has begun to cater to businesses, providing free-of-charge connections between any users on the Skype network and connecting to and from ordinary PSTN telephones for a charge.

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Control those things you can, and keep the surprises to a minimum!