

VoIP Evolution

Reports from the cutting edge of voice and video communication

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The Top 25 VoIP Advances of 2009

There were more advances than true innovations in the VoIP world in 2009. That's because some of the most important developments had more to do with commercial and political maneuvers than with technical creativity. Still, such maneuvers often helped spread the benefits of VoIP as much as did technical innovation. And collectively, the advances brought some already-evident trends into clearer focus. A key such trend is the increasing integration of voice with other applications and services. Another is the intensifying interest in HD voice. A third is the growing interconnection of VoIP services, in part in response to the possibilities that end-to-end HD voice offers. With such trends as background, here, in no particular order, are our top 25 VoIP advances of 2009.

1) Google's Acquisition of Gizmo5

Google doesn't just want to give AT&T a hard time with Google Voice, it is also set to give Skype a hard time. It already offers Google Voice users unlimited calling to North America for free, a service that **inspired AT&T to complain to the FCC**. But that offering still required a landline or mobile phone to make and receive calls to and from the PSTN, or else a separate account with Internet VoIP provider and Skype competitor Gizmo5. Now that Google has acquired Gizmo5, it will be easy to integrate the two services. If that happens, users will be able to **make unlimited calls to North America, and cheap calls overseas**, using the same number they receive their calls on, all through a headset-equipped, Internet-connected PC. Even Skype charges for inbound and outbound PSTN calling.

2) INums Service Goes HD

The 2008 creation of iNums was one of the most important VoIP advances of the decade. iNums are phone numbers beginning with the new 883 country code that the ITU has approved for subscribers to VoIP services worldwide, rather than subscribers in specific countries or geographic areas as with traditional country codes. Eventually callers will be able to dial numbers beginning with 883 from anywhere in the world, and reach the VoIP subscribers to whom the numbers are assigned anywhere in the world. That will make the entire globe a local calling zone. iNums provider Voxtel is positioning its service as a way to glue disparate VoIP services together, giving them a consistent way to reach each other's subscribers, as opposed to the mishmash of user names, SIP URIs and other methods that they currently use. Voxtel's **September announcement that its iNum service will support HD voice** makes such connectivity even more useful. It means iNum subscribers will be able to make and receive voice calls with audio quality superior to that of traditional PSTN calls. As such, it will be yet one more driver accelerating the trend towards all-IP telephony.

3) Skype Goes Independent Again

Skype was born to disrupt, but its September 2005 sale to eBay made it part of a conventional corpo-

ration with conventional priorities. Its late-2009 **sale by eBay to a group of investors** left it again free of any priorities but to upset as many markets and services as it could. Most important, its founders are back inside the tent as investors, rather than on the outside peering in. All in all, the sale means Skype is again in a position to do what's best for Skype. That usually turns out to be good for users, if not for companies in markets Skype thinks need disrupting.

4) Fring Video Calling for iPhone, Nokia

A key strength of VoIP technology is the ability it offers to integrate voice with additional features and functions. One of the most obvious integration candidates is video communication. It's fairly common now for VoIP users to make video calls through their PCs or even desk phones, so the next important advance is extending the capability to mobile users. Fring made that advance with its **introduction of video calling capabilities on iPhone and some Nokia smart phones**. The downloaded application allows one-way video calls on iPhones, because those devices' cameras point away from the user, and two-way calling on Nokia S60 Symbian devices. Both Fring and Skype users can make such video calls to one another.

5) FCC's Mobile Network Neutrality Push

Unlike with the terrestrial Internet, network neutrality didn't apply to the mobile Internet from the start. In fact, mobile network operators always set their own rules about which applications and services they would allow to run on their infrastructure. Thus it's significant that the FCC in 2009 **specifically stated that mobile networks had to follow network neutrality rules**. In theory, that would mean operators have to allow VoIP services to run over their data networks without restriction. Working out the technical details will be a complex task, however, since mobile networks have spectrum and bandwidth constraints that terrestrial ones don't. But in the long run, even cellular operators will see the benefits of running open networks, since it will let their customers access a variety of rich services that extend all the way to the handset.

6) XConnect's GSMA Tie-Up

Bringing rich services integrated with VoIP to the handset is as vexing a technical challenge as a regulatory one. A key requirement is being able to connect VoIP networks directly, to permit the end-to-end transmission of such services. That makes **XConnect's tie-up with the GSMA** particularly important. The arrangement lets XConnect's ENUM registry talk to the GSMA's PathFinder number translation services, so that VoIP and GSM networks can pass VoIP and other related rich media to one another directly. This will vastly expand the number of users who can communicate via rich services.

7) FCC's Push for VoIP Transition

The FCC's push to encourage the transition to an all-VoIP telephony network is at an early stage, but its potential impact can't be overestimated. The **December 1 notice seeking comment on the transition** asks for input on what types of policies and regulations may help or hinder the process, as well as on how to protect the public interest during the transition. The agency's involvement will provide an important public forum for dialog about the central issues surrounding the evolution of VoIP, and may even encourage traditional carriers to upgrade their networks faster than they otherwise would have.

8) Free Conferencing for 1,000 Users

Using free conference calling services is a good way for companies to impress customers, suppliers and investors with their dedication to frugality. But companies needing to hold large conferences were out of luck until Free Conferencing Corp. **introduced FreeConferencing.com, a service that can handle 1,000 participants in a single call.** That's a big jump from the 96 participants that FreeConferenceCall.com, offered by the same company, can deal with. The advance will bring free IP-based conferencing further into the mainstream than ever.

9) Codec Wars

Codecs, which encode and decode audio and other media for transmission over networks, will play a crucial role in the ongoing evolution of VoIP. HD codecs let VoIP calls deliver superior voice quality, while video codecs make it possible to add video calling capabilities. Global IP Solutions (GIPS) has been an **ongoing leader in HD voice codecs**, and is pushing ahead in video codecs as well, as its deals with **Yahoo** and **Japan's ANET** show. At the same time, Skype in 2009 **began giving its so-called super-wideband SILK codec**, which transmits an even broader audio range than standard HD codecs, away free in order to boost the "ecosystem" for high-quality voice. The hotter the competition, the better it will be for the future of VoIP.

10) Android Integration with Verizon Wireless

Verizon Wireless used to be the most closed and protective U.S. wireless carrier, doing everything possible to keep unauthorized applications and services off of its network. In the last year or so, it made a radical and apparently earnest shift towards openness. The best test of its sincerity will be how it implements the **deal it made with Google in October.** Among other things, the deal will see Verizon Wireless selling handsets built around the Google-developed Android operating system, and running Google Voice as a built-in application. The deal also calls for the integration in unspecified ways of Google applications, including Google Voice, with the Verizon Wireless network. Depending on the details, the deal could end up being a key turning point in the U.S. wireless industry's evolution from closed garden to open field.

11) Proliferation of HD Voice Conferences

The advantages of HD voice aren't apparent from simply reading about them – understanding the benefits of the superior audio quality the technology brings is only possible through experiencing them. That makes active promotion of the technology a necessity, which in turn means that the various **HD conferences and activities taking place**, rather than being just another way to get paying advertisers and attendees, are playing a significant role in the evolution of VoIP as a whole.

12) Browser-Based Dashboards for Hosted VoIP

One of the most attractive features of IP PBXes is their so-called "dashboard" call handling software. The software, which pops up on users' computer screens as necessary, lets them make, receive and transfer calls via clicking or dragging and dropping. It also provides information such as presence or availability of other users on the system, the number of calls in queue and other such facts. In 2009, Vocalocity and Junction Networks' OnSIP both brought the same capabilities to their hosted VoIP services, via dashboards that work through PCs' Web browsers. Vocalocity's is called the **VocalocityPBX Dashboard**, while OnSIP's is called **my.OnSIP**. Though modest in the larger scheme of things, the advances further blur the line between hosted and premises IP PBXes.

13) Business Phone Service Starting at \$10/Month

Given the economic climate, the cost of phone services is particularly important for small businesses. Thus the hosted **service my1voice introduced in September** was noteworthy for its price tag alone. For \$10 a month, a company gets a phone number and various office telephony features, included call forwarding, simultaneous ring, dial-by-name and virtual receptionist. Although the entry-level package comes with only 150 minutes of usage per month, it sets a marker for providers looking to help small companies get off the ground.

14) Phone.com's Hosted HD Voice

As with many other telephony features, HD voice seems something only large companies can afford at first. Typically enterprises already have all-IP phone systems for internal communication, and adding HD capability can easily make inter-branch conference calls less fatiguing for workers. So it's another indicator of VoIP's democratizing influence that Phone.com has **introduced HD voice capability in its Virtual Office hosted VoIP service**. Such moves make the superior voice quality of HD calls available to even small companies with widely scattered employees.

15) Polycom's \$6,000 Telepresence System

There are a lot of ways to make one-to-one video calls, ranging from Web cams on PCs to dedicated videophones. Even group conferences are possible, with participants appearing in different windows in Web browsers or dedicated client software. Conferences involving groups in meeting rooms are more difficult and expensive: Cisco's telepresence system can run a quarter million dollars or so. In June 2009, however, **Polycom came out with a telepresence system for under \$6,000**. It includes hardware-based video codec, camera, microphone, remote control and cables, and connects to any HD-capable monitor. It makes the option of substituting video conferencing for travel practical for small companies as well as large ones.

16) Ribbit Mobile

Most virtual number services give users a new number. The users then have to ask all their friends and colleagues to call that number, and can have calls forwarded from it to any other phones or numbers they wish. But many individuals have already given their mobile numbers to everyone, which makes it hard to switch. The beta **Ribbit Mobile service that Ribbit introduced in November** offers an innovative and perhaps more useful take on the concept. It lets users keep their mobile numbers as their primary numbers, by forwarding unanswered mobile calls to Ribbit Mobile, which in turn forwards them to any other numbers they wish. The service also lets users make free outbound calls via a Web interface, with their cellular numbers appearing as the caller ID, thus saving them cellular minutes when they're at their desks. Ribbit Mobile also offers visual voice mail and speech-to-text transcription. A version for iPhone became available in late December.

17) Skype for Asterisk, Skype for SIP

Skype's push to become a serious tool for SMBs gained considerable momentum with the introduction of Skype for Asterisk and Skype for SIP. The Asterisk integration **became a commercial product in September 2009**, after having been available in beta for a year. Skype for SIP became available in beta in March 2009, with interoperability with **ShoreTel** and **Cisco IP PBXes** announced in September. Both represent significant advances towards making Skype as useful for businesses as it is for individuals.

18) Voice Integration With Google Wave

As noted, one of the great strengths of VoIP technology is its ability to integrate voice with other applications. Google Wave is one of the more promising such applications. It offers multiple ways for individuals to communicate and collaborate with each other both in real time and over extended periods of time. Among other things, it allows them to type messages to each other, attach files and photos, and access videos and maps. Ribbit contributed **the ability to communicate by voice**, via either live audio conferencing or recorded messages. It points the way to a future in which voice is just one part of larger applications and services, and perhaps not the most important part.

19) Jajah Offers Tweet-Activated VoIP

In September Jajah came out with a method to **let users initiate phone calls via Twitter**. The announcement came a year after Phweet's introduction of a similar service. While the pair of offerings highlights the penetration of Twitter into every corner of the communication market, more importantly it demonstrates the almost unlimited flexibility that VoIP offers to mix and match applications and services. It also hints that even more exotic applications are coming down the road.

20) Cloudvox: Cloud Within a Cloud

Wholesale telephony platforms will shape the future of the voice communication industry over the next several years. Such platforms allow Web and enterprise developers to create their own voice applications, with no need for telephony programming expertise or the infrastructure to run them on. Instead, they'll be able to get telephony services from a cloud. Ifbyphone, Jaduka, Ribbit, Twilio and Voxeo are among the leading platform contenders. Cloudvox takes the concept one step further, **hosting its cloud telephony platform on a cloud computing platform**, and owning no servers or other hardware itself. As such, it represents the first telephony cloud within a cloud, but it probably won't be the last.

21) AT&T Offers Hosted Call Center Service

Hosted call centers have been making a lot of headway, mainly for their ability to serve agents in any geographic location. A measure of that success came in April, when AT&T **introduced its own version called AT&T Hosted Integrated Contact Services**. Even though hosted services typically cannibalize the revenues of major carriers' traditional services, the introduction is an indication that the flexibility and features of hosted services can be compelling enough to override such concerns.

22) Cheap Speech Recognition for Asterisk

Speech or voice recognition capability lets IP PBXes respond to callers' verbal rather than just key-press responses when negotiating multiple-choice phone menus. But such technology is quite a bit less affordable for small companies than for enterprises with expensive proprietary systems. Thus [the availability to Asterisk users of the Vestec Speech Engine](#) through the Digium store represents a significant advance in – once again – bringing advanced telephony capabilities to smaller businesses.

23) Verizon Wireless Kills Hub

The failure of a product might not seem like an advance. But the **September decision of Verizon Wireless to stop selling its Hub**, which it had only introduced in January, at least confirmed the overall

direction of VoIP innovation. The \$200 Hub, equipped with touch screen, provided voice calling as well as various Web services over Verizon Wireless subscribers' home broadband connections. It was also integrated with their mobile phones, so they could use it to send and receive SMS text messages. In addition to the price of the device, the service cost \$35 a month under a two-year contract.

The Hub showed the limits of the traditional telco hardware-based approach to services. Because its features and functions were hard-wired into the device, it contradicted the trend towards making telephony a software-based virtual service that can run on any device. Its failure also reinforced the idea that the future of telephony is largely out of the hands of traditional carriers, and in the hands of innovators that, especially with the proliferation of platform services, can be anywhere.

24) Voice Recognition That Splits the Processing

On the surface, Promptu's **ShoutOUT speech-to-text application** doesn't seem all that unique. It simply lets users send text messages by speaking rather than keying them into their handsets. What's innovative is how it handles the processing. First it encodes the speech into data on the handset, and then sends it via error-corrected transmission to the server-based speech processing engine. That means the processing engine won't receive the kind of garbled audio that it might if the spoken words and phrases traveled over cellular voice circuits.

25) VoIP Intercoms

Many SMBs have lots of low-tech peripherals connected to their conventional phone systems, such as overhead paging speakers and front-door or loading-dock intercoms. Their reliance on such peripherals makes it harder to move to IP phone systems, because such a change would produce compatibility problems. CyberData Corp. provides mundane but important solutions to this problem by **building VoIP-compatible versions of such peripherals**. Its products will help countless small businesses move into IP telephony that would otherwise be stuck with their old-fashioned key systems.

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