



Voice Over WiFi

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Comcast has announced plans to acquire Time Warner Cable for \$45 billion. Following the announcement, rumors began to circulate that the combined company may offer voice over WiFi (VoWiFi) service to compete with mobile operators like Verizon, AT&T, Sprint, and T-Mobile. Already, some mobile resellers are offering compelling prices for mobile voice and data by leveraging WiFi for most of their customer needs. Even T-Mobile and Sprint are promoting voice over WiFi to improve their customers' experience deep inside buildings where their cellular networks may not reach.

Does voice over WiFi represent a significant opportunity for churches and ministries, or are there hidden dangers?

What is Voice over WiFi?

I'm guessing that all readers of Christian Computing are familiar with Voice over IP (VoIP). At its core, VoIP allows voice calls to be made across Internet Protocol networks, including the global public Internet. Consumers, businesses, and ministries have many VoIP providers to choose from, including often your local cable provider, Vonage, and Skype. These

providers have benefited from lower cost networks and more favorable regulatory treatment to be able to pass on meaningful cost savings to customers, especially for international calls.

In simple terms, VoWiFi is VoIP, but with a WiFi connection. While VoIP traditionally uses a computer or a home gateway to connect to a broadband network, VoWiFi is primarily accessed using mobile devices, such as tablets and smartphones. The major VoIP providers have all developed smartphone and tablet apps for VoWiFi calling as an extension of their primary broadband VoIP service, but mobile-specific

calling apps have also emerged, including Apple's FaceTime and Facebook's Messenger.

The great thing about VoWiFi is that it's cheap and sometimes even free. The challenge with VoWiFi is that it really only works when you have a strong WiFi signal, without a lot of congestion from other users, and a good broadband connection behind the WiFi network. That may be the case in your home or office. It's less likely the case in a coffeeshop or restaurant. And it's rarely the case when you're walking down the street. Unlike cellular networks, WiFi doesn't handle transitions between hotspots instantly or smoothly. For data applications, we generally don't notice the delays and hiccups, but during a VoWiFi call, a handoff can be quite disruptive. There are other issues as well, including how 911 calls are handled. Bottom line, you may not want to rely on VoWiFi as your only mobile voice service.

The new hybrid cellular/VoWiFi services are beginning to address these issues. Republic Wireless is the leader in the field, with a low cost service that uses VoWiFi whenever possible, but switches to cellular when WiFi isn't available. While not free, with calling plans that start at \$10 a month, leveraging VoWiFi apparently enables Republic to offer plans

much less expensive than traditional wireless carriers. Apparently folks like the value, as Republic Wireless was #2 and ahead of the big 4 in [PC Magazine's Reader's Choice awards](#) earlier this year.

How can Voice over WiFi help churches and ministries?

All that is fine and dandy, but can VoWiFi actually do anything to help your church or ministry?

Well, as we all know, ministries are often budget constrained. Anything that can help reduce expenses should get our attention, and VoWiFi often does that. Because some forms of VoWiFi are even free, these solutions can also increase the connectivity within our ministries. Especially for folks who are in remote locations domestically or around the world, VoWiFi can be a real blessing. Communications costs are often highest in these locations, meaning that we tend to talk less frequently and in shorter calls. This, of course, can increase the sense of isolation and lack of connection to the rest of the ministry. If VoWiFi can reduce communications expenses AND increase communications and connectivity, then it would be a huge win for the ministry.

VoWiFi can also help our smartphones work better in locations with poor cellular coverage. At the beginning of the cellular age, the U.S. government gave AT&T and Verizon (via their predecessor Bell companies) low frequency spectrum that reaches well into buildings. To get into the business, Sprint and T-Mobile had to buy higher frequency spectrum that less effectively penetrates walls. To overcome this challenge, both companies are leveraging VoWiFi to improve in-building coverage. If your phone doesn't work well in your home, church, or office, and you have a WiFi network available, VoWiFi might be the solution you need.

What is dangerous about Voice over WiFi?

The greatest danger associated with VoWiFi is that it simply may not work. We assume that our cellphones will work everywhere, and sometimes assumptions can get us



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into trouble. VoWiFi needs a steady and consistent WiFi signal with good throughput to work. If no WiFi, you can't do VoWiFi. If the WiFi signal comes and goes, then you won't be able to carry on a conversation with anyone. If the network is congested, or otherwise isn't providing reasonable connection speeds and latency, then the call quality may be bad enough to be unusable.

Of course, WiFi networks are generally more prone to security issues than wireline or cellular networks. Most phone calls aren't worth the trouble of hackers cracking into them, but you might consider whether the information you are sharing represents a financial or personal risk and then consider the security of your connection. Are you on a public WiFi network, or a secured private network? Does your VoWiFi client encrypt the voice packets before transmitting across the network (most do)?

It is my hope and prayer that these articles on the power and danger of technology will encourage you in your daily walk with Christ. Whether it is the printing press, radio, television, personal computers, the Internet, the Cloud, smartphones, or voice over WiFi, new technologies continue to advance our ability to know God and to serve Him, wherever we go. As 1 Peter 4:10 teaches us "As each has received a gift, use it to serve one another, as good stewards of God's varied grace."

Russ McGuire is an executive for a Fortune 100 company and the founder/co-founder of three technology start-ups. His latest entrepreneurial venture is CXfriends (<https://cxfriends.com>), a social network for Christian families.



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