



# The Gigaphone

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## The Shouting Ground Newsletter

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### From the desk of the President

Greetings, Shouters ...

Welcome to the July addition of the Gigaphone. It's been a very exciting summer for us with a lot of new projects and clients. In our last episode, I extolled the virtues of our new fiber connections into our Champaign Point of Presence (POP). This upgrade has also given us the ability to take advantage of new advanced switching and routing technologies for internetworking.

For example, one can interconnect two office locations and share a private network and Internet access using the same transport (such as a T-1.) Quality of Service (QoS) and Class of Service (CoS) configurations can ensure that, say, two-thirds of a T-1 are guaranteed for inter-office sharing of folders and/or client/server applications. Internet users get the remaining third. However, if the file-sharing bandwidth isn't being utilized, full bandwidth is available for Internet users. An organization could even divide up a point to point T-1 into three distinct "pipes": one for Internet, one for file-sharing, and one for video-conferencing. Please contact us for a consultation on how to get the most out of your data communications investment.

Lastly, our growth has resulted in a personal change for myself – I have relocated to Chicago to pay closer attention to our Chicago POP, downtown in the Loop. Shouting Ground is located at 111 N. Canal in the River Center along with many other carriers including SBC, Level 3, WorldCom, Looking Glass, Yipes, Williams Communications, and others. As they say, location is everything, and being in the same building with all of these heavyweights presents us with a lot of options and opportunities. Oh yeah – and let's just say that taking the "E" in the morning is a lot different than a leisurely stroll through West Side Park.

*Bryan Holloway,  
President*



### Safety First

The Internet is a great tool for information, research and even socializing. But with three kids, three computers, and one phone line, not only can no one reach us via landline, ever, it can be a challenge to try to monitor the content that is being perused.

One of the ways to do this, without hovering over the actual children themselves, is with software you can install. Such as, CyberPatrol ([www.cyberpatrol.com](http://www.cyberpatrol.com)). This software can block websites, block instant messaging, manage time online, prevent downloads, and even protect personal identity. They offer a free

14 day trial download which is worth checking out if parental control is something that concerns you.

A lot of kids these days are into online gaming; where multiple players, unknown to one another, play games such as WarCraft. This can be fun, but the players do not always represent themselves as who they are. They may not actually be another 14 year old boy. Information is the key. Make sure your kids know never to give out their real name, their location, phone number, or any personal information.

And then there's the foolproof way to keep your kids safe online...tell them to turn the computer off, and go outside and play!

*Laura White,  
Phone Products Mgr*



### Watching Your Speed on the Information Superhighway

Whether you access the Internet with a dialup connection, DSL, cable, or leased line, you probably wonder at times whether you're getting the speed you're paying for. There are programs you can download, and web sites that purport to answer the question, but you should know how they work before you assume that their results are accurate.

The connection is only one factor in the overall speed of your Internet activities. The remote system you connect to, the Internet protocols that are used, and your own computer and network can all affect the speed of your Internet use. You may wonder why it takes so long to download a Microsoft patch over a high speed DSL line, or why your Amazon.com page takes so long to plot. Keep in mind that no matter how fast your own connection is, you're limited by the speed of the server on the other end. Servers for popular web sites are frequently overloaded. Clicking impatiently on a link doesn't speed things up, it usually makes things go slower, by starting a new process on the server before the previous one has finished executing.

The Internet protocols you use also affect the speed of service. If you're running multiple protocols on your local network, it may slow down TCP (one of the two common Internet protocols) connections. Likewise, a TCP file transfer requires handshaking, so a slow reverse channel speed (your computer to the Internet) can adversely affect a fast forward channel speed (Internet back to your computer).

*Continued on back*

## **Speed**, *continued from front*

Some files, especially those containing text, are easily compressed and may be sent much faster than files with binary data, like programs, music, pictures, or video. So the content affects your speed too.

The Internet topography consists of many privately linked networks with a common routing and communications protocol, so your connection to one Internet node won't necessarily reflect the performance you'd get from another part of the Internet. That's why most of the programs and web pages that purport to calculate your connection speed fall short. They only measure performance from one part of the Internet. The routing throughout the Internet is dynamic, and your packets may take a different path from one minute to the next, so the speed may change drastically even over a short period of time.

If you want an accurate measure of your connection speed, try uploading and downloading files to a server at your Internet Service Provider. Large files will give you more accuracy, since they will be less affected by instantaneous speed changes. Using an "ftp" program will give you a good indication, since ftp adds little overhead, and most implementations report the transfer speed. That will give you a good picture of what speed you can expect over the Internet under the best circumstances. An intervening network, or slow server, will slow down your Internet activities no matter how well your connection performs.

While dialup speeds vary widely, ISDN, SDSL, and T-1 circuits should not vary much in speed or performance. Cable and wireless are both affected by the overall load, so other users may adversely affect your performance.

*Mike Berger,  
Director of Engineering*



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## **Out of the Ashes**

In the days of the 'Browser Wars' there were two big players: Netscape and Internet Explorer. We all know how that battle went, and whether or not you think Microsoft guilty of antitrust violations, IE just plain won. AOL bought Netscape somewhere in there, but that's all ancient history in Internet years. The one great thing that did happen at Netscape way back in 1998 was that they decided that their product Netscape Communicator, and more importantly it's source code, would be open source. The organization to be responsible for collecting, managing, and distributing this open source code was dubbed The Mozilla Organization, borrowed from one of the code names for what was to become the venerable Netscape Navigator. Netscape may be a fringe player these days, but mozilla.org is full steam ahead, still open source, still free, and making some serious waves in the internet application pool. They're still responsible for the engine behind Netscape (which retains the Mozilla moniker) but are making some very welcome advances in the browser and e-mail client realms, which I introduce you to here as Firefox and Thunderbird, respectively.

I will break here to let you know that these applications are technically still in 'beta testing,' with the current version of Firefox being 0.9 and Thunderbird 0.7. That said, they've been stable enough that I've been using them for several months with few complaints.

Firefox is a very streamlined browser, small in size but big in features, including tabbed browsing, which I consider necessary in any modern browser. It also has built in pop-up blocking and a Google search bar, and doesn't load ActiveX controls, making your machine much less susceptible to spy- and malware. There are still some web sites (mostly using non-compliant Microsoft tools) that won't display properly, so you will probably need another browser in addition to this (I use Opera), but for 95% of my web browsing, it works flawlessly.

Thunderbird is hands down the best IMAP e-mail client I've ever used, and I've used them all. Really. It will manage multiple accounts correctly and intuitively, has a built-in Bayesian spam filter, correctly supports nested directories, can be configured to auto-poll all IMAP folders for unread messages (handy if you're using procmail), has IDLE support, has an IMAP delete model that makes sense from a user standpoint, has server-side search that works right, and it's just plain fast. I rely on IMAP, and having a gui based client that really does things correctly is almost too good to be true. Oh yeah, there's spell checking, a good address book, and a boatload of extensions to further tune the application to your needs.

Here's where you can get 'em:

<http://www.mozilla.org/products>

*Jim Creason,  
Director of Support Services*



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## **Wi-Fi Caveats**

Over the past few years, wireless networking has become increasingly popular in both home and business applications. With the latest 802.11g wireless access points boasting maximum speeds of 108 Mbps, the technology has now reached transfer rates comparable with wired fast Ethernet connections.

Since wireless equipment is becoming more affordable, why shouldn't you unwire your own internal network? Perhaps the most important reason not to abandon your wired network is security. The most commonly employed wireless security measure is WEP, aka Wired Equivalent Protocol, which requires an encrypted key to gain access to the network. A major drawback is that WEP still leaves you susceptible to intruders because the encrypted key can be intercepted and deciphered.

More recently, a newer security method known as WPA (Wi-Fi Protected Access) has been gaining popularity by making improvements on the WEP model. The main difference between WEP and WPA, is that the latter uses dynamically created keys that are unique to each wirelessly connected computer on the network. This makes decrypting the key much more difficult for an attacker.

Since most manufacturers want their products to be easy for users to configure, wireless equipment is often shipped ready to use right out of the box, without any security enabled. Sometimes the WEP and WPA security protocols are never even mentioned to the end user during setup. The end result is usually wide open access to the user's shared documents and Internet connection from anywhere within range of the wireless signal.

*Bill Cline,  
Technical Assistant*