

Streaming Media for Christian Radio Stations

“White Paper”

Paul R. Gathard, President
Barnabas Road Media
pgathard@barnabasroad.com
877-656-7200 Toll Free

Critical Issues Every Christian Radio Station Should Consider When Choosing a Streaming Media Hosting Service.

Most of Christian radio is non-commercial, and even commercial Christian radio stations display a great deal of “commercial” restraint. Christian radio is different in many respects due to the nature of its religious content and dedication to Christian principles.

The simulcast of a station’s over-the-air broadcast may be old hat to some Christian radio stations while others have not yet ventured into the digital waters of the internet. In either case, this “white paper” should be read so that every GM and PD understands the critical issues involved in streaming on the internet. And yes, this paper should be read keeping in mind the author is slanted towards the services his company provides.

What Equipment, Software and Internet Connection are required to webcast your over-the-air broadcast on to the internet?

Most Christian radio stations have found it extremely easy to stream their broadcast on the internet. Stations have reported using an older model PC previously set aside as long as it is at least a 333 MHz processor, 128 Mb of Ram Memory and at least a Windows 98 OS. Faster is always better, but you can get by with a minimal set up if you only have one low bit-rate stream.

The Windows Media 9 Encoder is a free download from Microsoft and you only need an always on DSL connection. Again, faster is better especially if you have more than one stream or you use a higher bit-rate stream. You will also need a static IP address or if you have a dynamic IP address, you should use the services of a “free” IP forwarding service. Talk to us. We can explain each requirement in detail and help you get set-up if required.

What Bandwidth should we stream in?

Low bandwidth streams can sound really great if you have a really fast PC and great soundcard, but most 16k and even some 20k streams sound less than stellar. Nevertheless, when you consider that over 45% of all North American listeners and an even larger percentage of international listeners still use a dial-up internet service provider, you should provide a low bandwidth stream and a higher Broadband DSL stream for higher audio quality.

Even though Dial-Up Service Providers advertise they use a 56k modem, these same service providers rarely connect their users at more than 19k to 26 kilobytes per second stream. So, if you only have a 32k or higher broadcast stream, your dial-up listeners cannot attach to your stream.

Their media player will simply keep buffering and they will have a terrible listening experience. This is not what you want from such a large percentage of the market.

On the other hand, a Broadband/DSL stream of 128kbps presents a rich full audio experience, but few PC and Laptop listeners can discriminate between a 64k and 128k stream. Cheap speakers and headsets are the staple supply of most office listeners. Slowly, this state of audio perception is changing. More and more internet radio listeners are spending big money on multi-media PC's and expensive headphones even for the office. Internet radio is growing at phenomenal rates.

The cost of bandwidth should be of concern as the higher the bandwidth the more your monthly cost. A 64k stream is twice the monthly bandwidth of a 32k stream with the same number of listeners and a 128k stream is 4 times a 32k stream. The cost of bandwidth continues to drop.

Barnabas Road Media was the first Christian radio hosting service to offer an inexpensive Dual-Band Option. Our **20k/32k Dual-Band** option is only **\$199** per month and it serves Dial-Up and Broadband/DSL listeners with rich full sounding streaming from our media broadcast center located in Dallas, Texas. This option features unlimited concurrent listeners and there are no monthly bandwidth caps.

Which Media Encoder makes the most sense?

There was a day when the general infrastructure of the worldwide internet was pretty poor, but after billions and billions of dollars have been invested in the improvement of the general infrastructure of the internet, the quality of live audio streaming has improved dramatically. It has improved so much that even slightly less robust media encoders now sound great, and the claims of certain "high output" specialty encoders fall totally short of being accurate by comparison.

Barnabas Road Media uses the Windows Media Encoder as we consider it the path of least resistance, and it fits our "lowest common denominator" philosophy of reaching the most people with the easiest to use and least expensive cost of content delivery. Windows Media fits all of our requirements. Over 80% of all computers sold have been delivered with Windows Media Player already installed and recent versions of the encoder and player have dramatically improved the audio output.

What is an Internet Side-Channel and why should you consider its use?

Barnabas Road Media considers an internet side-channel as any internet only broadcast of your other music formats or ministry programs. BRM only charges a fraction of the normal monthly streaming fee as we see internet side-channels as a mere extension of your ministry outreach.

BRM does not charge the same cost as for your over-the-air broadcast. In fact, our monthly charge for an internet only side-channel is about 10% of our regular monthly streaming media charge for your primary simulcast.

Now you can have a ministry channel and play ministry programs 24 hours a day or have a Christian Rock channel and attract the young listener to your station. Be creative.

What is Virtual Multicast Routing and why should a Christian radio station think twice about using this patented technology?

VMR or Virtual Multicast Routing is a technology whereby a stream hosting service provides a stream to your listener, and then their patented technology media player becomes a proxy server and it uses the bandwidth bought and paid for by your listener to forward your broadcast on to one or many other listeners wanting to hear your online radio broadcast.

This process sounds OK on the surface, right? Let us look deeper and investigate the claims and potential future of VMR.

- The owners of the VMR patent claim this technology delivers a better sounding stream.
- They claim that radio stations can dramatically reduce their cost of streaming by using their listeners “unused bandwidth” to forward the station’s broadcast to other requesting listeners.
- They claim it’s like picking up free bandwidth.

The principle here is enough to understand. There are no rules or laws against this practice as the internet is currently fairly unregulated. Internet Service Providers have priced their monthly service fees based on average use and they claim their customer pays for the bandwidth so they are not being hurt financially.

The patented hosting services provide a “notice of disclosure” about their bandwidth forwarding practices, but I doubt few people read the disclosure; or if they read it, they probably don’t understand what is happening to the asset they purchase each month. I can assure you that commercial enterprises and university networks that purchase bandwidth on a metered basis know the impact of Virtual Multicast Routing as they pay for each kilobyte of bandwidth procured by these patented VMR hosting services. These metered bandwidth networks can testify to the “it’s not free” reality of hundreds of network users tuning into their local radio station, downloading the bandwidth procuring media player, and their monthly bandwidth bill going through the roof.

I liken the logic of thinking its OK to appropriate someone else’s internet bandwidth to the instance of my leaving my wheel barrow out on my front lawn. I am not using it at the moment, but someone comes, takes the wheel barrow for their own use and leaves a note that they have taken my wheel barrow in the bushes. There is no payment for my wheel barrow and no word of even returning my property sometime in the future.

Now, let’s examine a changing Internet Service Provider policy. Some ISP’s in reaction to the FCC wanting cable companies to offer customer selected TV channels have suggested they will comply, but they will respond by adjusting their internet hosting fees from unlimited to bracketed prices based upon the customer’s actual use. This means that internet users who use more bandwidth will pay more. Do you seriously think that if your internet usage was being metered and patented VMR hosting services when they “used your unused bandwidth” could potentially cause your bill to increase it would still be OK with you? Would you really want to impose on your radio listeners in this manner? Would Christian radio fare less well than commercial radio?

Now, let us look at the claims regarding VMR. When VMR was first introduced the general infrastructure of the internet was not as robust and VMR did sound better and was more stable. As

previously mentioned, several billion dollars of infrastructure investment has changed the overall quality of the internet. The difference between VMR and “Unicast” streaming is insignificant.

If the cost of VMR streaming is so much less, why do the stream hosting services that offer VMR technology charge so much? Which entity is actually getting the benefit of the cost reduction? I can assure you its not you listener, and I seriously doubt your cost savings are worth the potentially bad press you may one day reap.

What about free bandwidth? Someone pays for the bandwidth used to forward your streams to your other listeners. If it is not the service provider, it is not the hosting service and it is not your station. That leaves only your listener.

OK... it is not a crime, there are no regulations prohibiting the practice and VMR is firmly entrenched as a content delivery means with major commercial radio networks. Should you use this technology to deliver your Christian radio programming? You need to ask the right questions and understand the motivations found in the answers.

Every operating practice Christian broadcasters take needs to be analyzed with not only the station's reputation at stake, but also with the Lord's reputation in mind as well.

Why your station should consider using Barnabas Road Media for your internet broadcast.

We could say you should use us because we are really good at radio station streaming, but that would be simply our own self-interested opinion. On the other hand, we have customers like the Moody Broadcasting Network and dozens and dozens of Christian radio stations that say we are really good at what we do.

BRM broadcasts US, Canadian and European Christian radio stations on the internet, and is the endorsed Internet Technology Company of the Christian Music Broadcasters Association.

BRM will save you money, increase your internet presence, improve your listener's online radio experience and be concerned with our collective testimony when it comes to ethical business practices. Our goals are the same as your goals... including presenting the Gospel Message over the air and on the internet.

Please contact us at <http://www.barnabasroad.com> or call toll free 877-656-7200.