

134:23:454:12

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23:35:60  
Business Strategy  
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23:35:60

# e-Guide to Streaming:

# Starting a Streaming Ministry

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Inset photos: Church of the Highlands, Birmingham, Ala.



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# Starting a Streaming Ministry

## How to formulate a plan for success

By Andy McDonough

Streaming technology is a very hot topic for churches. Live streaming, like live sports and news broadcasts, gives viewers a powerful feeling of “being there.” They might be a thousand miles away as the action is happening, but by viewing a live video stream, the viewer feels as though they are right there with you, taking part in the event.

That feeling is exactly what many churches hope to deliver with their streaming ministries. Streaming is a powerful tool and, with recent advances, within the reach of every church. In fact, nearly 80% of *Church Production Magazine* readers work in churches that are streaming live or providing ministry content for download.

Even so, many churches find themselves stuck on the sidelines, not sure of where exactly to begin. Some may have heard that it’s expensive and more may be wondering if their technology teams are up to the challenge. Well, here’s some good news:

While you could spend a lot of money on the design and technology to stream live, today, you don’t have to. Plus, as streaming has and continues to evolve, there is less of a need for churches to employ a full-time video guru in order to make it all work. You might want to enlist the aid of an experienced video guru to help get you started, but many have jumped in on their own and are doing fine. There is plenty of good information along with affordable equipment and services ready to help you get started. So where do you begin?

### The plan

It’s always a good idea to have a plan and specific goals for any new technology, but it’s especially important for live streaming. This is one thing that all video experts seem to agree on: Know your reasons for live streaming. Having clear goals, even modest ones, will make your decisions about purchases and potential technology partners easier.

**If you're currently recording your services with a video camera, you already have a basic [streaming media] production environment....**



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Brad Lyons, systems advisor at dB Audio & Video of Atlanta and affiliated with Tabernacle of Praise Church International in McDonough, Ga., has more than 25 years of experience with technical ministry. “When you look around, it seems as though all churches are getting into streaming,” he observes, “and people automatically think they need to do it, too. So, one of my first questions for churches is, ‘Why do you need to stream?’” Lyons’s experience has shown that it’s important to make an early determination as to both how realistic your church’s expectations are, as well as how those expectations are going to fit with your budget. As you’ll see shortly, your plan for streaming doesn’t need to be complicated or expensive, but it should agree with your ministry and have the support of church leadership. Even if you are just trying your hand at streaming, take the time to set modest goals, draw out a plan, and take time to talk over your plans with everyone from church leaders to volunteers to be sure everybody is on the same page. There are many ways that manufacturers and service providers can make streaming easy, but that doesn’t mean that their vision and methodology is a good fit for you and your church.

**“Will your streaming become a campus or is it an overflow solution?”**

**Alex Schwindt**, Film Team Director, Hope Community Church, Raleigh, NC

Your plan, as it develops, will help you better determine your hardware needs and how much support your team might require, but another benefit is that, knowing your goals, you can more easily elicit the support of your church, as well as avoid costly mistakes, false starts and frustration. Film Team Director Alex Schwindt at Hope Community Church of Raleigh, N.C., challenges church technology directors and leaders to be sure they understand why their church wants to do live streaming. He believes churches should understand their direction well before they dive into the technology. “You should develop an approach,” Schwindt says. “Will your streaming become a campus or is it an overflow solution? Do you expect it to expand the reach of the church? Or will you be streaming to make disciples?”



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**“Knowing your equipment options and what potential providers need from your side can help you to pick compatible hardware right from the start.”**

**Brad Lyons**, Systems Advisor, dB Audio & Video, Atlanta, GA; affiliated with Tabernacle of Praise Church International, McDonough, GA

If you don't define where you are headed at the start, then politics can make it difficult to change direction later on.” When looking at different streaming solutions, Schwindt reminds his churches that, “Just because we can stream doesn't mean we are ready.”

**Capturing the action**

Once you know why you are going to stream, it's time to dig into the technology that's going to make it happen for you. Since the

technology encompasses hardware, software, and most likely a service to help you reach your audience, it helps to break down the technology into some basic pieces. Although it might seem to be pretty far removed, the most basic live stream has a lot in common with a live television broadcast. In very broad strokes, like the live broadcast on the evening news, live streaming requires a production environment (a location for



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Because established [streaming] services have tackled most streaming problems before, **any quality issues with broadcasts are generally found to be on the church side of the connection.**

your “talent” with a way to capture the action) along with some method to effectively distribute the signal to your viewers in real time. While there can be a lot of technology at work to make it happen, essentially you are trying to do three things: capture the action, convert it into a “stream” of data, and distribute it to your viewers.

A streaming media production environment starts with images captured by the lenses of our cameras, which could be as

simple as a single camcorder, and ends with tightly compressed data ready for streaming delivery. Along the way, the video needs to be digitized, encoded, re-encoded, and transcoded by an encoder like the Marshall Electronics VS-103E-3GSDI (see photo and description on page 5).

If you are currently recording your services with a video camera, you already have a basic production environment. Whether it's one carefully placed webcam or several

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high-definition cameras with signals that are combined by an expensive video switcher, the challenge is the same: to capture good quality video and an accompanying audio signal that will be the content of your broadcast. There are lots of camera choices and some newer models come “ready to stream,” but many people have made streaming work on a minimal budget by using the most basic of equipment. The most common set-up for early streaming was a basic camera and a fast PC with an Internet connection and a video capture card.

**Cameras with a variety of output connections are commonly found in streaming environments:**

- ▶ **Built in webcams or USB-connected cameras**
- ▶ **HDMI cameras**
- ▶ **SDI cameras**
- ▶ **Component or composite (analog) output cameras**
- ▶ **Cameras with Wi-Fi capability (some with the ability to directly connect to the service)**

Even if you are just trying your hand at streaming, **take the time to set modest goals, draw out a plan and take time to talk over your plans with everyone from church leaders to volunteers** to be sure everyone is on the same page.

Some cameras like the Sony SRG-360SHE Triple-Stream Robotic Camera (see photo and description below) are capable of multiple output types. For example, your camera may be able to output both analog component and HDMI output. This is clearly a wide range of hardware and distribution services, and manufacturers are constantly trying to make their devices compatible. Whether you plan to start out using a distribution service or not, a good way to learn about hardware and protocols is to visit the technical pages of some of the services we will talk about shortly. Each has equipment types they suggest and have tested.

Once out of the camera, there is a ton of data in a video stream and operations like

**PRODUCT • SOLUTION**

**Sony SRG-360SHE Triple-Stream Robotic Camera**

Sony’s new pan/tilt/zoom camera combines 30x optical zoom and Power over Ethernet (PoE+) with triple streaming. You can simultaneously record via 3G-SDI, view via HDMI and webcast via IP.

▶ **MORE ONLINE AT [www.sony.com/PTZ](http://www.sony.com/PTZ)**



**"Envision all your hardware workflow options on paper.**  
This way, you can visualize your setup, more easily share your plan, and potentially identify pros and cons."

**Andrew Ng**, Director of Marketing, Teradek, Irvine, CA

encoding/transcoding that essentially optimize the signal into a manageable flow that computers and other devices can handle smoothly, hence the term "streaming." A number of companies, including Blackmagic Design, Extron, Epiphan, Hall Research, Marshall Electronics and Matrox, make affordable hardware that can connect video cameras to computers and optimize video signals for streaming. One advantage is that many of these little boxes can monitor the video signal directly from the camera's image sensor, bypassing the camera's compression and electronics. In this way, a low-cost consumer camera often can be used in smaller applications to capture full HD resolution video with impressive quality. Camera and mobile technology have

evolved so rapidly in recent years that even the very portable cameras integrated into iPads and cellular phones can generate surprisingly good video quality. In fact, some smart devices can even provide enough computing cycles to not only capture but to refine a signal for streaming. Teradek provides a free app, Live:Air, developed specifically to allow iPads and iPhones to be live streaming devices, but that's not all. In addition to providing impressive real-time editing and live graphic abilities, Live:Air can do more complex video effects, plus it supports pre-edited media and multi-camera switching. What you get is a very portable video switcher on an iPad that's free to download and easy to operate. It's a great way to get streaming fast.



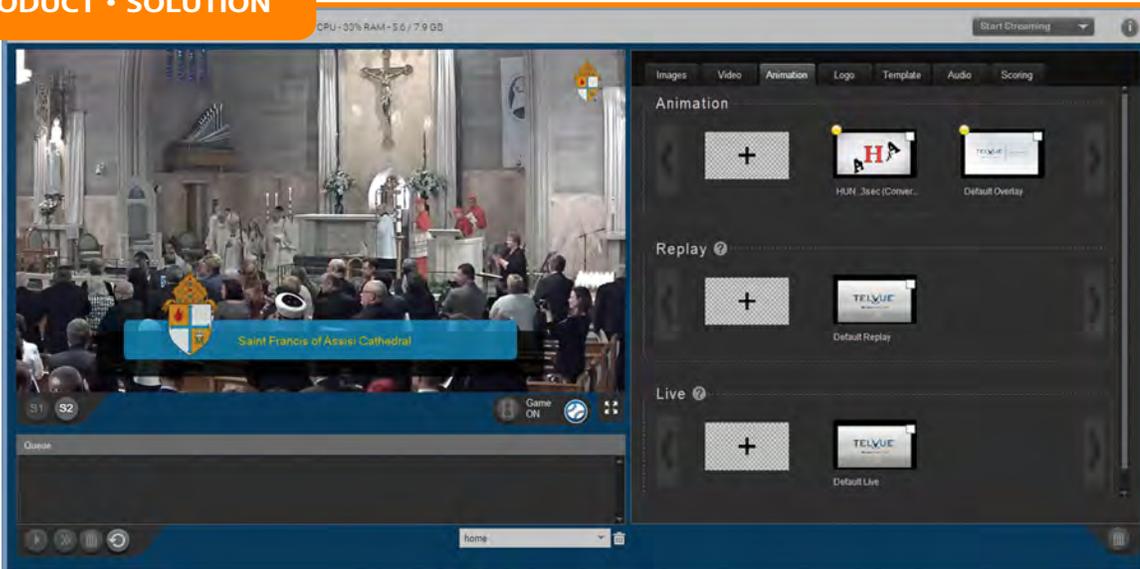
**PRODUCT • SOLUTION**

**Teradek's line of encoders** provides all the necessary options to stream to any platform of your choice and includes native integration with Facebook, Ustream, YouTube Live, Livestream, and Wowza, offering a quick and seamless streaming experience. The VidiU family of streaming products brings your camera, video switcher, or media player live online for everyone to see.

 **MORE ONLINE AT [www.teradek.com](http://www.teradek.com)**



PRODUCT • SOLUTION



**TelVue GoToAir** is an affordable, easy-to-operate laptop-based live production solution that helps houses of worship expand their audiences and reach viewers on multiple screens. Using one or more HD webcams or 4K (UltraHD) cameras, the GoToAir software allows a single operator to select and switch between cameras or predefined “regions of interest,” add real-time graphics and videos, and stream the resulting production live to the Internet, cable TV and simultaneously save a file to a hard drive.

 **MORE ONLINE AT [www.telvue.com](http://www.telvue.com)**

### Distributing your stream

The best way to distribute content these days is harnessing the incredible reach of the Internet. It’s tempting to think that since we have seemingly ubiquitous access to the Internet that you could stream from anywhere you find an Internet connection. Perhaps one day this will be true, but because there is so much data involved in streaming, you’ll need a high-speed dedicated connection and fast hardware if you want to support streaming distribution from your location. However, before you commit to setting up your own distribution environment make sure that you have a handle on

where you want streaming to take you. This is where that plan comes in.

While you can—and many have—set up a dedicated PC to host their church’s streaming, services exist to do just that. Content Delivery Networks, or CDNs, are complex systems of distributed network servers designed to deliver web pages and just about any other web content to users. They are “tuned” to meet the high bandwidth demands of video. If you are planning for your streaming audience to exceed a few people on Sunday morning, you’ll want to consider what a CDN service has to offer.



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[www.telestream.net](http://www.telestream.net)



According to Schwindt, signing up with a streaming service that is in tune with the various missions of the church, like Wowza, can solve a host [pun] of problems. “Being able to grow with the needs of your church is key,” Schwindt says, “as is providing the various conversions to support the different formats and equipment that users might have. With a service, you can go month-to-month adding what you need when you need it. That way, you’re paying only for what you use.”

He adds that, from a quality standpoint, services are hard to beat. Because established services have tackled most streaming problems before, any quality issues with broadcasts are generally found to be on the church side of the connection. Another benefit of “cloud services” Schwindt likes for his churches is that most provide solid tech support when needed for both problem solving and technical advice.

Content Delivery Networks rely on enter-

prises, like churches, to use them, so making their services easy to implement has become an important part of their marketing plans. The same has proven to be true for the manufacturers of streaming gear.

Irvine, Calif.-based Teradek Director of Marketing Andrew Ng says that he looks at a streaming provider as one of three essential elements of a successful live broadcast. “We realize that there are many good Content Delivery Networks out there,” he says. “It has become Teradek’s specialty to offer the most versatile and affordable encoders for whichever destination works best for you.”

Ng reports that understanding the following features can help churches arrive at the right choice for a streaming provider network:

**COST** - Learn about the different plans and the delivery model a service uses for distribution, since both will vary with the provider. Will you be charged per view, per broadcast, or are charges based on the features provided?



PRODUCT • SOLUTION



Image credit FestivalOfFaiths.org & John Nation

**Wowza Streaming Cloud**

Religious organizations worldwide rely on the user-friendly Wowza Streaming Cloud service to live-stream services, sermons, weddings, conferences, and concerts. Engage your community more deeply with an easy-to-use, affordable, ad-free live-streaming solution, like the Festival of Faiths does. Its audience has grown 10,000% by streaming with Wowza and Terra Media HD.

 **MORE ONLINE AT** [www.wowza.com](http://www.wowza.com)

**SCHEDULING** – This is huge. Especially if your organization finds that new content is what engages your audience, you’ll want to make sure you can schedule your broadcasts, whether they are live content, pre-recorded or uploaded video segments. With control of your broadcast schedule, you can provide a “Viewer’s Guide” for your community. When audiences know when things are showing, there’s a better chance they will tune in.

**RECORDING/REPLAY** – As with scheduling, the ability to record your live broadcasts is a big feature, whether it be for archiving or for immediate rebroadcast.

Some CDNs give you the opportunity to do some editing to trim the start and the end of recorded broadcasts, as well. This is a useful feature when you are looking for an inexpensive way to refine your production.

**LIVE CHAT** – This feature is key to building an interactive, online community. Using Live Chat, viewers can interact with the church and other viewers. This concept is unique for online campuses, since typically during a service there isn’t much talking among the worshippers. Surprisingly, some churches have found that being able to interact during a service, for clarification or extended discussion, can be very engaging.



Those looking to start live streaming [should] consider all their potential distribution partners early, with an eye to the future.

There are many streaming providers who are ready to distribute your content. Each has its own pricing, distribution model and features to consider. The right one for you will be the one that lines up best with your plan. Here are a few that are favorites of our experts:

**FACEBOOK LIVE – Who doesn't know about Facebook?** Facebook's Live is an excellent streaming destination for many churches, especially for those who may already have a following with this platform. Even if you do not have a page/group yet for your organization, it's a great place to start one, since Facebook has all the right channels for communication, notification and interaction. It's certainly popular, but Facebook falls short in its organization and scheduling. Some feel that the service makes up for that with its support of live chat, as well as recording and rebroadcast, but who can argue? Facebook's best feature is that it's free!

**TELESTREAM WIRECAST – This full production suite offers the ability to capture, produce and stream in one software package.** While it offers sophisticated production results, including live switching, on-air graphics and editing, Wirecast is built to be used by novice and volunteer operators often found in churches. Wirecast is also compatible with a wide range of delivery networks, enabling churches to offer the widest possible reach worldwide.

**YOUTUBE LIVE – Like Facebook Live, YouTube supports live chat, recording, building playlists and, let's not forget, it's free, too.** The YouTube live offering, however, provides its contributors with a better organization method. If you are looking at YouTube Live for your church, be aware that other churches have pointed to a major drawback: YouTube actively looks out for licensing. So, for example, if your choir performed a licensed music track, there is a chance that YouTube could identify the audio and that could result in them disabling your account. Apparently, even when churches have paid to license and use musical selections, they can still be impacted.

**USTREAM – With extensive control over the quality and distribution of your broadcast, Ustream offers advanced analytics and recording in addition to standard features found in other streaming providers.** Ustream Producer is a software-based production package that can help a church deliver professional-looking results.

**LIVESTREAM – Promoted as the "only completely integrated live video solution," Livestream offers a compelling combination of software- and hardware-based production solutions** for streaming live events, broadcast services and hosting solutions.



The experts agree: **You should take the time to plan before making any investment (large or small) in streaming.**

**WOWZA** – One of the most advanced streaming providers for churches, Wowza is used by some of the largest churches in America, including Willow Creek and Saddleback; it offers extensive compatibility with a very broad range of viewing devices. While it may be a bit more expensive than some of its competitors, it offers excellent features and has a reputation for great support service.

Something important to keep in mind with any service is that along with controlling when your content will be available, you'll also want to control where your content will be available. While it is very convenient to direct viewers to a page hosted by your service, it's usually best to embed the broadcast and functions in your organization's website or online campus. In this way, you are branding the broadcast as your own and you can drive viewers to your website.

#### **Advice for putting it all together**

The experts agree: You should take time to plan before making any investment (large or small) in streaming. Live streaming is a powerful tool for churches. To get the most from it, first, know where you want streaming to take you. After years of directing churches to get the most from their video investment, Schwindt shares that a good plan can help your technical team not only to set up live streaming in line with your

goals, but also help to get stakeholders and church leadership to agree on what success means for the project.

Ng adds that actually putting your plan on paper isn't going too far, even for a trial. "Always draw a system diagram," he says. "Envision all your hardware workflow options on paper. This way, you can visualize your setup, more easily share your plan, and potentially identify pros and cons."

One of Lyons's churches started a streaming ministry that will soon become a satellite TV broadcast. Lyons encourages those looking to start live streaming to consider all their potential distribution partners early, with an eye to the future. "Knowing your equipment options and what potential providers need from your side can help you to pick compatible hardware right from the start," Lyons adds. "Consider picking a streaming provider first, learn about them, listen to them, and you can avoid a high percentage of problems."

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**Andy McDonough is a freelance writer, photographer, musician, educator, and consulting engineer based in Middletown, N.J. Among his favorite topics—the application of technology and music in houses of worship. He welcomes email at [andymcd@comcast.net](mailto:andymcd@comcast.net).**



## Quick-Links to Streaming Technology—

**APPLE**

[www.apple.com](http://www.apple.com)

**Blackmagic Design**

[www.blackmagicdesign.com](http://www.blackmagicdesign.com)

**DB AUDIO & VIDEO**

[www.dbaudioandvideo.com](http://www.dbaudioandvideo.com)

**EPIPHAN VIDEO**

[www.epiphany.com](http://www.epiphany.com)

**EXTRON ELECTRONICS**

[www.extron.com](http://www.extron.com)

**FACEBOOK**

[www.facebook.com](http://www.facebook.com)

**HALL RESEARCH**

[www.hallresearch.com](http://www.hallresearch.com)

**LIVESTREAM LLC**

[www.livestream.com](http://www.livestream.com)

**MARSHALL ELECTRONICS**

[www.marshall-usa.com](http://www.marshall-usa.com)

**MATROX**

[www.matrox.com](http://www.matrox.com)

**SONY**

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[worship.teradek.com](http://worship.teradek.com)

**USTREAM**

[www.ustream.tv](http://www.ustream.tv)

**WOWZA**

[www.wowza.com](http://www.wowza.com)

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