

IMAGE COURTESY OF HAIVISION

For Offsite Streaming Needs, SRT Fits the Bill for Churches

BY ANDRES CAAMANO

As streaming gains in popularity, the dream of a high-quality stream with low latency in all settings is becoming reality.

Thanks to a protocol that came into being about eight years ago, Secure Reliable Transport's popularity has begun to grow. Beginning in April 2017, when the SRT Alliance formed, the protocol has gained the support of over 400 companies. The alliance continues adding companies, bringing on new expertise along the way, helping to improve the protocol.

Prior to March 2020, the premise of SRT seemed largely tied to remote broadcast, outside the needs of houses of worship. Then the pandemic arrived. And with it, those needs dramatically and quickly changed.

For churches then not yet streaming, most adjusted quickly by adding the technology to remain connected to their congregants. Going beyond offering streamed services, though, quickly became part of the package. Churches began seeing the value of broadcasting being on the ground during a worship conference or other church event offsite.

The question was what technology was needed to do that well. Enter SRT.

Other protocols have been asked to do such heavy lifting while livestreaming, toward eliminating latency. When put into practice, though, oftentimes, significant lag time can reach a more than inconvenient two-minutes, limiting interactivity between sites.

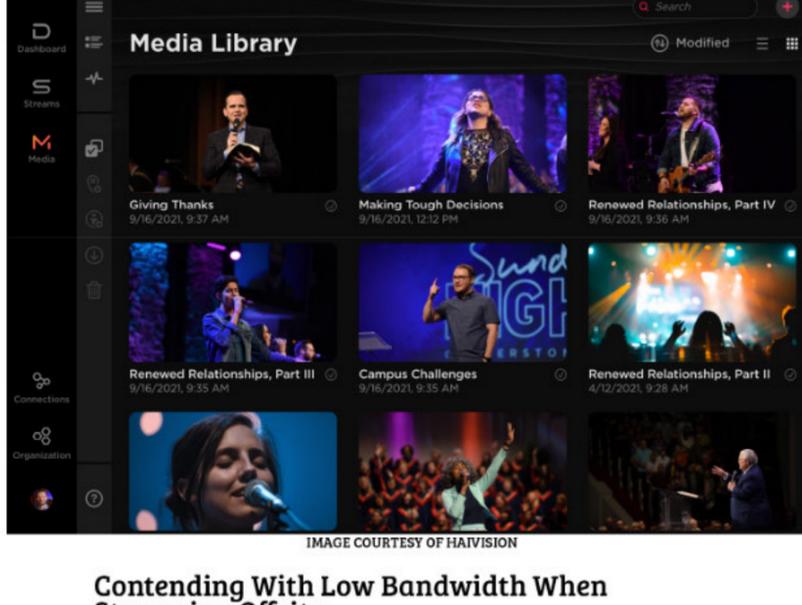


IMAGE COURTESY OF HAIVISION

Contending With Low Bandwidth When Streaming Offsite

Among the churches already streaming before the pandemic, the focus was typically streaming a service inside a worship space. Need for portability tended to be a low priority.

When churches nationwide found their doors closed to their congregations for weeks, and in some cases months, those needs shifted. Oftentimes, churches moved services outside. And with that, came uncertainty relating to bandwidth and other technical issues.

"What can I do to take my message outside?" asked Paul Munoz, product support manager for Lumens Integration, Inc. In making such a move, SRT is beneficial in "loosening up constraints with low bandwidth connections, when you are not at home."

While having a consistent signal might be typical while inside the church, once outside, it often becomes much less predictable. With SRT, though, a stream's performance won't fall behind.

"With SRT, when you don't have a high-speed connection, you'll see the same signal balanced," explained Munoz. "You won't see any issues (such as buffering), barring a complete signal drop."

To get the signal to point A to point B, SRT works without reinventing the wheel. "SRT is really the best way to get content across the open internet," noted Daniel Alexander, director of product management for Haivision. "With SRT, the main benefit is in that first mile. It allows a lower bandwidth connection to have high quality content sent over the internet."

What makes SRT work well in less-than-ideal environments, is significant error correction built into the protocol.

For churches that have embedded interactivity into its services, excessive buffering of up to two minutes can lead to frustration.

By contrast, Alexander said, "Low latency video using SRT allows a viewer to stay in the moment. From 'glass to glass' or from camera lens to screen, it's a 10- to 12-second window."

Needing to Bridge the Gap

With many churches growing, the need for streaming between campuses being added makes all the sense in today's landscape.

"If you are delivering a stream from campus to campus, to display it on a screen in that facility, SRT's quality will be noticeably better than other protocols," explained Rob Read, director of business development for DataVideo U.S.

Referencing another popular streaming protocol, Real Time Messaging Protocol, or RTMP, Read noted, "For churches in areas where bandwidth and internet services fluctuate, using RTMP will cause issues. By comparison, SRT is much better at handling data and packet losses versus RTMP."

To detail how dramatically the difference between the two protocols were on the proverbial bench, Alexander detailed one scenario.

"One customer was comparing their workflow," noted Alexander. "They were doing a cross country connection, and the packet loss with the traditional (RTMP) connection ... it wasn't watchable. It was a frame about every four seconds." When SRT was tested, even when running over low bandwidth, "it was watchable."

Some churches, though, are looking to connect across international borders, especially in highlighting missionary work. "A customer who was going overseas to north Africa, will be able to stream to their audience," noted Alexander. "It will be quality, where most protocols would struggle when you are overseas."

Over the last couple of years, the growth in SRT has been notable, explained Michael Bergeron, Senior Category Owner, Advanced Technology, Video Production, Panasonic North America.

"What's changed has been the number of places where you can send the SRT stream to," noted Bergeron. "When you are using SRT working with remote sources, that is something we can do today."



PHOTOS COURTESY OF PANASONIC

Open Source and Protocol Growth

While various streaming protocols exist beyond SRT, the protocol's growth can significantly be linked to it being open source.

Other protocols, for example, require a licensing fee paid to the developer, thereby raising the product's overall cost. With SRT, though, over 400 companies are members of the SRT Alliance. The group's mission is to support the protocol's free availability, accelerating innovation through collaborative development.

"It creates compatibility between hardware suppliers, streaming services or cloud services," noted Read. "With the companies that are part of the SRT Alliance, there is a going amount of support."

Courtesy of the ongoing collaboration, DataVideo can "decode SRT streams that are coming from somewhere else," explained Read. (With it being open source), it makes it very easy to use the standard."

Among the 400-plus companies that make up the alliance, some recent notable additions have included Microsoft in 2018, and Amazon Web Services last year, and Google Cloud last September. Referencing the alliance's makeup, Munoz said, "The more people that are on board, the better it will be for a product."

Among the products developed to work with SRT is Haivision's Connect platform. The easy-to-use live and simulated live streaming platform is ideal for houses of worship. With Connect, for example, the church website, and its mobile app. "It sends that one stream simultaneously, so there are bandwidth savings," said Alexander. Among its other features are "built-in analytics, to determine what devices they're using, how long they're watching and the geographic area they're viewing from."

With SRT's current capabilities, many of the alliance's companies are incorporating SRT within their gear. For example, the Panasonic AG-CX350 4K Handheld Camcorder or the JVC GY-HC500U 4K UHD Handheld Connected Camcorder are each equipped with protocols for livestreaming, including SRT.



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SRT's Reliability and Cost a Good Match for Churches

When a house of worship tech team staff is considering a particular technology, reliability is crucial.

"Because SRT is very efficient in streaming, it allows churches to stream more reliably over unreliable networks," noted Read.

By working with gear that consistently does its job, it also helps churches save on unnecessary equipment purchases, or associated streaming costs.

"Coming from a faith background, good stewardship is important," explained Alexander. "We want to be good stewards. Having a good internet connection and a good stream, that means savings, which can go toward other efforts."

Beyond its reliability, SRT offers extensive flexibility for a church. If a church is seeking to connect its congregation to events outside its four walls, the technology exists.

"SRT is generally for remote broadcast, where you can use a public IP address," noted Munoz. "If your church is out on a church event, it can use SRT to send the signal."

In situations where a remote broadcast is needed, it's not uncommon for churches to seek to incorporate interactivity between locations.

"If you want to have a back and forth between the two sites, you will have to have a low enough latency to have that conversation," explained Bergeron.

With the major strides made recently with livestreaming, many churches have found it in its use.

"SRT is pretty transparent," noted Read. "I think customers of houses of worship are getting used to cloud technology."

Aside from the periodic offsite needs, Bergeron also cited how SRT works extremely well for churches with multiple sites.

"If you're sending video streams between buildings or between campuses, SRT is a good way to get a connection back to your production," noted Bergeron. "If you're not doing your switching on the premises, you'll want to stream all your cameras to that platform." ■

Andres Caamano is a writer and editor with nearly 20 years' experience, including over four years bringing attention to the latest news in audio, video, and lighting technology for houses of worship.

