



AMPP Streaming

AMPP Streaming Protocol

Transporting high-quality video and audio signals for live production around the globe can be complicated. But, it doesn't have to be. Imagine going anywhere in the world with a device or a camera, plugging it into the Internet and then having it appear in as a source on a global router without any kind of hub, tunneling, setting IP ports and special addresses or any other specialized procedure to send the sources into the cloud.*¹ That's what happens when using AMPP[®] Streaming protocol.

Based on best current practices from the Internet Engineering Task Force (IETF), the AMPP Streaming protocol is a peer-to-peer streaming protocol that can automatically traverse firewalls. Using the protocol reduces deployment and operation costs by dramatically reducing the IT and DevOps overhead to establish connectivity and elimination of public facing streaming hubs.

AMPP Streaming provides reliable streaming on unreliable and insecure environments such as the public Internet through automatic retransmissions requests (ARQ) and mandatory DTLS-SRTP packet encryption.

Providing a much broader geographic reach for connectivity over wide area networks (WAN), as well as local area networks (LAN), you set the standards you need with flexible encode formats (HEVC, H.264), bit depths (8 or 10-bit YUV), resolution (from sub-SD to UHD), transfer characteristics (SDR, HDR) and bitrates (from 1 to 100 Mb/s). The protocol also supports full ancillary data (VANC) transport and multichannel audio (Opus or AAC with configurable bitrates and channel count).

Designed for live HDR and UHD content creation, AMPP Streaming supports tally, alpha channel metadata, as well as time-stamping to align multiple streams – all at a lower latency than other competing streaming protocols.

¹ For additional information on the complexity of transmitting video over WAN see [The Challenges of Sending IP Video Over a WAN](#), Stephane Billat, The Broadcast Bridge, November 27, 2020.

AMPP Streaming SDK

By implementing the AMPP Streaming SDK^{*2}, third parties can send and receive AMPP Streaming protocol flows directly from their edge devices to exchange with other local devices or across the AMPP ecosystem. Using native AMPP Streaming I/O eliminates conversion (with its associated complexities) and delays, and there is no need for relay servers to translate between networks, thereby increasing security and privacy.

Edge devices with AMPP Streaming I/O are immediately recognized by the system. AMPP operators can then simply drag and drop a source to route it to a destination anywhere in the world. For devices that are closer in proximity, the source and destination can both remain local. The flow will travel point to point with no need to pass via a cloud node.

As additional benefits to AMPP users, vendors of edge devices have the option to:

- Provide keyframes of their contributions, thus making it easier to identify sources on router panels
- Report device health metrics onto AMPP dashboards

AMPP Control SDK

To provide deeper integration with third-party devices, the AMPP Streaming SDK may be used in conjunction with the AMPP Control SDKs^{*3}. These SDKs provide a unified operator experience that eliminates running multiple applications at the same time. The AMPP Control Client SDK allows third-party control of virtually all aspects of the AMPP Live apps and infrastructure. The AMPP Control Server SDK allows third parties to expose functionality into AMPP.

2 Available in C++

3 Available in C++, C# and TypeScript

This product may be protected by one or more patents. For further information, please visit: www.grassvalley.com/patents

TB-PUB-3-1045A-EN

GRASS VALLEY, GV, GV AMPP and the Grass Valley Logo are trademarks or registered trademarks of Grass Valley USA, LLC, or its affiliated companies in the United States and other jurisdictions. Grass Valley products listed above are trademarks or registered trademarks of Grass Valley USA, LLC or its affiliated companies, and other parties may also have trademark rights in other terms used herein. Copyright © 2023 Grass Valley Canada. All rights reserved. Specifications subject to change without notice.

www.grassvalley.com Join the Conversation at GrassValleyLive on [Facebook](#), [Twitter](#), [YouTube](#) and Grass Valley on [LinkedIn](#)