

VSF May Meeting Series Webinar PROGRAM – Tuesday, May 18, 10:00 AM to 2:00 PM EST USA

Why RIST is Sneaky Great (20 min)

Wes Simpson - LearnIPvideo.com

To many observers, RIST is just another ARQ protocol. But in truth, it is not: RIST is the only protocol that is both open spec and open source. This presentation explains why these factors are so important, why RIST is continuing to evolve, and how it is changing the way that media streams are being delivered now and in the future.

libRIST 0.2.0 (30 min)

Sergio Ammirata - SipRadius

Introducing new features, review of overall feature set, and a demo. In looking at new features, we will focus on two. First, a new EAP-like security model which provides rigorous protection of multi-user streams with separate keys. Secondly, we'll look at new features designed for adverse network conditions, such as congestion control and management of RTP timestamps for jitter control. We'll also quickly review the overall features, and end with a demo using network emulation to delay, corrupt and drop packets, showing libRIST's performance in the worst imaginable conditions.

RIST Technology Demonstrations (60 min)

Ciro Noronha - Cobalt

Live transmission from an Android cell phone to a Cobalt Professional Decoder. The phone will be looking at an “interesting” scene. The SDI output of the phone will be combined with a real-time view of the RIST statistics in a Multiviewer, for display purposes.

Adi Rozenberg - VideoFlow

Load share between landline and mobile. The demo will demonstrate landline and mobile contribution from a remote site to a cloud location. The demo will show hot/hot delivery (SMPTE2022 - 7), load sharing and sliced delivery (main delivery over landline and supplement over mobile).

John Beer - QVidium

Live Zoom demo showing QVidium iPhone app transmitting live HEVC video with RIST to a QVidium HEVC decoder. Latency is demonstrated with a multi-viewer showing the reference SDI source alongside the RIST stream. The multi-viewer's output is used as the demo feed.

Sergio Ammirata - SipRadius

Ground to Cloud to Cloud to Ground (Raspberry PI to AWS to Azure to local VMWare VM) using librist for a totally custom, self-hosted workflow. H264 from edges and NDI from cloud to cloud.

Manjinder Sandhu - Evertz

RIST streaming to AWS with BRAVO live production in the cloud. We show three different streams from live sport event and then encode and transport with RIST (using Evertz 5782XPS platform) to BRAVO in AWS cloud for live production.

Mikael Wanggren - Net Insight

Show a demo using a couple of Nimbra 400 appliances with an encrypted RIST tunnel between and some Simple Profile streams (probably in reduced mode) through that tunnel, and also at the same time general purpose IP traffic transported through the tunnel and terminated via a TUN interface on each side. The general purpose traffic is bandwidth limited (user configured) and firewalled in and out of the tunnel (user configurable).

Break (10 min)

How RIST Encryption and Authentication meets today's Cyber Security Needs (30 min)

Ciro Noronha - Cobalt and Adi Rozenberg- VideoFlow

In today's world, Cyber Security needs to be a primary requirement of any organization, including traditional broadcasters who use the Internet for content contribution. This talk will explore the security layers recommended by EBU R 143 v2 specifically for broadcast operations, and discuss how they should be applied. We will discuss how over broadcast delivery should be protected against cyber security attacks, using the methods built into TR-06-2 RIST Main Profile and the upcoming TR-06-3 RIST Advanced Profile. We will touch upon key exchanges, client/server authentication, hardening of PSK delivery, and more.

RIST EAP Authentication (30 min)

Sergio Ammirata - SipRadius

Taking inspiration from SRP/EAP. RIST EAP provides username/password authentication and optional key exchange for UDP. In particular, it provides for the management of repeated authentication attempts given the lesser dependability of UDP transport. We also show how we implemented the spec on libRIST, using an htpasswd type utility for key creation and hash storage.

RIST for Streaming, a Potential Application (15 min)

Kieran Kunhya – RIST Forum

RIST has a number of benefits over the existing status quo for streaming. In particular, RIST provides benefits such as bonding, failover and stream duplication for traditional live broadcasting as well as for modern streaming such as Twitch. These are major technological benefits compared to existing RTMP based workflows that enable streamers to deliver higher quality and more reliable experiences.

Case Studies (30 min)

Paul Atwell - Media Transport Solutions

Hub-and-Spoke distribution allows station groups and other service providers to reduce overhead, improve quality and increase operational efficiency. These systems are evolving to dominate the STL (Studio To Transmitter) market. This case study shows how RIST enables hybrid environments, where sophisticated central dispatch systems and simple remote appliances can be connected using public Internet bandwidth to deliver high-reliability signals for 24x7 and occasional use program delivery.

Don Cardone – Denz.tv

RIST technology is enabling a major US broadcaster to provide live remote access to television production sites where health and safety rules limit the number of crew members on site. The on-site system consists of a 4 port SDI encoder which feeds h264/opus MPEGTS streams using RIST to a WebRTC media server on their AWS cloud. Today, dozens of producers, directors and other people involved in the production process are able to view the streams using their web browser with only 500ms glass to glass latency. This allows them to make decisions in real time during the shoot.

RIST Advanced Profile: What the Future Will Bring (15min)

Rick Ackermans – CBS

The RIST Activity Group within the VSF is hard at work developing the next set of RIST capabilities that will further enhance the variety of applications. This presentation will address the progress to date and the new features and functions that are in the pipeline, including full VPN support, a rendezvous point for traversing firewalls and much more.