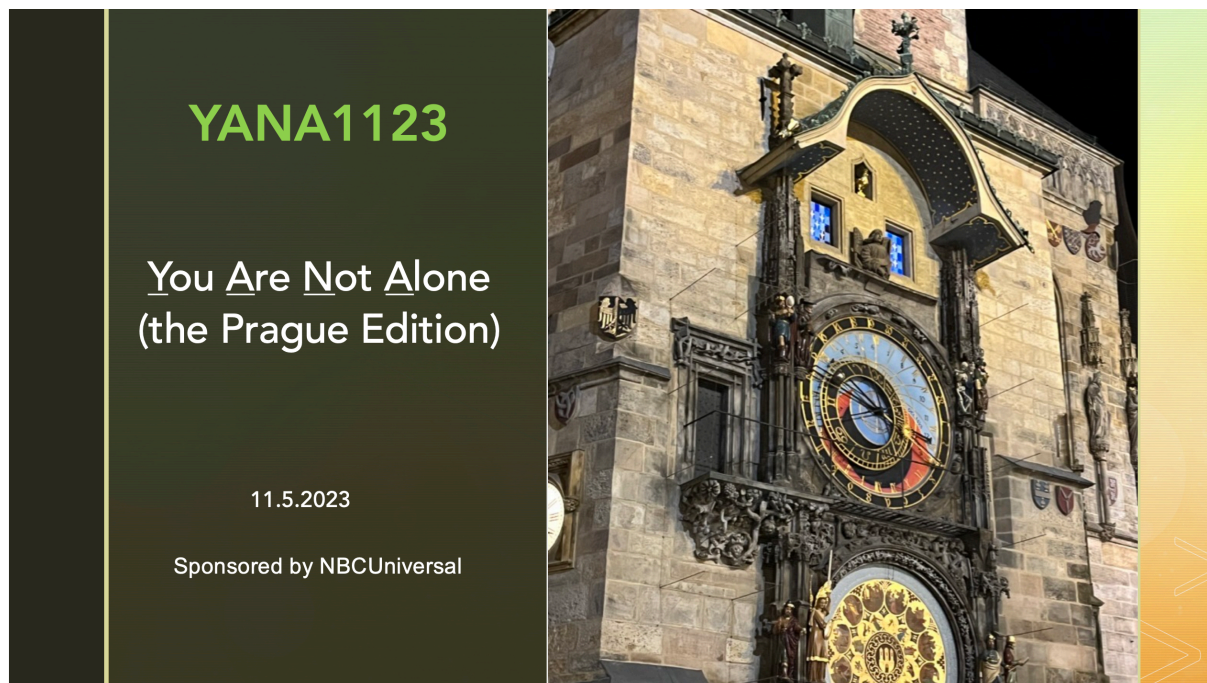


You are Not Alone – YANA 1123

November 5, 2023.



Context

It's tail end of 2023 and streaming video is a global success with billions of global users relying on the Internet as a trusted and daily path to amateur, professional, and a rising tide of semi-professional, individually produced content. They are using their phones, tablets, computers and TVs connected through mobile, WiFi, and wired Internet connections. If it has a screen and access to the Internet, people are using it to spend hours each day watching streamed content.

That daily success hides the continued innovation and improvement needed to not only meet the ever-growing needs of creators and viewers but also new content markets. In 2023 live sports streaming is increasingly a great additional option to traditional delivery like over the air broadcasting, but it brings with it the need for even lower latency to make it competitive.

Internet and Streaming technology organizations such as the [Streaming Video Technology Alliance \(SVTA\)](#) and the [Internet Engineering Task Force \(IETF\)](#) are the venues which produce the technical standards that define the technologies behind Streaming. The people involved in the work of those venues have common cause in their engineering skills, passion, and innovative spirit applied to the needs of streaming.

In 2018, the first YANA (YANA0318) brought together a group of people who were working on streaming in a variety of different companies, venues and places with the aim of building connections between the people and also their ideas. The aim was to foster and help develop the many different streaming video efforts they were either currently working or looking to build a new community to work on together.

In November 2023, between the back-to-back SVTA Q4 and IETF 118 meetings in Prague, the second YANA (YANA1123) was organized with the same purpose – connect the people working on streaming video and give them the opportunity to talk openly with one another about both their current work and about their ideas of new work to come.

YANA1123 was a small, relaxed format event which combined some limited presentations with ample face to face personal connection time. Unlike larger format events, the goal of YANA1123 was not to fill a room, a hall, or a ballroom with people to sit and passively listen to speakers. Large events are a great way to share with many people at once, but they can be challenging places to build connections around the people behind the ideas.

Like the first YANA in 2018, the 2023 Prague meeting was on a deliberately intimate scale. Twenty-two industry network, streaming, and content experts came together for a half day workshop, not to just listen but to talk, kick around new ideas, get to hear what others were thinking, and hopefully build some new collaborations that will trigger new streaming video projects in the SVTA, IETF and beyond.

Participants represented diverse corners of the IP video industry:

- Content developers
- Content providers
- Digital & Broadcast Network operators
- Equipment manufacturers
- Researchers

While it's not possible to capture the impact of the personal interactions of YANA1123, or the ideas the thoughts that freely flowed in the room, this report includes the limited presentations that were part of YANA1123 that greatly helped stir the creative juices of the attendees and fired up many discussions that will continue to improve Streaming until the next YANA.

Attendees were very clear that we shouldn't wait another 5 years for the next YANA workshop. YANA should return well before 2028!

YANA1123 Topics

Can networks deliver livestream events at scale?

Lenny Giuliano (Juniper) presented the work on TreeDN, using multicast to build “Tree CDNs”. By using a combination of native multicast and overlays, the approach allows for incremental deployment. The premise is that large-bandwidth, broad-reach transmissions (live streamed AR, major software updates) would benefit from the approach.

(How) can we better manage credentials in streaming?

Guillaume Bichot (Broadpeak TV) described the challenges in managing credentials in a CDN environment. Guillaume presented two possible approaches (ACME-based, and delegated credentials), prompting robust discussion in the room.

Is QUIC really quick?

Ravid Hadar presented results from the SVTA’s Network and Transport WG study of QUIC performance. Is QUIC really quick? Unsurprisingly, the answer is “it depends”. The results from the testing were from early days in the study. The presentation covered many of the measurement activity’s parameters as HTTP3 was tested over QUIC, including the different access network types that were used (lab network, public fixed network, radio network (4G/LTE)).

The room discussed the results and provided some feedback for possible refinements for next steps in the study.

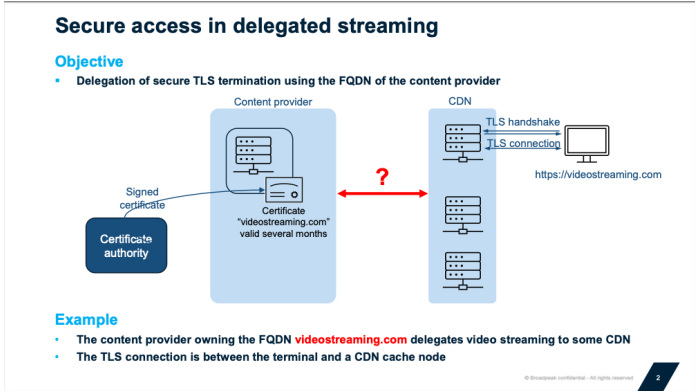
Where from here?

Will Law (Akamai) presented a number of discussion-stimulating ideas of specific work that could be undertaken now, to address known and expected challenges in the media delivery industry. So robust was the discussion that the room only got to addressing two of the areas: Whether there’s the need for a separate Content Steering Specification; whether CMCD should be expanded to be a generic QoE reporting mechanism?



[TreeDN: Tree-based CDNs for Live Streaming to Mass Audiences](#)

Lenny Giuliano, Juniper



[Secure Access in Delegated Streaming](#)

Christoph Neumann
Guillaume Bichot
Broadpeak TV

Review

- Apples to Apples Transport Comparison
 - Establish MVP baselines for each protocol
 - RFC compliant reference implementations
 - Loss v/s Latency Congestion Control Methodology
- Edge Requirements at Scale
 - Impact of load on Edge Cache Infrastructure
 - Client Architecture, Scheduling, Paging
- Advanced Feature Test
 - Performance and Workflows
 - Common -> HPACK/QPACK
 - Unique -> HOL Blocking/Chunk Transfer

[SVTA Networking and Transport WG QUIC PoC](#)

Ravid Hadar

YANA23
A curious mixture of stuff we should work on and questions we should answer.

Will Law
Chief Architect
Akamai

Prague, November 2023

[YANA - A curious mixture of stuff we should work on and questions we should answer.](#)

Will Law, Akamai