

Virtual IETF meetings with WebRTC

Lorenzo Miniero
lorenzo@meetecho.com

IETF 109 – MOPS WG
November 17th

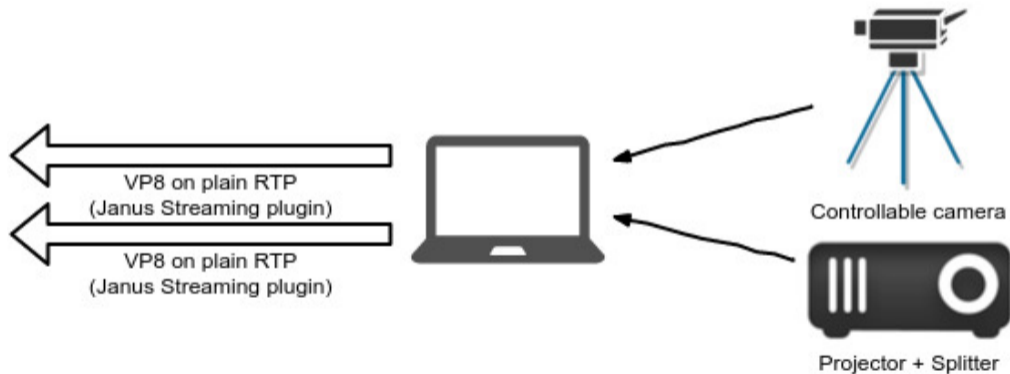


How we handled IETF meetings before



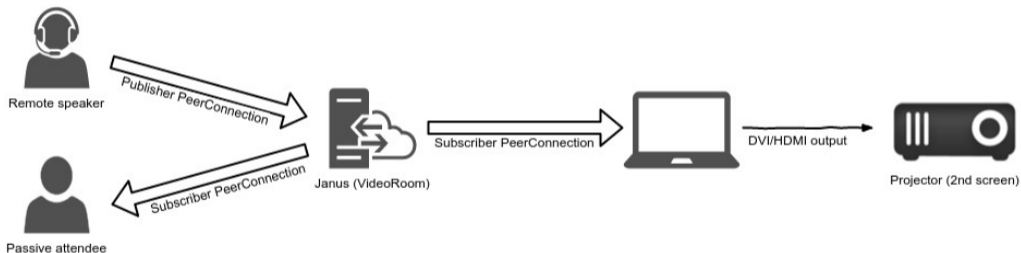


How we handled IETF meetings before





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Serving IETF at scale with Janus



Turning live events to virtual with Janus

Lorenzo Miniero

 @elminiero

CommCon 2020
July, from my couch at home

<https://commcon.xyz/session/turning-live-events-to-virtual-with-janus>



Leveraging Janus for all our WebRTC needs



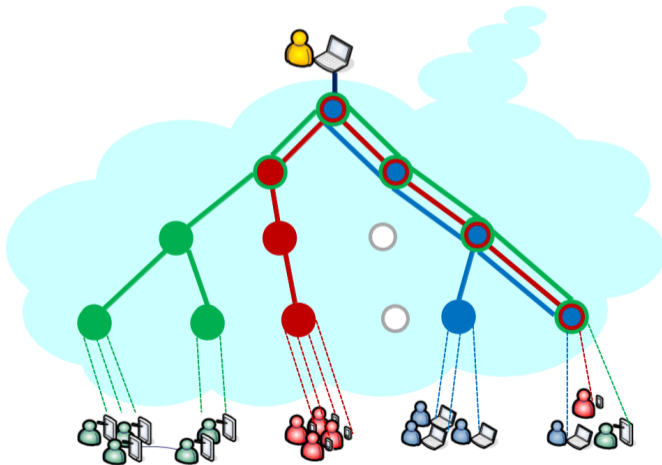
Janus

General purpose, open source WebRTC server

- <https://github.com/meetecho/janus-gateway>
- Demos and documentation: <https://janus.conf.meetecho.com>
- Community: <https://groups.google.com/forum/#!forum/meetecho-janus>

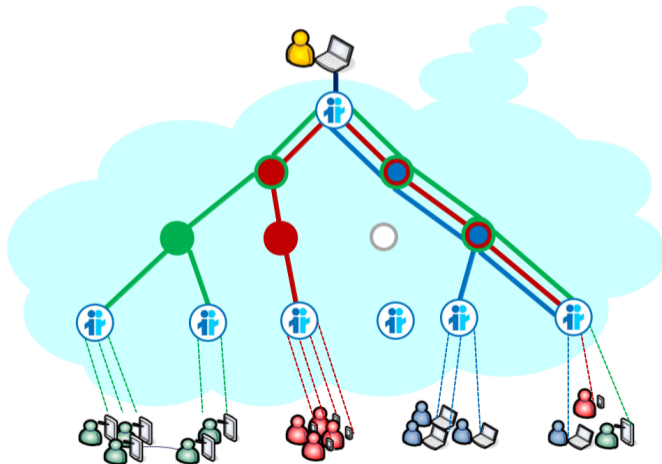


Large scale broadcasting overview (SOLEIL)





Large scale broadcasting overview (SOLEIL)





How to handle audio? The podcast example



- Not strictly speaking a Virtual event, but close enough
 - One or more people talking, and a (wide?) audience
 - During Covid, many podcasts done remotely (e.g., "Conan needs a friend")
- WebRTC a good fit for the conversation part
 - Easy to have a chat just using your browser
 - Broadcasting could be done with WebRTC too!
- May make sense to have the conversation mixed, though
 - If broadcasting with WebRTC, the more the speakers, the more the bandwidth
 - If NOT broadcasting with WebRTC, you need a mix to transcode anyway
 - More control on additional media (e.g., pre-recorded content)
- How to optimize mixing with the ability to bring people in in a scalable way?



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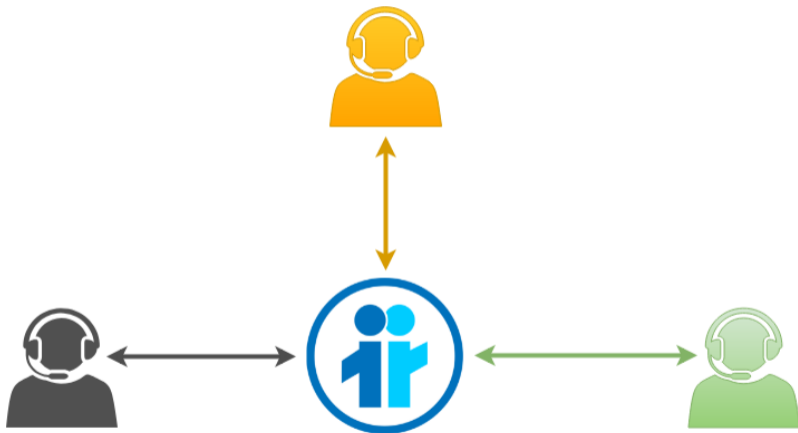
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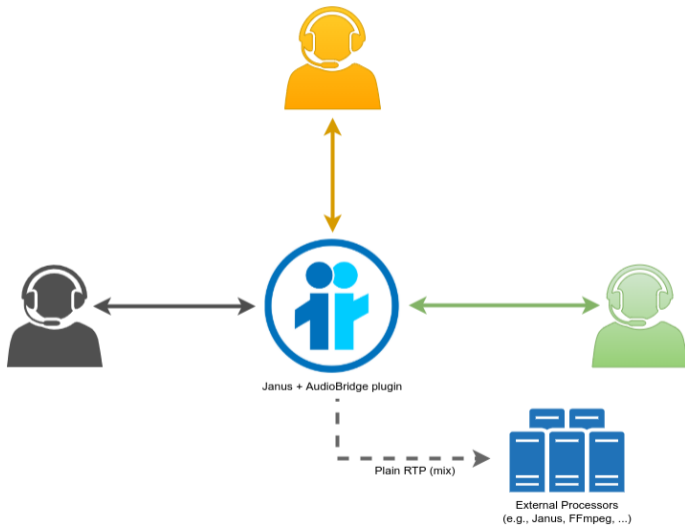
AudioBridge + RTP forwarding



Janus + AudioBridge plugin

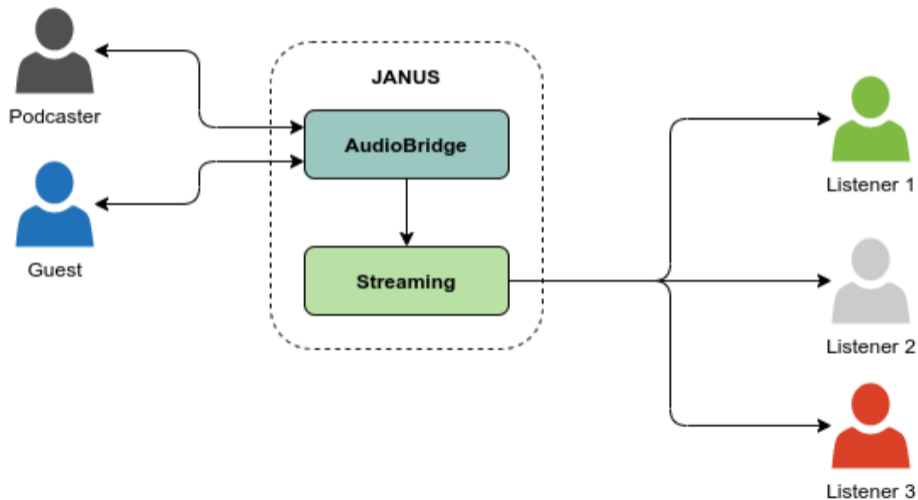


AudioBridge + RTP forwarding



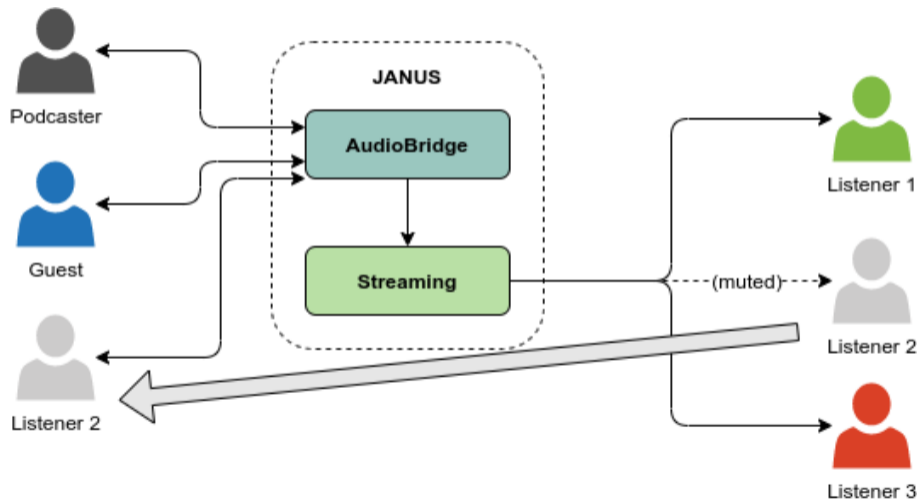


AudioBridge + RTP forwarding + Streaming



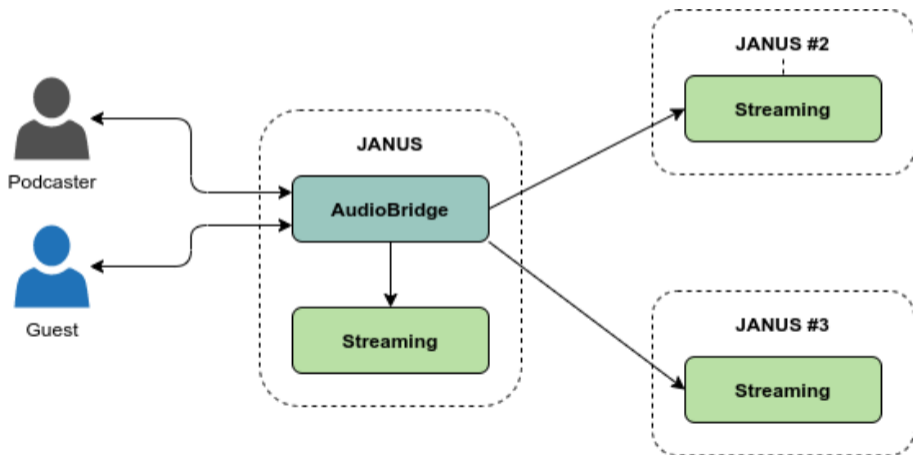


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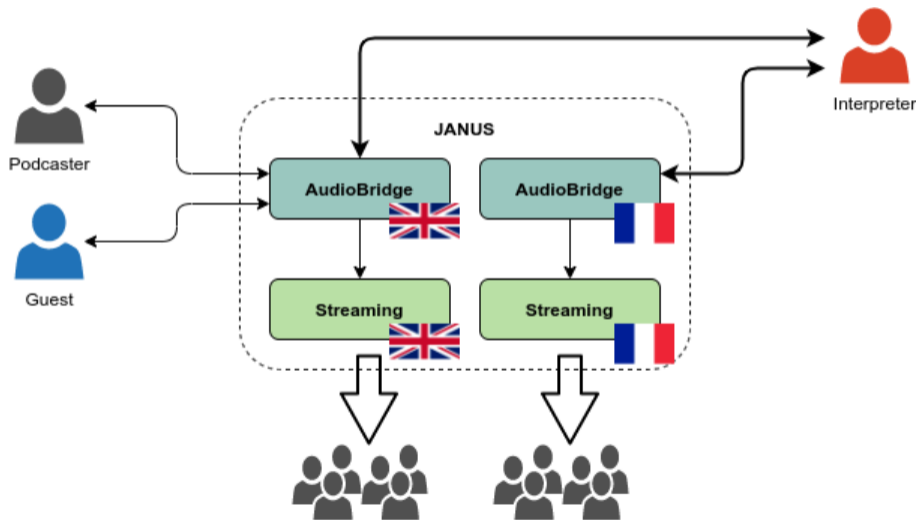


AudioBridge + RTP forwarding + Streaming





AudioBridge + RTP forwarding + Streaming





Adding video: the “webinar” scenario



- Mostly a one-to-many scenario
 - A single presenter (maybe more than one video, e.g., screensharing)
 - Multiple passive viewers
- Can sometimes be “conversational” like a podcast, though
 - e.g., Q&A session, interview, or panel discussion
- As before, WebRTC definitely a good fit for publishing
 - Browsers support screensharing natively
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- Video(s) may or may not be mixed
 - In both cases, still needs to be distributed to all participants



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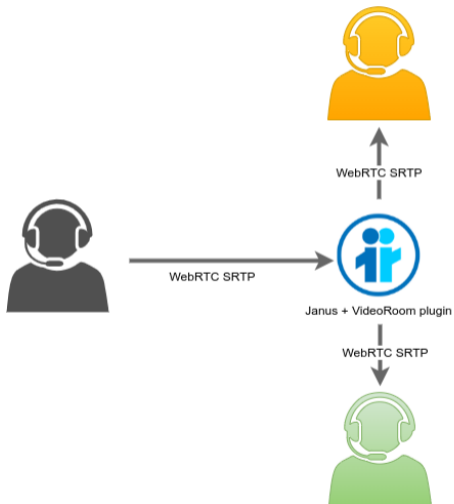
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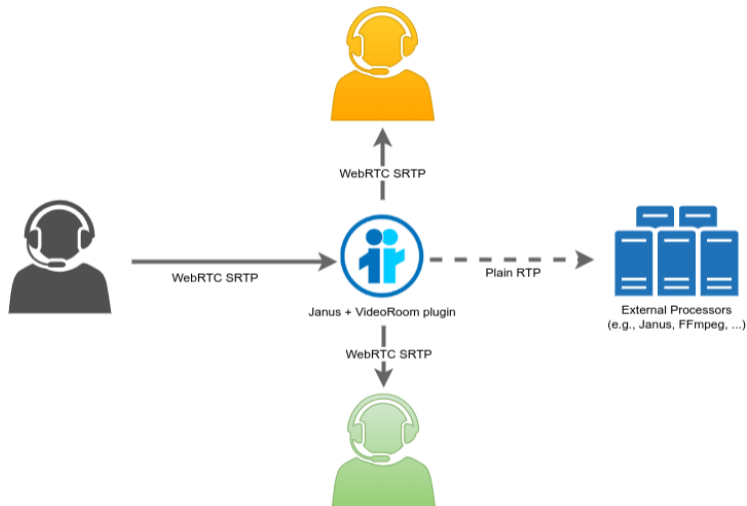


VideoRoom + RTP Forwarding



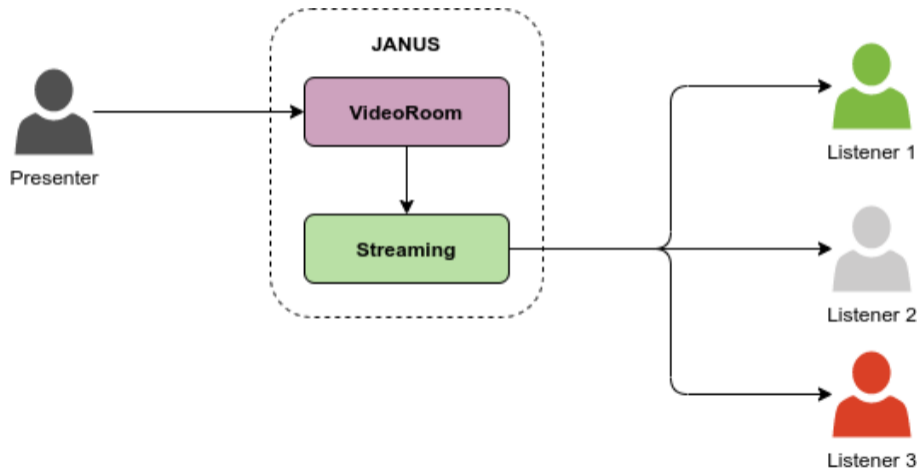


VideoRoom + RTP Forwarding



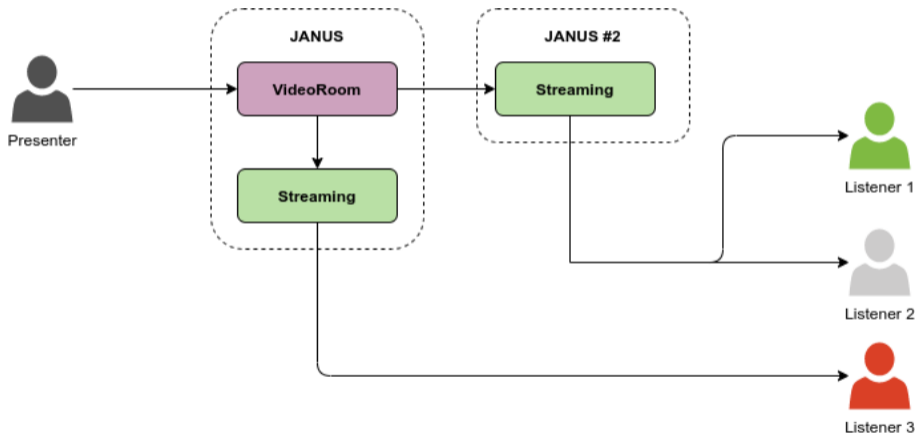


VideoRoom + RTP forwarding + Streaming



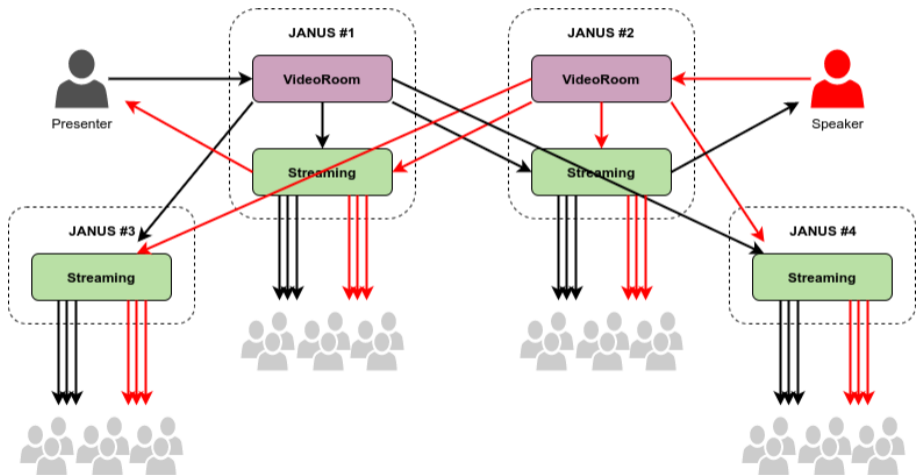


VideoRoom + RTP forwarding + Streaming



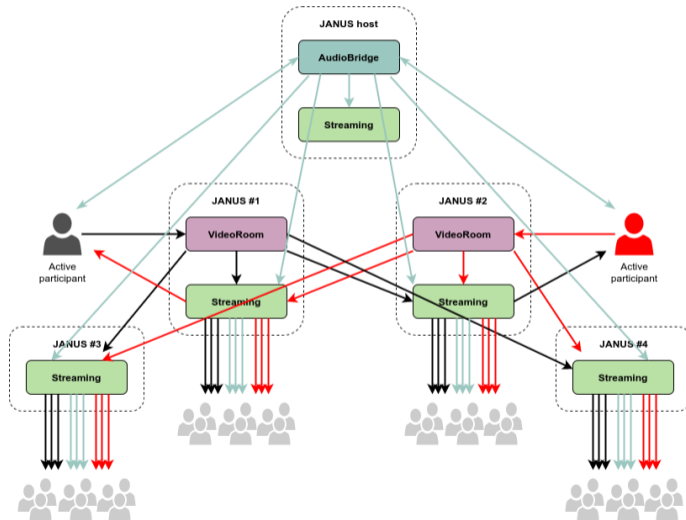


VideoRoom + RTP forwarding + Streaming






Bringing it all together for Virtual Events










The end result: IETF 108 in “Madrid”

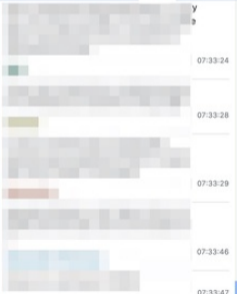


 **108 shmoo**

 **Jason Livingood**
PARTICIPANT



   102



07:33:24

07:33:28

07:33:29

07:33:46


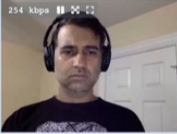

07:33:47







Write message...

slides:108-shmoo-meeting-planning-01 9 / 23

Q – Meeting Structure?

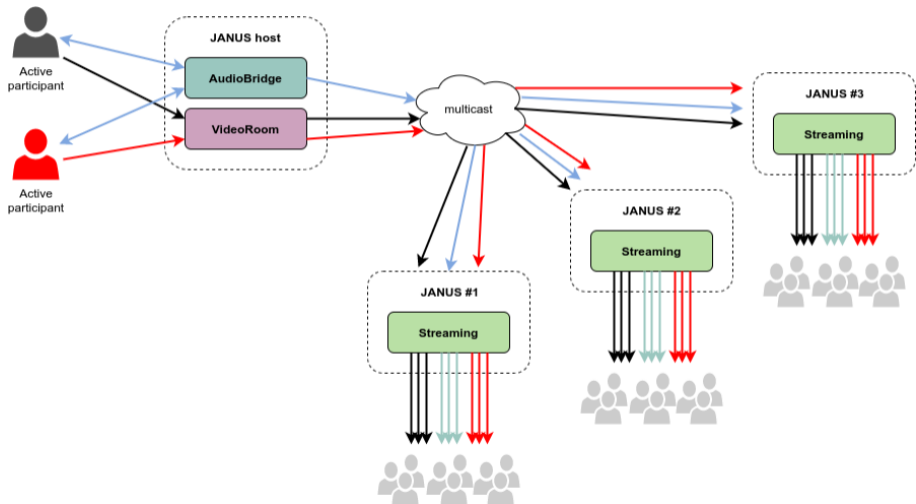
- Is the “meeting” still structured over a week?
 - Or does it spread over a longer period of time? Multiple weeks?
- Do the meetings still exist within certain hours? Or do they meet over the course of 24 hours?
- Do we have multiple sessions happening at the same time?
- How long do we meet each day? What does the schedule look like for the day?
- What kind of breaks are planned in the day?
 - Balance between people wanting to get all the remote meetings “done”, and having time to socialize (if social tools are available)

 260 kbps
 254 kbps
 251 kbps

 Hosted by  **ERICSSON** audio in: 18 kbps  recording   



From IETF 108 to 109: multicast!





Supporting pre-recorded talks for ANRW




DNS and BGP

ANRW20 - Welcome and Introduction.pdf (page 6 of 10)

Some notes on Meetecho

Videos are pre-recorded, so we will take questions at the end of each presentation!

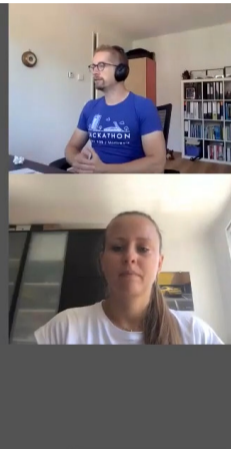
To ask a question, enter the queue (mic+hand logo), then the chairs will call you out and enable your audio!



Screenshot of media controls when sending audio.

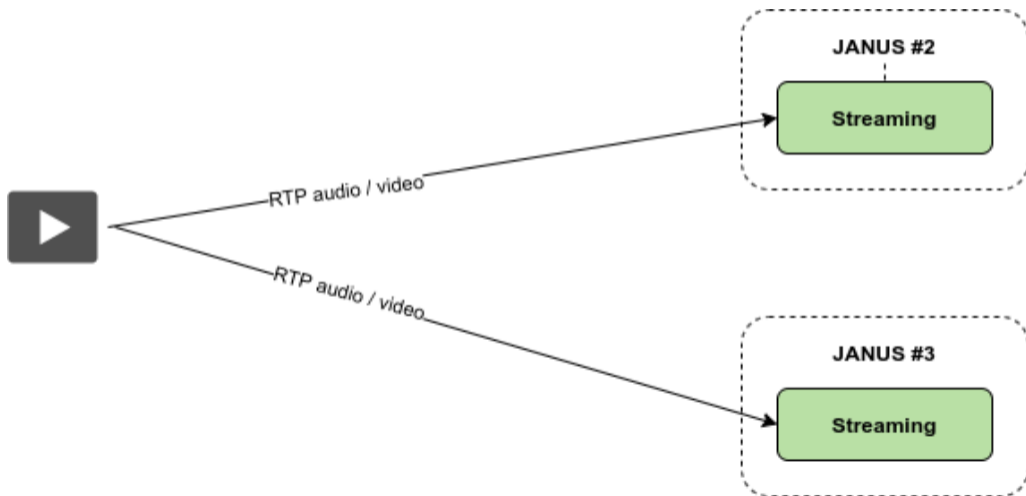
More information on Meetecho usage can be found here:
<https://www.ietf.org/media/documents/Documentation-Meetecho-IETF.pdf>

5



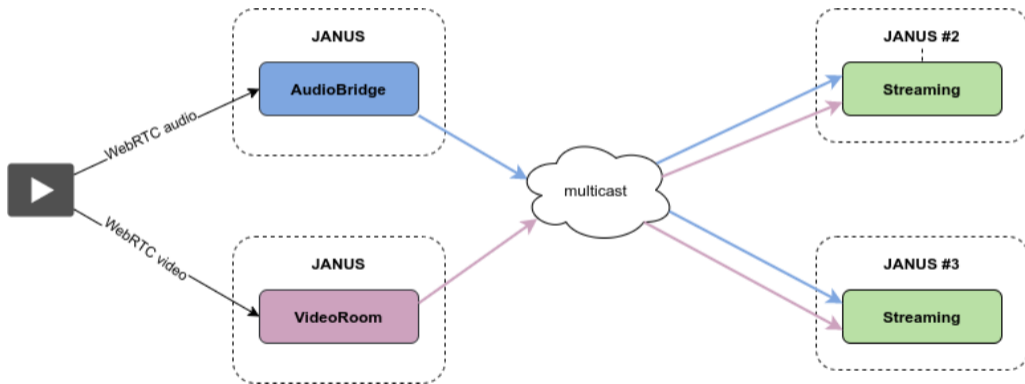


How that worked during IETF 108



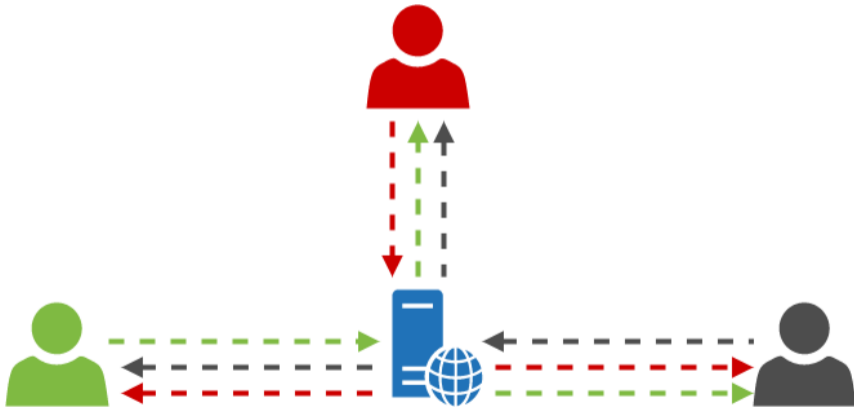


How it will work at IETF 109



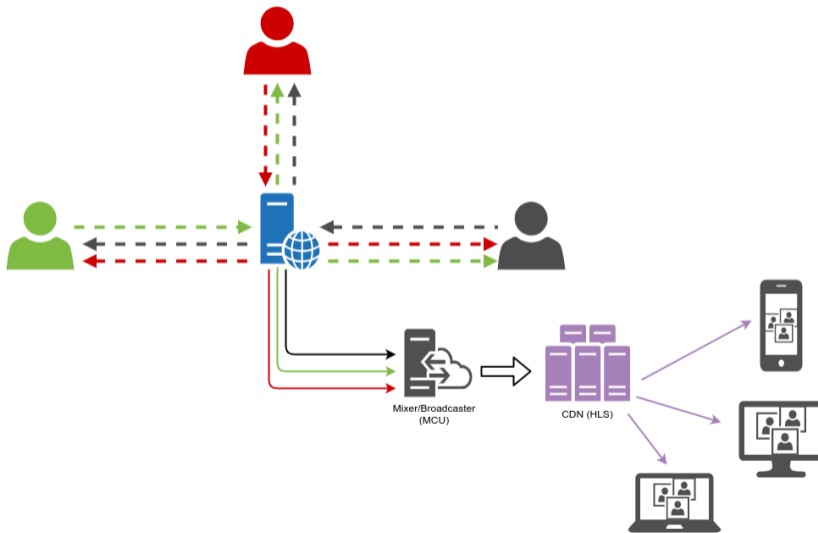


Broadcasting WGs to YouTube Live





Broadcasting WGs to YouTube Live





A practical example: TDD @ IETF 108



Activities Google Chrome Fri 00:50

Board M x Path Cor x PCE Syn x IETF 108 x slides-10 x draft-iet x IETF 108 x Agenda x https x IETF 108 x

gce.conf.meetecho.com/conference/?group=tdd

Apps To Read Time Zone Co... SAA Yang INTC IETF tools YANG Data Mo...

108 tdd

Dhruv Dhody
PARTICIPANT

114

AI MORTON
(number of "retries") 00:48:36

Pete Resnick
And we've been asking during the talk anyway. 00:49:30

Jake Holland
@Geoff: can you expand on "shouldn't run EDNS0"? or client subnet, rather 00:49:49

Peter van Dijk
not a question but it's what I have: this was very good, thank you! It might not be a deep dive for me or most people I talked to, but it was very good and this recording will be a valuable educational tool. 00:50:10

Write message...

263 kbps

JOÃO DAMAS

158 kbps

241 kbps

252 kbps

Meetecho Hosted by ERICSSON

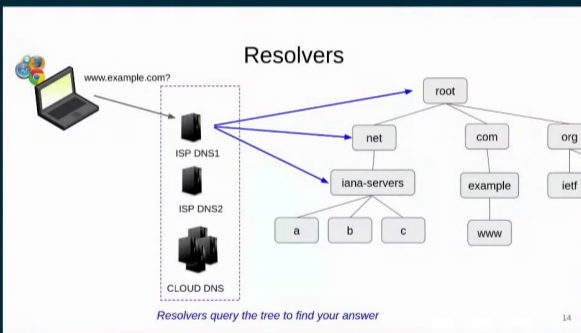
audio in: 17 kbps recording



A practical example: TDD @ IETF 108



Technology Deep Dive: DNS



<https://www.youtube.com/watch?v=DV0q9s94RL8>



A practical example: TDD @ IETF 108



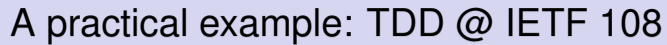
Technology Deep Dive: DNS

Come back for part 2!
Slide Subtitle

And in the meantime, please fill in the survey at

<https://www.surveymonkey.com/r/108TDD>

<https://www.youtube.com/watch?v=DV0q9s94RL8>



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Thanks! Questions? Comments?

