

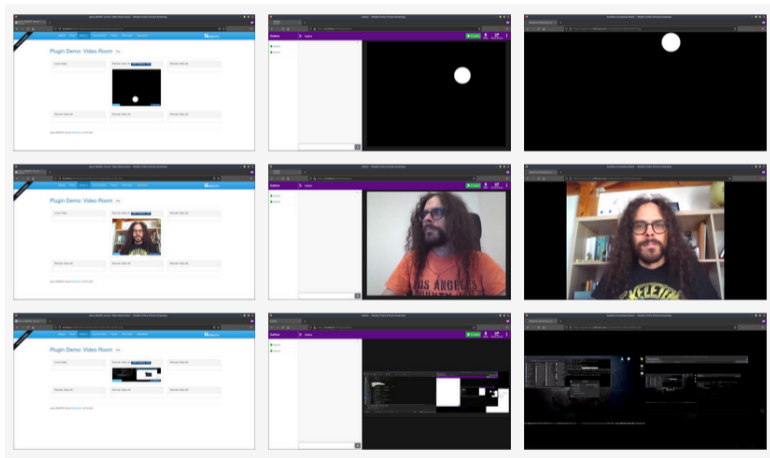
WHIP Interoperability Tests

Lorenzo Miniero, on behalf of the group

IETF 112 Hackathon
November 5th, 2021

- WISH WG (WebRTC Ingest Signaling over HTTPS)
 - <https://datatracker.ietf.org/wg/wish/about/>
- WebRTC-HTTP ingestion protocol (WHIP)
 - <https://www.ietf.org/archive/id/draft-ietf-wish-whip-01.html>
- Interop tests important for different reasons
 - WHIP protocol itself, of course
 - Testing WebRTC from different stacks used as well

























First interop round done a few weeks ago



<https://www.meetecho.com/blog/whip-janus-part-ii/>

- Lorenzo Miniero – Simple WHIP Server (Janus)
 - <https://github.com/lminiero/simple-whip-server>
- Juliusz Chroboczek – Galene
 - <https://github.com/jech/galene/tree/whip>
- Sergio Garcia Murillo – Millicast integration
 - <https://millicast.com/>
- Cameron Elliott – Deadsfu
 - <https://github.com/x186k/deadsfu>

- Lorenzo Miniero – Simple WHIP Client (GStreamer)
 - <https://github.com/lminiero/simple-whip-client>
- Sergio Garcia Murillo – whip-js (JavaScript)
 - <https://github.com/medooze/whip-js/>
- Gustavo Garcia – whip-go (Go)
 - <https://github.com/ggarber/whip-go/>
- Tim Panton – whipi (Java / Raspberry Pi)
 - <https://github.com/pipe/whipi>
- Alberto Gonzalez Trastoy – free-whip (Python)
 - <https://github.com/agonza1/free-whip/>
- Cameron Elliott – whip-whap-js (JavaScript)
 - <https://github.com/x186k/whip-whap-js>

	Simple WHIP Server	Galene	Millicast	deadsfu
Simple WHIP Client				
whip-js				
whip-go				
whipi				
free-whip				
whip-whap-js				

- deadsfu crashed Simple WHIP Client
 - Cause was missing `Location` header in response
 - <https://github.com/lminiero/simple-whip-client/commit/1c23089758f39ee50135b35c22b856b96f26cc79>
- Video not working in Simple WHIP Client → deadsfu
 - Cause was missing support for VP8 in deadfu (only H.264 supported)
- Audio not working in whipi → Millicast
 - Different cnames in whipi's offer was the cause (fixed)
- ICE failing between whipi and Galene/deadsfu
 - Apparently an ICE interop problem between whipi's stack and Pion

- whip-js, whip-go and free-whip can't connect to deadsfu
 - For whip-js, cause is missing CORS support in deadsfu (web client)
 - whip-go and free-whip hardcoded to negotiate VP8 (deadsfu only accepts H.264)
- free-whip wouldn't connect to Simple WHIP Server
 - Some assumptions for free-whip (docker + TURN server, WHIP endpoint path)
 - <https://github.com/agonza1/free-whip/issues/1>
 - <https://github.com/agonza1/free-whip/pull/2> (fixed)
- free-whip can't connect to Galene
 - Self-signed certificate rejected
- free-whip can't connect to Millicast
 - Apparently some issues trying to resolve the WHIP Resource url

- whip-whap-js wouldn't connect to Simple WHIP Server
 - Wrong HTTP code expected (202 instead of 201)
 - <https://github.com/x186k/whip-whap-js/issues/1>
 - <https://github.com/x186k/whip-whap-js/pull/2> (fixed)
- whip-whap-js can't connect to Galene
 - Looks like CORS issues (web client)
- whip-whap-js can't connect to Millicast
 - Missing support for Bearer Token (required by Millicast)

- Mostly focused on the “basics” so far
 - Publishing WebRTC, trickling candidates
 - Ensuring audio and video “work” across different implementations
- Next tests should look at other functionality
 - Support of Bearer tokens
 - Usage of **Location** to address WHIP resource
 - Automatic STUN/TURN configuration via **Link** headers
 - ICE restarts and related race conditions
 - Session cleanup (HTTP DELETE vs. ICE/DTLS detection)

- WHIP Interop Testing Team
 - Sergio Garcia Murillo (WHIP champion)
 - Lorenzo Miniero
 - Tim Panton
 - Dan Jenkins
 - Cameron Elliott
 - Alberto Gonzalez Trastoy