

# WISH@IETF112

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Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- [BCP 9](#) (Internet Standards Process)
- [BCP 25](#) (Working Group processes)
- [BCP 25](#) (Anti-Harassment Procedures)
- [BCP 54](#) (Code of Conduct)
- [BCP 78](#) (Copyright)
- [BCP 79](#) (Patents, Participation)
- <https://www.ietf.org/privacy-policy/> (Privacy Policy)

# IETF Code of Conduct Guidelines

RFC 7154

1. Treat colleagues with respect
2. Speak slowly and limit the use of slang
3. Dispute ideas by using reasoned argument
4. Use best engineering judgment
5. Find the best solution for the whole Internet
6. Contribute to the ongoing work of the group and the IETF

Please keep these in mind both at the mic and on Jabber/Meetecho IM

# WISH@IETF112

Friday July 30th, Session I  
Chairs: Nils Ohlmeier, Sean Turner

# Agenda

## Administrivia (5 mn)

- Virtual Meeting Tips
- Note Well
- Virtual Bluesheet (automatic)
- Note Taker
- Jabber Scribe
- Status (just chartered)

## wish-whip-01 (20 mn)

- Sergio M.

## hackathon results (10 mn)

- Lorenzo M.

## Implementation Experience (20min)

- Lorenzo M.
- Juilisz C.

## Discussion (5 mn)

# wish-whip-01

# Changes from wish-whip-00 to wish-whip-01

## wish-whip-00

- murillo-whip-02 adopted version

## wish-whip-01

- Do not require WHIP server to be publicly accessible but return all ICE candidates on SDP.
- Clarify PATCH responses for trickle ICE and ICE restart.
  - ICE trickle requests returns a 204 No content without body.
  - ICE restarts returns a 200 OK with an sdp fragment with new ICE ufrag/pwd.
  - Remove 405 responses from server, all WHIP servers must understand PATCH requests.
  - Out of order request handling.
- Clarifications on authentication requirements and token generation and usage.
- TURN/STUN server configuration via Link Headers.
- Do not allow redirections on the resource URL.

# Trickle ICE and ICE restart

- SDP fragment could be enhanced, should we extend the ABNF to use session level attributes instead?

```
a=ice-ufrag:EsAw
a=ice-pwd:P2uYro0UCOQ4zxjKXaWCBuil
m=audio RTP/AVP 0
a=mid:0
a=candidate:1387637174 1 udp 2122260223 192.0.2.1 61764 typ host generation 0 ufrag EsAw network-id 1
a=candidate:3471623853 1 udp 2122194687 198.51.100.1 61765 typ host generation 0 ufrag EsAw network-id 2
a=candidate:473322822 1 tcp 1518280447 192.0.2.1 9 typ host tcptype active generation 0 ufrag EsAw network-id 1
a=candidate:2154773085 1 tcp 1518214911 198.51.100.2 9 typ host tcptype active generation 0 ufrag EsAw network-id 2
a=end-of-candidates
```

```
a=ice-ufrag:EsAw
a=ice-pwd:P2uYro0UCOQ4zxjKXaWCBuil
a=candidate:1387637174 1 udp 2122260223 192.0.2.1 61764 typ host generation 0 ufrag EsAw network-id 1
a=candidate:3471623853 1 udp 2122194687 198.51.100.1 61765 typ host generation 0 ufrag EsAw network-id 2
a=candidate:473322822 1 tcp 1518280447 192.0.2.1 9 typ host tcptype active generation 0 ufrag EsAw network-id 1
a=candidate:2154773085 1 tcp 1518214911 198.51.100.2 9 typ host tcptype active generation 0 ufrag EsAw network-id 2
a=end-of-candidates
```

- One PATCH request for trickle ICE and ICE restart, two different responses.
- PATCH request may be received out of order, how do we handle that?
  - ICE candidate, ICE restart reversed order: ICE candidate with old ufrag should be discarded
  - ICE restart, ICE candidate reversed order: Should ICE candidate trigger ICE restart anyway?
- Solutions: add sequence number on PATCH requests, mandate servers to store previous ufrags or just ignore as it seems a rare corner case.



# TURN/STUN configuration

- **TURN/STUN server configuration returned as Link headers:**

```
Link: stun:stun.example.net;  
Link: turn:turn.example.net?transport=udp; rel="ice-server"; username="user"; credential: "myPassword"; credential-type: "password";  
Link: turn:turn.example.net?transport=tcp; rel="ice-server"; username="user"; credential: "myPassword"; credential-type: "password";  
Link: turns:turn.example.net?transport=tcp; rel="ice-server"; username="user"; credential: "myPassword"; credential-type: "password";
```

- **Currently allowed on authenticated OPTIONS and POST responses, however, if using an external TURN server provider this could cause duplication of API requests to retrieve STUN/TURN config.**
- **Browsers and libnice supports updating turn server config after creating the local offer, gstreamer patch in the works.**
- **Proposal: remove turn server credentials on OPTIONS.**

# Hackathon

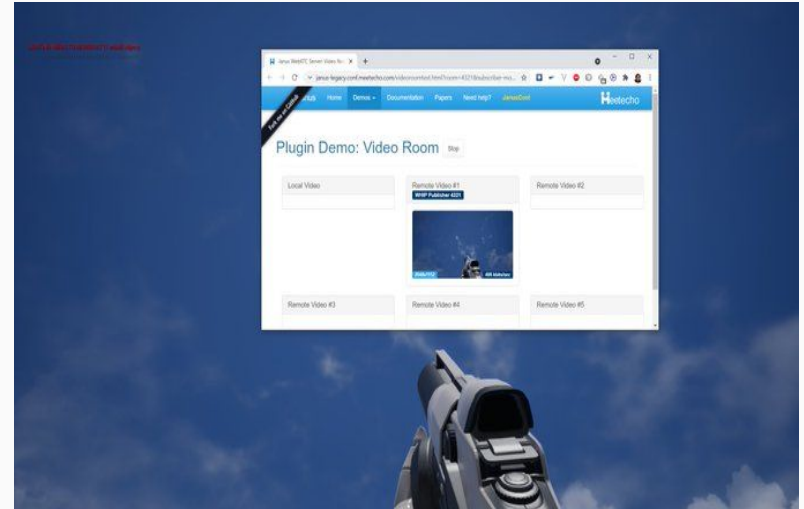
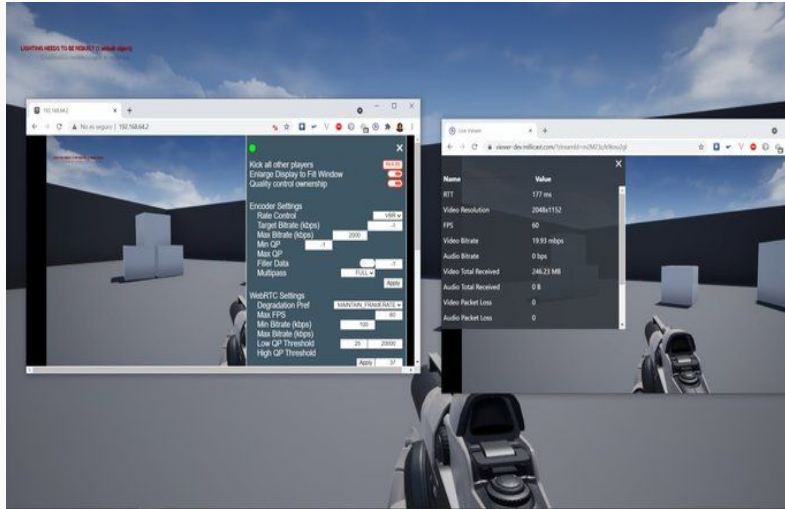
- Hackathon Interoperability results (by Lorenzo Miniero)  
<https://janus-legacy.conf.meetecho.com/ietf112-hackathon-whip.pdf>
- Some other issues
  - Relative vs absolute resource URLs.
  - SDP offer with different cnames and/or streamids on audio and video lines, should we enforce it?

One last thing..



# Unreal Engine Pixel Streaming plugin support for WHIP

<https://github.com/EpicGames/UnrealEngine/pull/8607>



(\* You would need to sign up to be able to see the Epic's private repo

<https://www.unrealengine.com/en-US/ue4-on-github>

# Discussion