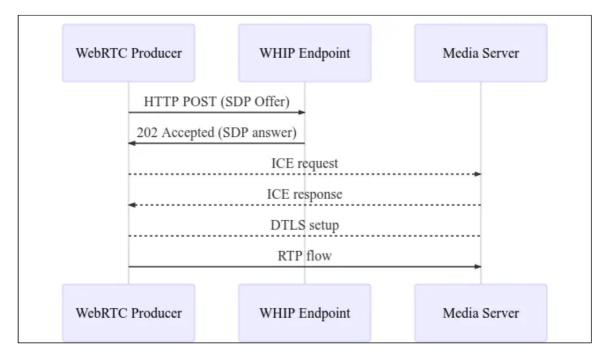
# WebRTC publishing via WHIP

## Overview

Since build 5.2.1816 WebRTC stream may be published via WebRTC-HTTP ingestion protocol (WHIP). The protocol proposes a standardized SDP exchange to establish a WebRTC connection using HTTP POST request



Today, WHIP is supported by OBS Studio 30 and later, but on Windows operating system only. WHIP stream publishing is almost the same as WebRTC publishing from browser except SDP exchange.

### Codecs supported

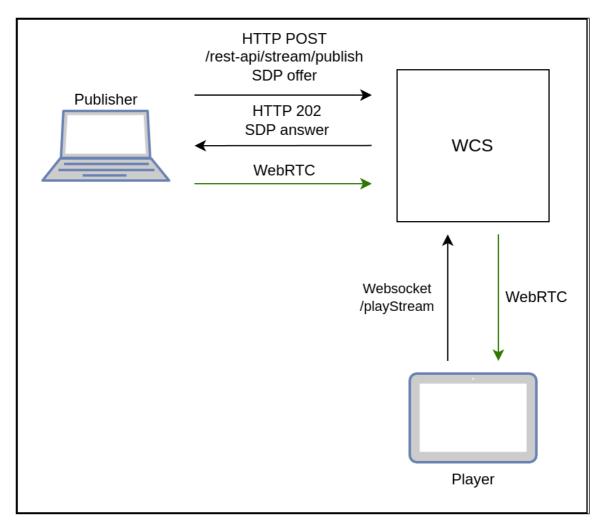
Video:

- H264
- VP8 if publisher supports it
- H265 if publisher supports it

Audio:

- Opus
- G711 (PCMA, PCMU) if publisher supports it

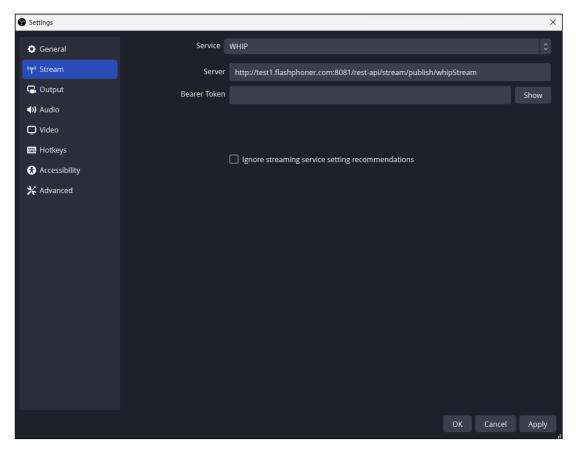
#### **Operation flowchart**



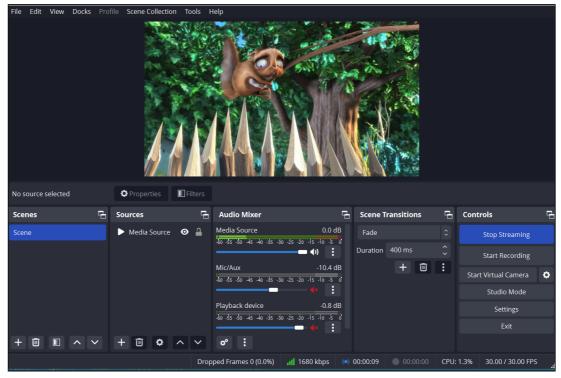
- 1. Publisher (OBS) sends HTTP POST query /rest-api/stream/publish/streamName with SDP offer
- 2. Publisher receives 202 Accepted with SDP answer
- 3. Publisher establishes WebRTC connection and publishes a stream
- 4. Player establishes Websocket connection and sends playStream command
- 5. Player establishes WebRTC connection and receives the stream published

## Testing

- 1. For test we use:
  - WCS server OBS 30 and later for Windows to publish a stream Player example in Chrome browser to play the stream
- 2. On Stream tab in OBS settings choose WHIP service, enter HTTP POST query URL including a stream name to publish



3. Publish the stream from OBS

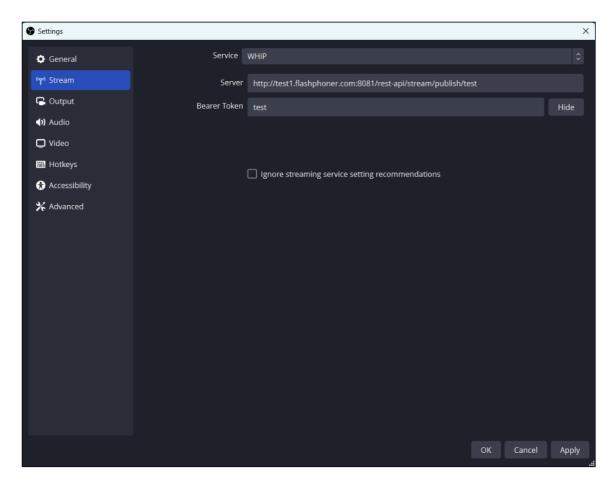


4. Open Player example in Chrome browser from testing server, set the stream name to whipStream and click Play

Player	
Forsythe · Eric Roberts · Eric V	zorla Emmänuel Bultot Emmanuel Pognant-gros Eric Beliveau Eric Boivin Eric Dixon Eric Villar Mayer Eric Wessels Erik Johansson Erik Möller Erik von Schaalk Erik Zachte Erik-Jan anderhoydonks E Sa Dikari Etilenne Peters Eugenio Vacca Evertion Schneder
Reguant - Felix Esser - Felix Gr Filipe Soares Dilly - Florian Köt Dufay - François Fawelj - Fran	yen Fabio Umann Ladeira - Fabrice Oehler - Fabrizio Remiddi - Faik Büttner - Felipe Fontova nuber - Felix Kült - Felix Manthaler - Felix Wolfsteller - Fernando Buelna Sanchez - Fernando Luceri belle - Florian Neumayr - Floriana Zweinia - Fourester Sebasten - Francesco Meroni - François cols pannette - François Valette - Frank H. Koch - Frans Beeuwkes - Frederic Multier - Frederick Frederic De Bleser - Fredrik Hollenberg - Fund Zzollni
Grant Wilson Gregor Féng	eto Gareth Qually Gary Martin Germán Alonso Támayo Germano Martins Gianluigi Belli comai Giovanni Derks Gord von Campe Gordon McCreight Govert Combée Grahame White Gregory Nicolas Gregory Wecks Grzegorz Wercszko Zuide Adolph Guilherme Banile Pensard Guillermo S. Romero Gunnar Stahl Gunter Glas Gustav Góransson Gustavo
Heinz Thölecke - Helge Doose	jri - Hans-Peter Bock - Harald Gauslaa - Hassan Gabru - Hassan Williamson - Heiko Besemann - Helige Ingvoldstad - Henk Massink - Henk kan den Toom - Heminig jagd - Hemirique Miranda emberto Mendez - Hidek Stato - Hisahiro Itana - Hivojé Andrun
lan Calvert · Ian Lewis · Ian Mil	ffington - Ingernar Grahn - Inko Illarramendi - Ivan Jenkins - Iwo Kaden
Black - James Campanella - Ja Wirray - Jan Airaila - Jan Albar Curnster - Jasper van Nieuwen Liugen - Jef Janen - Jeremich Jim Oblak - Jim WW Smith - Jir John Holden - John Mosford - Je John Smith - Jose Horwar Doutor - Jorge Otero - Jergen S	Reimieren Jacob Boström Jacob Ernsken Jacob Picart ; Jakub Steiner ; James Allen ; James meis Carscadden ; James Marcis ; James Vandever ; Jamie Jamaway ; Jamie KClintock ; Jamie Jusce ; Jay King ; Jam-Marc Carnee ; Jaen Paul Comeau ; Jean Huippe Risconaux ; Jean Pierre Wheeler ; Jerem y Sabo ; Jeroen Mank ; Jerry Williams ; Jeson Huippe Riscus Antonio Juste Ezquiero i finidek ; Jacotim Siephart ; Jochen Issing ; Josio Davies ; Joel Heethaar ; Joel Ross ; Jeel Sutter n ; Johannes Schwarz ; John Barnes ; Jehn Berry ; John Cook ; John Drinkwater ; Jonn Ferguson om Nyquist ; John Rouse ; Johnethan Roatch ; John Berry ; John Gook ; John Drinkwater ; Jonn Ferguson di Jordi Portell ; Tornes ; Jerg Effing ; Torg Kemplen Jørg Kemhard ; Jorge Bernal Martinez ; Jorge Schwarn Kollerez ; Jose Culterez ; Josef Siles ; Josefa Eagar ; Josefa Mirz ; Josha Each est ; Jade Aakjaer Jukke Palko ; Julien B. Quellet ; Julien Dambron ; Julio Cesar Garcia ; Julius stin Corban Justim Crossley ; Justin Murdock ; Justyn Butler ; Jacot Antonio ; Justim Konsley ; Justin Murdock ; Justyn Butler ; Jane ; Jacot ; Jones ; Jones ; Justin Murdock ; Justyn Butler ; Jacot ; Jones ; Jacot ; Justin Kurdock ; Justyn Butler ; Jacot ; Jones ; Jacot ; Justin Murdock ; Justyn Butler ; Jacot ; Jones ; Jacot ; Justin ; Justin ; Justin Consoley ; Justin Murdock ; Justyn Butler ; Jacot ; Jones ; Jacot ; Justin ; Jacot ; Jones ; Justin ; Justin ; Jacot ; Jones ; Justin ; Justin ; Jacot ;
WCS URL	wss://test1.flashphoner.com:8445
Stream	whipStream
Volume	
Full Screen	SK
	PLAYING Stop

Authentication using Authorization: Bearer header

Since WCS build 5.2.1964 authentication using Authorization: Bearer header is supported



In this case a publishing client (OBS) should send the header with the bearer token set with any query used when the stream is publishing via WHIP protocol. Any alphanumeric string may be used as token value, the stream name for example. The combination of the stream name and token value is checked at server side. If the token value differs from the value received with /rest-api/stream/publish query, the server returns 409 Permission denied

## Known issues

1. OBS does not support WebRTC publishing via TCP

#### 🟮 Symptoms

A stream cannot be published from OBS when ice\_tcp\_transport=true parameter is used in server settings

Solution

Switch to UDP at server side

ice\_tcp\_transport=**false**