

Build real-time audio & video apps using Cloudflare Realtime

Build and scale real-time audio/video apps with lowest latency

Cloudflare Realtime

Complete toolkit to build and scale real-time audio and video on WebRTC.

We meet you where you are, offering everything from a fully-managed SDK to powerful, low-level infrastructure primitives.

Managed services include:

- **RealtimeKit:** collection of mobile, web SDK and client services that abstract the complexity of WebRTC, handles underlying media infrastructure (SFU & TURN), allowing developers to ship faster with ready-to-use features
- **Stream:** single API for Video-on-Demand (VOD) and live streaming that handles all the complexity, storage, packaging, and delivery, over Cloudflare's global CDN. You also get unlimited video storage and low-latency performance, without needing to worry about formats, protocol or encoding



Figure 1: Cloudflare's globally distributed infrastructure for better performance

Low-level building blocks for custom WebRTC applications

- **SFU:** route streams intelligently in multi-party calls and adapt quality in real-time based network conditions to ensure smooth, scalable experience
- **TURN:** ensures reliable connectivity, even when users are behind restrictive firewalls, by routing traffic via secure & reliable Cloudflare servers

Why build on Cloudflare?



Sub 50ms latency for 95% users globally

Leverage Cloudflare Anycast network to automatically route traffic to the nearest of 335+ edge locations



Realtime audio/video as a service

Flexibility to add media capabilities, customize using pre-built UI components, and/or using custom components



High observability to debug and optimize performance

Get real-time call stats through APIs and dashboard to easily spot issues like latency, packet loss, etc.

Realtime architecture diagram

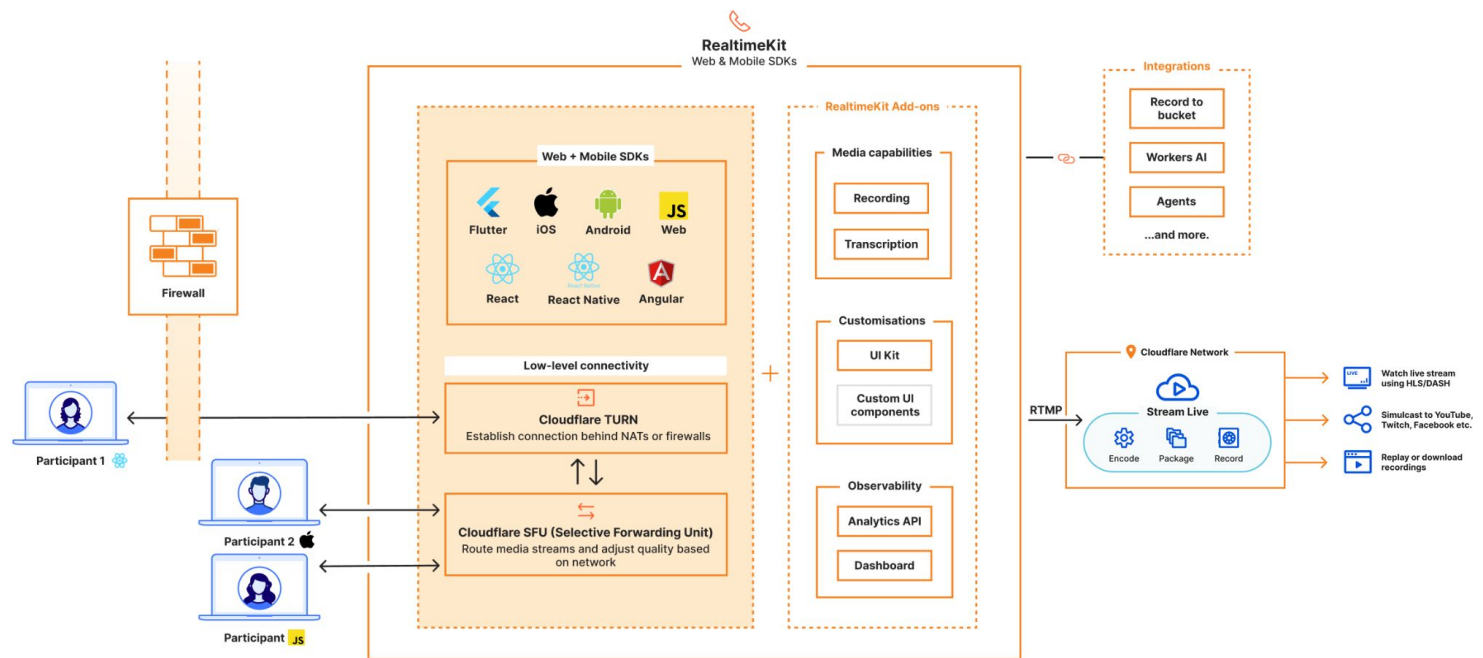


Figure 2: Reference architecture diagram for Cloudflare Realtime Workload

What can you build with Cloudflare Realtime?

- Voice agents
- Creator economy platforms
- Proctoring
- Virtual learning
- Online tutoring with streaming
- Live video for security cameras
- Live Sports streaming
- Immersive gaming & more...

One of the top 10 messaging app services in the app store switched to Cloudflare from a hyperscaler and is **saving \$1 million+** and observing significant performance improvements while eliminating devops overhead.