



Cutting Cloud Costs: How ProCONF Improved Telehealth Startup's Bottomline



A startup built an innovative platform to provide seamless telehealth services to patients and enable doctors to deliver remote patient care with ease. At its core, the platform utilized KMS (Kurento Media Server) to power its audio-video communication features using WebRTC. KMS was a popular choice for WebRTC communication at the time this development started few years ago. However, the MCU (Multipoint Control Unit) architecture of KMS necessitated hefty server configurations to support concurrent conferences. As the demand for concurrent sessions grew, the platform faced a challenge of increasing cost per meeting with growing concurrency, prompting the need to redesign.

Product Features

Replace MCU with SFU Strategies

ProCONF was able to quickly replace MCU with SFU (Selective Forwarding Unit) strategies. Unlike traditional MCU servers, SFUs distribute media streams efficiently without the need for high end server infrastructure. With the same hardware configuration, SFU supported around 50+ meetings of 5 people as compared to 20 meetings on MCU.

Telehealth Features

ProCONF seamlessly supported all the standard audio video conferencing features like audio/video calls, moderator controls, live chat, call recording and noise suppression which the platform used to offer before.

Intelligent Auto Scaling

ProCONF offers intelligent and cost-effective auto scaling thereby minimizing infrastructures cost and at the same time providing required scalability.

Advanced AI Features

ProCONF, with its advanced AI capabilities, streamlined the doctor-patient encounter process. After each appointment, it automatically generated a concise summary that doctors could review and add to their Electronic Health Records (EHR) system.

Technical Challenges

- Integrate ProCONF with existing system with minimal changes
- Support various platforms like Web Browsers, native Android, and iOS applications
- Keep platform HIPAA compliant even after replacing KMS with ProCONF

Technologies Used

- NodeJS used for Admin Dashboard development that allowed controlling various feature including call quality, bandwidth management, number of participants etc.
- ReactJS used for UI development that was responsive to support various form factors
- ReactNative was used for Android SDK to bridge the WebRTC features in React and Java
- Java was used for Android SDK native development
- MySQL for CDR (Call Data Records) to track every meeting, participants start/stop timings, total meeting time etc.
- Lua – Configurations Management

Results

- For running conferences on average load days, hefty configurations were not necessary due to the efficient use of SFU strategies.
- Out-of-the-box and intelligent auto scaling resulted in reduced infrastructure cost.
- Doctors experienced reduced administrative burden, enabling them to prioritize patient care.

Conclusion

SpringCT successfully integrated ProCONF with telehealth platform solving its scalability challenges, improved productivity using AI features and improved bottom-line by reducing infrastructure costs.