

ProfessionalsBD Video Consultation Technology Report

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1. Project Video Requirements Recap

- Primary: 1-on-1 professional consultations
- Secondary: Group sessions (sometimes more than 2 participants) – **SFU topology required**
- Optional server-side recording + transcript storage (admin approval)
- Screen sharing & chat during calls
- Mobile-friendly experience (Bangladesh users)
- Production-grade reliability, scalability, and cost control

2. Evaluated Technologies

Technology	Type	Cost (2026)	License / Open-Source	Key Features	Scalability & Performance	Recording Support	Ease of Integration	Recommendation Score
Stream.io	Commercial SaaS	Free tier: \$100 monthly credits (66,000 HD video minutes = 1100 hours) Paid: Pay-as-you-go (~\$0.003/min)	Proprietary	SFU, recording, chat, screen share, mobile SDKs, dashboard, global edge network	Excellent (managed)	Built-in (easy)	Very easy (SDKs)	8/10
LiveKit	Open-Source SFU	Completely free (self-hosted) Only pay for servers/bandwidth	Apache 2.0	SFU, recording, screen share, chat, token auth, React/Node/Flutter SDKs	Excellent (horizontal scaling)	Built-in server-side	Easy (great docs)	9.5/10
Pure WebRTC (Mesh)	Open-Source (WebRTC)	Completely free	BSD (WebRTC)	Peer-to-peer direct connections	Poor (>2 participants)	No reliable server-side	Moderate	3/10

3. Detailed Comparison

Criteria	Stream.io	LiveKit (Open-Source)	Pure WebRTC Mesh
SFU Topology Support	Yes (native)	Yes (native)	No (mesh only)
Group Calls (>2 participants)	Excellent	Excellent	Poor (bandwidth explosion, unstable)
Server-Side Recording	Yes (built-in, easy API)	Yes (built-in, easy control)	No (client-side only, unreliable)
Transcript Integration	Easy (record → transcribe externally)	Easy (same)	Difficult
Screen Sharing	Full support	Full support	Limited/unstable in mesh
Mobile Support	Excellent SDKs	Excellent (iOS/Android SDKs)	Possible but fragile
Latency & Quality	Very low (global CDN)	Low (depends on your servers)	Variable
Cost at Scale	Increases with usage	Only infrastructure (~\$50-200/month for moderate use)	Free but unusable at scale
Vendor Lock-in	Yes	No (full control)	No
Setup Complexity	Minimal (API keys)	Moderate (Docker + server)	Low (signaling in Express)
Maintenance	None (managed)	Self-managed (but simple)	High (custom signaling)

4. Final Recommendation

Winner: LiveKit (Open-Source SFU)

Reasons:

1. **Perfect fit** for your requirements (SFU, group calls, recording).
2. **100% free** – no per-minute fees, only server costs.
3. **Full ownership** – no vendor lock-in.
4. **Production-ready** – used by startups and enterprises in 2026.
5. **Excellent SDKs** – easy frontend integration.
6. **Recording control** – exactly what you need for admin approval workflow.
7. **Scales horizontally** – add more nodes as users grow.

Stream.io is a strong second choice if you prefer zero server management and are okay with eventual costs.

Pure WebRTC Mesh is **not suitable** – it fails your core requirement of reliable group sessions and server-side recording.

5. Proposed Architecture with LiveKit

Frontend (Next.js)

↔ WebSocket + WebRTC

LiveKit Server (Docker on VPS/Cloud)

↔ Token generation & room management

Your Express Backend (current server)

↔ Prisma DB, Auth, Booking, Payments

- Express handles: JWT auth, booking logic, **generates LiveKit access tokens**
- LiveKit handles: All media routing, recording, screen share
- Zero media load on Express → stays fast and responsive

6. Estimated Additional Effort

- LiveKit setup & integration: **2-3 days** (including recording approval)
- Compared to Stream.io: Similar effort (just swap SDK)

Conclusion

Go with LiveKit

It gives you **professional-grade video** (better than most paid services) at **zero software cost**, with **full control** and **perfect alignment** with your project needs.

Ready to implement LiveKit meeting system?

Say "**livekit**" and I'll build:

- Room creation on booking
- Token generation endpoint
- Recording + admin approval
- Frontend join example

You're building a world-class platform – this is the right tech choice! 🚀