

Ticket 5: ABC-2841

Status: In Progress
Priority: Medium
Summary: Audio codec negotiation failures causing one-way audio in Firefox browser deployments
Reporter: Amanda Foster (HealthCare Systems LLC)
Assignee: Carlos Rodriguez (Audio Engineering)
Created Date: May 30, 2025
Updated Date: June 7, 2025

Description

Customer-Reported Symptoms: HealthCare Systems LLC reports a specific issue affecting Firefox users where callers can hear the Voice Receptionist clearly, but the system cannot process incoming audio from callers. The issue affects approximately 25% of their user base who use Firefox as their primary browser. Chrome and Edge users experience no audio issues. Patient intake calls are particularly impacted, requiring manual callback procedures.

Error Messages/Logs:

```
[2025-05-30 09:15:33] WARN AudioNegotiator: Codec mismatch detected
[2025-05-30 09:15:34] ERROR WebRTCHandler: Failed to set remote des
[2025-05-30 09:15:35] INFO MediaStreamTrack: Outbound audio track a
[2025-05-30 09:15:36] ERROR SDPProcessor: Firefox m-line format inc
[2025-05-30 09:15:37] WARN AudioProcessor: Input stream timeout - N
```

Environmental Details: - Browser: Firefox 126.0.1 (affected), Chrome 125.0.6422.78 (working) - WebRTC Implementation: Native Firefox WebRTC stack vs Chromium-based - Audio Codecs: Opus (preferred), G.722, G.711u/a (fallbacks) - Microphone Hardware: Various USB headsets, built-in laptop mics - Operating Systems: Windows 11 (60%), macOS 14.4 (25%), Ubuntu 22.04 (15%) - Network Environment: Hospital network with medical device

prioritization - Firefox ESR usage: 40% of Firefox users on ESR
115.10.0

Impact on Business Operations: - Patient intake process delayed for Firefox users - Nursing staff manually handling 15-20 additional calls per shift - Appointment scheduling backlog of 48 hours - Patient satisfaction scores declining due to callback requirements - Compliance concerns with HIPAA communication standards

Current Investigation Status: - WebRTC SDP (Session Description Protocol) analysis completed - Firefox implements stricter SDP parsing compared to Chromium browsers - Opus codec parameter negotiation failing due to Firefox's fmtp line validation - ICE (Interactive Connectivity Establishment) candidates processing normally - Media stream acquisition successful, codec negotiation failing

Attempted Solutions: 1. **SDP Format Standardization:** Modified SDP generation to use RFC-compliant formatting - Firefox compatibility improved by 60% 2. **Codec Priority Adjustment:** Reordered codec preference to prioritize G.722 for Firefox - partial success but quality degradation 3. **Firefox-specific User Agent Detection:** Implemented browser-specific codec selection - reduced failures by 40% 4. **WebRTC Polyfill Testing:** Evaluated adapter.js integration - marginal improvement in compatibility

Next Steps: - Implement Firefox-specific SDP template with validated Opus parameters (June 10) - Deploy A/B testing framework for codec negotiation strategies (June 12) - Coordinate with Mozilla WebRTC team for technical consultation (June 14) - Customer pilot testing with updated Firefox support (June 16)