TECHNICAL SPECIFICATION

RadioKit Joint Version: 12.09.2017-1

Supported operating systems & architectures

Windows 7 SP1 or newer, 32 and 64-bit[1]
Ubuntu Linux 16.04 LTS, 64-bit
Mac OS X Sierra or newer, 64-bit
Android 4.1 or newer, devices with ARM processor[2]

Networking

Point to point architecture
Just one UDP port needs to be open to provide full-duplex communication, even through NAT
Built-in NAT traversal
VPN access[3]
IPv6 ready
Designed to operate on unreliable IP networks

Codecs

Opus 1.1 (RFC 6716)
Multiple layers of packet loss handling:
- -Retransmissions
- -Packet Loss Concealment
- -Forward Error Correction

Bitrate from 5 to 510 kbit/s
- -speech has broadcastable quality at 20 kbit/s
- -music has broadcastable quality at 48 kbit/s

Sample rate from 8 to 48 KHz
Audio bandwidth: from 4 (narrowband) to 20 kHz (fullband)
Mono or stereo
Dynamically adjustable bitrate during transmission

1 Coming soon
2 Coming soon
3 Coming soon, VPN is enabled upon client's request, extra charges may apply

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Transport layer

Proprietary UDP-based protocol designed specifically to handle unreliable IP networks

Latency

Latency = codec frame size + buffer size + network latency
Can be adjusted in the following range:

- -Codec frame size: 2.5-60 ms
- -Buffer size: 5-1000 ms
- -Network latency: +/- 20 ms on LTE, +/- 100 ms on 3G

Theoretical minimum latency on LTE: 27.5 ms

Monitoring & management

100% web-based monitoring panel
Support multiple users operating collaboratively
Web-based peakmeter showing reference signal
Ability to adjust connection parameters via web browser during transmission

Integration

All functions of the application are available through HTTP-based API
Open specification

IF YOU HAVE ANY QUESTIONS - YOU CAN REACH US AT INFO@RADIOKIT.ORG