Comparison of VoIP software

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This is a **comparison of voice over IP** (**VoIP**) **software** used to conduct telephone-like voice conversations across Internet Protocol (IP) based networks. For residential markets, voice over IP phone service is often cheaper than traditional public switched telephone network (PSTN) service and can remove geographic restrictions to telephone numbers, e.g., have a PSTN phone number in a New York area code ring in Tokyo.

For businesses, VoIP obviates separate voice and data pipelines, channelling both types of traffic through the IP network while giving the telephony user a range of advanced abilities.

Softphones are client devices for making and receiving voice and video calls over the IP network with the standard functions of most *original* telephones and usually allow integration with VoIP phones and USB phones instead of using a computer's microphone and speakers (or headset). Most softphone clients run on the open Session Initiation Protocol (SIP) supporting various codecs. Skype runs on a closed proprietary networking protocol but additional business telephone system (PBX) software can allow a SIP based telephone system to connect to the Skype network.[1] *Online chat* programs now also incorporate voice and video communications.

Other VoIP software applications include conferencing servers, intercom systems, virtual foreign exchange services (FXOs) and adapted telephony software which concurrently support VoIP and public switched telephone network (PSTN) like Interactive Voice Response (IVR) systems, dial in dictation, on hold and call recording servers.

Some entries below are Web-based VoIP; most are standalone applications.

Contents

Softphone applications

Program	Operating systems	License	Costs	Protocols	Codecs	Encryption	Max conference peers	Other abilities	Latest release
AudioCodes MobilityPLUS	Windows, Android, iOS	Proprietary	?	SIP, RTP, XMPP, STUN, ICE	G.722 wideband, G.711a, G.711u, iLBC, G.729a, SILK, GSM, VP8, H.264, Opus	TLS, SRTP	Unknown	Voice, video, IM, Group chat, content sharing, SMS and MMS over IP services, native and social network contacts integration, incoming call/IM push notifications.	2014
Avaya Application Server 5300 Soft Client	Windows	Proprietary	?	SIP, RTP	Unknown	TLS, SRTP	Unknown		2.0; 2010
Blink	Linux, macOS, Windows	Mixed: free software versions under GNU GPLv3 + shareware versions under gplv3 with exception of including proprietary code	Windows and Linux are free, macOS version is available for a fee in Mac App Store, source code is freely available	ICE, SIP, MSRP, RFB (VNC), XCAP	Opus, speex, G.722, GSM, iLBC, PCMU, PCMA	TLS, SRTP and ZRTP on all versions, OTR/SMP on Linux and macOS only[2]	No limit	IM, file transfer, desktop sharing, multi-party conference, wideband	Blink Qt
CSipSimple	Android	GPL	Free	SIP, ICE, STUN, TURN	Opus, AMR, G.711 (u-law/a-law), speex, G.722, GSM, iLBC, G.729 (need to buy a licensed plugin), iSAC, SILK (narrow-band/wide-band/ultra wide-band)	SRTP, SIP over TLS 1.0 and ZRTP	Unknown	SIP SIMPLE messaging, Support for IPv6, Integration with Android operating system with filters and rewriting rules	1.0.2; November 2014
Cisco IP Communicator	Windows, Android	Proprietary	Free (for Cisco SMB Partners only)	SCCP (Skinny), SIP, TFTP	G.722 wideband, G.711a, G.711u, iLBC, G.729a, G.729ab	SRTP	Unknown	Call Recording, Silent Monitoring, Multiple lines and directory numbers, Configurable speed dial, Calling name and number display, Call Waiting, Call Forward, Call Transfer, Three-Way Calling (conference), Call Park, Call Pickup, Redial, Hold, Barge, Callback, Extension Mobility, Message waiting indicator, iDivert, Meet Me conferencing, Group Pickup, Do Not Disturb	7.0.6; January 2011
Discord	macOS, Android, iOS, Windows, Linux	Proprietary	Free	?	Opus	TLS	5,000 soft limit[3]	IM, file sharing, in-game overlay	03.30.2017; March 30, 2017
Ekiga	Linux, Windows, OpenSolaris	GPL	Free	SIP, H.323, STUN, Zeroconf, XMPP, RTP	H.263, H.264/MPEG-4 AVC, Theora, iLBC, Speex, SILK, GSM, ...	No	Unknown	Video, IM, LDAP, Call Forwarding, Call Transfer, Auto-answering, PC to phone, phone to PC, Multiple accounts, USP support, Message waiting indicator, SIMPLE-based presence etc.	4.0.1 (February 21, 2013) [±] (https://en.wikipedia.org/w/index.php?title=Template:Latest_stable_software_release/Ekiga&action=edit)[4]
Empathy	Linux	GPL	Free	SIP, XMPP (Jingle), ICE (STUN-TURN), Zeroconf	Unknown	No	Unknown	IM, multi-user A/V,[5] collaborative applications	3.12.12[6] (May 13, 2016) [±] (https://en.wikipedia.org/w/index.php?title=Template:Latest_stable_software_release/Empathy_(software)&action=edit)
Eyeball Chat	Windows	Proprietary	Free	SIP, STUN, ICE, XMPP	Unknown	Yes	5[7]	IM, Conferencing, Voice, Video and SIMPLE based presence	Windows 3.2; 2009
eyeBeam	Windows	Proprietary	?	SIP-SIMPLE	Unknown	TLS, SRTP	6 party audio; 3 party video	Voice and Video calling; IM; Import Microsoft Outlook Contacts; USB Support; Call Recording and Conferencing	1.5.20.1; March 2010
Google+ Hangouts	Linux, Windows, macOS, Android, iOS	Proprietary (using libjingle)	Free	XMPP	H.264/SVC, H.264/AVC, H.263 and VP8	SRTP	10	Video, chat, screen sharing, with additional tools available as "Hangout Apps".	**Google Chrome Web Store** extension 2013.626.1614.1 (July 9, 2013) [±] (https://en.wikipedia.org/w/index.php?title=Template:Latest_stable_software_release/Google%2B_Hangouts&action=edit) [8]
IBM Sametime	Linux, macOS, Windows, mobile	Proprietary	?	SIP-SIMPLE, T.120	H.323	TLS	Unknown	IM, File transfer, Voice, Presence, Server stored contact list, HTTP tunneling, plugins, embedable in Lotus Notes[9]	8.5.2; May 8, 2011
iCall	Linux, macOS, Windows, iOS, Android	Proprietary	Free	SIP, AIM, ICQ, XMPP	Speex, CELT, WebM	TLS, ZRTP	No limit	Video, file transfer, PC to phone, phone to PC, IM (MSN, AIM, ICQ, Yahoo!, XMPP, Google Talk), Voicemail	7.1.522
Jitsi	Linux, macOS, Windows (all java supported). *Experimental* Android builds are also available.[10]	Apache	Free	SIP-SIMPLE, XMPP-Jingle STUN ICE, TURN	SILK, G.722, Speex, Opus, G.711 (PCMU/PCMA), iLBC, GSM, G.729, H.264, H.263, VP8	ZRTP, SRTP, TLS	Unknown	Text messaging, audio-video telephony, IPv6 (often broken,[11] P2P not supported[12]), call recording, 64-bit	2.10 (build.5550) (February 5, 2017) [±] (https://en.wikipedia.org/w/index.php?title=Template:Latest_stable_software_release/Jitsi&action=edit)

Program	Operating systems	License	Costs	Protocols	Codecs	Encryption	Max conference peers	Other abilities	Latest release
KPhone	Linux (KDE)	GPL	Free	SIP, STUN, NAPTR-SRV	Unknown	SRTP	Unknown	Video, voice, IM, external Sessions, IPv6 support for UDP	1.2 (November 2008)
Kiax ver.2	Linux (KDE), Windows	GPL	Free	IAX	Speex, G711, GSM, iLBC	No	Unknown	Multiple calls, DTMF, Hold, Resume, HTTP API	2.1-Beta2 April 26, 2013[13][14]
Linphone	Linux, Windows, macOS, Android, iPhone, BlackBerry	GPL	Free	SIP	Speex, Opus, G711, GSM, G.722, VP8 (WebM), H263, MPEG4, Theora and H264 (plugin)	TLS, SRTP, ZRTP	Unknown	Video, IM, STUN, IPv6 (disables IPv4 support when enabled, P2P supported only by version 3.5.1-2 (http://download-mirror.savannah.gnu.org /releases/linphone /3.5.x/))	3.11.1; March 10, 2017
Messages	macOS	Proprietary	?	SIP AIM ICQ XMPP	H263, H264	Unknown	Unknown	Integrated, PBX independent	7.0; July 25, 2012
MicroSIP	Windows	GPL	Free	SIP, STUN, ICE, SIMPLE	Speex, iLBC, GSM, G.711, G.722, G.729, SILK, Linear PCM	TLS, SRTP	Unknown	Video, voice, IM and Presence	3.15.01; February 2017
Mirial Softphone (Mirial s.u.r.l.)	Windows 2000-XP-2003-Vista-7 (including 64-bit versions), macOS (x86)	Proprietary	not free	SIP, RTSP	H.323	DTLS-SRTP	Unknown	H.264 Full-HD 1080p video rx/tx, Two independent lines supporting Call Control and 3-Party videoconference in Continuous Presence, G.722.1/C wideband audio, Call recording/export, DV/HDMI/Component capture, Presentation (H.239, RFC-4796), Encryption, Far End Camera Control, GPU accel (D3D and OpenGL)	7.0.24; May 26, 2010, discontinued
Mumble	Linux, macOS, iOS, Windows, Android	New BSD license	Free	ICE	CELT, Speex, Opus	TLS and OCB-AES128	No max (limited only by server bandwidth and memory)	Chat with (limited) embedded HTML, Automatic Gain Control, very low latency, Access Control Lists for user management, Customizable In-Game Overlay for OpenGL and DirectX, Directional Audio, Plugin Support, Nested Channels, Echo cancellation for headset free use, Global Public Server List, Logitech G15 support, Push-To-Talk and Voice-Activation	1.2.19; January 27, 2017
Nymgo	Windows, Android, iOS	Proprietary	Free	SIP, RTP and RTCP	Unknown	Yes	No	Address Book integration, Call recording/export, Mute, On Hold, Caller ID definition	4.2.9; March 2013
oovoo	macOS, iOS, Windows, Android	Proprietary	Free	SIP, RTP and RTCP	Unknown	Yes	12	Address Book integration, Call recording/export, Mute, On Hold, Caller ID definition	4.2.9; March 2013
Phoner	Windows	Proprietary	Free	SIP, TAPI, CAPI	G.711a, G.711u, G.722, G.726, G.729, GSM, iLBC, speex, Opus	TLS, SRTP, ZRTP	8	Conferencing, call redirection, call recording	3.17 (4 July 2017) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Phoner&action=edit)[15]
PhonerLite	Windows	Proprietary	Free	SIP	G.711a, G.711u, G.722, G.726, G.729, GSM, iLBC, speex, Opus	TLS, SRTP, ZRTP	8	Conferencing, call redirection, call recording	2.51 (4 July 2017) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /PhonerLite&action=edit)[16]
QuteCom	Linux, macOS, Windows XP-2000	GPL	Free	SIP	G.711, G.729, iLBC, AMR-NB, G.722, Speex, AMR-WB (G.722.2), H.263, H.263+, H.264, Dirac[17]	SRTP, but key exchange via Everbee key Exchange which is not a Standard	Unknown	Video, IM (MSN, AIM, ICQ, Yahoo!, XMPP, Google Talk), voicemail, wengo to phone, conferencing.	2.2.1 (22 June 2011)[18] [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /QuteCom&action=edit)
Ring	Linux, macOS, Windows, Android (all beta)	GPL3	Free	SIP, RTP, IAX2, STUN per account, SRV, DHT, P2P	Audio: Opus, Speex, G.722, G.711, GSM, VP8, G.729, iLBC. Video: H.264, H.263, VP8, MPEG-4	Voice encryption (SRTP with SDES or ZRTP) and signaling encryption (TLS), multiple realms authentication mechanism	No limit	Blockchain ID-management, Gnome-KDE client, address book, multiple accounts, unlimited call number, call transfer, call hold-unhold, call recording, multi-way conferencing	1.0; July 21, 2017
Roger Wilco GameSpy	Windows	Proprietary	?	Proprietary	?	?	?	?	2001
Skype	Linux(with limited functionality)[19], macOS, Windows 2000-XP-Vista-7-Mobile	Proprietary	Free	Proprietary P2P protocol [a]	SILK	Advertises proprietary encryption which is considered insecure.	25 starting with version 3.6.0.216. 10 with 2.x	Conferencing, video, file transfer, voicemail, Skype to phone, phone to Skype, additional P2P extensions (games, whiteboard, etc...); depending on platform.	**Windows, UWP** 11.19.820.0 / 18 July 2017[20] **Windows, desktop** 7.39.0.102 / 1 August 2017[21] **macOS** 7.56 / 28 June 2017[22] **Linux** 5.0.0.0 / 1 March 2017[23]

Program	Operating systems	License	Costs	Protocols	Codecs	Encryption	Max conference peers	Other abilities	Latest release
	(unsupported), BREW, Windows Phone, Android, iPhone, PSP								**Android** 8.2.0.49163 / 19 July 2017[24] **iOS & watchOS** 8.1.2 / 29 June 2017[25] **BlackBerry 10** 6.1.0.16424 / 14 September 2015[26]
TeamSpeak	Linux, Windows, macOS, FreeBSD, Android, iOS	Proprietary	Free	Unknown	CELT, Speex, Opus[27]	Yes	32 unlicensed, 512 with non-profit license, 2000	Simultaneous server conferencing with tabs, 3D sound effects, scalable permissions system, firewall friendly file transfers, in-game overlay for DirectX & OpenGL games, global public server list, plugin system	3.1.3, 23 March 2017
TeamTalk	Linux, Windows, macOS, iOS, Android, Raspbian	Proprietary	Free	Proprietary	Opus, Speex, WebM	No	1000	Video, file sharing, desktop sharing, stream media files (MP3, AVI)	5.1.3; May 2016
TeamViewer	Linux, Windows, macOS, iOS, Android[28]	Proprietary	Free (personal use only)	Unknown	Unknown	AES256	Unknown	Unknown	**Windows (desktop app)** 12.0.78716 / June 27, 2017[29] **macOS** 12.0.78517 / May 30, 2017[30] **Linux** 12.0.76279 / May 31, 2017[31] **Android** 12.2.7121 / June 23, 2017[32] **iOS** 12.1.79134 / June 9, 2017[33] **Windows (UWP app)** (No info)[34] **BlackBerry OS** 12.0.0.6394 / February 1, 2017[35] **Chrome OS** 12.1.7400 / January 26, 2017[36]
Telephone	macOS 10.10.2	BSD	Free	SIP, STUN, ICE	Unknown	No	Unknown	Address Book integration	1.1.4; March 6, 2012
Toktumi Unlimited, Line2 Pro	Windows XP-Vista-7, macOS, iOS, Android	Proprietary	Free	Proprietary with SIP core	Unknown	Unknown	20	Conferencing, voicemail, caller ID, call-waiting, address book integration; auto-attendant, call-forwarding	Windows; August 2010; macOS; October 2010
Tox	Linux, macOS, Windows, Android, FreeBSD	GPL	Free	Tox, VP8	Opus,	NaCl	Unknown	Voice, video, instant messaging, file transfers	Unknown
Tru App	Windows 2000-XP-Vista-7, macOS, Linux iOS, Android, Symbian, BlackBerry OS,	Proprietary	Free	SIP, XMPP	Unknown	Unknown	Unknown	Chat, file transfer, voicemail, inbound numbers, integration with GTalk, Microsoft Live, Skype	
Tuenti	Android, iPhone, Windows Phone	Proprietary	Free	WebRTC, SIP, XMPP	iLBC, Opus	Yes	?	Voice, video, Instant messaging, group chat, photo and video sharing, SMS and MMS, native and social network contacts integration, incoming call/IM push notifications.	
Twinkle	Linux	GPL	Free	SIP	G.711 A-law µ-law, G.726, GSM, iLBC, Speex narrow wide ultrawide	SRTP, ZRTP	3	Conferencing, chat, file transfer, Firefox integration, call redirection, voicemail, support of VoIP-to-Phone services	1.10.0 (July 15, 2016) [±] (https://en.wikipedia.org/w/index.php?title=Template:Latest_stable_software_release/Twinkle&action=edit)
Ventrilo	macOS, Windows, iOS, Android	Proprietary	Free	Unknown	Unknown	No	8	Conferencing, chat, text-to-speech	3.0.8
Viber	Linux,[b] macOS,[b] Windows,[b] Android, Bada, BlackBerry OS, iOS, Series 40, Symbian, Windows Phone	Proprietary	?	Unknown	Unknown	Yes[39]	Unknown	Varies by platform: Text, picture and video messaging on all, voice calling only on iPhone, Android and Microsoft's Windows Phone	**Android**: 6.9.5.9 (June 13, 2017[40]) [±] (https://en.wikipedia.org/w/index.php?title=Template:Latest_stable_software_release/Viber&action=edit) **iOS:** 6.9.5 (June 13, 2017[41]) [±] (https://en.wikipedia.org/w/index.php?title=Template:Latest_stable_software_release/Viber&action=edit) **Windows Mobile**: 4.5.4 (December 18, 2015[42]) [±] (https://en.wikipedia.org/w/index.php?title=Template:Latest_stable_software_release/Viber&action=edit) **BlackBerry 10 OS**: 4.3.0.728 (April 23, 2014[43]) [±] (https://en.wikipedia.org/w/index.php?title=Template:Latest_stable_software_release/Viber&action=edit)
Voice Operator Panel	Windows 2000-XP-Vista	Proprietary	?	SIP, RTP	Unknown	Unknown	Unknown	Call forwarding, call transfer, call recording, presence, Outlook integration, Windows Messenger-MSN-Live integration, CRM, built-in web browser, emailer, LDAP, APS.	1.3.2
Vyke	iPhone, Android	Proprietary	Free	SIP	Unknown	TLS, SRTP	Unknown	P2P calls, instant messaging, text messaging, incoming calls, incoming messaging, voicemail, international mobile phone numbers, push notifications, address book integration;	iOS September 2016; Android August 2016

Program	Operating systems	License	Costs	Protocols	Codecs	Encryption	Max conference peers	Other abilities	Latest release
Wire	Linux, Windows, macOS, iOS, Android, Web	GPLv3	Free	?	?	DTLS, SRTP[44]	10[45]	End-to-end encryption by default for everything, instant messaging, video call, video group call, file sharing, GIF sharing, push to talk, edit message, delete message (on both side), timed messages, doodling, identity verification, screen sharing (desktop only)	?
X-Lite	macOS, Windows	Proprietary	Free	SIP, STUN, ICE, TURN	H.263, H.263+, G.711, iLBC, Speex	No	3	VoIP over WiFi, 3G, 4G, video, instant messaging, presence (SIP SIMPLE), call waiting, call hold, call forwarding, voice mail, message waiting indication, 3 way conferencing, contacts integration, background noise reduction (BNR), automatic gain control (AGC)	Windows: 4.9.2, macOS: 4.9.2; December 2015
Yahoo! Messenger	Classic Mac OS (8, 9), macOS, Windows, (Linux, FreeBSD version VoIP incapable)	Proprietary	Free	SIP (using TLS) and RTP (media)	Unknown	Unknown	Unknown	Video, file transfer, PC to phone, phone to PC	**Windows**: 11.5.0.228; May 31, 2012 **Mac**: 3.0.1; July 20, 2011 **Linux**: 1.0.6; September 2003 **SunOS 5.7**: 0.99.17-1; September 2003 **Solaris 8**: 1.0.4; September 2003 **FreeBSD 4-5**: 1.0.4; September 2003 **iOS**: 2.2.6; July 12, 2012
Yate Client	Linux, macOS, Windows	GPL	Free	SIP, IAX, XMPP, H.323	G.711a, G.711u, GSM 06.10, iLBC, Speex, G.723, G.726, G.728, G.729	SRTP, maybe ZRTP?	Unknown		4.3; January 2013
Zfone	Linux, macOS, Windows	Viewable source	Includes time bomb provision	SIP, RTP	Unknown	SRTP, ZRTP	Unknown		Beta 2008-09-04 (Linux 0.9.224), (macOS 0.9.246), (Windows 0.9.206)

a. It is possible to connect by SIP to the Skype network via additional "Skype Connect" PBX software and alternative (SIP) client software/hardware. Neither the Skype *software* nor the Skype *network* supports SIP directly[1]

b. Viber must be first installed on a mobile phone to function on a desktop operating system[37][38]

Discontinued softphone service

- AOL Instant Messenger
- Gizmo5

- Windows Live Messenger

Mobile phones

For mobile VoIP clients:

Program	Operating systems	License	Open source	Protocols	Codecs	Encryption	Other abilities	Latest release
Acrobits Softphone	Android v2.2+, iOS v7.0+	Proprietary	No	SIP	G.711, G.722, iLBC, GSM, G.729	TLS, SRTP, ZRTP	VOIP over Wi-Fi or 3G iOS only: push notifications, video, number rewriting, address book matching, sms for betamax providers and pennytel	Acrobits Softphone: 3.20 (Android), 5.2 (iOS)
CSipSimple	Android	GPL	Yes	SIP	Opus, AMR-WB, G.722, iSAC, iLBC, Speex, Silk, Codec2, G.726, G711 (PCMA & PCMU), AMR, GSM	SRTP, SIP over TLS 1.0 and ZRTP	?	1.02.02
Google Duo	iOS, Android	Proprietary, freeware	No	WebRTC	?	?	One-to-one voice and video calling.	**Android** 14.1 / July 23, 2017[46] **iOS** 14.1 / July 22, 2017[47]
iCall Mobile	iOS v4.3+	Proprietary, freeware	No	SIP AIM ICQ XMPP, Facebook, Yahoo! Messenger, Windows Live	Speex, CELT, WebM	TLS, ZRTP	VoIP over Wi-Fi or 3G, SMS, voicemail	2.0.1; April 2012
Jajah Mobile Web	Symbian, Windows Mobile (version unknown)	Proprietary	No	?	?	?	web based service, Call back,no download[48]	?
JusTex by Juphoon	Android, iOS v5.1+	Proprietary	No	SIP	PCMA, PCMU, G.722, iLBC, iSAC, Opus, H.264, VP8, H.263	TLS, TCP, UDP, SRTP	JusTex Softphone over Wi-Fi or 3G, HD voice and video call, Multiparty call, conference.	3.0.1 (iOS); July 13, 2014; 3.0 (Android); July 9, 2014
Line	Android, iOS	Proprietary	No	?	?	?		
Line2	Android, iOS	Proprietary, freeware	No	Proprietary with SIP core	?	?	Tri-mode calling (cellular, 3G/4G data, Wi-Fi), SMS over IP, visual voicemail, 20-person conference calls, auto-attendant, call-forwarding	1.0.4 Android, 3.2.1 iOS
Media5-fone	iOS, Android	Proprietary	No	SIP	PCMA, PCMU, G.722*, iLBC, iSAC*, G.729*	TLS*, SRTP*	Wi-Fi and 3G/4G data, second call*, conference calls*, HD Voice, Bluetooth* (* Additional fees)	?
Signal by Open Whisper Systems	iOS, Android	GPLv3	Yes	WebRTC[49]	Opus[49]	TLS, Signal Protocol[49]	End-to-end encryption by default for everything. CallKit and location privacy,[50] one-to-one and group messaging, video calling,[50] image/video sharing, timed messages, identity verification, screenshot blocking. Android only: SMS/MMS messaging, doodling,[51] GIF sharing.[52]	**Android** 4.8.1 (July 20, 2017[53]) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Signal&action=edit) **iOS** 2.15.1 (August 1, 2017[54]) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Signal&action=edit)
Sipdroid	Android	GPL	Yes	SIP	?	?	Uses Wi-Fi, 3G or EDGE	2.7
Tango by TangoME Inc.	iOS, Android, Microsoft Windows, macOS, Windows Phone	Proprietary, freeware	?	?	?	?	VoIP, Wi-Fi out & in, SMS over IP, call-through & call-back, instant messaging, videoconferencing	?
Truphone	Nokia-Symbian, iOS, Android, BlackBerry	Proprietary, freeware	No	SIP	?	?	VoIP, Wi-Fi out & in, SMS over IP, call-through & call-back, connection management, provisioning	Symbian 4.0, iOS 1.11.1
Vopium	Symbian, Java ME, Android, BlackBerry RIM, iOS, Windows Mobile 2003 SE and higher	Proprietary, freeware	No	SIP, MSN, Skype, Yahoo, AOL, ICQ, Google Talk, Facebook & Twitter	GSM	?	Wi-Fi VoIP, GSM call-through, SMS over IP, least cost routing, synchronising-backup mobile contacts and calendar	2.0
WhatsApp	Android, BlackBerry, iOS, Symbian, Windows Phone	Proprietary, freeware	No	?	?	ECDH, SRTP[55]	VoIP and instant messaging over Wi-Fi or a data connection.	**iOS** 2.17.42 / August 7, 2017[56] **Android** 2.17.287 / August 4, 2017[57] **Windows Phone 8, Windows 10 Mobile** 2.17.214[58] **Symbian** 2.16.57[59] **BlackBerry** 2.17.2 / June 26, 2016[60]
Windows Mobile 6	Windows Mobile 6 Professional/Standard	Proprietary	No	SIP to publicly and non-publicly routable servers	?	?	Wi-Fi Mobile VoIP	6.1
X-PRO for Pocket PC	Windows Mobile 2003 (earlier versions support Windows PocketPC 2002)	Proprietary, discontinued in April 2007[61]	No	SIP	?	?	Supported devices: AudioVox Maestro, Compaq/HP iPAQ: 365x, 37xx, 385x, 395x, hx4700, Dell Axim X51, X51v, Toshiba e550, e570. iPAQ 545x and Toshiba e7xx are not supported.[62]	2.2
Yuilop	Android, iOS, Windows Phone, BlackBerry OS	Proprietary, freeware	No	XMPP, RTP	iLBC	TLS	VoIP over 3G-4G-LTE and Wi-fi, SMS, group chat, photo sharing, Location sharing, virtual phone numbers	**iOS** 2.4 (November 26, 2014[63]) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Upptalk&action=edit) **Android** 2.0.2 (February 12, 2014) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Upptalk&action=edit) **Windows Phone 7.x** 1.0.1.7 (September 12, 2013) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Upptalk&action=edit) **Windows Phone 8.x** 1.0.0.4 (September 18, 2013) [±]

Program	Operating systems	License	Open source	Protocols	Codecs	Encryption	Other abilities	Latest release
								(https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Upptalk&action=edit) **BlackBerry OS** 1.0.1 (May 31, 2013) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Upptalk&action=edit) **Kindle Fire** 2.0 (December 19, 2013[64]) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Upptalk&action=edit)

Frameworks and libraries

Program	Operating systems	License	Protocols, based on, compatible with	Encryption	Other abilities	Key and target markets	Latest release
Tapioca	Linux	GPL	Telepathy (software)	No			0.3.9; June 12, 2006
Telepathy, Farstream	Linux, macOS, Windows	LGPL	SIP, XMPP (Jingle), ICE (STUN/TURN), UPnP	No	Multi-user A/V conferencing, IM, collaborative applications	Mobile devices (Maemo, Meego), Linux desktop or embedded	spec 0.27.2; September 24, 2013
OPAL	Windows, Linux (including embedded variants), macOS	MPL	SIP, H.323, IAX2, CAPI, VXML	Unknown	Multi-user A/V conferencing, IM, IVR	Softphones, softswitches, telephony application servers	3.14.3; October 10, 2014
GNU oSIP	Linux, Windows, macOS, Android, iPhone, BlackBerry	LGPL	SIP, SDP	Unknown	Multi-user A/V conferencing, IM, IVR	Softphones, embedded and mobile devices, telephony application servers	4.1.0; December 18, 2013

Server software

Program	Operating systems	License	Protocols, based on, compatible with	Encryption	Other abilities	Key and target markets	Latest release
3CX Phone System	Windows, Linux	Proprietary	SIP	TLS, SRTP	Voice and video IP telephony and conferencing, voice mail and instant messaging	< 50,000 users	15.5 ; June 7, 2017
AS5300	Linux, Windows Server 2003	Proprietary	SIP, UNIStim, MLPP	SSL, TLS, SRTP, SDESC	Voice and Video IP telephony, Voice and Video conferencing, voice mail and instant messaging	1,000 - 25,000 users	1.0; January 2008
AskoziaPBX	no additional OS required (Linux based)	GPL, Open core	SIP, H.323, IAX, SCCP	No	ISDN, analog, Voicemail, Conferencing, MOH, ACD, IVR, Call forwarding, Call recording	SMEs up to 50 users	2.2.2; December 2012
Asterisk PBX	Linux, BSD, macOS, Solaris	Mixed: GPL, Proprietary[65]	SIP, H.323, IAX, MGCP, VOFR, XMPP, Google Talk, TDM	TLS, SRTP	VoIP Gateway, voicemail, basic accounting (can be expanded by interface with ODBC-compliant database), billing, conferencing, hot-desking, IVR trees with conditional logic, call queuing, automated call distribution	Enthusiasts, developers, enterprise users (capacity dependent on server design, scalable across multiple servers)	14.6.0 (12 July 2017[66]) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Asterisk_(PBX)&action=edit) 13.17.0 (12 July 2017[67]) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /Asterisk_(PBX)&action=edit)
Brekeke SIP Server	Linux, Windows	Proprietary	SIP	TLS, SRTP	SIP Registrar, SIP Proxy	SIP Service Providers, VoIP service providers, Healthcare, Security	3.7.7.3; August 4, 2017
Brekeke PBX	Linux, Windows	Proprietary	SIP	TLS, SRTP	Voice and Video IP telephony, Voice and Video conferencing, and voice mail	Hosted service providers, Mid-large enterprise	3.7.7.3; August 4, 2017
CallMax Softswitch	Linux	Proprietary	SIP, H.323	SSL, TLS, HTTPS	Integrated billing, IP PBX Platform, Calling card platform, Callshop module, Customer Web Portal, Retail SMS Platform.	SIP Service Providers, Residential & Business VoIP providers, Corporate Clients, Other Class 5 softswitch users	3.6; October 2015
CommuniGate Pro	Linux, BSD, macOS, Windows, Solaris, HPUX, AIX	Proprietary	SIP, XIMSS Protocol, XMPP, WebRTC	SSL, TLS, SRTP	SIP Registrar/Proxy, Authentication, Diameter, RADIUS, ENUM, many others	Carriers, enterprises, MNOs, ISPs, SaaS providers	6.1.11; June 2016
Dial-Gate Softswitch PBX	Linux, Windows	Proprietary	SIP	TLS, SRTP	Billing server, real-time account and line monitoring, web-based user interface	Softswitch users, service providers	4.3; June 2014
Dial-Office IP-PBX	Linux, Windows	Proprietary	SIP	TLS, SRTP	Unified Communications, Conferencing, remote worker support and voice mail	Small businesses, Mid-large enterprises	4.1; December 2013
Elastix	Linux	GPL	SIP, IAX, H323, XMPP	TLS, SRTP	Unified communication server that also supports chat, mail and fax.	Capacity dependent on server design, scalable across multiple servers	2.5.0 (stable), 3.0.0 (stable), 4.0.0 (stable); February 10, 2016
FreeSWITCH	Linux, BSD, macOS, Solaris, Windows	Mozilla Public License	SIP, NAT-PMP, STUN, SIMPLE, XMPP, Google Talk (Jingle), IAX, H.323, MRCP, RSS, Skype	TLS, SRTP, ZRTP	Recording, Voicemail, Conferencing, RADIUS, ENUM, IM Proxy, Streaming, Media gateway, Soft-PBX, IVR (modular)	Large soft-switch users, home PBX users, softphone users	1.6.19 (July 13, 2017) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /FreeSWITCH&action=edit)
FreePBX	Linux, BSD, Solaris	GPL	SIP, IAX, H323, XMPP	TLS, SRTP	Complete PABX Service, based on Asterisk and PHP 5.3; provides a full replacement for a legacy non-VoIP phone system; under current and active development	Scales from Raspberry PI (3 users) to multiple parallel clusters (10K+ simultaneous calls)	12.0; October 2014
GNU Gatekeeper	Linux, FreeBSD, macOS, Windows XP-2000-Vista-7	GPL	H.323	H.235	H.460.18 firewall traversal, routing, accounting	video conferencing, VoIP carriers large and small	3.7; August 15, 2014
HERO Hosted PBX	Linux, Windows	Proprietary	SIP	TLS, SRTP	Unified Communications, billing server, cloud-based management and web interface	Mid-large enterprises, VoIP carriers and service providers, telecom operators	4.3; December 2013
Kerio Operator	Linux, VM	Proprietary	SIP	SSL, TLS, SRTP	integrated firewall, Auto attendant, Call queues, Conference calling, Call forwarding, pickup, parking, recording, Click to Call, Video calling, Fax support, Paging, Salesforce.com and CRM integration, Voicemail to email, complementary desktop Softphone app	SME	2.5.2; November 15, 2016
MediaCore SBC	Linux	Proprietary	H.323, SIP, SMPP	SSL, TLS, HTTPS	Dynamic routing mechanism including LCR, Jurisdictional routing support, A-number based routing for EU-based providers), integrated billing, SIP-H.323 protocol converter, Transcoding - codec converter module, Guardian - revenue assurance module, SBC functionality, full and media proxy, Carrier SMS support	Transit VoIP services providers, VoIP wholesale carriers, VoIP termination providers, SMS carriers	4.6.1; May 2017
Murmur	Linux, BSD, macOS, Windows	BSD, GPL	CELT, Speex, Opus	TLS	Chat with (limited) embedded HTML, ACLs for user management, Customizable In-Game Overlay, Directional Audio, Plugin Support, Nested Channels	Individuals to Small and medium enterprise (25-5000 users)	1.2.17; September 24, 2016
Mysipswitch	Linux	BSD	SIP, Ajax	SSL	SIP proxy server which allows the use of multiple SIP accounts with a single SIP login	Individuals	August 2007
Objectworld UC Server	Windows XP-2003-2008	Proprietary	SIP	No	IP PBX, personal assistants, IVR, automated phone provisioning, fax server, unified messaging, Outlook,	Small and medium enterprise (25-2000 users)	4.4.2; May 2009

Program	Operating systems	License	Protocols, based on, compatible with	Encryption	Other abilities	Key and target markets	Latest release
					Exchange and Lotus Domino-Notes integration, conferencing, outbound dialing		
Kamailio, OpenSIPS (formerly named OpenSER)	Linux, BSD, Solaris	GPL	SIP, XMPP	TLS, SRTP	SIP registrar-proxy, authentication, Diameter, RADIUS, ENUM, least-cost-routing, many others	SIP Service Providers	4.0.1 (25 April 2013) [±] (https://en.wikipedia.org /w/index.php?title=Template:Latest_stable_software_release /&action=edit)
Pbxnsip	Linux, BSD, macOS, Windows	Proprietary	SIP	SRTP	IP PBX, presence indication, IVR, automated phone provisioning, fax server, unified messaging, Outlook, Exchange integration, conferencing, outbound dialing	Small and medium enterprise (25-256 users)	3.3.1.3177; April 2009
SIP Express Router (SER)	Linux, BSD, Solaris	GPL	SIP	No	SIP Registrar/Proxy, Authentication, Diameter, RADIUS, ENUM, many others	SIP Service Providers	2.0.0 Ottendorf
sipXecs IP PBX	Linux	AGPL	Native SIP call control, XMPP	TLS, SRTP	Full redundancy (HA), instant messaging, voicemail, user portal, admin GUI, plug & play management including phones and gateways, fully featured	Enterprises between 10 and 10,000 users, multi-site	14.04.2; July 2014
Unison	Linux	Proprietary	SIP, XMPP, IMAP, SMTP, CalDAV	SSL, TLS	Unified messaging, IP PBX, IVR, instant messaging, calendar server, LDAP server, email server	Small and medium enterprise (25-256 users)	3.0; February 2010
vzRoom	Windows	Proprietary	SIP	SSL, TLS, AES	Instant messaging-chat, VoIP, video, sharing (desktop, video, file), whiteboard, scheduler, recording	Individual to small and medium enterprise (2-1,000 users)	0.8.8.735; November 2010
Yate	BSD, Linux, macOS, Windows	GPL	SIP, IAX, H.323, ISDN, XMPP (Jabber), Jingle (Google Talk), MGCP, SS7 over IP, Cisco SLT (Signalling Link Transport) (SS7 MTP2 backhaul over IP), SCTP, SCCP, TCAP, MAP CAMEL	SSL, TLS, SRTP	Voice, video, file transfer, data, H323 to SIP signalling proxy, instant messaging, IVR, PC2Phone and Phone2PC gateway, SCCP — GTT routing between networks, Secure Unified Communications, SIP registrar-proxy, SIP SBC (session border controller), USSD, voicemail, VoIP, VoIP to PSTN gateway, conference server (max 200 voice channels per conference), call centre server, prepaid and postpaid cards	Deployed on home servers and large networks with millions of users	5.5; May 2015

Secure VoIP software

VoIP software with client-to-client encryption

The following table is an overview of those VoIP clients which provide end-to-end encryption.

Client name	Development status	Open source client	End-to-end authentication[a]	Encryption protocols				Forward secrecy	Multiple encryption	Encrypted group calling	Proxy, Tor
				ZRTP	ECDH	DTLS	SRTP				
FaceTime	Active	No[68]	No[68]	?	?	?	?	Yes[68]	?	No	No
Google Duo	Active	No	No	?	?	?	?	?	?	No	No
Jitsi[b]	Active	Yes	Yes[68]	Yes	No	Yes	Yes	Yes[68]	Yes	Yes	?
Line[69][70]	Active	No	?	?	?	?	?	?	?	No[69]	No
Linphone[b]	Active	Yes	Yes	Yes	?	Yes	Yes	Yes	Yes	?	No
PGPfone	Abandonware	Viewable source[71]	Yes	?	?	?	?	?	?	?	?
Signal	Active	Yes	Yes[68]	No	Yes	No	Yes	Yes[68]	Yes	No	Depends[72]
Silent Phone	Active	Viewable source[73]	Yes[68]	Yes	?	?	Yes	Yes[68]	Yes	Yes	No
Telegram	Active	Yes	Yes[74]	No	No	No	No	Yes	?	No	No
Threema	Public beta[75]	No	Yes	No	?	?	?	No[c]	?	No	No
Viber[39]	Active	No	?	?	?	?	?	?	?	?	No
WhatsApp	Active	Partially[d][76]	Yes[76]	No	Yes[76]	No	Yes[76]	Yes[76]	Yes[76]	No	No
Wire	Active	Yes	Yes[77]	No	?	Yes[44]	Yes[44]	?	Yes	Yes	No
Zfone	Abandonware	Viewable source[78]	Yes	Yes	Optional[79]	?	Yes[80]	Yes	Yes	?	?

VoIP software with client-to-server encryption

The following table is an overview of those VoIP clients which provide client-to-server encryption.

Client name	Encryption protocols
Google Hangouts[68]	SRTP[81]
Skype[68]	A custom protocol

Notes

a. End-to-end authentication protects communications from man-in-the-middle attacks by the service provider.
b. Only if the user has registered with a compatible SIP provider. Some SIP providers do not support certain encryption protocols.
c. Only on the network connection, not on the end-to-end layer.[1] (https://threema.ch/press-files/2_documentation/cryptography_whitepaper.pdf)
d. Only the encryption related source code is open.

See also

- List of codecs
- List of SIP software
- List of video telecommunication services and product brands
- Comparison of audio coding formats
- Comparison of instant messaging clients
- Secure communication

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