

Corporate Messenger

With entire infrastructure, code and data control

Mission statements

- Provide the enterprise with a complete messaging solution for real-time communication with zero external dependencies
- Make infrastructure resilient to external cyberattacks through a range of preventive security measures
- Eliminate the possibility of information leakage backdoors by building applications from a trusted codebase only
- Protect user data with cryptographic algorithms, client-side encryption, and cross-device verification
- Allow the enterprise to make decisions on where to deploy the whole infrastructure, set of required services, configurations and policies
- Provide the ability to maintain, customize and improve software in the long term
- Deliver administrative, statistical and user interfaces for advanced use of the ecosystem along with detailed guidances

Installation options

- Deploy the infrastructure on a virtual private server from any preferred provider (the best option to ensure reliable interoperability over the global Internet)
- Deploy the infrastructure on office computers or server rack with a public IP

 (advantage in ownership of physical data mediums, disadvantages in covering
 the cost of resources and complexity of network configuration)
- Deploy the infrastructure on office computers or server rack in a local network
 without access to the Internet (the advantage of owning physical data mediums
 and infrastructure security, disadvantages in covering the cost of resources,
 complexity of network configuration and inability to access from the outside)

User accounts creation

- Open public registration by username and password, system may require validation of email address and phone number optionally
- Closed public registration, creation of accounts in the administrative panel or directly in the tty terminal
- Registration with special invitation codes issued on the server, one-time or reusable, expiring on a certain date

Server-side services

- Event-driven main messaging server
- STUN/TURN server for WebRTC audio/video calls
- Video conferencing services for groups more than 2 people
- Identity server for mapping email address and phone number to user ID
- Reverse-proxy web server for redirecting to internal virtual network
- Push-gateway for getting notifications on mobile devices
- Gateway to define specific policies for accounts and allowed activities
- Internal or external SQL database that stores already encrypted data
- Monitoring system and time series database Prometheus with Grafana GUI
- Administrative panel for user, channel and content moderation
- Service for token-based account registration with custom GUI
- Mail transfer agent Exim in connection with SMTP server
- Antispam and moderation tools
- The integrations manager that allows users to add bots and widgets

Server requirements

Operating system:

- CentOS 7
- Debian (10/Buster or 11/Bullseye)
- Ubuntu (18.04 or 20.04)
- Archlinux

Minimum requirements for 100 people:

- 16Gb RAM
- x4 CPU
- 100Gb SSD

Client-side functionalities

- Account creation and user login
- Find people by ID, name or email address
- Add multiple email addresses and phone numbers to the account
- Create public and private chats, with or without encryption
- Group chats into directory/subdirectory structures
- Invite people to chats, groups and directories
- Send text messages, audio messages, media and other files
- Strong end-to-end encryption on the client-side
- Decryption by private cryptographic key or secret passphrase
- Audio and video calls, 1 on 1 and videoconferencing
- Push notifications on devices and email addresses
- Advanced notifications through keywords and mentionings
- User status online, last time seen
- Received and read message status
- Edit, remove, quote, forward and share messages
- Generate address links to people, chats and messages
- Configurable permissions for administrators/moderators/users
- Report content to chat administrator or moderator
- Ability to kick and ban users from chats
- Chat prioritization, add chat to favorites
- Leave a feedback and send bug/crash reports

- Verify login sessions across all devices
- Protect application by setting PIN code, TouchID or FaceID
- Geolocation sharing
- Create configurable polls in the chats
- Terminal emulation for basic commands
- Restore account by resetting password through email
- Automatic backup creation
- Manual backups and manual imports from files
- Reset encryption keys and existing sessions
- Add 3rd party apps and bots through integration manager