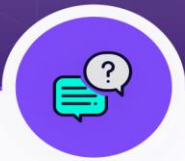




# MIRRORFLY

An Instant Solution for Real-time Communication Essentials



## Messaging

- ★ 1-1 Private & Group Chat
- ★ Broadcasting
- ★ Media/Document Sharing
- ★ Multilingual
- ★ Advanced Encryption & Security Standards
- ★ On-Cloud/On-Premise Deployment



## Voice/Video Call

- ★ One-to-One Calling
- ★ CallKit Implementation
- ★ Own WebRTC Setup for unlimited minutes
- ★ Low Latency
- ★ Seamless HD Video and Audio calls
- ★ Lightweight Setup



## 6 Stars Solution

- ★ 100% Customizable Software
- ★ Complete Ownership
- ★ One-time License Cost
- ★ End-to-End Development Support
- ★ Quick Launch (Solution for Both standalone Apps and SDK's)
- ★ Unlimited Messages & Calling Minutes

Prepared by

**CONTUS**  
technology at IT's best



# Table of Contents

1 OVERVIEW .....	3
2 ABOUT CONTUS & MIRRORFLY.....	3
3 MIRRORFLY SPECIFICATIONS .....	4
3.1 FEATURES LIST.....	4
3.1.1 FRONT END APPLICATIONS .....	4
3.1.2 IMMEDIATE ROADMAP FEATURES (FRONTEND APPS) .....	9
3.1.3 ADMIN PANEL (BACK END) .....	11
3.2 IN SCOPE.....	13
3.3 OUT OF SCOPE .....	13
3.4 SOFTWARE/HARDWARE SPECIFICATIONS .....	13
3.4.1 HIGH LEVEL SERVER ARCHITECTURE .....	13
3.4.2 SECURITY VIEW.....	14
3.4.3 SERVER REQUIREMENTS .....	16
4 MIRRORFLY COMMERCIAL SNAPSHOT .....	17
4.1 COST SAVING BENEFITS & WHY CONTUS MIRRORFLY .....	17
4.2 OFFSHORE DEVELOPMENT CENTER SETUP.....	18
5 TESTING STRATEGY.....	19
6 APPENDIX .....	19
6.1 RISKS/CONTINGENCY PLAN .....	19
6.2 SUPPORT INCLUSIONS/EXCLUSIONS AND ESCALATION MATRIX .....	19
6.3 COMMUNICATION PROCESS.....	20
6.4 PROJECT CHANGE REQUEST.....	21
6.5 TERMS & CONDITIONS.....	21
6.6 ENTIRE AGREEMENT .....	22



This Statement of Work (SOW) is made on \_\_\_\_\_ by and between **Contus Support Interactive Pvt. Ltd**, a company incorporated under the Indian Companies Act 1956, with its principal place of business at No: 12-A, (SP), Kamak Towers, 6th Floor, Thiru-Vi-Ka Industrial Estate, Ekkaduthangal, Guindy, Chennai - 600 032 ("**Contus**") and, **HOLOTEQ GROUP** having its registered office located at Street 315, zone 69, building 5, Marina 50 Tower 16th floor, Lusail, Qatar ("**Client**").

## 1 OVERVIEW

---

This contract is made for procuring the license of MirrorFly Platform. Contus thanks Holoteq group for approaching us on **MirrorFly solution** to use on top of their applications. We offer MirrorFly as a fully customizable SDK & source code to be modified as per each and every client's unique business idea.

## 2 ABOUT CONTUS & MIRRORFLY

---

**Contus** started providing digital transformations solutions and services since 2008, even before the actual digital transformation era started. Today after a proud 11 years of successful existence, Contus is consciously driven by the future of Digital techs, not by the current or legacy techs. The solutions and services of Contus have connected millions of devices and people and hearts across the globe right from heartbeats monitors to Televisions to Cars & trucks to smart cities, with its Over The Top (OTT) Video on Demand, Messaging Solutions and full stack IOT enablement services. With hundreds of digital engineers' @Contus, we have enabled millions of end users to connect for elaborate use cases in more than 50 countries.

### AFFILIATIONS:

Contus has been in this Digital Transformation journey for 11+ years now and has been a renowned partner for various on demand technologies. This section is to showcase a snap shot of our technology sign-ups till date on the whole journey.



**MirrorFly** is a customizable instant messaging solution offered by Contus, for group messaging, private chat and audio/video calls. This multi platform accessible chat solution is wrapped with absolute powering features and backed by highly scalable cloud and On-premise infrastructure.



## 3 MIRRORFLY SPECIFICATIONS

---

### 3.1 FEATURES LIST

#### 3.1.1 FRONT END APPLICATIONS

##### Registration

- On initiating the app, the user will be prompted to enter the phone number.
- Mobile number validation
  - If the entered number will be validated, an OTP will be sent to the phone number.
  - If the entered mobile number is not valid, a message will be displayed as "Enter valid country code or Mobile number".
- OTP validation
  - If the entered OTP is verified, the user will be redirected to the profile settings page.
  - If the OTP is not validated, the system should display "Enter valid OTP"
  - OTP expiry time is 90 seconds.
  - If the OTP is not entered within 90 seconds the user has to click on resend OTP, to receive a new OTP.

##### Initial Profile Settings Page

- This page appears after OTP verification
- Following are the fields available for the user
  - Profile picture - Take a photo, choose existing, Remove Photo
  - Email
  - Mobile number
  - Status
- "Take a photo" field takes the user to the camera for capturing a picture and use it as a profile image.
- The email ID should satisfy the format of [abc@example.com](mailto:abc@example.com). If the format is not satisfied in the validation, "Invalid Email" message will be displayed.
- The mobile number will be auto-filled with the number entered for OTP. Auto filled mobile number is not editable.
- The status will have predefined list of status for the users to choose and an option to create own status.
- Own status can be created only as text. 125 is the character limit of the text status.

##### Home Page

- The home page will have the following tabs
  - Chats
  - Contacts
  - Calls
- Text based search bar will be available on the top for the users to search within the contacts and chat messages.
- Options are available for the below facilities
  - New Group creation
  - New broadcast creation
  - Settings

##### Chats

###### 1-1 Chat

- For starting a chat user has to select a contact
- Selected contact should also be a registered user of the app



- On choosing the contact, the sender will be redirected to the 1-1 chat screen to chat with the receiver.
- Facilities available in 1-1 chat screen
  - Type and send text message
  - Send emoticons
  - Record audio and send
  - Send attachments
    - Access device camera to capture photo
    - Access device camcorder to record video
    - Choose image/audio/video from device gallery
    - Share location
    - Share documents
    - Share contact
  - Establish audio call
  - Establish video call
  - Email chat
  - Clear Chat
  - Block user
  - User will have the below options on selecting a particular message
    - Reply
    - View message delivery/read date/time information for sent messages
    - Forward
    - Star
    - Copy
    - Delete
    - Recall Message
  - Share option is available for media messages, so users can share those among their network through the other IM applications installed on their phone
  - If sender selects multiple messages, 'forward' and 'delete' options will be enabled

### Supported Media Formats

- Document : pdf, txt, rtf, ppt, xls, pptx, zip, rar, xlsx, doc, docx
- Audio : .aac
- Video : .mp4
- Image : JPG, JPEG, PNG

### Group Chat

- Users can create a new group from the home page, with a maximum count of 250 participants.
- The user will be taken to the create group screen, after clicking 'New group'
- There the user can give the group name, status and type, and select the group profile image.
- After entering the group details, the user has to click 'Done' at the top right corner, which will take the user to list of contacts, where he/she can select the members that will be the participants of the group.
- After selecting the contacts the user can click done, this will create the group after performing validations.
- Group Edit: Admin can edit group and its members, and the group members can edit group name, change icon.
- Group Members Add : Group Admin has option to add participants to the group
- Make group member as admin : Group Admin can make any members of the group has an Admin
- Group exit Members can exit the group and delete the group.
- View All Media: All the media's shared in that group can be seen under view all media.
- Leave group : User can leave from the group using this feature
- Delete group: This will appear after a user leave the group. Delete group will delete the entire chat history of the group from the user device.
- Facilities available in group chat screen



- Type and send text message
- Send emoticons
- Record audio and send
- Send attachments
  - Access device camera to capture photo
  - Access device camcorder to record video
  - Choose image/audio/video from device gallery
  - Share location
  - Share documents
  - Share contact
- Email chat
- Clear Chat
- User will have the below options on selecting a particular message
  - Reply
  - View message delivery/read date/time information for each participants available in the group
  - Forward
  - Star
  - Copy
  - Delete

### **Broadcast**

- The broadcast message is where a sender can send announcements to a set of users
- Sender can create a new broadcast from the home page
- For sending a broadcast message, the sender has to choose the list of receivers from the contacts for whom the message should be sent.
- The receivers are not allowed to reply to broadcast messages

### **Chat and Typing Indications**

- Chat messages status indication can be identified as follows and indication will be present at the end of each message
  - Clock symbol: Message is not sent from the sender mobile
  - Grey dot: Message is sent from sender and yet to be received by the receiver
  - Orange dot: Message received by the receiver
  - Green dot: Message read by the receiver
- Typing status appears when someone is typing a message in a MirrorFly group or a personal message. When sender type a message, the online status will be changed to 'typing'.

### **Language Translation**

- The application supports all the languages supported by Google.
- Go to Settings --> Chat --> Enabled Translate Message --> Choose Translation Language, then go to chats, double on any message you wish to translate and view the translated message

### **Contacts**

- This section will have a list of contacts available on the phone.
- The contact should also be a registered user in the application
- Whenever a new contact is added on the phone and that contact is a user in the application, then it will be visible under contacts
- Option to invite friends is available to invite the users not registered in the application.
- Invite message can be sent using email and SMS.
- Through invite contact option, users will have option to copy the link for downloading the app and share with friends through email or other IM, or send the link through SMS.






## Calls

- The calls tab will have the history of the incoming, outgoing and missed audio/video calls done through the application, along with the date and time of the calls
- For connected calls, call duration will be recorded


### Audio Call Outgoing Screen

- When a user clicks on the  icon then internet connectivity & microphone permission access check will be done. After getting success responses from those two checks, an audio call will get triggered to the respective contact.
- In the audio call outgoing screen, the user will find the following details:
  - Respective contact's display picture.
  - Call status info
  - Mute - through this, they can mute/unmute their microphone
  - Speaker - using this they can turn ON/OFF their phone speaker.
  - Disconnect - upon clicking this call will get terminated in both caller & receiver ends.
- Under the call status info part the following statuses will be displayed for the user:
  - Connecting - Server connection establishment is in progress
  - Ringing - Server connection established and the audio call is connected in the receiver end.
  - Connected - Receiver has accepted the call and call timer will start to run.
  - Busy - If the receiver rejects the call instead of accepting it.
  - Disconnected - When the receiver/caller has clicked on the disconnect button.

### Audio Call Incoming Screen

- When a user receives an audio call, an incoming call UI will be prompted in the receiver end with the caller's display picture and an option to either accept or reject the call.
- When the receiver clicks on the reject button then the incoming call UI will be terminated in their end and the respective call status will be sent to the caller's end.
- Once the receiver accepts the audio call then the Audio Call Ongoing Screen will be prompted with the respective details:
  - Display picture of the caller
  - Call timer
  - Mute - through this, they can mute/unmute their microphone
  - Speaker - using this they can turn ON/OFF their phone speaker.
  - Disconnect - upon clicking, this call will get terminated in both caller & receiver ends.

### Video Call Outgoing Screen

- When a user clicks on the  icon then internet connectivity and microphone & camera access permissions checks will be done and after getting success response from the checks a video call will get triggered to the respective contact.
- In the video call outgoing screen, the following details will be shown:
  - By default, the caller's front camera will be opened.
  - Option to flip the camera.
  - Mute/unmute the microphone.
  - The loudspeaker will be in ON state and can't be turned off.
  - Turn ON/OFF the video
- Once the receiver has attended the call, the receiver's video stream will be displayed and also the caller's video stream will be displayed in a small view.



## Video Call Incoming Screen

- Whenever the receiver gets the video call, a video call incoming screen will be prompted with the following details:
  - By default, their front camera will be opened
  - Accept/Reject call.
- Once rejected the video call incoming screen will be terminated and the respective call status will be updated.
- When the receiver accepts the video call, the following details will be shown:
  - Caller's video stream in a larger view
  - Their own video stream in a small view
  - Flip camera option
  - Mute/unmute speaker option.
  - Turn OFF/ON their video stream.

## Settings

- Settings will have the following menu under it.
  - Profile & Delete my account
  - Chats
  - Starred messages
  - Notifications
  - Blocked contacts
  - App lock
  - About and Help
  - Logout

## Profile & Delete My Account

- Profile page has the basic profile information like display picture, email address, mobile number and status. The user will have access to edit and update the profile details.
- Delete my account will delete the account from the app.

## Chats

- In Chats section, the following options will be available.
  - Last Seen : Users can hide their last seen activity to other users
  - User Busy Status : User can set auto responded message while enabling busy status
  - Auto Download: Auto download options help the user to download media automatically. This will help the user to make the data readily viewable.
  - Translate Message: The user can enable/disable translate message option. On enabling translate message, the system will ask the user to choose a language in which he wish to translate the message. On the chat page, the user should double click on the received message to translate it.
  - Data Usage Settings : The user can restrict media to be auto downloaded via wifi or mobile connection, based on their preference
  - Clear All Conversation: Clear all conversation will clear the conversation but retain the chat box of the users on the landing page.

## Starred Messages

- Messages that are marked starred will be available on this section.
- The message will be displayed based on the user chat.
- If a message is starred, it will be represented under that particular user.
- Message available on the starred message can be shared, forwarded, marked unfavorite.
- The starred messages can be deleted at any time by the user.





## Notification

- The notification has the following menu under it.
  - Notification alert
    - Notification sound : can be enabled/disabled to play sounds for incoming messages
    - Vibration : Vibrate when a new message arrives
    - Mute all : Will mute notification for all incoming messages
  - Notification tone : User can choose the desired notification sound/tone

## Blocked Contacts

- This section will have a list of contacts blocked by the user.
- Users can block someone using the block option on the user private chat page to avoid them chatting; message sent will be denoted as a single tick.

## App Lock

- There are 2 types of app locks; Pin lock and Fingerprint ID
- Pin lock is used to lock the app using 4digit pin. The user has to enter the pin number and retype again to confirm
- The user will have the option to change the pin number later and are not allowed to use the same pin they have used before.
- If the user closes the application and tries to open it again, the app will request the pin number.
- The app will also request a pin number if the app runs in the backdoor for more than 32 seconds. If the user enters the wrong pin number the system will display "Invalid Pin! Try again" toast message
- The user can disable the pin number by providing the exiting pin number.
- To use the Fingerprint ID, enable the fingerprint option on the mobile
- Fingerprint ID requires a pin number to activate it
- To disable the Fingerprint ID, the user must give the pin ID
- The user can enable Fingerprint ID and pin number at the same time. If both are enabled, the user can either use pin number or FingerprintID
- The pin will be expired after 31 days and the user should provide a different pin number.

## About and help, LogOut

- In About and Help section static contents about the application can be added.

## 3.1.2 IMMEDIATE ROADMAP FEATURES (FRONTEND APPS)

### Edit Message

- Users will have Edit message option; the user can edit only text messages within 5 minutes after the message has been sent.
- Edit message is available only for text message and cannot edit media files. (Images/videos/Audio /contacts/documents)
- Users can edit only the messages they have sent; they can't edit received messages.
- If the user sends media files (Images / videos / location /contacts /documents) with a text message captions, then the user would have the option to edit the text message alone and not the media files.
- Edited messages will not be displayed in the Notification tray.
- If the receiver tags and replies over an edited message, then the tag would show the edited message only. (Not the original message.)



- Users would be able to edit the already edited text messages. Please note user would be able to edit the message multiple times, but only for 5 minutes from the moment, the original message is sent.
- Once the receiver deletes the message on his view, then even if the sender edits that particular message multiple times and sends it. It would not be displayed in the receiver view.

### **Self Destruct Message**

- Users would have a self-destructive option to be enabled/disabled with a timer; this option would be displayed in the menu option in chat screen.
- Once the User enables this option and sets a timer, the timer is applied to the entire conversation and not to a particular message alone. The timer would be accountable and destroy any message sent by both user and receiver.
- Self-Destructive timer would be accountable once the message is sent to the server.
- Both the sender and receiver can set the timer for the conversation whichever the recent timer is set it can be considered.
- This self-destructive feature once enabled by any user will be applied to the entire conversation, until any one of the users disables the self-destructive option.
- Please note the Message is deleted from the mobile app and backend database.
- If a user sends a self-destructive message and once the message gets delivered to the receiver, it would be deleted from the database. (Irrespective if receiver has read the message or not)
- The timer options would be available for the following time limits : (There is fixed timer options) 5 sec, 10sec, 30sec, 1 min, 5 min, 30 min, 1 hr, 6 hrs, 12 hrs, 1 day, 1 week.

### **Delete My Account**

- If a User wants to delete their own account, then they could use this option in the settings section. Their account and all account related details and data would be removed from the application and they would be logged out.
- The other users who have stored user's contact in their devices would not be able to see the contact in the application's contact section.
- The contact would be visible in the invite contact section.
- All the chat history and the media content shared with User would also be available in all the other users devices.
- Once the user account is deleted, the app would automatically remove them from all the groups they were part of. A banner would be displayed in the groups indicating the user left the group.
- If other users send any message to User, it would be in a sent status alone and it won't be delivered
- If the user wishes to join the app again, it would be a complete new setup. The user would have to complete all the registration and sign in process. The user would be considered as a new user.

### **Hide My Notification**

- Hide my Notification option would be available in notification settings, once user enables the setting following features would be implemented.
- The notifications would not display the message content in following scenarios:
- When Device is in locked state
- When the app is in background
- When the user is in home screen/or any other app screen



- When the app is killed and the user is using different apps/screens.
- In all the above scenarios, the notification in User B's screen will just display "New message from User A", when User A sends User B a new message.
- Please Note: If the User is using the app, if they are in the chat screen or other conversation screens, the notifications received during these scenarios would display the message content in the Notification tray.

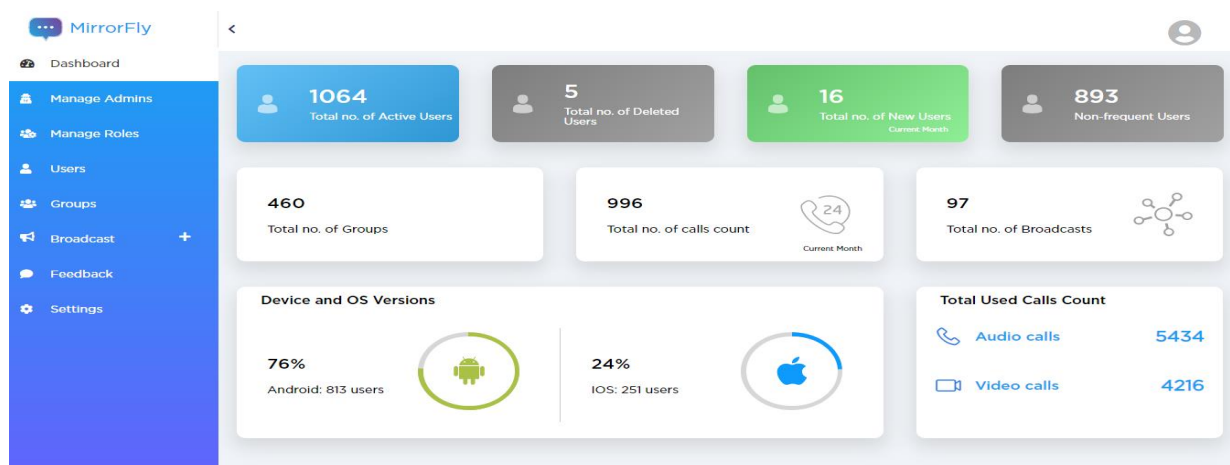
### 3.1.3 ADMIN PANEL (BACK END)

Following are the credentials available for admin to login and access the system.

- Username
- Password

#### Dashboard

Admin on successful login, views detailed analytics as follows on the dashboard.



#### Manage Roles

Admin can create roles and provide certain privileges for the create role.

#### Manage Admin

Super Admin can create sub administrators and assign them the created role to perform specified actions on the admin panel.

#### Users

- Admin can view info about users using the app
- Following are the user info, an admin can view
  - Name
  - Status
  - Mobile
  - Device
  - Contacts associated with the user
  - Groups associated with the user
  - Action for editing, deleting

#### Groups



- Groups available on the application will be displayed in this section.
- Following are the info that will be available in the view groups option.
  - Group name
  - Total members
  - Detailed View

### **Broadcast**

- Admin can send a broadcast message to all the users.
- For sending broadcast admin has to fill the following fields
  - Title
  - Message
  - Status
  - Add users
  - Add groups
- On filling the above fields and clicking on submit, a broadcast can be created.

### **Settings**

- Settings will have the following fields to edit and save any time.
  - Mail Domain
  - Admin user
  - Mail Login
  - Video Limit( in seconds)
  - Audio Limit( in seconds)
  - Action for editing, deleting

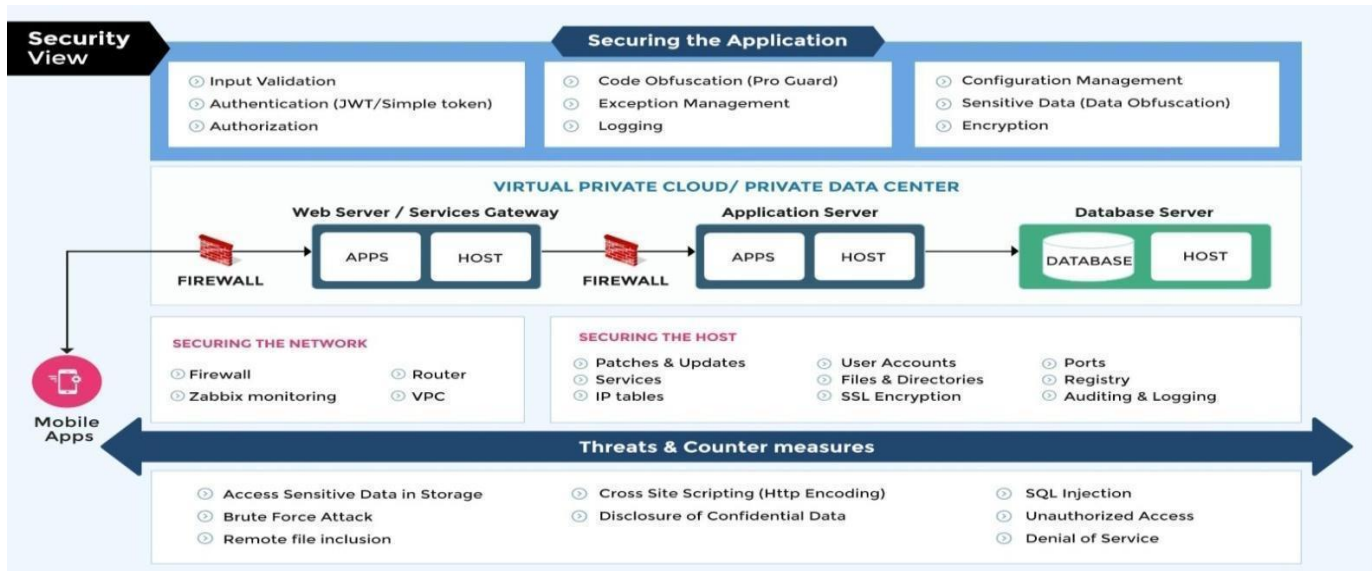
### **Profile and Change Password**

- The profile will have the following fields to edit and update it
  - Name
  - Email
- Admin can change and update password using this option
- For changing the password, admin should fill the following fields.
  - Old Password
  - New password
  - Confirm password
- Once the above field is entered system will validate the old password first.
- If the entered old password matches, then the system will validate the new and confirm password.
- If the old password doesn't match, the system should display "Old Password incorrect".
- If the old password is matched then the system will check the new password and confirm password is matched.
- If the password is matched the password will be changed and updated.
- If the password is not matched then "The new password and confirm password must be the same" should appear.
- Password validation is that the password should contain 6 letters of minimum characters.





### 3.4.2 SECURITY VIEW



### SECURITY DESCRIPTION

#### Message Encryption Process for MirrorFly

- Encryption process starts by converting the messages into JSON string
- Then it will Prepare a unique value for the encryption key (i.e.) Message ID(e.g. : abcde1545055639000000fgh)
- The value will be 8 digit random string has generated from (a-z, 0-9) = abcdefgh
- Time stamp has been appended between the 4th and 5th digit of random string = 1545055639000000 ⇒ I.e. abcde1545055639000000fgh
- Generate the Encryption key by using the Unique value of "Message ID" in AES256 String encryption of 32 Bytes
- Now the Encryption key is ready to encrypt the plain text.
- Convert the JSON String into Data using UTF8Encoding
- Now Encrypt the Converted data using the Encryption key with the IV(Initialization vector)
- Here the Initialization vector is a constant "sahdgs8sdj3483ks"
- AES Encryption returns Encrypted data
- Convert the Encrypted Data into Encrypted String using Base64 Encoding.
- The final converted Encrypted string will be sent as message body in XMPP Payload

#### Decryption Process

- Decrypt process prepare the string from Message Body
- It will generate a unique value for the decryption key (i.e.) Message ID
- The Encryption key with the Unique value "Message ID" will be generated using AES 256 String encryption of 32 Bytes
- Now the Decryption key is ready to decrypt the encrypted text
- It will Convert the Decrypt string into Decrypt Data using Base64 Decoding
- Initialize the Decryption with Decrypt Data using the Decryption key with the IV(Initialization vector) → Here the Initialization vector is a constant "sahdgs8sdj3483ks"
- AES Encryption returns the Decrypted data
- Convert the Decrypted Data into Decrypted String with UTF8Encoding.
- Finally decrypted string will be ready to read.



### **End to End encryption**

- All the message content will be encrypted with a unique key. AES encryption will be used to encrypt the message content. Encryption will be based on the message content, timestamp, user details and other parameters.
- Each message will require a unique key to view it.
- All the messages will be sent over a secured connection.
- We will have managed encryption key and will do 256-bit Advanced Encryption Standard (AES-256), to encrypt your data.

### **Media encryption**

- All the media / Image uploaded will go through a validation and compression process.
- Each media will have dynamic URL generated to view the content.
- URL will be encrypted and will not be in the plain text.
- Unique token will be generated between the sender and receiver to view the media content. Preventing other users from viewing the content.

### **TLS Certificate**

- Transport layer security to enable secure connection between web-Client and server

### **WAF**

- Implement WAF to monitor and allow/block the request based on conditions
- It will prevent malicious attacks, DDOS

### **SSL Encryption (Secure channel for communication)**

- Client and server will communicate with a secure channel. Client will authenticate the server validity before communicating.
- Validating server authenticity.

### **JWT Token**

- User login credentials and secret key will be used to generate a JSON Web token
- Validating Token issued date and Expiry date of the token.
- JWT will allow user based resource allocation and restriction.
- Control and option to revoke token and refresh the token

### **Application Level Security**

- We will actively involve and track the development and implementation stage of the application to prevent the following list
- Cross-site scripting
- SQL injection
- Denial-of-service attack and
- Remote file inclusion and few others.

### **Network Security**

- Firewall port restriction, which allows only demanding, ports to access from public network. (For example: 443/SSL, 5222/XMPP)
- Location based restriction can also be implemented
- Virtual private service for communication between multiple application server and database, without needing to access through public network





## Security in WebRTC

- End-to-end encryption between peers
- Signaling will be done over the HTTPS secure connection.
- Video by default will be over SRTP (Secure Real-time Transport Protocol).
- SRTP by default uses AES encryption (Advanced Encryption Standard)

## 3.4.3 SERVER REQUIREMENTS

Please find below the high level server requirements to install Mirrorfly on Google Cloud

Services	GCP Services	25K Users / Month			75K Users / Month			150K Users / Month		
		Config	VMs	Cost(\$)	Config	VMs	Cost(\$)	Config	VMs	Cost(\$)
Kubernetes (for all the application services)	Kubernetes Worker Nodes	2vCPU + 16GB RAM	2	<b>\$180</b>	4vCPU + 16GB RAM	2	<b>\$240</b>	4vCPU + 32GB RAM	2	<b>\$380</b>
Database Server	Compute Engine	2vCPU + 8GB RAM	1	<b>\$60</b>	2vCPU + 16GB RAM	1	<b>\$90</b>	2vCPU + 16GB RAM	1	<b>\$90</b>
Redis Server	Compute Engine	2vCPU + 8GB RAM	1	<b>\$60</b>	2vCPU + 8GB RAM	1	<b>\$60</b>	4vCPU + 16GB RAM	1	<b>\$120</b>
STUN/TURN	Compute Engine	2vCPU + 16GB RAM	1	<b>\$90</b>	4vCPU + 16GB RAM	1	<b>\$120</b>	4vCPU + 32GB RAM	1	<b>\$190</b>
SIP Server	Compute Engine	2vCPU + 8GB RAM	1	<b>\$60</b>	2vCPU + 16GB RAM	1	<b>\$90</b>	4vCPU + 32GB RAM	1	<b>\$190</b>
Media Server & Storage	Cloud Storage	2TB		<b>\$46</b>	5TB		<b>\$115</b>	10TB		<b>\$230</b>
Monitoring	Compute Engine	2vCPU + 8GB RAM	1	<b>\$60</b>	2vCPU + 8GB RAM	1	<b>\$60</b>	2vCPU + 8GB RAM	1	<b>\$60</b>
<b>Total Cost (in USD) / Month</b>				<b>\$556</b>			<b>\$775</b>			<b>\$1,260</b>



## 4 MIRRORFLY COMMERCIAL SNAPSHOT

Platforms delivered will be MirrorFly Web, Android and iOS Solution
Complete access to SDK's and Source Code Files
One month (20 business days) technical support post purchase as per the <a href="#">support inclusions</a>
Custom Branding with your company Logo
Real time language translation (LTR) using Google API
Real time Analytics
Infrastructure set up on client's hosting account
<b>All the above covered just in One Time Licensing Cost : 70,000 USD</b>
<b>Delivery Timeline : 7 to 10 Business Days</b>

**Note :** Client will directly pay the monthly hosting cost to the respective hosting provider, as the entire MirrorFly solution & database will be resided on the client server

### 4.1 COST SAVING BENEFITS & WHY CONTUS MIRRORFLY

✓ <i>No Monthly/Hidden Fee for MirrorFly Solution</i>
✓ <i>Unlimited Messages, Audio and Video calling minutes</i>
✓ <i>Unlimited no of Monthly Active Users and Concurrent Users engagement</i>
✓ <i>Unlimited Multimedia transfers (Image, Video, File sharing, and Voice message)</i>
✓ <i>Full access to source code files</i>
✓ <i>End to End Development and launch support from Contus</i>
✓ <i>100% Customizable Software</i>
✓ <i>On Own cloud &amp; On-premise Infrastructure setup</i>
✓ <i>Built and optimized with robust technologies for high reliability and scalability</i>
✓ <i>Quick Launch</i>



## 4.2 OFFSHORE DEVELOPMENT CENTER SETUP

Client has full flexibility to hire Contus Engineers under **T&M (Time and Material) billing model** for developing custom features, design changes and work in other custom engineering projects. We provide skilled resources as mentioned below, and the development effort is billed at the end of every month on the mutually agreed hourly rate. Few of the resources might be used on-demand for development and billing will be considered only for the actual hours they work on the required task

Resources	Hourly Rate in USD
Project Manager/Technical Lead	30
Business Analyst	26
UI Designer/FrontEnd Developer	24
Android Developer	24
IOS Developer	24
Ejabberd Developer/API Developer	24
Testing Engineer	24
Server Engineer	24

### Highlights of T&M (Time and Material) Billing Model

- T&M is the only preferred model by most Enterprises and corporate companies as it gives them more transparency and control over the project management and development process.
- Client team will be provided advantage on the flexibility of the scope and change requests.
- The team can be downsized or upsized based on the requirement.
- The billing will be purely done based on the actual utilization of the resources for the completion of each month and the invoice will be submitted at the end of every month based on the number of resources utilized and their actual development efforts
- At the end of every week, burn rate chart will be submitted to Client team, which provides complete report on the resource utilization hours, thus giving client team complete control and transparency on the development efforts. If any concerns, client can raise it immediately and appropriate actions will be taken immediately
- Client team will also be given access to our internal Jira account so they can assess the time taken by each resource for the set of tasks.
- Under this model, Client team will be charged only based on the actual utilization and hence it would offer the provision where client team can effectively manage their budget and plan for further utilization.
- Even after the completion of the project, you can continue hiring the same team for maintaining the application if need be, such as for OS upgrades, etc.



## 5 TESTING STRATEGY

---

- Frontend Testing
  - Functional Testing - Sanity, Regression and Integration Testing
  - Compatibility Testing - Most likely used devices of the customer will be tested
- Backend Testing
  - Xmpp Load Test - Server will be tested to verify the load and scalability
  - API testing - All the API of the project will be validated

## 6 APPENDIX

---

### 6.1 RISKS/CONTINGENCY PLAN

#### **Risks**

- Client team should always take a backup of the source code while modifying any core files with their development team
- The third party plug-in required for integration should not be encrypted
- Client team should consider the Technology Requirements (Hardware & Software) while planning infrastructure setup for deployment

#### **Contingency Plan**

- In case, if any modification from Client team results in breakdown of the application, Contus can either assist with backup plan or can resolve the situation by fixing the code. This engagement comes under additional billing and will be billed based on time and resource utilization.
- If Contus plans to assign a dedicated team for Client, and during that case if any core team member relieves due to unforeseen reasons, Contus has the ability to do immediate replacement, as we have a strong team of 130 plus professionals dedicated for MirrorFly Team alone.
- MirrorFly Fly solution is based on Ejabberd community Edition. As of now, Ejabberd Community Edition has all functionalities similar to Business Edition, but in case in the future, if Ejabberd announces exclusive feature benefits for Business Edition, it is very much possible to migrate from Community to Business Edition. Contus suggests taking backup of the source code files. In case, if Client fails to do backup/recovery, Contus Team, will do a backup plan in order to handle such situations.

### 6.2 SUPPORT INCLUSIONS/EXCLUSIONS AND ESCALATION MATRIX

#### **Support Inclusions**

- The support can be Q/A or issue fixations.
- The client can put forth their questions in relation to managing the features of the MirrorFly and it will be answered by the support team.
- Even bugs (if any) arising on the codes we have delivered can be reported and will be fixed.
- Server level queries/issues will be addressed.
- Deployment/Installation related queries also will be addressed.
- Issues related to devices that are supported by MirrorFly will only be covered



## Support Exclusions

- Any bugs arising out of code-level modifications by the client or their team will not be covered.
- New feature requests (customizations that are not covered by Contus) will not be covered and guidance for new feature execution also will not be covered.
- Queries or issues related to customizations done by the client's own internal team will not be covered.

## Escalation Matrix

- The support team will be available from Monday to Friday.
- Availability hours from 10 AM IST to 7 PM IST.
- Weekends, National/Local holidays, and any time out of business hours (i.e. 10 AM IST to 7 PM IST) on working days are termed as Non-business hours.
- During emergencies on critical issues, the team can be made available during non-business hours to address the issues on a priority basis.

Severity Type	Definition	Communication Medium	Response Time
P1	Critical issues/Urgent issues that need to be addressed immediately	Basecamp/Phone	4 Business Hours
P2	Medium-level issues	Basecamp	10 Business Hours
P3	General queries on the application	Basecamp	10 Business Hours

## 6.3 COMMUNICATION PROCESS

Communication will be a key factor during the course of development of the project. Contus will appoint a dedicated Business Analyst for Client as SPOC (Single Point of Contact) from our end and we would need a designated person from the client's team to act as SPOC in providing required approvals, credentials for the project.

The following flow showcases the different stages which the project will go through and how the communication chain is linked right from initiation of the project until successful delivery between Contus and the client.





## 6.4 PROJECT CHANGE REQUEST

The following process will be followed if a change to this SOW is required

- A Project Change Request (PCR) will be the vehicle for communicating change. The PCR must describe the change, the Rationale for the change, and the effect the change will have on the project
- The designated Project Manager of the requesting party (Contus or client) will review the proposed change and determine whether to submit the request to the other party.
- Both Project Managers will review the proposed change and approve it for further investigation or reject it
- Contus and Client will mutually agree upon any charges for such investigation, if any. If the investigation is authorized, the Client Project Managers will sign the PCR, which will constitute approval for the investigation charges. Contus will invoice Client for any such charges.
- The investigation will determine the effect that the implementation of the PCR will have on SOW price, schedule and other terms and conditions of the Agreement
- Additional services or alterations outside the scope of the contract will be quoted as needed at the base rate
- Upon completion of the investigation, both parties will review the impact of the proposed change and, if mutually agreed, a Change Authorization will be executed
- A written Change Authorization and/or PCR must be signed by both parties to authorize implementation of the investigated changes.

## 6.5 TERMS & CONDITIONS

The following will be the terms and conditions of this SOW:

- This proposal only covers default MirrorFly solution with source code for Single License.
- MirrorFly SDK's and source code files should not be resold by any means without expressed permission from Contus.
- Client team is entitled to sell the applications associated with MirrorFly (with any Derivative Works) to any third party as acquisition or exit strategy.
- Client can hire the developers from us to achieve the new feature implementation and do the integration with the existing application, or integrating with active directory. The hiring of resource will be on additional billing based on the resource utilization.
- During the development or deployment stage if Clients wants Contus resources to travel to their premises for any meetings or setup related help, it can be arranged. In such cases Client should take care of travel, food and accommodation expenses for the specific resources. Per diem charges as per the standard government slabs will also be applicable for the resource.
- Server Hardware/Software cost is not covered in the proposal.
- Scope covers only native mobile applications cost.
- All the rates mentioned here is in USD. The fee is exclusive of any taxes or levies imposed by the concerned authority.
- The quoted price and the solutions are valid for a period of ten (10) days from the date of submission. If any changes in this project occur, this sow will not be valid
- The team will not be available on Indian Holidays; however, the management team will be available during those days. On serious emergencies, we will regroup the team ASAP during holidays
- All the communication will happen only through our Base camp (Project Management Tool). Anything other than project Base camp communication will not be considered as official
- Email approval will be enough to consider as sign offs



## 6.6 ENTIRE AGREEMENT

This SOW, any applicable change orders, and schedules incorporated herein, is the final, full and exclusive expression of the intent of the parties and supersedes all prior SOW's, understandings, writings, proposals, representations and communication, oral or written, of either party with respect to the subject matter hereof and the transactions contemplated hereby

IN WITNESS WHEREOF each of the parties has caused this SOW to be executed on its behalf by its duly authorized representative as of the effective date

<b>HOLOTEQ GROUP</b>	<b>CONTUS</b>
Signature:	Signature:
Request Name:	Request Name: Mr. Thiaghu Radhakrishnan
Title:	Title: VP - Finance & HR
Date be printed:	Date be printed: