Tetherfi Video Banking Version 3.0

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Revision History

Version	Date	Author	Reviewed By	Description of Changes
1	16-January-2018	Binny Mathew	Sumudu	Initial Draft
2	01-April-2018	Binny Mathew	Vineeth Nayak	Included Collaboration Features
3	24-June-2016	Binny Mathew	Vineeth Nayak	Included Implementation references

1 Contents

2 Introduction

Reduces head count for face to face transactions, things which needs a face to face interaction allowing the customer and users attending them to be anywhere, anyplace. Tetherfi Collaboration platform provides a personal touch to the contact center that will elevate customer/agent interaction. With communications and understanding improved through the use of video, agents can resolve tickets quicker, increase net promoter score and effectively meet other KPIs.
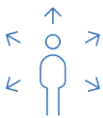
3 Overview

Leveraging Existing Telephony

- Routing of Interactions using Existing CM.
- Leveraging on Existing PBX for Skill Based Routing.
- TMAC Integrated to PBX for call control and agent states.
- Leveraging on existing reporting.
- Leveraging existing Voice loggers, as the Audio leg is routed to the agent's phone existing.
- Two Options for Audio termination,
  - Routing the Audio call to Agents phone (Existing IP Phone) and Video to Agents desktop (TMAC).
  - Audio/Video can also be terminated to the agents browser (laptop/desktop).

Unified Agent Desktop - TMAC

- Keeping TMAC (Tetherfi Multi Media Agent Desktop) as the unified agent desktop with integration to Backend Systems for all customer information across channels
  - Chat
  - Email
  - **Voice (PSTN)**
  - **VTM / Browser/ Mobile (Audio/video)**
- To use webRTC along with latest protocol
  - Video (VP9)
  - Audio (Opus).
- Tetherfi webRTC lib integrated with VTM (Client) and using Tetherfi Signal Server bringing the Video to TMAC (Agent's browser).

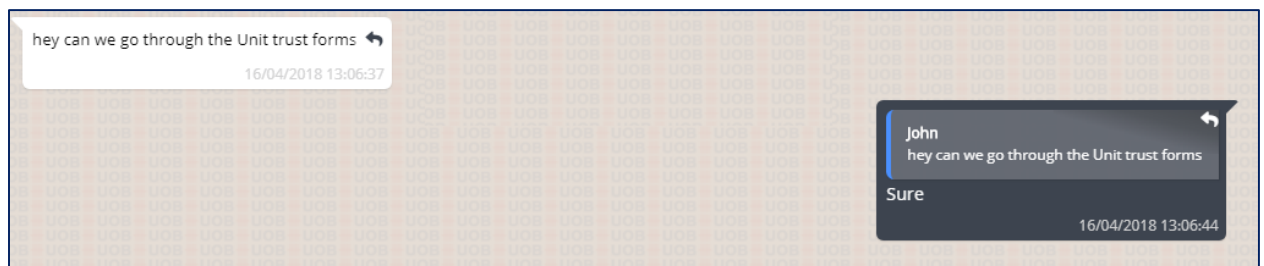|	
	Omni Channel: A single integrated view of all interactions across channels enabling agents with a 360̊ view of the customer.
	Chat: **Self:** Providing Tetherfi Virtual Assist, Integrate to 3rd party chat bot vendors **Agent:** Seamless integration to Live Agent, with the entire chat transcript presented to agent.
	Audio/ Video: Ability for customer to communicate over an Audio/Video channel from enterprise App or Website using their preferred choice of device.
	Collaboration: Tetherfi Collaborative Workspace, TCW, is a platform which can be used by Enterprise Representatives like CC Agents, Wealth Management Experts to serve end consumers real-time in a more interactive and collaborative way. *Co-Browse (Remote App Control, Annotation, Web Form Filling)* *Document Sharing*
	Recording: All Audio/Video calls are recorded and stored after encryption using Tetherfi – KMS.
	Device Compatibility: Tetherfi Provides relevant SDK for Enterprise to integrate to their Website or App. Fully responsive Unified Agent User Interface, which can be used on any device (Mobile, Tablets, Desktops)

4   Feature Functionality

❖ Seamless integration to existing CC
❖ Routing using existing PBX – CMS Reporting
❖ Audio Recording using Existing Voice Loggers
❖ Video Recording using Existing Screen Recorders

❖ Customer / Agent Mouse Pointer

Co-browse

Contact Center

Audio/Video
❖ Over WebRTC
❖ Opus for Audio
❖ VP9 for Video
❖ Splitting of Audio/ Video – Audio to Agents phone and Video to Agents Laptop
❖ Audio/Video to Agents Browser.

Recording
❖ S3 - Archival

5   Features

5.1   Text-Chat

- Using Tetherfi SDK both Self and Agent based chat can be provided.
- Customers can get their queries resolved through Self-Service chat bots
    - Tetherfi Also has the capability to integrate to multiple 3rd party chat bot providers like Kasisto, IBM Watson, Personetics, Lex.
- Ability to respond to specific messages, helps in keeping the context.

> hey can we go through the Unit trust forms ↩
> 16/04/2018 13:06:37
>
> John
> hey can we go through the Unit trust forms
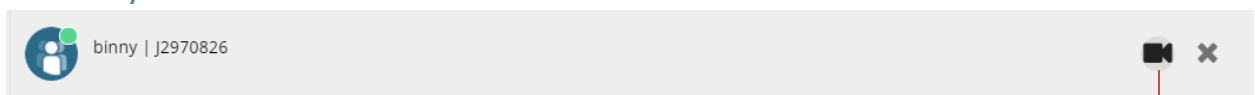> Sure
> 16/04/2018 13:06:44

- Ability to send offline messages, these messages will be delivered to relevant Agent/ RM when they become online/available.
- Relies on Tetherfi Work-Queue for routing which enables agents to be blended in a Contact Center environment.
- RM Users / CC Agents can handle multiple chat concurrently increasing their efficiency.

5.2 File Sharing

Share Files

Record Audio

Type your message here...   ✕   ➤   📷   🎤

Take a Pic/ Record Video
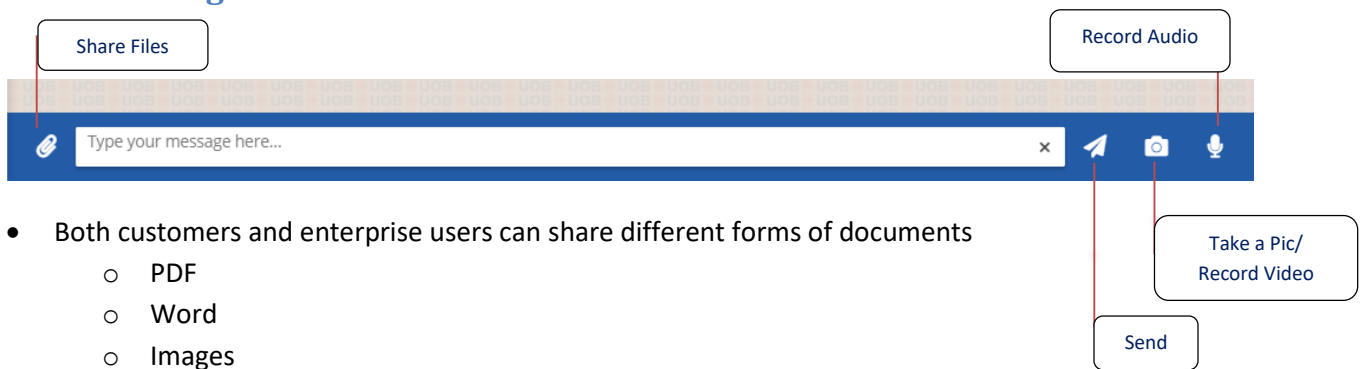
Send

- Both customers and enterprise users can share different forms of documents
  - o PDF
  - o Word
  - o Images
- Ability to record and send Audio messages
- Ability to take a picture or record an audio/video clip using user's camera.
- Ability to annotate on images and send.
- Access to all previously shared files for future use.

5.3 Audio/Video Call
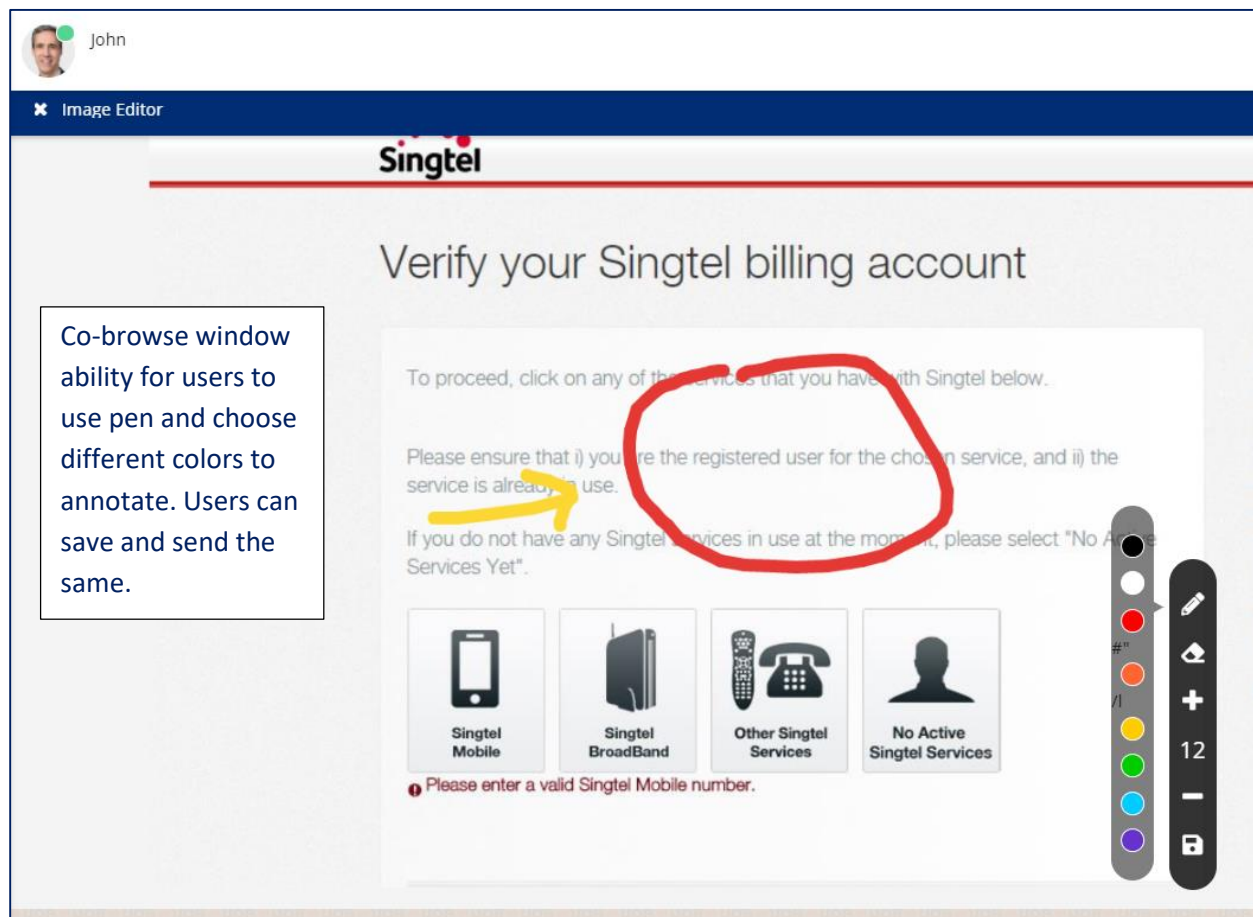
binny | J2970826   🎥 ✖

Audio/Video Call

- Ability to escalate a text-chat to a live audio/video call.
- Using webRTC as the underlying technology, the entire stream is encrypted end to end.
- Supports codecs like VP9 for Video and Opus for Audio. This ensures a 30% reduction in bandwidth usage.
- Dynamic bandwidth adjustments when customer switches to a low bandwidth network.

5.3.1 Integration to Existing telephony

Solution can also be integrated to existing telephony, where the audio goes to the existing Agent Phone (Soft/ Hard) and the Video goes to Agents Browser (Laptop / Desktop / Mobile Devices)

5.4 Collaboration

Co-browse window ability for users to use pen and choose different colors to annotate. Users can save and send the same.

Tetherfi Collaborative Workspace, TCW, is a platform which can be used by Enterprise Representatives like CC Agents, Wealth Management Experts to serve end consumers real-time in a more interactive and collaborative way.

Main features of TCW,
- Co-Browse [Online Form Filling]
- Remote App Control
- Annotation

5.4.1 Screen Sharing
- With screen sharing, customers can share the web pages or mobile app views they are working on with an Agent. Agents can see the customers view as customers is working on the specific web page or App Page.
- Which part of the Web page can be shared for collaboration can be configured such that only those sections will be enabled for sharing. This feature is available as part of IT Configuration.
- For efficient bandwidth utilization only when there is a change in the screen in customer's view the information will be sent to agent making screen sharing work seamlessly over low bandwidth.

5.4.2 App Control

- Agent can click on buttons and links of shared screen view from the customer, which will reflect in customer's web page view and simulate the real click.

5.4.3 Form Filling

- Both agent and customer can fill input boxes on a web page/mobile app view together. Customer's web page should define,
  - The controls that should be allowed to be filled by agent.
  - The controls that should be masked /hidden like passwords, account numbers to agent.
- Any other control which is not specially marked as above will be visible to agent but agent will not be able to fill those fields.
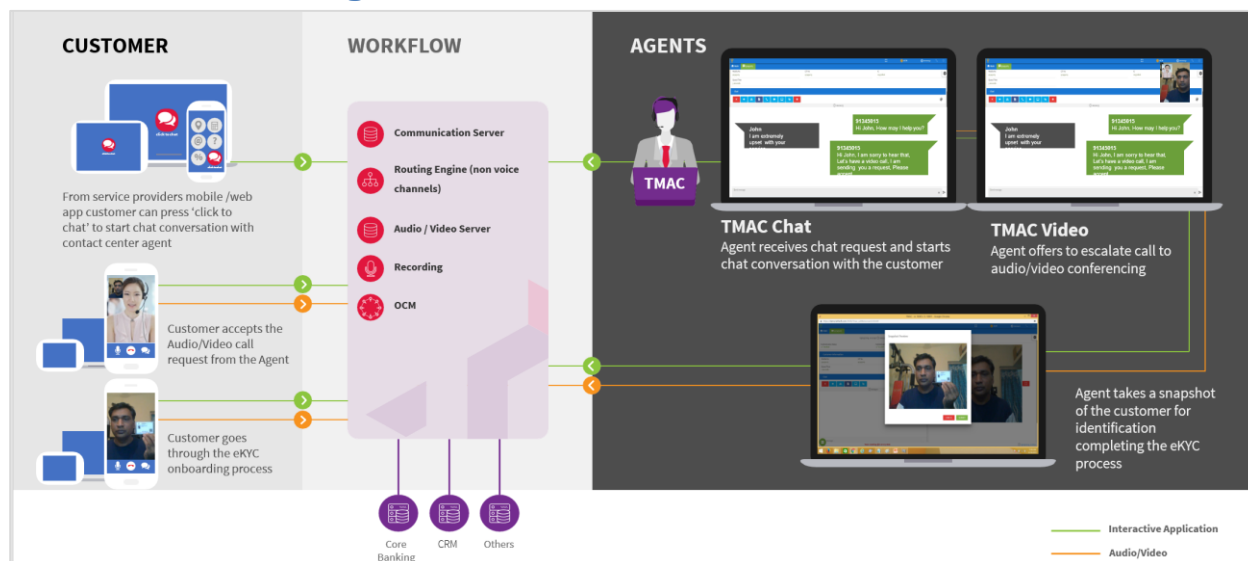
5.4.4 Annotation

- Annotation helps agents and customers to explain by drawing or comment added to a text or diagram.
- Both agent and customer can annotate on web page view. To start annotation, customer and agent should enable the annotation mode by clicking the relevant button provided. Once the annotation is completed, there will be another button to stop annotation.
- Both agent and customer can change the color of the annotation pencil and the brush size.
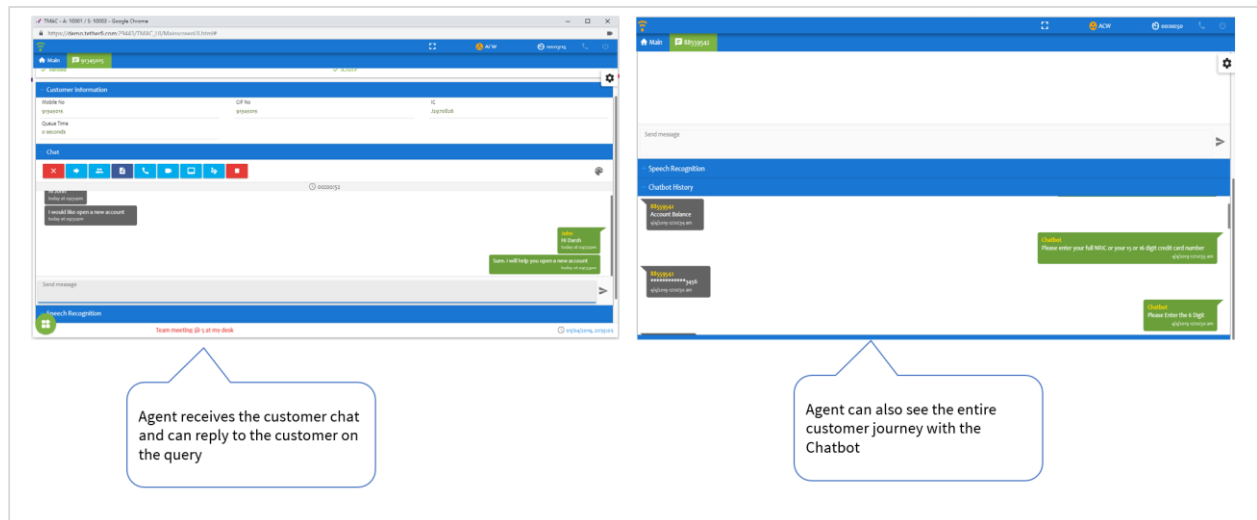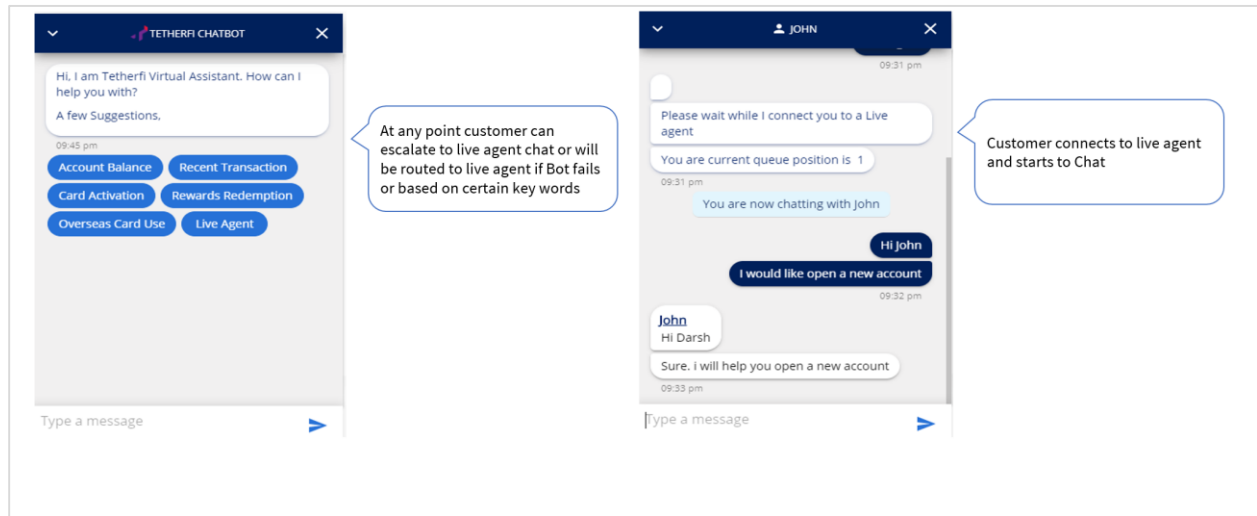
5.5 Recording

- Ability to record the audio/video stream and make it available as part of reporting with the chat transcript.
- Recording is encrypted and stored in device using Tetherfi KMS (Key Management System).
- Solution is also certified to integrate to S3 compliant storage devices for archival of the audio/video files.

6 Use Cases

6.1 eKYC Onboarding

6.2 ChatBot with Live Chat

At any point customer can escalate to live agent chat or will be routed to live agent if Bot fails or based on certain key words

Customer connects to live agent and starts to Chat

Agent receives the customer chat and can reply to the customer on the query

Agent can also see the entire customer journey with the Chatbot

6.3 Onboarding with Live Chat & Co-browsing

Customer Chats with Live agent for account opening

➢ Live agents captures basic information of the customer and details on account he would like to open.

Customer starts chatting with a Live Agent, And Live Agent also gets the details of the customer

➢ Agents then initiates a co-browsing with customer to fill the online onboarding sign up form.

➢ Customer fills necessary information with agent, while co browsing.

Sign Up

PERSONAL INFORMATION

Agent helps customer to fill the on-boarding form together (Online Form Filling – CoBrowse)

CONTACT INFORMATION

➢ Agent then Initiates a Audio/video call with the customer for onboarding/eKYC of the customer in the same session for live verification

Customer View (Mobile App)

Agent initiates a **Live Video** Call to verify the customer

(TMAC Agent

➢ Agent can take Photo copy of Customer Identification card for onboarding and submits back to backend system for compliance.

Agent initiates asks the customer to hold a identification proof for the agent to take a snapshot.

➢ Agent then sends online digital signature form to customer, Customer signs the digital signature form and send back to agent. Signature is hardcoded to a specific form and agents submits to backend system for records and completes the Onboarding/eKYC.

➢ The entire Audio/video conversation between customer and agent is recorded and stored for compliance.

Agent initiates a **signature block** to the customer asking the customer to signoff.

7 Diagrams

7.1 Interface Diagram
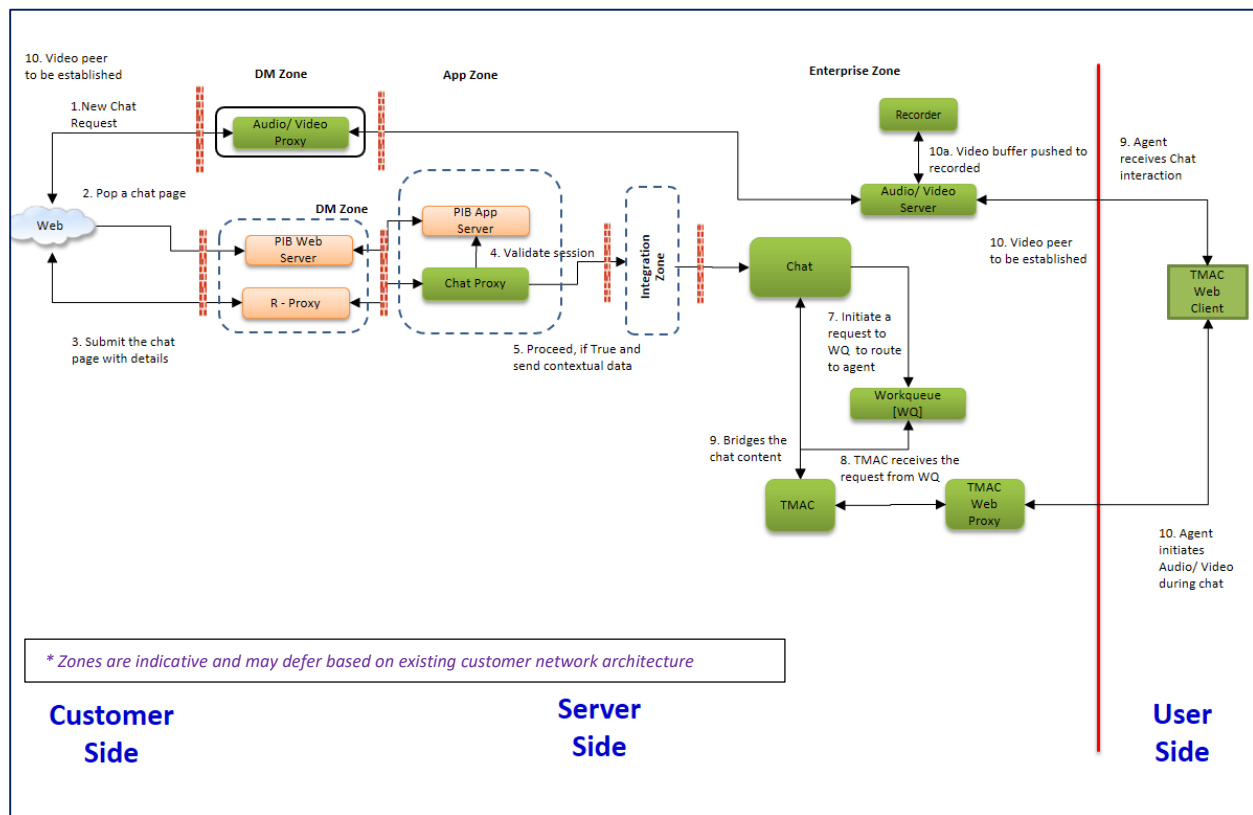
Above diagram is for end to end WebRTC: Audio / Video Both gets terminated on Agent Browser

8 Browser compatibility

Since the solution is based on webRTC, JavaScript's and CSS; any browser which supports these HTML5 canvas will be compatible for this solution.

- Chrome – 49 and above
- Firefox – 55 and above
- Safari – 10 and above
- Opera – 43 and above

9 Solution Advantage

- Customer can get on boarded from webpage, Mobile app or even via Chatbot

- Entire conversation is recorded for compliance.

- Ability to fill on boarding form online, **'Co-browse'** with live agent

- Ability to take snapshot, upload document and digital signature

- WebRTC based Audio/video call

10 Terms and Definition

Term	Definition
TMAC	Tetherfi Multimedia Agent Server
RM	Relationship Manager
SDK	Software Development Kit
TCW	Tetherfi Collaborative Workspace

11 Customer References

11.1 DBS VTM (Video Teller Machines)

Overview:

- The Video Teller Machine allows DBS Users to conduct your non-cash transactions 24/7.

News Link:

https://www.dbs.com/newsroom/DBS_POSB_launches_Singapores_first_video_teller_machines_across_nine_locations
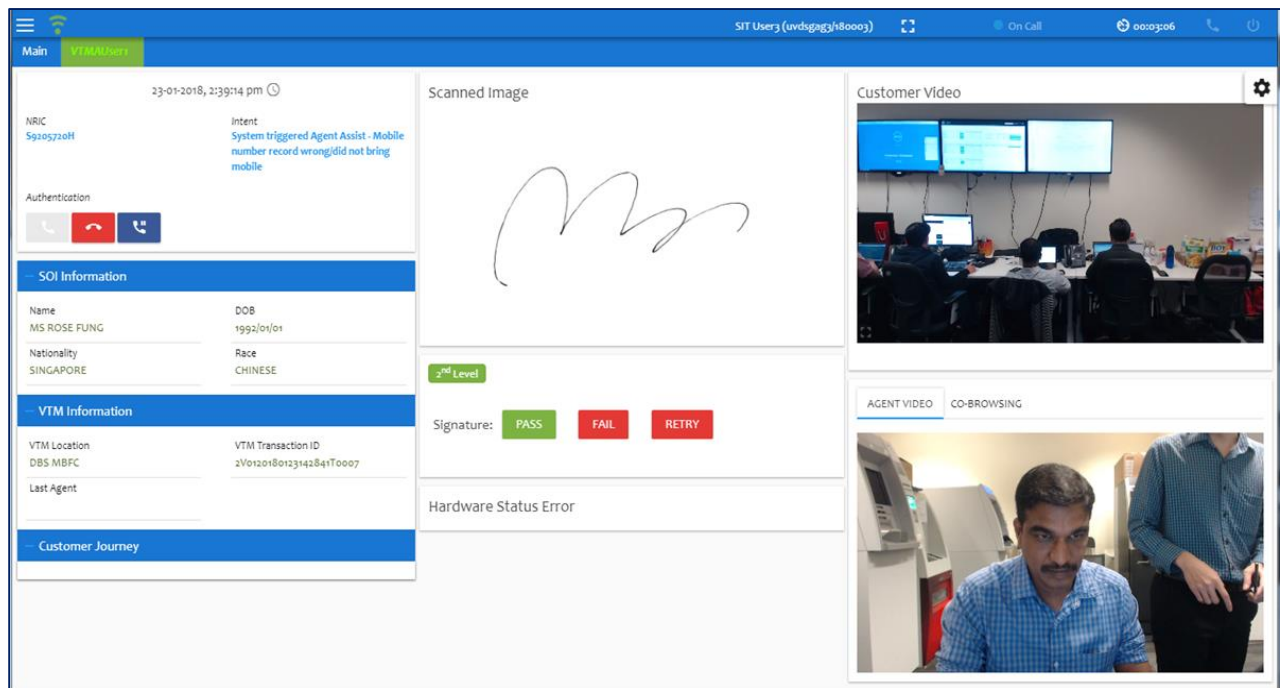
Screen Shots

Unified Agent Desktop - TMAC

11.2 Singtel Unboxed

Overview:

- There are video-assisted self-serve kiosks where customers can sign up for plans at or get instant SIM card replacements.
- Singtel's UNBOXED is a moveable pop-up store that allows customers to buy handsets, replace SIM cards and sign up for plans on the spot, around the clock.

News Link:

https://cnalifestyle.channelnewsasia.com/trending/singtel-first-unmanned-pop-up-store-in-singapore-11594686

12 Reference Articles

12.1 TetherfiCollaborativeWorkspace_CoBrowse_TechOverview_v3_1.pdf

12.2 Tetherfi-KMS-v3-2018Jan05.pdf