CONVERSATION LOGGING

Scope of Project

Customer Conversations are a crucial driver to customer satisfaction. Data insights generated on these conversations can then be used to improve the quality of service, and to set up internal benchmarks. This also enhances the ability of the organization to set up deliverables for the workforce to ensure a higher success rate and regulatory framework.

Features

No agent intervention can cause in pausing and termination of conversation

Noise Cancellation system to remove background noise. This enables logging of audible conversations.

Middleware used to call customer information after biometric.

Data will be saved with customer & agent information with seamless retrieval mechanism

Active Process

Stage 01

Customer

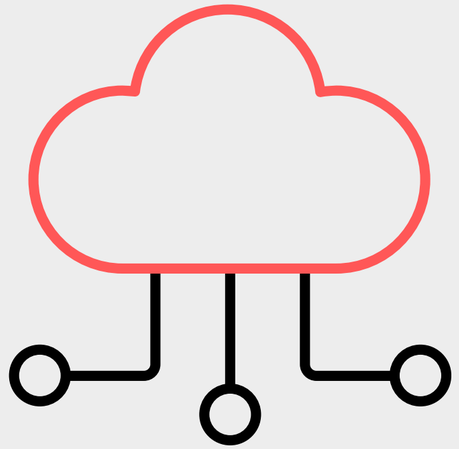
Stage 02

Biometric

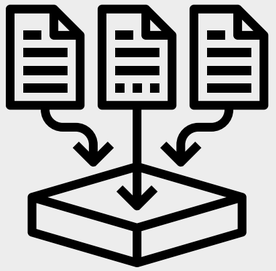
Stage 03

Recording

Log_001_Hammad_Account_Open.mp3



Customer Identity Data for Logs



Data Collection

Passive Process

Stage 01

Customer

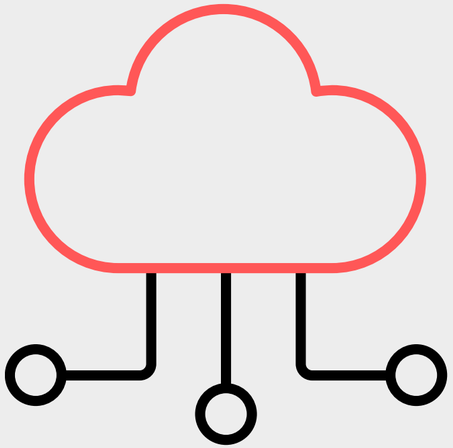
Stage 02

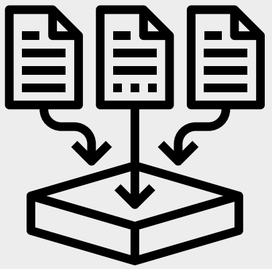
Camera Feed

Stage 03

Recording

Log_001_Date_Time.mp3





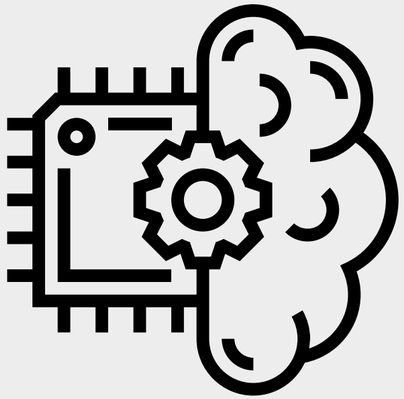
Data Collection

System Architecture

Audio Data

Biometric reading

Video Detection



Middleware

Biometric Data to be validated via Nadra or internal bank API integration. Verification Status to be recorded in Local Database

Data logging

Local Database

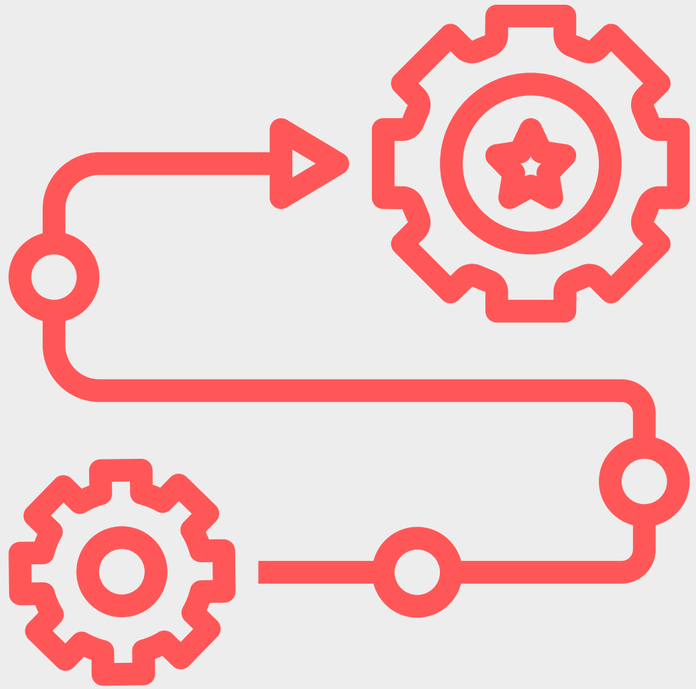
Features for Active Process

Biometric Data Verification Of Customer

Seamless Conversation Recording

Signal Processing Based Noise Cancellation

Saving of Audio files With Customer Information



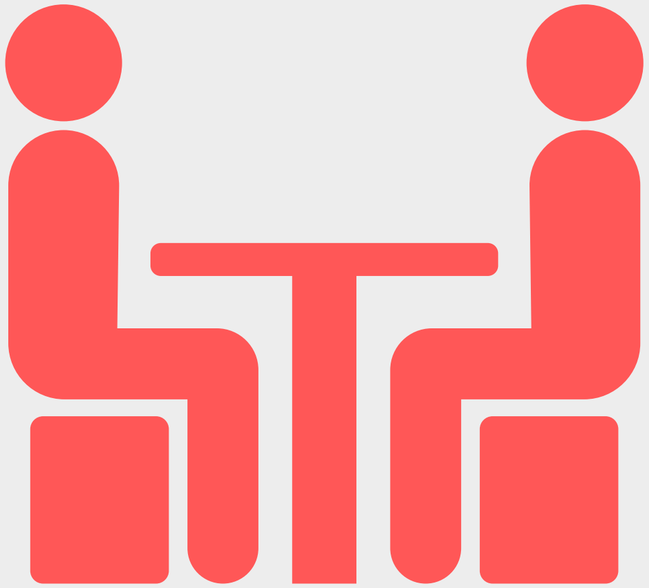
Features for Passive Process

Computer vision for person identification

Autonomous Conversation Recording

Recording started on Presence-Detection around Agent

Saving Data With Time, Date and location Information



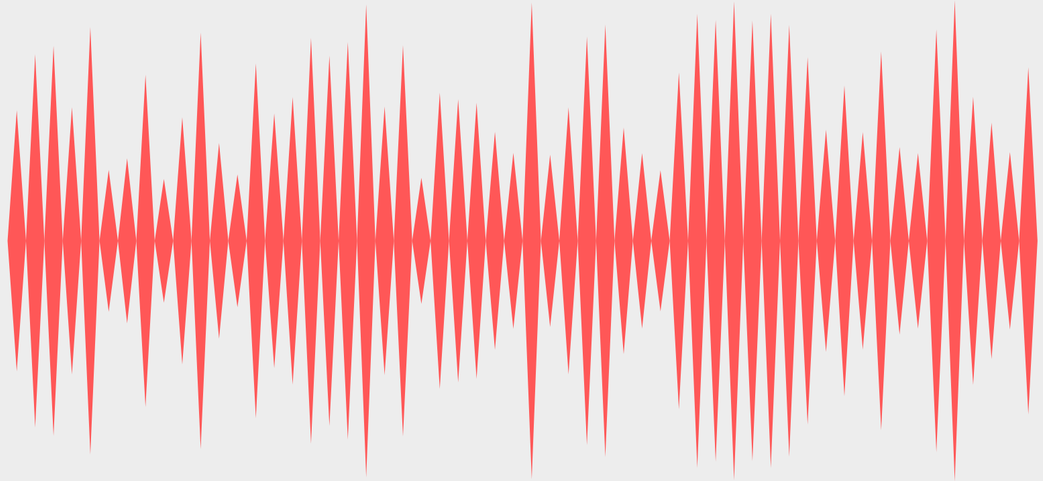
Features for Noise Cancellation

Filtration of Background Noise

Clean Audio using Machine Learning

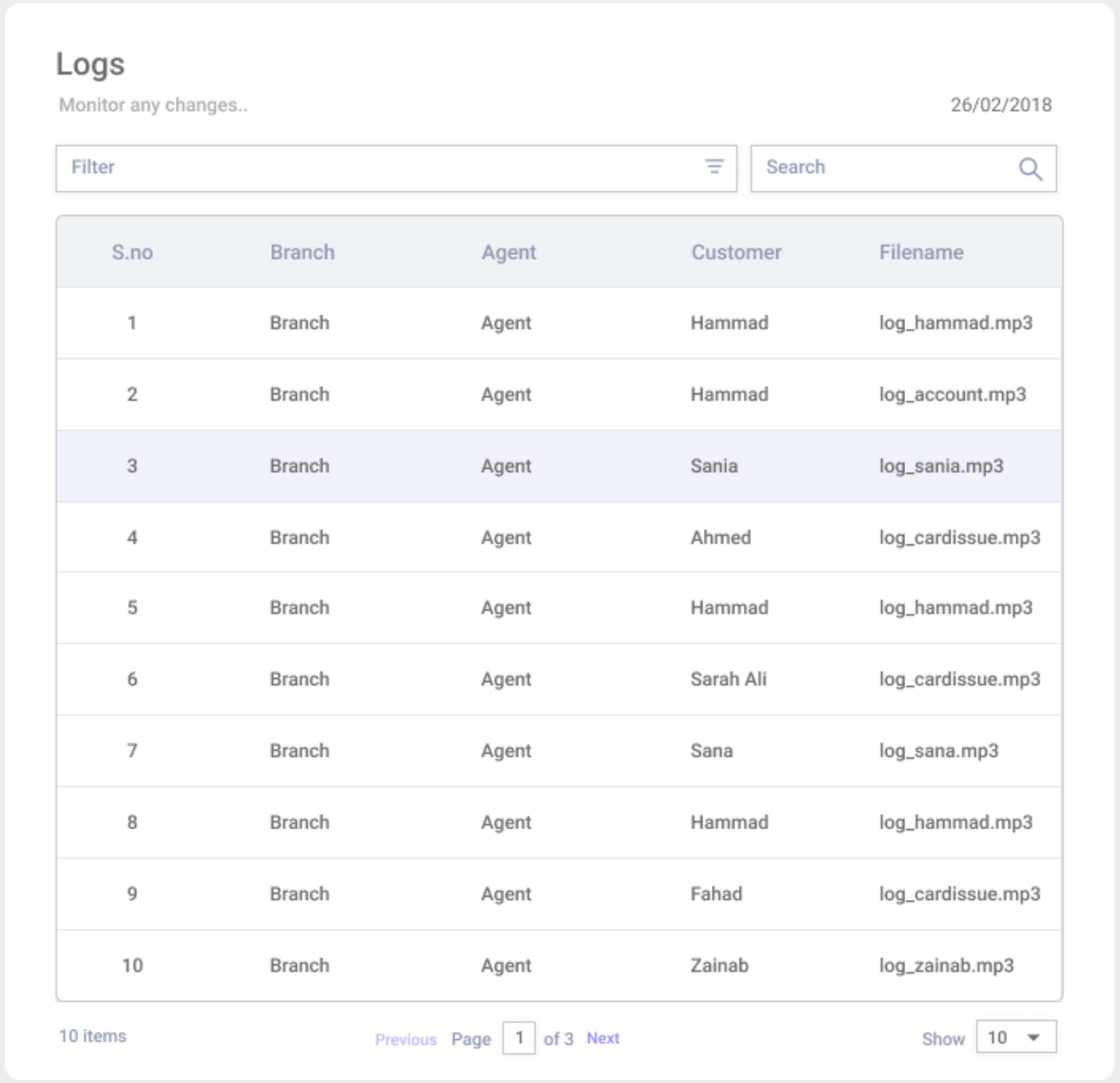
Keyword Detection Using Deep Learning

Signal Enhancement with Redundant Data



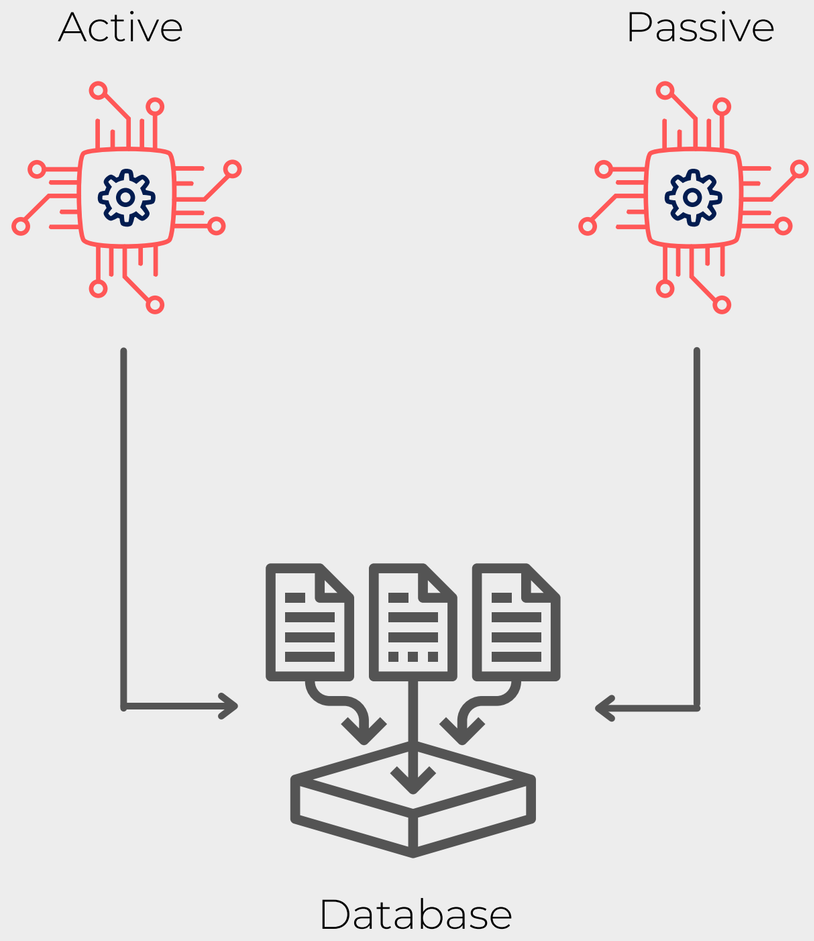
Call logging GUI and Analytics

- Sound Track Logs (Database Link)
- Date and Time Filter
- Service Type Filter (Opening, Credit Card Issue, Cheque Book Issue, etc.)
- Customer Details with filename
- Downloadable XLSX Format Reports



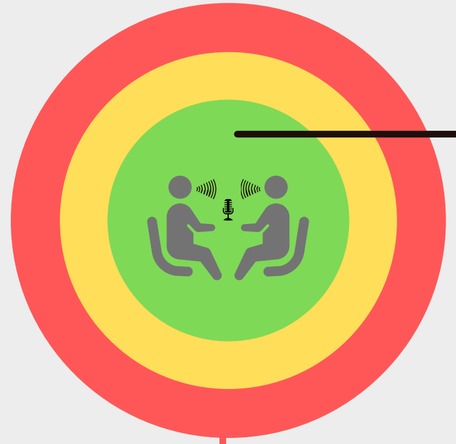
Active + Passive Process

The combination of features from Active and Passive processing allows a fully autonomous system. This makes intervention from branch personnel nearly impossible. Person detection data (passive process) and customer-specific data (active process) will save two unique recordings in the integrated Database. Recorded data can be analyzed by user interface.



Voice Sensitivity Mechanism

Audio data will be processed for frequency band which will start recording when audio signal crosses certain limit. This makes intervention nearly impossible by user or agent. Mechanism will save unique recordings in the integrated Database. Recorded data can be analyzed based on timestamps.



The green region falls in the frequency band where conversations will start logging

Triggering

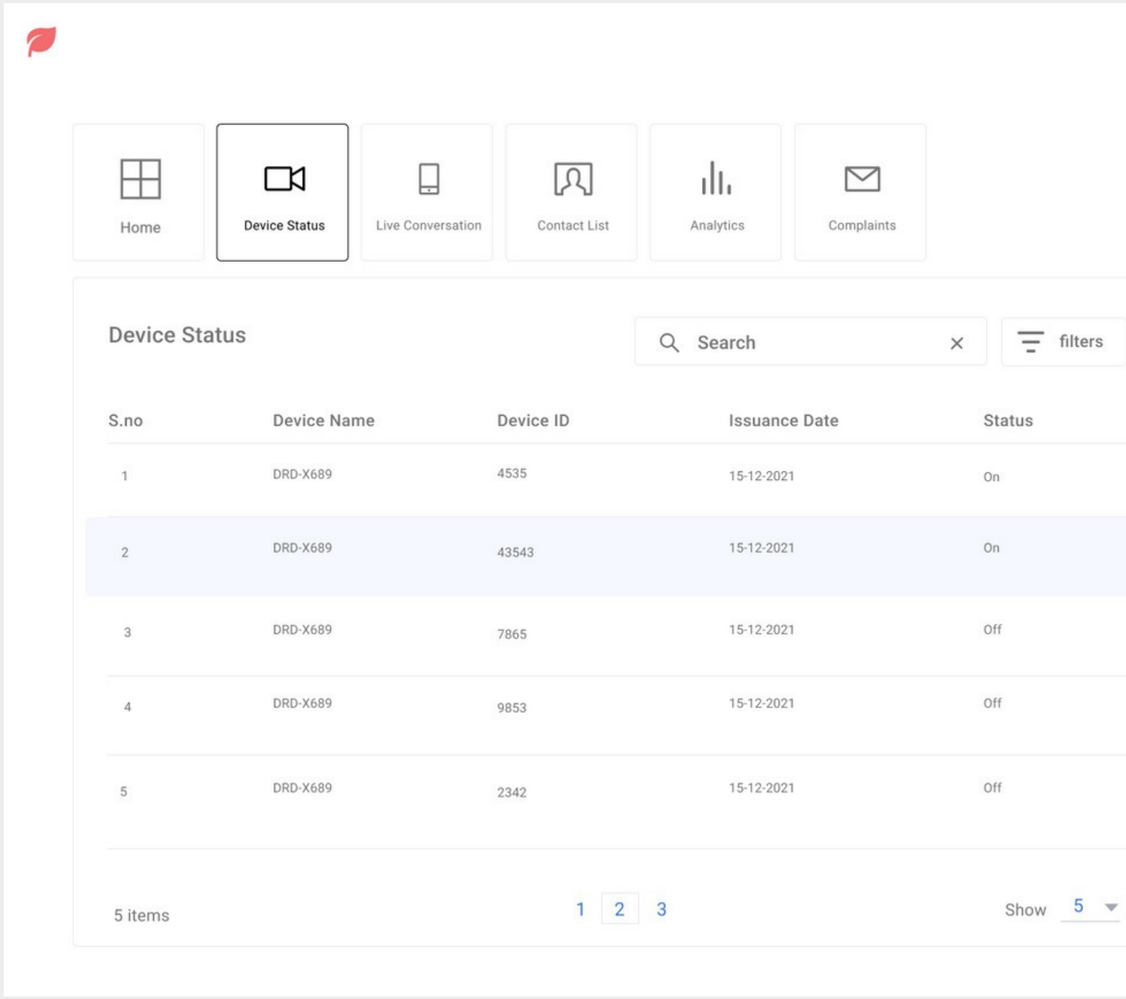
Database

Super Admin

System logs will monitor working status of Hardware components and Software deployment in every branch. Any change in system status (Hardware + Software) will provide binary output (ON or OFF) to Super Admin.

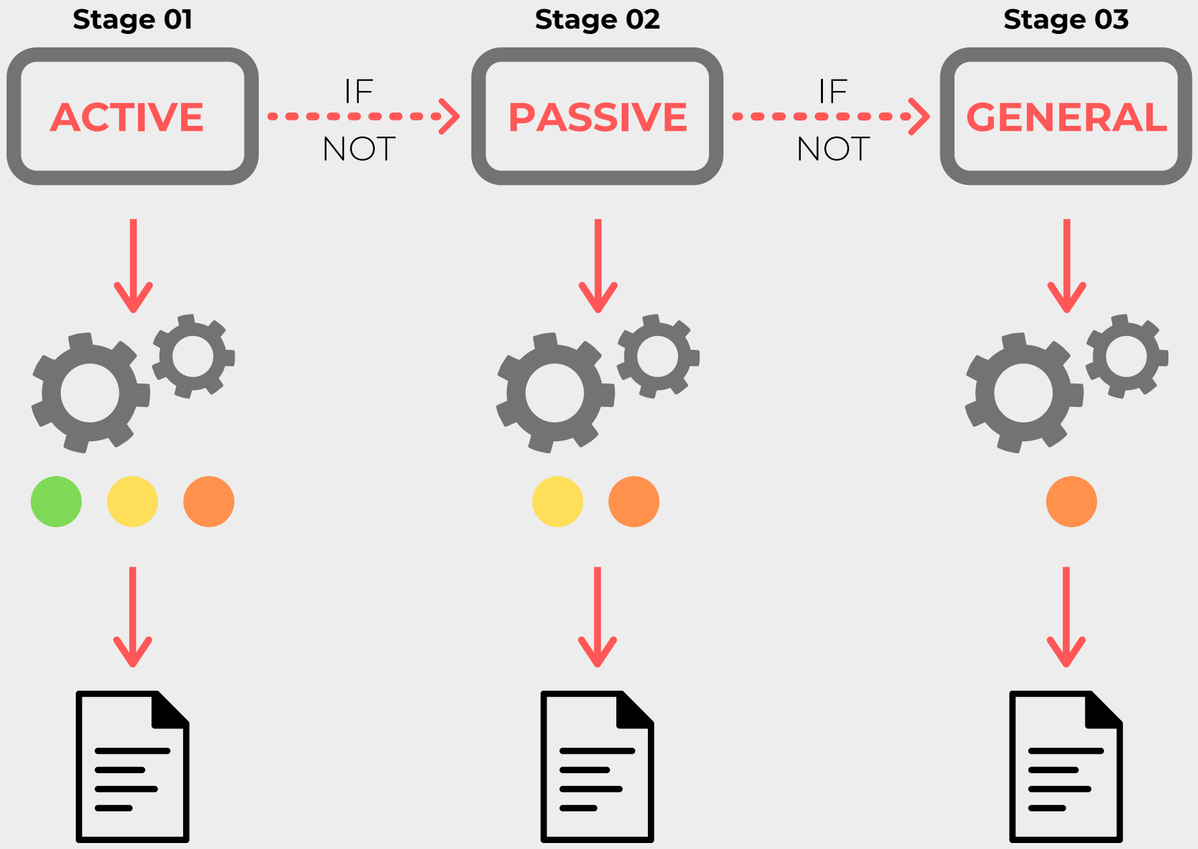
Anomaly Detection will generate status response for Super Admin, to keep check and balance on deployed system and identify any intervention (turning off hardware system).

Voice sensitivity and Facial Recognition Machine Learning models will be regularly updated.



Category:

Active Passive General



Data Files:

APG	PG	G
APG_xyz_open.	PG_xyz_open.	G_10-59_21_2_21
APG_xyz_close.	PG_xyz_close.	G_12-30_5_6_21
APG_xyz_card.	PG_xyz_card.	G_4-12_6_7_21

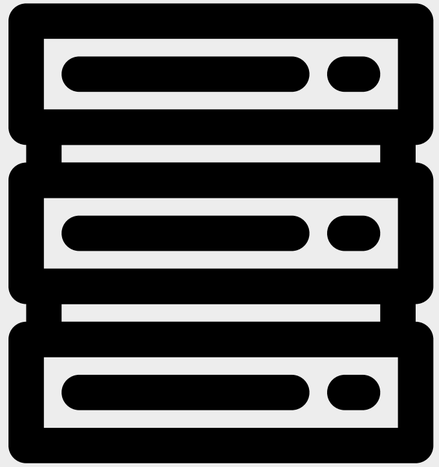
APG (Active+Passive+General) files will include recorded data from Biometric verification, Person Detection and Voice Sensitivity Mechanism.

PG (Passive+General) files will have recorded data where biometric verification was not possible.

G (General) files have Voice Sensitive Mechanism data with date and timestamp information.

Hardware Requirements

The following hardware or its equal is expected to be available at clients end. The optimal system configuration for the conversation logging system to perform optimally:



- PowerEdge R550 Rack Server 2U
- Intel® Xeon® Gold 5317 3G Processors
- 64GB RAM
- 24TB SSD

Please note that the 24TB SSD should be installed in a RAID 1 configuration which makes the total storage to be 48TB.

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The End