



# AI Gateway

## Requirements Guide

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# Contents

<b>Overview</b> .....	<b>3</b>
<b>Logical Architecture Overview</b> .....	<b>4</b>
Architecture Components.....	4
Customer Environment.....	4
AI Gateway Components.....	4
Google Cloud Services.....	5
<b>AI Gateway Capabilities</b> .....	<b>6</b>
<b>Browser and Agent Workstation Requirements</b> .....	<b>7</b>
<b>Network and Firewall Requirements</b> .....	<b>8</b>
<b>API and Integration Requirements</b> .....	<b>9</b>
<b>Google Cloud (GCP) Requirements</b> .....	<b>10</b>
<b>Deployment Considerations</b> .....	<b>11</b>
<b>Security and Compliance Considerations</b> .....	<b>12</b>
<b>Implementation Readiness Checklist</b> .....	<b>13</b>
<b>Next Steps</b> .....	<b>14</b>

# Overview

AI Gateway is a cloud-based orchestration layer that connects your contact center platform with Google Cloud AI services to deliver real-time and post-interaction intelligence.

AI Gateway enables:

- Intelligent Virtual Agents (IVA)
- Real-time Agent Assist
- Conversation Insights and analytics

This guide provides a high-level overview of the technical, network, browser, and cloud requirements needed to deploy AI Gateway in a Google Cloud Platform (GCP) environment.

# Logical Architecture Overview

AI Gateway is deployed in Google Cloud Platform (GCP) and connects your contact center environment with Google Cloud AI services to support Intelligent Virtual Agents (IVA), Agent Assist, and Insights.

AI Gateway processes real-time media streams, CTI events, and interaction data to deliver transcription, automation, and analytics capabilities.

## Architecture Components

### Customer Environment

The following components exist within the customer's environment and integrate with AI Gateway:

- Session Border Controller (SBC)
- IVR platform
- CCaaS platform
- Agent desktop and Agent Assist interface

**Important:** To establish connectivity between AI Gateway and the CCaaS platform, the identifiers (IDs) configured on the SBC must match the identifiers configured on the CCaaS provider.

For example, when AI Gateway integrates with an SBC connected to Genesys Cloud, the Genesys Cloud conversation ID must be correlated appropriately when the call enters the queue by passing the `'x-inin-cnvt'` identifier in the conversation header.

### AI Gateway Components

These components support AI Gateway capabilities including virtual agents (IVA), agent assistance, and interaction analytics.

Component	Function
<b>Media Gateway</b>	Real-time audio streams.
<b>CTI Gateway</b>	Call/agent state tracking and CTI integration.
<b>Agent Assist Proxy</b>	Connects Agent Assist proxy to Agent Assist UI.
<b>Kubernetes Cluster (GKE)</b>	Pod orchestration.
<b>Load Balancer / Ingress</b>	Routes external traffic.
<b>Google Memorystore - Redis v7.2</b>	Caches Call and agent state.
<b>Google Cloud SQL - Postgres v16</b>	Stores configuration and metadata.
<b>Google Pub/Sub</b>	Handles internal event messaging.
<b>SIP Load Balancer</b>	Routes SIP signaling messages.

<b>File Uploader (Optional)</b>	Temporary file storage.
<b>Persistent Storage (Optional)</b>	File storage for temporary artifacts.
<b>Optional Services</b>	AI/Analytics/Storage.
<b>Google Secret Manager</b>	Secure secret and credential storage.

## Google Cloud Services

- Dialogflow (virtual agents and Agent Assist)
- Speech-to-Text (real-time transcription)
- Cloud Storage (recordings and transcripts)
- Pub/Sub (event streaming)

# AI Gateway Capabilities

AI Gateway supports the following capabilities using Google Cloud AI services.

## AI Gateway Capability Overview

Capability	Channels Supported	Core Functions	Typical Business Value
<b>IVA (Intelligent Virtual Agent)</b>	Voice, Chat, Messaging	Intent recognition, self-service flows, routing	Reduce call volume, improve containment
<b>Agent Assist</b>	Voice, Chat	Real-time transcription, suggested responses, knowledge surfacing	Improve handle time, increase agent efficiency
<b>Insights &amp; Analytics</b>	Voice, Chat	Transcription storage, sentiment analysis, reporting	Improve CX visibility and decision making

# Browser and Agent Workstation Requirements

For agents using Agent Assist UI:

## Supported Browsers

Component	Supported Browsers	Notes
<b>Agent Assist UI</b>	Chrome (latest), Edge (Chromium latest)	Recommended for real-time performance
<b>Admin/Config UI</b>	Chrome, Edge	Required for configuration workflows
<b>Insights Dashboards</b>	Chrome, Edge, Safari	Safari supported for read-only analytics

## Agent Workstation Requirements

Requirement	Minimum	Recommended
<b>RAM</b>	8 GB	16 GB
<b>CPU</b>	Dual Core	Quad Core
<b>Internet Speed</b>	10 Mbps	25+ Mbps
<b>Displays</b>	Single monitor	Dual monitor

# Network and Firewall Requirements

Your network must allow outbound connectivity from your environment to Google Cloud and AI Gateway services.

## Network Connectivity Requirements

Protocol	Port	Direction	Purpose
<b>HTTPS</b>	443	Outbound	API, UI, AI services
<b>WSS (Secure WebSockets)</b>	443	Outbound	Real-time streaming events
<b>SIP/SIPREC</b>	5060/5061	Outbound	Voice streaming to AI Gateway
<b>RTP/SRTP</b>	Dynamic	Outbound	Media streaming for transcription

## Allowlisted Domains

Service Type	Domains
<b>Google Cloud APIs</b>	*.googleapis.com
<b>Google static content</b>	*.gstatic.com
<b>AI Gateway Services</b>	Provided during deployment

# API and Integration Requirements

AI Gateway integrates with your contact center platform, CRM systems, and analytics tools using REST-based APIs.

## API Integration Summary

Integration Type	Method	Data Format	Authentication
<b>CTI Events</b>	REST / Webhook	JSON	OAuth / API Key
<b>Transcription Data</b>	Streaming API	JSON	Service Account
<b>Insights Data</b>	REST API	JSON	OAuth
<b>CRM Integration</b>	REST / Middleware	JSON/XML	OAuth / SSO

# Google Cloud (GCP) Requirements

AI Gateway is deployed in Google Cloud Platform and requires access to specific GCP services.

## Required Google Cloud Roles

Service	Required Role	Purpose
<b>Dialogflow</b>	Dialogflow API Client/Admin	IVA and Agent Assist
<b>Speech-to-Text</b>	Speech Client	Real-time transcription
<b>Cloud Storage</b>	Storage Object Admin	Store recordings and transcripts
<b>Pub/Sub</b>	Publisher / Subscriber	Event streaming

## Deployment Permissions

Your IT team must be able to:

Permission Area	Required Capability
<b>Service Accounts</b>	Create and manage service accounts
<b>API Enablement</b>	Enable required GCP APIs
<b>Networking</b>	Configure VPC, firewall, DNS
<b>Compute</b>	Deploy services (Cloud Run / GKE)
<b>Logging</b>	Access logs and monitoring

# Deployment Considerations

Successful deployment of AI Gateway requires coordination between your contact center team, IT organization, and TTEC Digital. The specific responsibilities for each activity are defined during project planning and may vary based on your implementation model and service agreement.

Before deployment, organizations should plan for the following areas:

## Contact Center Configuration

- Integration with your CCaaS platform (voice or digital channels)
- Configuration of routing, queues, and agent workflows
- Enablement of event streaming or CTI integrations

## Google Cloud Project Setup

- Provisioning of a Google Cloud project
- Enabling required Google Cloud APIs
- Creation and management of service accounts
- Configuration of IAM roles and permissions

## AI Gateway Deployment

- Deployment of AI Gateway services in your Google Cloud environment
- Configuration of event processing and media streaming services
- Integration with Dialogflow, Speech-to-Text, and other AI services

## Network and Security Configuration

- Firewall and outbound access approvals
- DNS configuration
- Secure connectivity for API and media streaming traffic

## AI Configuration

- Dialogflow agent setup and configuration
- Knowledge base or FAQ integration
- Agent Assist model configuration (if applicable)

## Testing and Validation

- End-to-end call or interaction testing
- Validation of transcription, screen pop, and AI responses
- User acceptance testing and readiness validation

**Note:** Final responsibilities, timelines, and ownership are defined during implementation planning and may vary by customer contract.

# Security and Compliance Considerations

AI Gateway uses Google Cloud security controls, including:

- TLS 1.2+ encryption in transit
- Secure media streaming
- Role-based access control (RBAC)
- Audit logging via Google Cloud Logging
- Configurable data retention policies

# Implementation Readiness Checklist

Item	Owner	Status
Contact center platform confirmed	Customer	<input type="checkbox"/>
GCP project created	Customer	<input type="checkbox"/>
Required APIs enabled	Customer IT	<input type="checkbox"/>
Firewall rules approved	Customer IT	<input type="checkbox"/>
Service accounts created	Customer IT	<input type="checkbox"/>
AI features enabled (IVA, Agent Assist, and/or Insights)	Customer	<input type="checkbox"/>
Deployment window scheduled	TTEC + Customer	<input type="checkbox"/>

# Next Steps

To proceed with AI Gateway:

1. Review requirements with your IT and security teams
2. Confirm supported contact center integrations
3. Identify AI features to enable (IVA, Agent Assist, Insights)
4. Schedule a deployment readiness review with TTEC Digital