Genesys Callback Private Edition Guide

Architecture

9/19/2024

Contents

Learn about Genesys Engagement Service architecture

Related documentation:

-
-
-
-

RSS:

- For private edition

Introduction

For more information about GES in relation to the Voice Microservices, including the Tenant Service, also see the Voice Microservices Private Edition Guide and the Tenant Service Private Edition Guide.

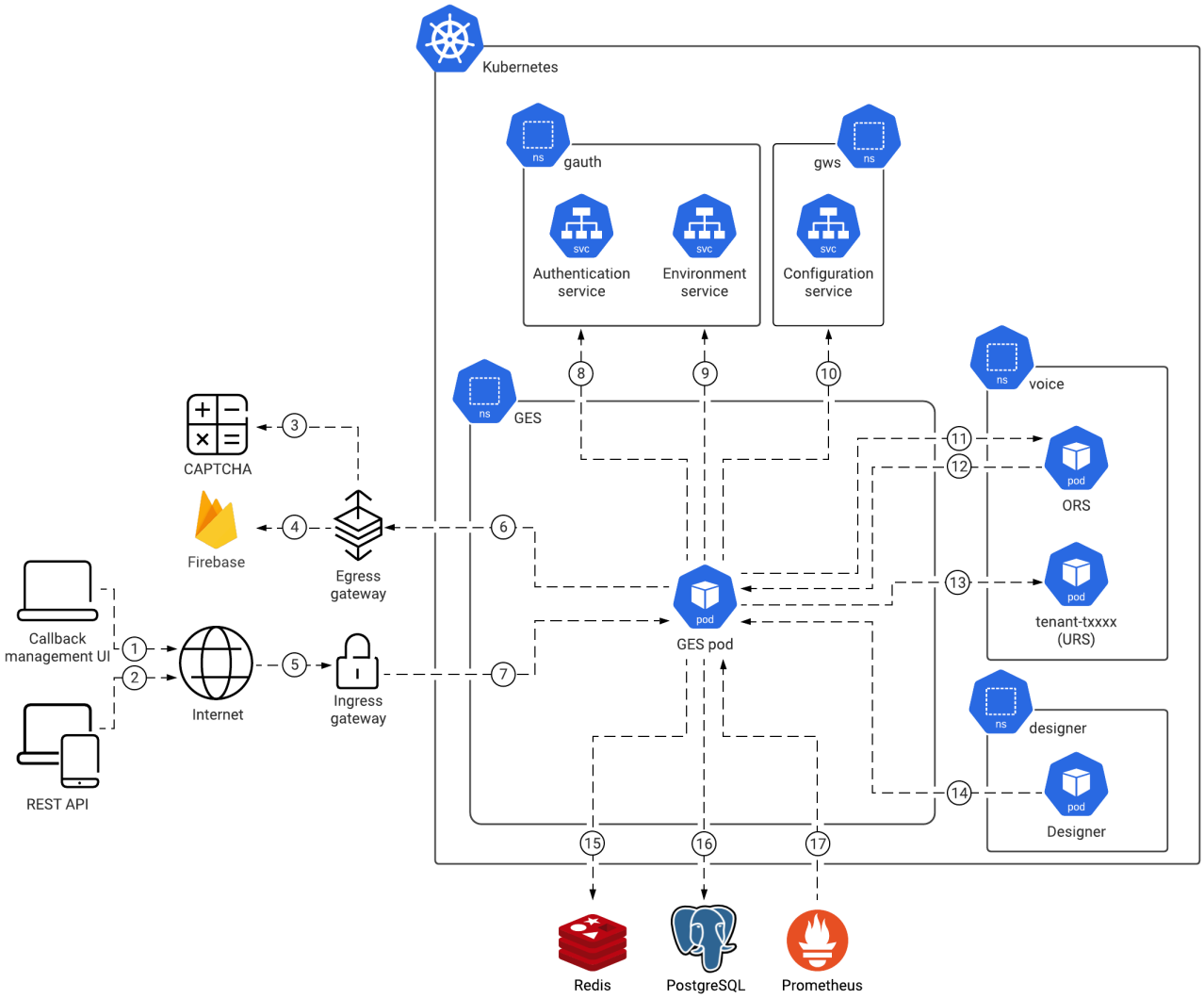
The following diagram shows the Genesys Engagement Service (GES) architecture. There must be at least two GES nodes spread across availability zones, forming a single service for load balancing and high availability.

For information about the overall architecture of Genesys Multicloud CX private edition, see the high-level Architecture page.

See also High availability and disaster recovery for information about high availability/disaster recovery architecture.

Architecture diagram — Connections

The numbers on the connection lines refer to the connection numbers in the table that follows the diagram. The direction of the arrows indicates where the connection is initiated (the source) and where an initiated connection connects to (the destination), from the point of view of Genesys Engagement Service as a service in the network.



Connections table

The connection numbers refer to the numbers on the connection lines in the diagram. The **Source**, **Destination**, and **Connection Classification** columns in the table relate to the direction of the arrows in the Connections diagram above: The source is where the connection is initiated, and the destination is where an initiated connection connects to, from the point of view of Genesys Engagement Service as a service in the network. *Egress* means the Genesys Engagement Service service is the source, and *Ingress* means the Genesys Engagement Service service is the destination. *Intra-cluster* means the connection is between services in the cluster.

Connection	Source	Destination	Protocol	Port	Classification	Data that travels on this connection
1	Callback	Internet	HTTPS	443	Ingress	GES serves the files for rendering the UI front end and answers UI-specific API requests, such as gathering data to populate the Callback view, for authenticated users only.
2	External REST API	Internet	HTTPS	443	Ingress	The external REST API allows users to: • Create, retrieve, and cancel callbacks; • Query the office hours and capacity of callback services; • Retrieve estimated wait time of all virtual queues; • Create a call-in request; • Query a virtual queue's readiness for callbacks;

Connection	Source	Destination	Protocol	Port	Classification	Data that travels on this connection
						• Retrieve statistics from Genesys Web Services and Applications. For more information about which APIs are available, see the Genesys Multicloud API Reference for the Engagement API.
3	Genesys Engagement Service	Outbound API requests to third-party services; in this case, Google reCAPTCHA.	HTTPS	443	Egress	reCAPTCHA verifies that the caller of the Callback Create API (on connection #2) is a real person. This is an optional, additional safety feature for fraud prevention.
4	Genesys Engagement Service	Outbound API requests to third-party services; in this case, Google Firebase Cloud Messaging (FCM).	HTTPS	443	Egress	FCM sends web or mobile push notifications to customers. GES uses FCM for Click-to-Call-In and callback mobile notifications.

Connection	Source	Destination	Protocol	Port	Classification	Data that travels on this connection
5	UI or REST API	Ingress gateway	HTTPS	443	Ingress	Callback management UI and REST API data. Also see connections #1 and #2, above.
6	Genesys Engagement Service	Egress gateway	HTTPS	443	Egress	Outgoing Push Notifications and Captcha requests. Also see connections #3 and #4, above.
7	Ingress gateway	Genesys Engagement Service	HTTP	3050	Ingress	Incoming data from the UI or REST API.
8	Genesys Engagement Service	Genesys Authentication	HTTP	8095	Intra-cluster	GES queries the Genesys Authentication Service to validate a UI user's identity.
9	Genesys Engagement Service	Genesys Authentication	HTTP	8091	Intra-cluster	GES queries the Environment Service to obtain the tenant's configuration.
10	Genesys Engagement Service	Genesys Web Services and Applications	HTTP	8092	Intra-cluster	GES queries the GWS Configuration Service to obtain privileges and permissions for the authenticated user.
11	Genesys Engagement Service	Voice Microservices	HTTP	9098	Intra-cluster	GES starts a session in ORS when it is time to

Connection	Source	Destination	Protocol	Port	Classification	Data that travels on this connection
						put the callback in the queue for an agent. To initiate the ORS session, GES stores an entry in the Voice Microservice's Redis (using port 6379), rather than communicating directly with ORS. Once the ORS session is started, GES regularly queries the ORS session (using port 9098) for diagnostics information about the callback. In addition, GES might send events to control the ORS session; for example, when the callback is cancelled through the API or UI.
12	Voice Microservices	Genesys Engagement Service	HTTP	3050	Intra-cluster	The callback ORS session updates the state and storage of the callback record in GES.
13	Genesys Engagement Service	Tenant Service	HTTP	5580	Intra-cluster	GES queries URS to obtain the

Connection	Source	Destination	Protocol	Port	Classification	Data that travels on this connection
						estimated wait time of virtual queues.
14	Designer	Genesys Engagement Service	HTTP	3050	Intra-cluster	When the CALLBACK_SETTINGS data table is published in Designer, Designer sends the changed callback service configurations to GES.
15	Genesys Engagement Service	Redis	Redis	6379	Egress	GES uses Redis for in-memory data store for quick retrieval.
16	Genesys Engagement Service	PostgreSQL	Postgres	5432	Egress	GES uses Postgres as a persistent data store.
17	Prometheus	Genesys Engagement Service	HTTP	3050	Ingress	GES provides metrics for monitoring and alerting with Prometheus.