Genesys Mobile Services Deployment Guide

Configure ORS Load Balancing

12/14/2025

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Modified in 8.5.107

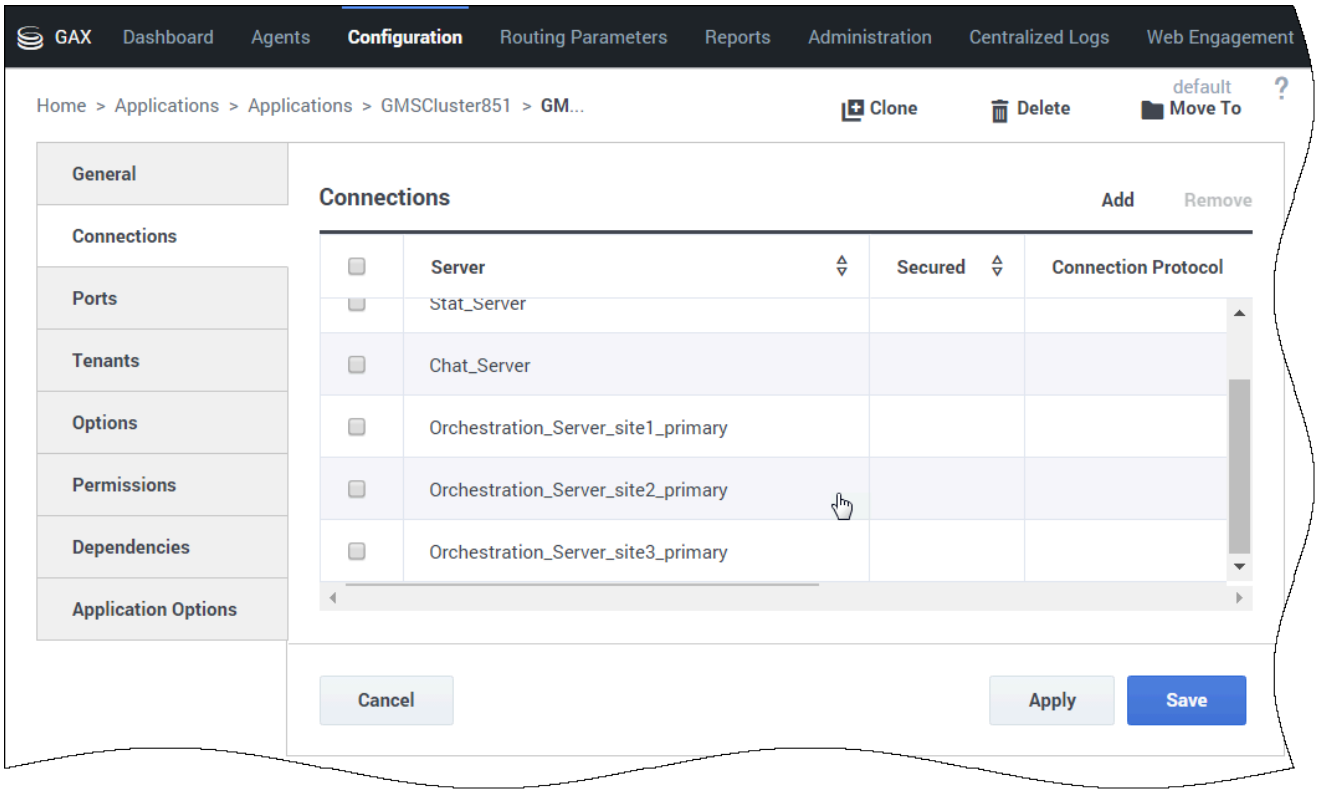
Supported ORS Load Balancing Features

Genesys Mobile Services (GMS) supports the following load balancing features:

- Ability to configure a list of service URLs to access a given list of nodes.
- **Linear** hunt strategy where requests are always delivered to the first available node in the list.
- **Circular** hunt strategy where requests are delivered in a round-robin fashion to the list of nodes/URLs. Starting in 8.5.107, the Circular strategy automatically takes into account ORS and ORS backups.
- Ability to configure a linear hunt strategy or a circular hunt strategy in the service configuration. The default hunt mode is **circular**.

How to set up GMS connections to ORS?

Genesys recommends that you add a list of ORS primary servers to the **Connections** tab in case GMS should fall back to other nodes on failure.



GMS will automatically find the ORS backup servers and add them to the load balancing strategy; however, when failing on one node, GMS will try the next ORS node in the list, regardless if it is a primary or a backup server.

This default hunt strategy is **circular**. To modify this strategy, edit the _ors_lb_strategy option in the ors section.

When to Disable ORS Load-Balancing?

If the ORS is too old—check the Prerequisites, you can use the enable_ors_loadbalancer option to disable load-balancing in the ors section.

If you upgraded to 8.5.107:

- You should set enable_ors_loadbalancer to `true` even if you were not using ORS load balancing previously;
- Set this option to `false` only if you need to deactivate load balancing.

More ORS Load Balancing Settings

The following settings can be defined at the cluster or node level in the ors section of your GMS application. You cannot supersede these settings at the service level:

- max_ors_idle_connection_time
- ors_loadbalancer_refresh_rate

Configure ORS Request Attempts

In a circular ORS load balancing strategy, max_ors_request_attempts provides you with the ability to select the next ORS Server in the list of ORS Servers defined for the service when the request to the first ORS fails.

For example, if you set the value of `max_ors_request_attempts` to 1, the first ORS Server in the list will be used only one time, and in case of ORS failure, the request will fail. If you set the value to 3, the first ORS Server in the list will be used and if the request fails, the next ORS Server in the list will be used, and so on, until the third server. After the third server fails to respond, the request returns a failure. A linear ORS load balancing strategy follows the same process with the `max_ors_request_attempts` option for retry on failure.

Advanced Setup Scenarios for ORS Connections

Starting in 8.5.107, for any advanced setup, the default ORS Load Balancing strategy is **circular** and enabled by default.

> **Important**
>
> Unless you have specific needs, using the **Connections** tab to add GMS connections to ORS should cover most use cases.

Overwrite General Server Settings

To define a list of ORS primary servers at the GMS application level, you can set a list of ORS URLs in the server section by using the _ors option.

- You need to provide ORS primary servers only, not their backup. In 8.5.107, GMS will automatically find ORS backup servers and add them to the Load Balancing strategy.
- To modify the strategy mechanism related to this list, edit the _ors_lb_strategy option of the server section.
- This configuration applies to the application's services by default.

Overwrite Settings per Service

> **Important**
> Your service must be of type `ors`.

To overwrite ORS settings at the service level, you can use the Service Management User Interface to set a comma-separated list of ORS URLs in the _ors option of your service.

- For each service, you can also specify a load balancing strategy in the _ors_lb_strategy option. This ensures the possibility to define as many load balancing strategies as services with a distinct list of Orchestration Servers.
- By default, starting in 8.5.107, the load balancing strategy is **circular**.

How to Manage ORS Settings in a Cluster

If you define an application cluster for your GMS applications and if you wish to have specific ORS settings, you can edit your service configuration through Configuration Manager, Genesys Administrator, or Genesys Administrator Extension instead of using the Service Management User Interface.

- If you define your load balancing properties for your service in this cluster configuration, these service options apply to all of the GMS nodes.
- If you modify these service options in one of the GMS nodes, the new options apply to this given node and cluster options are superseded in this node.

This mechanism lets you define common service options for your cluster, with the possibility to fine-tune the service options in one or more GMS nodes.

1. Open your application's configuration and select the **Options** tab. Edit your `service.<service_name>` section.
2. Click `Create New Section/Option`.
3. Enter `_ors` for the Option Name, and then enter the list of URLs, separated with commas, for the Option Value. Click OK.
4. (Optional) Click `Create New Section/Option` again. Enter `_ors_lb_strategy` for the Name, and then enter `circular` or `linear` for the Value. If not specified, the default `_ors_lb_strategy` value is `circular`.

Section	Option	Default	Description
service.<service name>	**_ors**	empty	Comma-separated list of ORS URLs. `http://host1:port1,http://host2:port`

Section	Option	Default	Description
			Overrides the `_ors` option of the `server` section.
service.<service name>	**_ors_lb_strategy**	`circular`	Strategy for the ORS load balancer. This option overrides the `_ors_lb_strategy` option of the server section. Supported values are: `circular` or `linear`.