Workforce Management Administrator's Guide

Load Balancing

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Contents

Load Balancing

Use the information in this topic to load balance Workforce Management (WFM) when you have multiple computers available, and one computer alone cannot handle the work load. Use the procedures provided to assist you when configuring the load balancing method you choose for in your environment.

Load Balancing Methods

There are two main methods of load balancing: Processor and Memory. WFM Server supports both types.

Processor Balancing

Processor Balancing support is based on the assignment of a session to the best-qualified processor and is the more common type of balancing required. It is often needed when one computer does not have enough processor power to handle a large number of simultaneous users. WFM accomplishes this method by balancing WFM Server requests between several different WFM Server instances running on different computers. Each server/computer instance is known as a location.

WFM Server's built-in load balancing service is called Locator Service. Every time you open a new user session, Locator Service identifies the location that is best suited to serve the new session. Usually that is the location that is currently handling the fewest requests. From then on, all requests from that particular session are handled exclusively by the assigned location.

To configure the Processor Balancing on a WFM Server, Configuring Process Balancing

Memory Balancing

Memory Balancing support is based on reconfiguring at the site level. As you create multiple WFM Servers, you can assign each to a different site as required.

Here is an example application of Memory Balancing: if your configuration has 50,000 agents, you will likely need more than 2-3 GB of RAM (the limit on 32-bit Windows applications). One computer alone does not have enough memory to handle this huge configuration.

In Memory Balancing, as you start each new session, you associate it with a site. The session is then directed to the WFM Server instance that is assigned to that site. This allows different servers to work with different subsets of data—thereby reducing the amount of memory needed per server.

> **Tip**
> You can also create a configuration that uses both types of load balancing.

To configure Memory Balancing on a WFM Server, Configuring Memory Balancing

WFM Server Configuration

As noted previously, WFM Server's built-in load balancing service is called Locator Service. Normally, one WFM Server instance is designated as Locator.

Any client that wants to open a user session with WFM Server must first ask Locator for the URL of the WFM Server that is best suited to serve the new session, from a load-balancing point of view. Usually that is the location that is currently handling the fewest requests. The URL is obtained and the client opens the new session on that server.

> ### Tip
> All WFM Servers run the Locator Service and any server can act as Locator.

Configuring the Locator Service

Purpose: To configure the Locator Server on a WFM Server.

Start of Procedure

1. Open Genesys Administrator.
2. Open the **WFM Server Application** that will be the Locator.
3. Add all other WFM Servers (except the Locator) to the **Connections** list.
4. Save and close the Locator.
5. Open the **WFM Web Application**.
6. Add the **WFM Server Application** that will be the Locator to the **Connections** list.
7. Save and close the **WFM Web Application**.

End of Procedure

> ### Tip
> Advanced users can add cross-references in the **Connections** lists between all configured WFM Servers, so that any of them could act as Locator. For example, if you are running two instances of WFM Web, you might want to assign a different WFM Server to each WFM Web instance to act as Locator, but still have load balancing enabled.

Configuring Processor Balancing

Purpose: To configure WFM Server processor balancing (the default method of load balancing.)
Prerequisite: You have configure the Locator Service. See Configuring the Locator Service

Start of Procedure

1. Open Genesys Administrator.
2. Open the **Connections** list of the **WFM Server Application** that you have designated to act as Locator.
3. Add a reference to each WFM Server that you want to balance.

End of Procedure

The result: Locator regularly checks the number of open sessions on the servers that it finds in its **Connections** list, and then directs new sessions to the server with the least number of open sessions. In this way, connected users are balanced across the servers.

Configuring Memory Balancing

Purpose: To enable WFM Server memory balancing.
Prerequisites:

- You have configured the Locator Service. See Configuring the Locator Service.
- You have assigned WFM Servers to specific site(s). You have completed this procedure for each site.

Start of Procedure

1. Open WFM Web.
2. Go to **Configuration** > **Organization** > **Sites**.
3. Click **Configuration** and assign a WFM Server to serve that site, by selecting a server from the drop-down list **WFM Server Name**.
   To disable Memory Balancing, select none in the drop-down list WFM Server Name for every site. Otherwise, the Locator will direct sessions to the selected WFM Server, in defiance of Processor Balancing.
4. Open Genesys Administrator.
5. Add all **WFM Servers Applications** to the **Connections** list of the **WFM Servers Applications** that you designate to act as Locator.

End of Procedure

The result: When you open a new session and identify it with a site, the session is automatically directed to the WFM Server that is assigned to that site.

Adding Connections to WFM Server

Purpose: To add multiple WFM Builder connections in the **WFM Server Application** object.
Prerequisites: You have created the **WFM Builder Application** objects.

Start of Procedure

1. In Genesys Administrator, select the **WFM Server Application** that you want to use with multiple **WFM Builder Applications**, and open its **Connections** list.
2. Add a reference to each **WFM Builder Application** object .
3. Click **Save**.

End of Procedure

To find information about all WFM component connections, see Component Connections.

WFM Builder Configuration

If multiple **WFM Builder Applications** are connected to the WFM Server, you can configure WFM Server to select the **WFM Builder Application** with the shortest queue. See step 2 in the procedure Configuring Optional Settings in the *Workforce Management Web for Supervisors Help*.

For each supervisor's request to build a schedule, WFM Web asks WFM Server to locate an instance of WFM Builder. To do so, WFM Web goes to an original locator—although not to the WFM Server in its current session.

WFM Server selects a WFM Builder instance from its Connections list (see Adding Connections in WFM Server). WFM Server periodically polls all of the **WFM Builder Applications** that are specified in its connection list to get information about their current request queue and to make sure the connections remain active. In response to the request from WFM Web to locate a WFM Builder instance, WFM Server returns the active **WFM Builder Application** with the shortest queue.

Selecting a Specific Builder Application

You can select a specific **WFM Builder Application** for a dedicated group of users that would serve all schedule building requests initiated by that group or team. To do so, see step 2 in the procedure Configuring Optional Settings in the *Workforce Management Web for Supervisors Help*.