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# Workforce Management Administrator's Guide

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# Getting started

## Contents

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Start planning the set up of your organization's workforce and learn how to enable user access to WFM's web interfaces.

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Workforce Management (WFM) is a strategic asset in advancing your goals of providing the highest-quality customer service for the best value. In today's contact center, interactions take a multitude of forms, and agents may have a broad variety of skills. WFM creates forecasts and schedules for multi-skilled agents who are handling interactions in a variety of media, as well as for traditional single-skilled agent pool handling mostly voice interactions.

WFM enables supervisors to create proposed future schedules, agents to bid on those schedules, and supervisors to integrate the bids into real schedules.

WFM enables agents to request time off and specific working hours, and also to trade schedules with other agents, without sacrificing optimal staffing levels. Flexible agent scheduling can help improve agent retention, resulting in fewer new hires who require training before they can become effective promoters of your business.

WFM provides real-time contact-center performance and agent-adherence monitoring. You can immediately adjust the number of agents working on a specific activity if you see that the service-level statistics for that activity have fallen out of the acceptable range. Or, if the service levels are more than satisfactory, you can encourage agents to spend additional time up-selling new products, move them to another activity, or even give them time off.

## Start planning

A good way to start your planning efforts is to become familiar with WFM's Configuration and Policy objects. These objects enable you to organize your workforce and set parameters that help you to effectively manage and simplify daily tasks. For details see Configuration objects and Policy objects.

Also, find articles under "Daily operations" in the table of contents that describe day-to-day tasks that a supervisor might perform.

## WFM Web interfaces

WFM Web is a server application that provides content for two Web browser-based user interfaces, one for supervisors, one for agents. The agent interface can also be accessed on mobile devices using the Agent Mobile Client. The appropriate interface opens after login, depending on the login information you enter.

The contact center administrator or a supervisor provides agents with the URL to access WFM Web

for Agents on their desktop (for example, <http://:8080/wfm85x>) or smartphone (<http://:8080/wfm85x/m>). The agent simply enters their user name and password in the **Login** window.

- **Web for Supervisors**—Includes calendar management, forecasting, scheduling, real-time agent adherence, contact-center performance statistics, the configuration of email notifications, and reporting. These functions are all entirely accessible through any computer with a supported browser and network access.
- **Web for Agents**—Enables contact center managers to easily distribute schedule information to their employees and provides agents with proactive scheduling capabilities, such as entering schedule preferences, planning time off, schedule bidding, and trading schedules.
- **Agent Mobile Client**—Enables agents to use their mobile devices to access their schedules, enter schedule preferences, plan time off, trade schedules, and change their personal information settings.

## Redesigned Web interfaces

Both the WFM Web Supervisor and Agent interfaces were redesigned and the previous applications (still available) were renamed WFM Web for Supervisors (Classic) and WFM Web for Agents (Classic). The Help was also renamed. See *Workforce Management Web for Supervisors (Classic) Help* and *Workforce Management Web for Agents (Classic) Help*.

### Important

As of August 2019, the Web for Agents (Classic) UI is deprecated and will be unavailable in future releases. Genesys recommends that you change the configuration to display the current Agent UI instead of the Agent (Classic) UI. The latest Agent UI has feature parity with Web for Agents (Classic) UI.

## Enabling Supervisors access

The latest Supervisor interface displays only the updated Forecast module, with all of the same functionality of the classic version, but with new controls, icons, and tools bars with which supervisors can perform Forecasting tasks. All other modules are accessible in the Supervisors (Classic) interface. To enable supervisors to access to the latest interfaces, some configuration is required. Ask your Genesys Professional Services representative to assist you with setting up access for your supervisors.

See also, the latest *Workforce Management Supervisor Help*

## Enabling Agents access

The latest Agent interface displays all of the same functionality of the classic version, but with new controls, icons, and tools bars with which agents can perform their day-to-day tasks. Agents have access to the latest interface by default.

Agents can access the latest interface on their mobile devices by using the same URL as they do on their desktop.

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See also, *Workforce Management Agent Help*.

# Configuration objects

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Learn about how WFM's Configuration objects can be used to effectively plan, organize, and manage your contact center requirements.

### Related documentation:

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The **Configuration** module in the WFM Web for Supervisors application enables you to configure a number of object types that provide structure and set parameters that will simplify various tasks. The following sections briefly describe each object type and highlight some things to consider when planning your workforce configuration.

#### Tip

The following sections provide only brief introductions to these objects and focus on aspects relevant to deployment planning. For a full description, see *Workforce Management Web for Supervisors (Classic) Help*.

## Agents

Using Agent objects, you can plan for, manage, and make changes to the contact information, agent IDs, and profiles for all agents in the various sites within the enterprise. WFM Web provides many configuration views and categories in which to manage agents effectively. For detailed information about agent configuration, see the **Configuration > Agents** view in the *Workforce Management Web for Supervisors (Classic) Help*.

## Organization

Use the **Organization** module to configure sites, business units, and time zones, and determine which sites belong to each business unit. Decide on the site properties, the maximum seats, how you will collect statistics, and so on. Collect information about agent team and site associations, as well as agent settings, such as rotating pattern (if any), contracts, and rules for the accrual of time off.

Keep in mind that there are many WFM configuration objects that are associated with a site, including rotating patterns, contracts, activities, time-off types and rules, exception types, and more. When you move an agent from one site to another, you must reassign that agent to a new contract, time-off rules, and rotating patterns, if these were previously assigned. Take this action to correctly schedule agents whenever they are moved to a new site.

## Business Units

At times, you might need to create and configure new business units. To do so, see **Configuration > Organization > Business Units > Creating Business Units** in the *Workforce Management Web for Supervisors (Classic) Help*.

## Sites

Sites can be equivalent to switches, which are defined in Genesys Administrator and imported into WFM. You can also create sites in WFM that are unrelated to a switch. This is appropriate when switches do not correlate with your company's organization. For example, a single location could be divided into multiple entities to reflect divisions along business unit lines. To configure sites in your enterprise, see the WFM Web for Supervisors **Configuration > Organization** module.

## Teams

Within new or existing sites, you can create and add agents to teams. Creating teams enables you to group agents to meet scheduling and business requirements. You can organize teams by agent skill sets, schedule, sales targets, achievements, geographies, or any other factor. For example, to email agents, start a sales drive, or initiate platinum customer care. An agent can belong to only one team at a time. To create teams, use the **Sites > Properties** view in Web for Supervisors.

## Time Zones

*Time zones* are set up in Genesys Administrator and imported into WFM during synchronization. You can assign time zones to business units only. For efficiency in configuring new objects, you can configure a default time zone, or a user time zone that can be used as the alternative time zone in the **Performance** views. Newly created sites and business units use the default time zone unless specified otherwise.

To learn how to configure and work with time zones, see **Configuration > Time Zones** in the *Workforce Management Web for Supervisors (Classic) Help*.

## Schedule-State Groups

A *schedule-state group* is a collection of schedule states that is linked to a site. These include breaks, meals, exceptions, activities, time off, and so on. You can group these, and then associate the group with one or more Genesys states.

Additionally, you can configure an adherence threshold for the schedule state group, which defines when an agent should be considered non-adherent to the schedule states contained in the group.

To configure schedule-state groups, determine what schedule states you are using, what are the most logical groupings, and which Genesys state(s) best corresponds to each group.

To learn how to configure schedule state groups and adherence rules for them, see **Configuration > Schedule State Groups** in the *Workforce Management Web for Supervisors (Classic) Help*.

## Activities

*Activities* are defined as different categories of work that comprise the total workload for a contact center. Workload and staffing forecasts are created for each activity. Each site configures its own activities, to take the local conditions into account. All agent work that is forecast and schedule must be assigned to an activity.

Activities can take various forms. They might describe types of work, such as inbound calls or email; groups of customers served, such as preferred customer care; or work times, such as overnight. You can also use activities for non-CTI work. Each activity is then associated with one or more preconfigured skills. Because activities are a fundamental unit for forecasts and schedules, it is critical that you configure them accurately.

### Maximum simultaneous users for activities

The Maximum Simultaneous Users feature limits the number of agents that can be scheduled for an activity, even if the workload requires more. This feature can be used as a way to prevent excessive staffing for some activities so that the agents can be moved to more important activities, even if it leaves some less-important activities understaffed. This feature is best used when the contact center is understaffed as a whole. When the **Maximum Simultaneous Users** value is reached, agents are then assigned to other activities.

#### Tip

The Maximum Simultaneous Users feature is used only in multi-skilled environments.

## Activity Sets

The **Activities** module enables you to set activity open hours and staffing constraints. You can also use it to create activity sets.

Activity sets provide a means to combine activities into groups for multi-skilled scheduling. Activity sets are associated with sites. Any agent can work on an activity set if that agent has the skills required for the activities included in the activity set. When performing activity set work, agents must perform only the activities included in the set for a specified period of time. When planning your deployment, consider which activities could logically be grouped into activity sets.

## Multi-site Activities

Multi-site activities are performed at multiple physical sites. They enable you to view several local activities as a single WFM object. The performance information is split among the sites that perform the activity. You can build interaction volume forecasts, staffing forecasts, and view contact center performance for multi-site activities.

For more information about activities, activity sets, and multi-site activities, see **Configuration > Activities** in the *Workforce Management Web for Supervisors (Classic) Help*.

## Activities Statistics

Administrators and supervisors can associate statistics with activities and multi-site activities in WFM Web. WFM tracks four statistical categories: Interaction Volume (IV), Abandonment Percentage, Quality of Service, and Handle Time. These statistics are written to the WFM database, providing the historical data necessary for WFM forecasting, scheduling, and performance and adherence monitoring.

In WFM Web you associate statistics with activities. These statistics may be *out-of-the-box* or customized statistics.

For example, you can sum up values from any set of statistics you want, such as `totalTalkTime + totalHoldTime + totalAfterCallWorkTime`. This type of flexible configuration overcomes the limitations of some reports and integration, enabling you to choose the statistics that best represent the work associated with servicing each customer interaction.

For more information about statistics, see **Configuration > Statistics** in the *Workforce Management Web for Supervisors (Classic) Help* and Using copy and paste for statistics in this guide.

## Skills

You can configure interactions to be routed to specific agents within a contact center, based on skill definitions.

For example, you may want to have incoming interactions go first to an agent at the highest level of a certain skill. If no agent with that skill level for that activity is available, then the interaction can be routed to an agent with the next highest level of that skill. If no agent is available at that level, then the interaction can be routed to the next available agent, regardless of the agent's skill level for the activity.

The contact center manager can decide whether to staff for the higher skill levels, or whether to staff so that any agent can handle the interaction.

Skills are defined and assigned to agents in Genesys Administrator, then imported into WFM automatically during synchronization. In WFM, skills are assigned to business units. A skill can be assigned to one business unit only and can be assigned only to activities and profiles under this business unit. To assign skills to business units, see **Configuration > Configuring Skills for Activities** in the *Workforce Management Web for Supervisors (Classic) Help*.

## Matching Skills and Activities

Activities often correspond to skills but may also correspond to agent skill levels. Choosing an appropriate strategy for a contact center's activities allows for improved staffing decisions.

For example, in a simple scenario, the relationship between the queue, skills, and activities is a 1-1-1 correspondence. As things get more complex, the relationships get more complex. Activities consist of multiple skills, and each site has many activities associated with it. The goal is to find the best combination of relationships to meet staffing requirements.

## Users

Users are supervisors and other persons who are not agents. They are divided into two groups:

- Users who have been imported into WFM (WFM users).
- Users who are configured in Genesys but not selected as WFM users (Genesys Users).

In WFM Web you can create a list of existing WFM users or import Genesys users from Genesys Administrator. You can configure user properties, and assign security roles and privileges to them, enabling access to specific business units, sites, and teams within the enterprise.

Before you import Genesys users into WFM, ensure you understand the how the user's security rights and privileges are impacted by the move. Be sure to read the topics Roles and Genesys Administrator Objects Imported to WFM.

Users are configured in the **Configuration > Users** view. See the *Workforce Management Web for Supervisors (Classic) Help*.

## Roles

WFM uses roles and privileges to manage user access to WFM functionality. WFM has its own security/access rights system that defines the objects and modules that each WFM supervisor user can access in WFM. In addition, WFM implements tenant security for the objects that are shared with Genesys Administrator.

WFM implements security/access as follows:

- If the user belongs to **Enterprise** in Genesys Administrator, all objects are accessible to the user in WFM, if the appropriate WFM access rights are assigned.
- If the user belongs to a **tenant**, the WFM user has access to object under that tenant only, even if the WFM access rights are assigned for related objects.

### Important

WFM follows tenant access rights only (and no other Genesys Administrator access rights).

User security roles are configured in the **Configuration > Roles** view, enabling you to configure security settings for all supervisors (that is, all non-agents who use WFM). It groups role privileges into the following categories: General, Configuration, Policies, Calendar, Forecast, Schedule, Trading, Performance, Adherence, Reports, and Notifications. Under each category are various options.

For example, **Notifications** is an option under the **Configuration** category. If a user is assigned the **Notifications** privilege, that user can then access the **Notifications** view in WFM Web. Users without this permission cannot access and therefore cannot modify the configuration of email notifications.

### Tip

There is a distinction between the **Notifications** category and the **Notifications** privilege under the **Configuration** category. For further clarification, see **Configuration > Roles** in the *Workforce Management Web for Supervisors (Classic) Help*.

User security settings allow for a great deal of flexibility. You can specify which sites and business units, teams, and so on, the user can access. You can configure calendar, forecast, and schedule access; read-only access; or full access.

In addition, you can enable users to make only pending schedule changes—that is, schedule changes that require approval from a qualified user before they are incorporated into the Master Schedule.

To configure user security settings efficiently, determine the access levels appropriate for all users. You can change settings at any time, as necessary. You can also use security roles to more easily configure security settings for users, by creating a security role, assigning privileges to it, and then assigning one or more WFM users to that security role.

When importing users, administrators will configure a security role. All new users added to the WFM system will be assigned to this security role and will be limited to its access permissions. Roles can be changed at any time. See **Configuration > Roles > Creating Roles** in the *Workforce Management Web for Supervisors (Classic) Help*.

Some configuration is required to assign roles and privileges for individual agents or groups of agents in Genesys Administrator. Ask your Genesys Professional Service representative for assistance with this.

# Policy objects

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Learn about WFM's Policy objects and how they can be used to effectively apply constraints to business practices to comply with legal and contractual requirements in various regions.

### **Related documentation:**

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Contractual obligations, legal requirements, and business practices comprise constraints under which a contact center operates. Workforce Management (WFM) enables you to use Policy objects to specify constraints in great detail, resulting in forecasts and schedules that comply with constraints while optimizing staffing levels.

## Exception types

Exception types define periods of time when agents are engaged in non-work activities, such as training or meetings. Each site configures its own set of exception types based on its business requirements. You can configure exceptions to be considered when the Meeting Planner is in use, to be convertible to a day off, and so on. You can assign agents to multiple partial-day exceptions if the exceptions do not overlap.

Because you can group agents into teams, you can assign exceptions to large groups of agents at one time.

### **Tip**

Genesys recommends that you make use of time off capabilities, rather than configuring time off using exception types.

## Payback exceptions

Payback exceptions are unpaid part-day work intervals that are inserted into schedules to make up for missed time due to lateness or personal appointments. Supervisors and agents can insert these exceptions and specify payback options to recoup missed time.

Payback exceptions might not be applicable or required in all sites, business units, or contact centers, and therefore is not enabled by default. To implement this functionality, ask your Genesys Professional Services representative to enable it for you.

For information about how supervisors and agents can use payback exceptions, see *Insert Exceptions with Payback* in the *Workforce Management Web for Supervisors (Classic) Help* and *Inserting Payback Exceptions* in the *Workforce Management Agent Help*.

## Exception memos

You can add Exception memos in Schedules, Calendar items, and Meetings to provide comments or additional information about Exception types. Exception memos can contain up to 256 characters.

### Memos in Calendar items

When you create Exception memos in Calendar items, they are visible in the Schedule views after they are scheduled, and preserved if transferred between Schedule scenarios, from Scenario to Master Schedule, or from Master to Schedule Scenario. If you edit the memo in the Calendar, the schedule reflects the change without having to be rebuilt or republished.

If this same memo is in the schedule (rather than in Calendar items), it is not saved in the Calendar. Instead, WFM creates a new memo that is related to this scheduled Exception. This newly-created memo is not related to the Calendar item. Therefore, changing the original memo in the Calendar item does not affect this instance of the scheduled Exception—it is a separate memo.

#### Tip

You can create an Exception memo in the schedule, even if you have created an Exception without a memo in Calendar items. Again, the scheduled Exception memo is not synchronized with the Calendar item Exception and will not reflect any modifications made to the Exception memo in the schedule. See [Memos in Schedule views](#).

If you delete an Exception and its memo in the Calendar, it will no longer be visible in the schedule. However, you can enter a new memo for the Exception that is not related to the Calendar item. If there are multiple instances of an Exception in multiple scenarios and/or the Master Schedule and you delete the related Calendar item, all instances become separate Exceptions.

When you change a memo in a scheduled Exception the change is reflected in the schedule audit and history. If the settings for the Exception type allow, scheduled Exception memos are swapped and traded with Exceptions. If a calendar-related memo is swapped or traded, WFM copies it to the schedule and disassociates it from the calendar.

Exception memos are displayed:

- In the **Details** bar at the bottom of the **Schedule Intra-Day** and **Agent-Extended** views.
- Next to the scheduled **Exception Type Name** in the **Individual Schedule** and **Team Schedule** reports.
- In the schedule details (and printed schedule details) for the Web for Agents > **My Schedule** view, in a manner similar to the reports.

### Memos in Schedule views

While creating new Exceptions in the Schedule Scenario or Master Schedule that are not associated with a Calendar item, you can also add and edit an Exception memo. You can edit Exception memos that have been inserted directly into the schedule and initially created without memos or those that became schedule-only Exceptions after the related Calendar item was deleted. (See [Memos in](#)

Calendar Items). However, each Exception is edited separately, even if they were inserted using the **Insert Multiple** wizard.

### Important

Due to the size limitations for an entire scheduling day, the memo might not fit into the schedule if there are multiple exceptions with long memos in the same agent day.

Exception memos are published or extracted to and from the Master Schedule along with Exceptions and are transferred when you create scenarios, based on data from another scenario or data taken from the Master Schedule. They are also committed (together with Exceptions) from the agent's schedule to the Master Schedule. However, unlike Exception memos created in Calendar items, after publishing or creating schedules, the link between Exceptions is not maintained, and editing one instance of a memo does not change other instances.

After the schedules are published, the memos appear in the **Details** bar at the bottom of the **Schedule > Intra-Day** and **Schedule > Agent Extended** views. You might not see the entire memo, depending on the length of the memo or number of characters. However, when editing the memo, the entire memo text is displayed.

### Memos in Meeting Exceptions

Entering memos in Meeting Exceptions is not quite the same as adding Exception memos in the Calendar or Schedule views. In the meeting **Properties** settings, the **Meeting Name** field can include a short memo, further describing the type or purpose of the meeting. For example, *exception\_name, meeting\_name (exception\_memo)*. Together with the **Meeting Name** and **Exception Type** this memo is displayed in published schedules, just as exception memos are for Calendar items and Schedule views.

## Time-Off Types

Use the **Time-off Types** module to create time-off types for each type of time off that you want to be able to track.

Time-off types include vacation, personal time off, flexible time off, paid sick days, floating holidays, and more. They can be accrued (time off accumulates over time) or awarded (the total amount of time off for the year is assigned at a single time). For example, you might want personal time off to accumulate, whereas holidays—since there is a fixed number during the year—can be awarded.

You can associate multiple time-off rules with a single time-off type. This enables you to have different time-off types accumulate at different rates. For example, you can set different time-off rules for different levels of seniority.

## Time-Off Rules

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The Time-Off Rules module enables you to set allocation parameters for both accrued and awarded time-off types. Constraints include the number of hours that are assigned per year or that accumulate per working period, and the carry-over date for each time-off type you use, and whether time-off requests can be auto-approved.

Each type of time off can be associated with one or more time-off rules. Because you can configure a number of time-off types (using the WFM Web's Time-Off Types module), you can have time off accumulate at different rates, providing more flexibility in managing contact-center staff.

You also use this module to assign time-off rules to specific agents. Agents can have multiple time-off rules assigned, each with its own time-off type.

## Configure Time-Off Rules

To learn how to create and configure time-off rules, see Time-Off Rules in the *Workforce Management Web for Supervisors (Classic) Help*.

## Meetings

Use the *Meetings* module to create meetings and assign them to agents. You can set up a series of recurring meetings that must meet your constraints for frequency, number of occurrences, and so on.

Use the Meeting Planner in the WFM Web to configure preplanned meetings such as team meetings that recur weekly or monthly. If you need to create an ad hoc meeting, use the Meeting Scheduler within the WFM Web for Supervisors Application.

## Marked Time

Marked Time types are specific periods of time that you want to monitor and report on that are not already labeled using an existing category. For example, you might want to mark the periods that agents worked on a particular project. Or you can mark overtime so that you can report on it.

You can insert and view Marked Time in the **Schedule > Intra-Day** views in WFM Web for Supervisors. The Schedule Marked Time report and Schedule Marked Time Totals report provide marked time statistics.

## Shifts

The method used to create WFM shifts allows for a flexible description of shift duration and of start and end times. Additionally, WFM schedules use flexible break and meal parameters.

In a sense, a WFM shift is an abstraction, representing countless possible working times, even though you can configure a shift to produce very regular, fixed, agent schedules.

A single WFM shift can incorporate hundreds of possible start times and duration as long as they fall

within the parameters of the contract. However, through more rigid shift configuration, agent start times and workday duration can be fixed. This combination of flexibility and structure makes the WFM shift a tremendously powerful scheduling mechanism. In fact, in some cases, you can configure an entire contact center using only a few WFM shifts.

### Allocating shifts effectively

The WFM shift contrasts sharply with the conventional notion of a shift, with fixed weekly start time, fixed duration, and set breaks. You can configure shifts to work in tandem with contracts, which efficiently and effectively controls the placement of working times.

#### Example

Consider a contact center with a standard full-time shift of 8 hours a day, 5 days a week, and an alternative full-time shift of 10 hours a day, 4 days a week. Both types of agents can use a single shift with a flexible duration of 8–10 hours per day. In either case, the agents are contracted to receive 40 hours of work each week and to work for 4 or 5 days. You can configure WFM to guarantee that specific agents work 4 or 5 days a week, or you can leave it to the WFM Scheduler to determine how many agents of each full-time type should be used to provide the least costly schedule.

Such an efficient method of shift allocation allows you to take into account the effect of complex scheduling requirements and agent-centric considerations while making the best possible use of multi-skilled agents.

If you have a need in your contact center for more precise control over when an agent works and the duration of his workday, you may consider using Rotating Patterns. This is a way to lock in specific types of schedules for an agent without creating a unique shift for him.

## Contracts

Contracts are sets of rules that describe the contact center's contractual obligations to agents. The maximum working hours for a contract should include allowances for meetings, training, overtime, and other planned, paid activities. You can configure an unlimited number of contracts. In some cases a unique contract might be necessary for each agent.

Use contracts to describe a single agent's availability. For example, a student might prefer to work Monday, Wednesday, and Friday evenings, any time Tuesday and Thursday, and have weekends off for study and fun. You could configure this student's contract to enable these availability parameters.

A contract is not the same as a shift. A shift indicates the hours an agent *will* work, whereas a contract describes how many hours an agent *should* work. For further details on shifts, see Shifts.

### Constraints for working days, hours, and days off

You can set the numbers of working days and hours and days off for one of several scheduling periods, depending on which best suit your enterprise's business practices and any applicable legal requirements. You can set these parameters per week, per month, or per any period of 2 to 6 weeks.

For example, you can ensure that employees always receive 2 weekends off per month or work an exactly specified number of hours per 6-week period.

## Configuring profiles

A *profile* is an abstract or hypothetical agent constructed from user-defined contract data. You can create multiple profile types, which you can use to construct schedules containing empty schedule slots appropriate for the contracts you have or intend to hire for. You can insert actual agents into the schedule slots after you build the schedule.

## Rotating Patterns

Rotating patterns increase scheduling flexibility and control. A rotating pattern is a series of weekly patterns arranged in a repeating sequence. You construct each weekly pattern from a combination of shift assignments, agent availability times, days off, and so on, depending on what constraint is most important for any specific day.

Rotating patterns include availability times as options for weekly pattern days. If used, these availability settings override the availability settings that you configured in the Contract module for that day. Rotating pattern assignments are displayed in the Calendar along with all other pre-planned data.

# Scheduling

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- Administrator

Learn about all aspects of scheduling in order to plan and create optimal schedules for your workforce.

### **Related documentation:**

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## Scheduling features

Workforce Management (WFM) uses the published Master Forecast to create agent schedules that comply with user-defined business constraints. Or you can create “empty” schedules to which you can then assign agents. Schedule constraints include available personnel with required skills, staffing requirements, employment contracts, business policies, and agent preferences.

The staffing requirements act as a target for schedule generation. An optimized schedule ensures the least amount of over- and understaffing while still meeting contractual obligations. WFM uses each agent’s individual skills, contracted working rules, and calendar items as guides to help identify when each agent can work, and what he or she will work on.

WFM aids compliance with regional working rules by helping to apply the following aspects of Contract rules:

- User-defined weekend days
- Schedule synchronization based on specific days of the week
- Maximum number of consecutive weekends an agent may work

You can schedule agents to be available to perform multiple types of work at once or you can schedule them to work on specific types of work for periods of time within their day. You can also combine these, to create schedules in which some periods are set aside for specific types of work while at other times agents perform any work that arrives for which they are qualified.

Once you finalize your schedule, you can publish it to the Master Schedule, where it immediately becomes available for agents to view through WFM Web for Agents. Agents may then trade their schedules as needed, if the schedule trade complies with trading rules and is either auto-approved or is approved by a qualified supervisor.

## Maximum agents per schedule period

You can build schedules for up to 5,000 agents and 6 weeks. Memory requirements are decreased,

and contiguous memory is not necessary for scheduling. If you have 1.5 GB of virtual memory available, you can now build large schedules (5,000 agents). Generally, for schedules with 2,000 or fewer agents, 600 MB of virtual memory is enough.

### Important

Consider the preceding limits to be rough estimates; scheduling duration varies depending on your configuration. There is no way to provide a general estimate for schedule build time, based on just a few simple parameters such as the number of schedule weeks and the number of agents. The maximum schedule size must be determined uniquely by each user, based on specific performance requirements.

## Profile scheduling

Although agent-based scheduling offers a multitude of advantages, in some cases you must build schedules without agents assigned to them. To do so, you create a schedule composed of empty schedule slots that are appropriate for the contract types or agent skill sets you currently have, or for which you anticipate hiring. WFM offers several methods for creating blank schedules to which you can assign agents:

- **Scheduling Using Profiles**—Profiles are based on contracts and include a skill set. They are used to represent a typical kind of agent or a proposed new agent classification. For example, you can create a new flexible full-time profile to enable planners to evaluate the adoption of a 4-day, 10-hours-per-day work week. Each profile has a skill set with assigned skill levels. Scheduler uses either a user-specified number of each profile type or a blend of profiles based on the current staff, to create blank schedules to which you can assign qualified agents.
- **Mixed Scheduling**—You can build schedules using a combination of profiles and actual agents. This can enable planners to create additional optimized schedules for expected new hires or for outsourced agents to use.
- **Schedule Bidding**—Supervisors create an optimal set of schedules with no agent names, authorize a set of agents to participate in the bidding process, and open the schedules for bidding. Agents review the schedules on which they are qualified to work, and bid by numbering the most desirable and least desirable schedules 1, 2, 3, and so on. The Supervisor can then have WFM assign the schedules to the agents automatically, based on the agents' bids as well as their seniority and/or "rank".

## Automated schedule bidding

Automated Schedule Bidding allows supervisors to create schedules with no agent names associated, and then distribute them to agents via the Web. The agents can view, filter, and sort these schedules, and bid on their favorite schedules over a preconfigured period of time. WFM then assigns schedules to agents, based on their bids and their seniority and/or rank. When possible, preplanned Calendar items such as granted time off, days off, and exceptions are integrated into agent schedules when the schedules are published to the Master.

This new and powerful feature helps contact centers to comply with union regulations requiring that

agents be assigned their desired schedules based on their seniority or rank. It also enhances supervisor productivity by automating the process. Even in non-unionized contact centers, automated schedule bidding improves agent satisfaction by giving agents more control over their future schedules.

## Skill-based scheduling

You can build schedules based on primary and secondary skills. WFM defines activity/skill levels as follows:

- Primary activity—Is assigned to the agent directly and *not marked* as secondary. If activity assignment is based on skills and skill levels, the primary activity is one, for which none of the agent's skills are marked as secondary.
- Secondary activity—Is assigned to the agent directly and *marked* as secondary. If activity assignment is based on skills and skill levels, the secondary activity is one, for which at least one of agent's skills is marked as secondary.

### Important

WFM Builder API 8.5.1 or later must be installed to enable full implementation of this feature. If you installed an older WFM Builder API or you have disabled the primary/secondary activities feature, scheduling behavior is the same as in earlier versions.

## Algorithm for skill-based scheduling

Agents are typically assigned a list of activities to work on for each day of the schedule scenario. When primary/secondary skills-based scheduling is enabled, WFM assigns two lists of activities: primary activities and secondary activities, and uses the following algorithm for daily distribution:

1. Minimum required primary activity
2. Minimum required all activities
3. Regular required primary activity
4. Regular required all activities

Here are some other things to consider when using skills-based scheduling:

- For time steps, when no activities are selected during daily distribution or if activities are removed during swapping, the primary activities have a higher weighting during selection.
- While tasks are being optimized, the primary activities have a higher weighting during activity selection.
- Task sequences, activity sets, and scheduled shift items might negatively impact primary/secondary activity selection. Be sure to check every time step individually to determine if any agents are working on a secondary activity, instead of a primary activity.

### Multi-site planning

Using a familiar tree structure, you can configure WFM's objects to correspond exactly to your Enterprise organization. For centralized, multi-site contact centers, WFM enables forecasting and building of schedules for work activities spanning all sites.

For decentralized, multi-site contact centers, WFM supports two main models.

- For multi-site contact centers that distribute calls based on percentage allocation, WFM enables you to forecast interaction volumes centrally and distribute the workload to each site for further planning efforts. Each site can set parameters such as service objectives and staffing requirements, and can build schedules.
- For multi-site contact centers that are virtualized and distribute calls based on agent availability, skill set, and so on, WFM enables you to forecast staffing centrally and then split the staffing requirements to each site. Schedules may then be built for each site. By building staffing requirements centrally, WFM can account for the efficiencies of scale that are seen in a true virtual contact center environment.

The browser-based capabilities provided by WFM ensure that in any multi-site environment users across the enterprise can participate in the planning process.

Also see Multi Forecasting Primer.

### Agent preferences

The Scheduler can optionally consider agent preferences when building schedules. Agents can enter preferences for shifts, days off, availability, and time off using WFM Web for Agents. Supervisors can enter agent preferences in WFM Web for Supervisors and, with the appropriate security permissions, can grant or reject preferences. If a supervisor grants a preference, the calendar algorithm considers that agent's preference when building the schedule, along with various other criteria such as seniority.

### Preference fulfillment and schedule optimization

Contact center administrators can also specify whether preference fulfillment or schedule optimization is the more important goal. This adds another layer of control over preference scheduling.

### Flexible shifts

The method WFM uses to create shifts enables you to configure flexible shift duration and start and end times. Additionally, WFM schedules use the flexible break and meal parameters.

In a sense, a WFM shift is an abstraction, representing countless possible working times. This is true even if the shift is configured to produce very regular, fixed, agent schedules. This is in contrast to the conventional notion of a shift with a mandatory fixed weekly start time, fixed duration, and set breaks.

A single WFM shift can incorporate hundreds of possible start times and duration as long as they fall within the parameters of the associated contract. However, through synchronicity constraints and the use of more-rigid shift configuration settings, you can fix agent start times and workday duration. This combination of flexibility and structure makes the WFM shift a tremendously powerful scheduling mechanism. In fact, in some cases, you can configure an entire contact center using only a few WFM shifts.

### Example of a WFM shift:

Consider a contact center with a standard full-time shift of 8 hours a day, 5 days a week, and an alternative full-time shift of 10 hours a day, 4 days a week. You can schedule both types of agents using a single shift with a flexible duration of 8 to 10 hours per day. In either case, the agents are contracted to receive 40 hours work each week and to work 4 or 5 days. You can configure WFM to guarantee that specific agents work 4 days a week and others 5 days, or let the WFM Scheduler determine how many agents of each full-time type to use to provide the most effective schedule.

## Task sequences

WFM task-based scheduling enables you to configure sequences of work activities to be used in shifts. Task sequences guarantee that a specific period of time is spent on a specified activity or set of work activities.

Using task sequences, multimedia contact centers can generate agent-friendly schedules that build in extended periods of time set aside for handling specific tasks. Agents are thus able to focus on a single media or skill set, enabling them to complete their tasks more effectively, without the confusing effects of frequently switching media. Contact center planners can ensure that task time is equitably distributed among all qualified agents. And WFM can optimize the assignment of task times based on forecast staffing requirements.

For example, you can guarantee that all appropriately skilled agents receive exactly 2 hours of outbound work for every shift, or you can allow WFM to determine how much outbound work to distribute to each agent. You can configure Genesys Routing to use WFM schedule information as input for routing decisions. In this way, you can use task-based scheduling to provide a closed-loop routing system that complements an agent-based approach to contact center management.

For more information about task sequences, see [Configuring WFM Task Sequences](#).

## Schedule trading

WFM schedule trading enables agents to trade schedules among themselves. They can do so either through a trade with a specified agent or through a trade open to any qualified agents within their community.

Contact center planners no longer need to spend an excessive amount of time managing and processing agent schedule-trade requests. Agents feel that they have flexibility when they need to change their usual schedule and that they have more proactive control over the times they work. In some cases, schedule trades can be approved without supervisor intervention, enabling managers to focus on trades that may affect service levels or violate company policies.

### Marked time

Use marked time to distinguish any periods of time that are not otherwise tracked and reported on in an existing WFM category. For example, you can create a marked-time type for a particular project. Or you can use marked time to identify overtime periods that you want to appear in a report.

You configure marked-time types using WFM Web. You can specify marked time in WFM Web for Supervisors and view periods of marked time in its Intra-Day schedule view. You can report on marked time using the Schedule Marked Time Report and the Schedule Marked Time Totals Report.

### Intra-day scheduling

The WFM Web for Supervisors Intra-Day schedule views enable you to make real-time adjustments to schedule scenarios or to the Master Schedule. You can insert exceptions, edit or change shift start and end times, assign meetings, enter time off for an agent who has suddenly gone home ill, change the activities agents are working on, or make other changes to the schedule to improve contact center performance and to make the schedule reflect actual contact center circumstances.

You can make changes one at a time or use one of the Schedule wizards to make changes to multiple agents' schedules at once.

### Intra-day schedule reoptimization

When you build a schedule in WFM, the scheduling algorithm minimizes the over and under-staffing of agents against the forecast staffing requirements, while meeting the configured working rules. Since schedules can be built several weeks in advance, a variety of circumstances can cause the schedule to become sub optimal by the time a particular schedule day arrives.

Here are some examples:

- Contact center management re-forecast volumes and staffing for the day.
- Agents called in sick or were granted time off.
- Existing agent schedules were manually adjusted.
- Additional agents were added into the schedule.
- Meetings or other types of exceptions were added to the schedule.

It does not make sense to re-optimize schedule items for days or hours that have already passed. For most contact centers, it is also not practical to re-optimize the current hour. Any changes to meals, breaks, and/or work activities might be difficult to communicate to the affected agents. For these reasons, a re-optimization wizard allows you to select the date, start time, affected agents, and the set of schedule items to be re-optimized.

For example, you have the option to re-optimize the placement of:

1. Breaks only
2. Meals and breaks only

3. Activity sets/task sequences/activities only
4. Breaks/meals/activity sets/task sequences/activities without affecting shift start/end times
5. Breaks/meals/activity sets/task sequences/activities, and shift start/end times

Re-optimization provides some flexibility if you do not wish to change certain shift items or work activities because it might be difficult for your agents to adjust to those changes. For example, if agents use their meal breaks to go out of the office and go to appointments, you might not want to change these times once they have been published.

Similarly, you can decide whether shift duration should be allowed to change or not. In some contact centers, this can be done to offer additional work hours to certain agents. In other contact centers, this is not the desired practice.

Additionally, you can choose to exclude from re-optimization any agents whose schedules have already been manually edited. You might have already spent time manually adjusting shift items or work activities for an agent (for example, you moved meals or breaks based on a particular request from an agent) and you don't want to lose those changes.

However, it is important to understand several facts about Intra-Day schedule Rebuild function and be aware of situations such as when a schedule might not be reoptimized or will be impacted by set of limitations.

In a regular schedule build or rebuild, the existing schedule is simply replaced with a new schedule generated. But, a rebuild Intra-Day schedule function works with schedules/shifts that were scheduled to agents by any previous action that tried to modify selected wizard parameters, but couldn't substitute a currently scheduled item with another one. Therefore, the rebuild Intra-Day schedule functionality has a set of limitations that we should consider while using it. For example, the following cannot change by re-optimization:

- Day-Off cannot become Workday
- Workday cannot become Day-Off
- The scheduled shift cannot be changed to a different shift. The start/end time of the same shift can be re-scheduled if the corresponding option was selected. But, the shift cannot be moved if the shift's configuration has a non-flexible window or scheduled activities' open hours prevent different hours.
- Schedule of the day cannot become invalid (paid time, shift start/end). In such cases, the original schedule remains.
- If a scheduled shift is no longer under the current agent's contract, such schedule cannot be Intra-Day re-scheduled.
- If a scheduled shift contains a meal or a break that is no longer assigned to that shift in the current configuration or does not contain a meal that is in the current configuration, it cannot be Intra-Day re-scheduled.
- If the scheduled break/meal duration is different from the current break configuration or the break/meal's paid/unpaid flag is different, the shift cannot be re-scheduled.
- If the agent does not have any schedule for the rescheduled date, then it will stay with no schedule.
- Nothing can be changed before the re-optimization start time.

### Pending schedule changes

Users who do not have the Approve Changes security permission enabled can make only pending changes to the Master Schedule. Pending changes do not affect the official version of the Master Schedule.

A user with the Approve Changes security permission enabled must commit pending changes before they are incorporated into the official schedule. Discarded changes are *rolled* back.

Alternatively, such a user can go to the Master Schedule Changes Approval module (invisible to users without the Approve Changes security permission enabled). There, she or he can review the pending changes to the Master Schedule made by any user, and approve or reject them.

You can also enter pending changes into a schedule scenario. Such pending changes are visible only to the user who entered them. You can later review your pending changes, and either commit them or roll them back. Once committed, the changes are visible to all users with access to the schedule scenario.

#### Important

If a scenario with pending changes is published to the Master Schedule, the pending changes are not included.

### Schedule State Group Totals view

This view provides intra-day totals of the number of agents in each schedule state group (Meetings, Lunch, Breaks, and more).

It helps managers and supervisors understand how many agents are scheduled for each type of activity during a particular time period, and provides a snapshot view of productive vs. nonproductive time on an intra-day basis.

# Forecasting

## Contents

- [1 Flexible forecasting](#)
- [2 Using historical data](#)
- [3 Forecasting events](#)
- [4 Setting service objectives](#)
- [5 Deferred-work forecasting](#)
- [6 Multi-skill support](#)



- Administrator

Use the Forecasting tools to predict contact-center workload and staffing requirements, based on historical data or user-defined templates.

### Related documentation:

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Use the Workforce Management (WFM) Forecasting tools to predict contact-center workload and staffing requirements, based on historical data or user-defined templates. WFM offers flexibility, by providing multiple methods to forecast the workload and staffing requirements for work activities.

Start by creating one or multiple forecast scenarios. Creating multiple scenarios enables you to see the effects of changes to forecasting parameters, such as service objectives and predicted interaction volume. When you have determined the most satisfactory forecast, publish it, making it the Master Forecast on which schedule scenarios, and eventually the Master Schedule, are based.

If you choose to, you can derive workload forecasts from historical information that is either collected automatically by WFM from the Genesys system or imported from CSV-formatted files using the WFM Web. You can also create workload and staffing forecasts as reusable templates. Once you have generated a workload prediction, WFM determines the staffing requirements needed to service the workload, taking into account any applicable service objectives.

## Flexible forecasting

WFM supports an unlimited number of forecasting scenarios, enabling you to create multiple forecasts, and evaluate how changes in the parameters or the forecasting method that you use, affect expected service objectives. Resource planners can then easily create reliable forecasts, fine-tuning the results in tabular and graphical data views. You can also save forecast workforce data as templates for use in subsequent forecast building.

WFM offers several different forecasting methods of varying complexity:

- **Automated**—Use one of two WFM automated algorithms:
  - Expert Average Engine—Good for work activities that have a reasonable amount of historical data or those that fluctuate more dramatically because of unknown factors.
  - Universal Modeling Engine—Good for work activities with more than one year of historical data and accurate forecasting event information.
- **Template-Based**—Good for work activities with little historical information or for activities with very predictable interaction traffic.
- **Copy Historical Data**—Good for work activities when you have some historical data, but not enough to

use the Expert Average Engine or the Universal Modeling Engine. You can combine the historical data with overlap templates, which fill in gaps in the historical data.

- **Use Value**—Good for work activities if your site activity load is very regular. Applies a specific interaction volume or AHT to each time interval in the scenario.

## Using historical data

WFM automatically collects historical data from Stat Server for all work activities handled by the Genesys platform encompassing all media, contact segments, and service types. Using Genesys Stat Server, rather than Automatic Call Distributor (ACD) reports, provides you with far greater flexibility in defining and gathering statistics that provide an appropriate measure of contact center performance over time.

WFM analyzes interaction volumes and average handling time (AHT) in order to predict future trends for each work activity. This data enables WFM to build accurate forecasts for the anticipated workload and to calculate the staffing required to meet that workload.

Using the WFM API, you can also develop a custom application that will enable Interaction Volume and AHT data from a third-party system to be imported directly into the WFM database. This is useful if you want to use WFM to forecast and schedule a type of work that is not being routed by Genesys.

## Forecasting events

WFM can track events that might affect interaction volume. A sales promotion or marketing campaign, for example, might cause a predictable peak in interaction volume. These types of events are entered in WFM Web for Supervisors and used by the advanced WFM algorithms. If an event recurs, the forecasting algorithms learn the impact of that event and account for its impact in future forecasts.

## Setting service objectives

With WFM forecasting, you can set specific service objectives. You can also adjust these objectives and then rebuild the forecast, which provides a detailed "what-if" analysis of the potential impact of staffing or service-objective changes. WFM forecasting uses parameters to determine the effects of different service objective settings, such as:

- Interaction volumes
- Average handle time (AHT)
- Average speed of answer (ASA)
- Desired percentage of interactions handled within a target time (service level)
- Occupancy
- Maximum percentage of abandoned interactions

## Deferred-work forecasting

WFM is designed to consider work activities that can be deferred, such as e-mail, as inherently different from *immediate* work, such as a phone call. WFM uses a proprietary algorithm designed to distribute the backlog of interactions that can be deferred across the day in order to satisfy your service goal, which is expressed in minutes, hours, or days.

Spreading out the deferred work enables you to avoid spikes in workload forecasts when a contact center opens for the day, or during brief periods of high volume.

## Multi-skill support

A multi-skilled contact center presents an opportunity for increased productivity.

An agent might be idle in a single-skill environment, because she cannot answer calls that are queuing for a particular activity/skill that she possesses—because the schedule prevents her from using that skill.

In a multi-skilled environment, the agent can use her additional skills to answer calls. A multi-skilled agent is qualified to work on multiple activities, and therefore can perform different types of work during a shift.

In a multi-skill environment, an agent can be available for multiple activities during any timestep. The agent can be scheduled to work on an activity for only part of a timestep, and only the fraction of the time period during which she works is counted.

Because of this, the value for staffing can be expressed as a fraction. For details, see [Multi Forecasting Primer](#).

# Monitoring Performance and Adherence

## Contents

- 1 Performance
- 2 Adherence
  - 2.1 Multi-channel adherence
- 3 How WFM calculates adherence
  - 3.1 Single-channel adherence calculation
  - 3.2 Multi-channel adherence calculation
  - 3.3 Using reason codes
- 4 Reporting



- Administrator

Monitor and analyze the workforce performance and adherence data in your environment to create reports and spot trends that might have developed over time.

### **Related documentation:**

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## Performance

The Performance modules compare the forecast and schedule to what is actually happening in the contact center. WFM shows intra-day statistics, such as interaction volume, average handling time (AHT), agents logged in, service level, average speed of answer (ASA), and abandons, and compares them to the planned values.

Intra-day contact-center performance data is displayed in an informative and easy-to-read format, enabling efficient performance monitoring and quick response to unanticipated interaction flow or agent-staffing situations.

WFM also provides a “what-if” calculator as an aid to decision making. You can enter new values for staffing, interaction volume, and/or other performance statistics into the What - If window. The what-if calculator then supplies the results to be expected if the values change as you project.

See also, Contact center performance reporting metrics.

## Adherence

Workforce Management provides real-time agent-adherence data, which compares the current agent status to the scheduled status. WFM can track agent adherence per time interval on a single channel or across multiple channels simultaneously.

Agents who are not adhering to their schedules (within user-defined thresholds) are highlighted in yellow if they are nonadherent or in red if they are severely nonadherent. WFM also displays the amount of time, in minutes, that the agent’s current status has differed from the scheduled status. This running total is continually updated.

### Multi-channel adherence

To enable tracking of multi-channel adherence in WFM Web, assign a media channel to a Schedule State Group; WFM then calculates adherence by comparing real-time states to the scheduled states

for that channel. See the following example:

**Use case 1: Multi-channel adherence**

A site in the contact center has voice and e-mail related activities, and agents can make outbound calls, which are scheduled as exceptions. The schedule state groups can be configured as follows:

Schedule state group	Channel	Schedule state	Real-time state
Inbound calls	Voice/unspecified	All (immediate) voice-related activities	<b>WaitForNextCall, CallRinging, AfterCallWork, CallInbound</b>
Outbound calls	Voice/unspecified	Exception types that represent outbound call work	<b>WaitForNextCall, CallRinging, AfterCallWork, CallInbound</b>
E-mail	channel_name> (for example, email)	Deferred, e-mail related activities	<b>WaitForNextCall, CallRinging, AfterCallWork, CallInbound</b>
Overhead	None (no channel)	Breaks, meals, time off, exceptions, etc.	<b>NotReadyForTheNextCall, LoggedOut</b>

If WFM is tracking multi-channel adherence (new in WFM 8.5), and there are no Schedule State Groups with a channel name under the Site, WFM calculates adherence as it would for a single agent real-time state, and Stat Server aggregates the statistics as it did prior to 8.5. However, if there is at least one Schedule State Group with a configured channel name, WFM tracks multiple channels. For each Site, WFM tracks as many different channels as there are distinct channel names for all Schedule State Groups under the Site.

For information about how to configure multi-channel adherence, see *Configuring media channels for Schedule State Groups in the Workforce Management Web for Supervisors (Classic) Help*.

**Important**

After updating to 8.5, if any site in your environment supports multiple media channels and you have configured Schedule State Groups to a setting other than None, the Agent Adherence Report includes data that differs from the data in WFM 8.1.3 in two ways:

1. For any given set of criteria (site/timezone/agent/date), the data in the 8.5 report is different than the data in the 8.1.3 report, because the adherence rules change when you add multi-channel settings to Schedule State Groups, which means the adherence percentages also changes.
2. The Schedule State, Agent State, Start Time, End Time columns are in reverse order. In 8.5, the report displays the columns in this order: Start Time, End Time, Schedule State, Agent State.

## How WFM calculates adherence

Workforce Management calculates adherence for single- or multi-channel environments. For sites, in which there are schedule state groups configured for a single channel, WFM compares the agent's real-time state to the current schedule state. For sites, in which there are schedule state groups configured for multiple channels, WFM compares the agent's real-time state and reason code on each channel, with the scheduled states for that same channel during each specified time interval. If at least one scheduled state for that channel can be mapped to the channel real-time state, according to its adherence rules, the agent is considered adherent.

### Single-channel adherence calculation

Single channel agent adherence is calculated as follows:

1. WFM maps the agent's real-time state plus the reason code. If there is more than one reason code, there is more than one state + reason code mapping. If there is no reason code, WFM uses only the state for mapping. For example, if the agent has real-time state **WaitingForNextCall** with reason codes **r1** and **r2**, for adherence purposes, WFM maps **WaitingForNextCall + r1** and **WaitingForNextCall + r2**.
2. WFM then finds all schedule state groups that are adherent to at least one agent real-time state from step 1. A list of schedule state groups is compiled that maps to the state, based on the configuration of the schedule state groups.
3. WFM obtains all scheduled states from the current agent schedule and maps them to the schedule state groups.
4. WFM collects all schedule state groups from step 3.
5. WFM Intersects the sets of schedule state groups from steps 2 and 4. If the intersection is not empty, the agent is adherent.

### Multi-channel adherence calculation

Multi-channel agent adherence is calculated as follows:

1. Similar to step 1 in Single-channel adherence calculation, WFM maps the agent real-time state + reason code. However, in addition to the aggregated agent state, WFM also adds separate real-time states for each channel configured on the site. (Agents can sometimes have no state on certain channels.) If reason codes are used, WFM could map multiple state + reason code pairs for each channel, plus the aggregated state.
2. Similar to step 2 in Single-channel adherence calculation, WFM maps schedule state groups adherent to the aggregated state. However, in addition, WFM finds a separate set of schedule state groups for each channel. WFM considers only the schedule state groups that are specifically assigned to a particular channel for adherence with the states on that channel. WFM considers the schedule state groups without a channel for adherence with the aggregated agent state.
3. WFM obtains all scheduled states from the current agent schedule and maps them to the schedule state groups.
4. WFM collects all schedule state groups from step 3.
5. WFM Intersects the sets of schedule state groups from steps 2 and 4 separately for each channel. If both sets are empty or the intersection is not empty, WFM considers the agent is adherent to the channel. For the aggregated agent status, WFM assumes adherence, when either the pair in step 4 is

empty or step 2 and step 4 intersect. WFM considers the agent adherent, if he/she is adherent on all channels and adherent to the aggregated status.

The multi-channel algorithm also comes to a boolean conclusion; that is, the agent is either adherent or non-adherent. However, to be adherent the agent must be adherent on every channel, on which he/she is scheduled or, for which he/she receives a real-time state. Also, if the agent is scheduled on non-channel-related states, he/she must also be adherent to those states. See the following example:

**Use Case 2: Multi-Channel Adherence**

This use case is based on the schedule state group configuration in Use case: 1 Multi-channel adherence.

Summary	Real-time state	Scheduled states	Adherence
Agent is working on voice only, but scheduled for e-mail and voice	Agent state: <b>CallInbound</b> DN e-mail: <b>NotReady</b> DN 2323: <b>CallInbound</b>	E-mail activity, voice activity	Not adherent
Agent is working on e-mail and voice, but scheduled for e-mail only.	Agent state: <b>CallInbound</b> DN e-mail: <b>WaitForNextCall</b> DN 2323: <b>CallInbound</b>	E-mail activity	Not adherent
Agent is on a break.	Agent state: <b>NotReady</b> DN e-mail: <b>NotReady</b> DN 2323: <b>NotReady</b>	Break	Adherent

Calculation of agent headcount

WFM calculates the agent headcount for activities in this way: If the activity belongs to a channel-related schedule state group, the agent is counted for the activity, only if he/she is compliant with the adherence rules for that channel. Also, if an agent is nonadherent overall, but adherent for a channel, the agent is added to the headcount for the activities for that channel.

Using reason codes

WFM enables you to enter reason (aux) codes when you configure agent-adherence rules. The reason codes are linked to Genesys agent states and add additional details to the state information. The Genesys state + reason code combination is mapped to WFM Scheduled State Groups and is displayed in Adherence views.

**Tip**

When you filter on user-defined reason codes in the **Adherence Filter** dialog, the reason code that you specify must not contain any spaces within or at the end of the key value.

For example, an agent might signal that she is in a **NotReady** state. By adding a reason code, she can specify that she is doing after-call work or answering email. This detailed information then appears in the Adherence Details view and agent-adherence reports.

To use reason codes, your switch must support them. See your T-Server documentation to find out whether your switch can include reason codes when it sends Genesys **TEvents**.

See also, Agent adherence reporting metrics and end notes

## Reporting

WFM Web for Supervisors provides access to a variety of reports that are designed to present key contact-center data in a flexible and accessible format. The report types are:

- Configuration Reports—Contain information about work activity configuration.
- Policies Reports—Contain information about agents, contracts, shifts, and rotating patterns.
- Calendar Reports—Contain information about time off and agent calendar items.
- Forecast Reports—Display forecast interaction volumes, AHT, and staffing requirements in tabular and graph formats.
- Schedule Reports—Display schedule data for agents, activities, teams, sites, multi-site activities, and business units at various granularities. Also present budget information and schedule validation warnings and errors.
- Performance Reports—Contain various types of contact-center performance statistics in detailed and summary formats.
- Adherence Reports—Contain agent-adherence information for agents, teams, sites, business units, and the enterprise.
- Audit Reports—Contain information that enables you to audit a history of changes made within the Calendar subsystem and a history of changes made to the Master Schedule.

For more information about Workforce Management report data and other metrics, see WFM Metrics.

# User Security

## Contents

- [1 Securing schedule changes](#)
- [2 Genesys Administrator security](#)
- [3 Managing dual-role assignments](#)
  - [3.1 Supervisor](#)
  - [3.2 Administrator](#)
  - [3.3 Set up dual-role agents and provide access rights](#)
  - [3.4 Remove dual-roles from users](#)



- Administrator

Use roles and privileges to fine-tune user access to specific functionality and views in WFM.

### Related documentation:

- 

The Workforce Management (WFM) user security modules **Configuration > Roles** and **Configuration > Users** in WFM Web for Supervisors, enable you to fine-tune the type of access each user has to WFM views, objects, and functions. For example, you can:

- Limit certain users so that they can view only certain sites or teams.
- Limit certain users so that they can read the schedule but not change it.
- Limit access to reports.
- Limit access to WFM configuration settings views, such as **Contracts** and **Time Off Rules**.

## Securing schedule changes

User security enables you to control who can make changes to schedule scenarios and to the Master Schedule. Users might be able to enter changes to the Master Schedule, but unable to commit or approve changes. These changes are in **Pending** status. An authorized user can then review the changes, and either commit/approve them or roll back/delete the changes.

This enables contact center managers to provide Master Schedule access to certain users who might not ordinarily have access. For example, supervisors who manage teams of agents, but who don't normally have any scheduling responsibility, can enter team meetings or other exceptions into the schedule. Workforce-scheduling professionals can then review these to ensure that coverage is not adversely affected.

## Genesys Administrator security

### Tip

The information in this section is added for information purposes only, contact your Genesys Professional Services representative if you have questions about how user security is managed in your environment.

The security setup in Genesys Administrator also applies to Workforce Management. WFM has its own security/access rights system but also implements tenant security for the objects that are shared with Genesys Administrator. For example, a user who is logged in to Web for Supervisors, but does not have permission to view certain objects/users in the Genesys Administrator, will not be able to view those objects/users in Web for Supervisors.

A user's ability to see, interact with, and synchronize agents and skills in WFM matches that user's tenant-based access permissions in the Genesys Administrator. In other words, in order to access an agent or skill in WFM, you must be able to access them in Genesys Administrator.

This access permission is tenant-based. If you are working in a multi-tenant environment, this behavior affects every display of agents or skills in WFM. Tenants exist only in multi-tenant environments.

## Managing dual-role assignments

Workforce Management (WFM) supports the capability to assign two roles (Agent and Supervisor) to a single agent.

At times, there are people in your contact center who require multiple role assignments. For example, an agent who is promoted might sometimes be required to perform a supervisor's tasks, which would require them to be assigned both Agent and Supervisor roles.

This topic describes how to create and manage dual-role assignments.

There are two types of role assignments within the scope of this functionality: Supervisors and Administrators.

### Supervisor

Assign this role to agents who are being promoted to a supervisor's position.

#### Tip

In Genesys Administrator Extension (GAX), this Person object is configured with the **Agent** check box enabled. In Agent Setup, this Person object is configured with the **Agent Workspace Agent** check box enabled.

After logging in to WFM, this user:

- Sees the WFM Web for Supervisors homepage.
- Can open the Agents UI in a separate browser window by clicking **Open Agent** in the Supervisors UI.
- Can work in Supervisors UI and Agents UI simultaneously.
- Has implicit access rights to the team to which he belongs and the objects in his/her assigned site.
- Is assigned the **WFM Role**. If the **WFM Role** is not preconfigured (in GAX or Agent Setup), this user has

minimum access rights to the **Configuration > Organization** views.

- In the Web for Agents UI:
  - In the **Other Schedules** view, can see agents and trade schedules within his/her own team and agents who have no assigned team.
  - In the **Bidding > Schedule > Scenarios** view, can bid on all agents' schedule profiles, except agents from other teams.
  - In the **Browse Shared Transport** view, can see agents' shared transport from his/her team and agents who have no assigned team.

### Tip

If the promoted agent is not assigned to any team, in the Web for Agents UI:

- **Other Schedules** view—Can see and trade schedules only with agents who have no assigned team.
- **Bidding > Schedule > Scenarios** view—Can bid on his/her own schedule profile and agents' schedule profiles who have no assigned team.
- **Browse Shared Transport** view—Can see agents' shared transport that have no assigned team.

If this agent needs to trade schedules, bid on schedule profiles, or see agents' shared transport from other teams or sites, you must grant access rights to the appropriate teams or sites in the Web for Supervisors **Configuration > Users > Access Rights** view.

## Administrator

Assign this role to a person who is initially hired as a WFM Supervisor. In this case, the person does not have a dual-role, but instead, is automatically imported into WFM as **WFM Supervisor** after the first login.

### Tip

In GAX, this Person object is configured with the **Agent** check box disabled. In Agent Setup, this Person object is configured with the **Agent Workspace Agent** check box disabled.

After logging in to WFM this user:

- Is automatically imported into WFM
- Sees the WFM Web for Supervisors homepage.
- Has access rights to all teams, sites, and business units, and the objects therein
- Is assigned the **WFM Role**. If the **WFM Role** is not preconfigured (in GAX or Agent Setup), this supervisor has maximum access rights to all WFM views.

## Set up dual-role agents and provide access rights

The following procedures describe how to set up dual-role agents in Agent Setup and WFM Web for Supervisors:

### Tip

You can use either Agent Setup or GAX to create roles. However, the optional step 2 in Create the Genesys roles cannot be done using GAX.

### 1. Create the Genesys roles

1. In Agent Setup, create the **WFM Administrator** and **WFM Supervisor** roles.  
**In Azure, you must specify these exact names.**
2. (Optional and cannot be done in GAX) Map each role to a specific WFM role:
  1. Select **Role** and then, click **Annex**.
  2. Add a section named **wfm**.
  3. Create the option **wfm.role** with a value equal to the WFM role created in WFM Web for Supervisors.  
**After logging in, the user is assigned a specific WFM role.**

### 2. Assign the roles

1. In Agent Setup, create dedicated Access Groups (for example, WFM Administrators or WFM Supervisors)
2. Add Person objects to either one of these groups.

### Important

Do not add the same Person object to both access groups.

- Add the **WFM Administrators Access Group** to **WFM Administrator Role Members**.
- Add the **WFM Supervisors Access Group** to **WFM Supervisor Role Members**.

### Tip

Using GAX in Amazon Web Services (AWS), you can assign Person objects directly to roles without using Access Groups.

### 3. Configure WFM to support dual-role agents

- In Azure, do nothing. This part of the setup is configured by default.

- In AWS, some configuration is required for this part of the setup. Contact your Genesys Account Representative for assistance.

### Remove dual-roles from users

#### Tip

This applies only to agents who were promoted to a Supervisor role.

To remove the Genesys role assignment from the agent:

- In Agent Setup or GAX:
  - Remove the agent from the **WFM Supervisors Access Group**.
- In GAX only:
  - Remove the agent from the role, directly.

Changes take effect the next time the agent logs in.

# Calendar Management

## Contents

- **1 Planning and scheduling meetings**
  - 1.1 Additional functionality
- **2 Time off**
  - 2.1 Time off wait list
  - 2.2 Time off within bidding periods
- **3 Schedule exceptions**
  - 3.1 Exception types
  - 3.2 Exceptions and preferences hierarchy



- Administrator

Use the Calendar to plan and manage meetings, time off, and exceptions before creating agents' schedules.

### **Related documentation:**

- 

Workforce Management's (WFM) unique agent-based scheduling approach enables robust agent-calendar management prior to scheduling. WFM can incorporate known obligations into agent schedules to ensure that agents can keep appointments and request adjusted shifts or working hours while WFM maximizes contact-center efficiency. By more accurately planning for known obligations, WFM can take the guesswork out of forecasting for staffing overheads, leading to more efficient use of the agent pool.

## Planning and scheduling meetings

The Meeting Planner provides great flexibility when planning meetings. You select the meeting participants, define the range of time in which the meeting should occur, and set the duration of the meeting. You can configure recurring meetings, specifying either the number of occurrences or the start and end dates of the meeting series and the interval (weekly, for example).

The Meeting Scheduler builds the meeting into the work schedules of the participants during the scheduling process, finding the optimal times for agents' shifts and the meeting at the same time.

The meeting is included as an exception in all attendees' schedules. WFM displays the meeting exception in the Schedule views using the meeting short name, so you can find it easily when looking at schedules. If a sufficient percentage of participating agents is unavailable, then the meeting is not scheduled, and you receive a warning.

### Additional functionality

#### **Use the Meeting Scheduler...**

- To insert meetings directly into multiple agent schedules as an exception after building the schedule.
- To create optimally-scheduled meetings within an existing schedule.

#### **Use the Meeting Planner...**

- To configure meetings that are pre-planned, such as recurring team meetings.

#### **Play 'what if'...**

- To add a meeting to a schedule that has already been built, and WFM will insert the meeting into the most optimal time slot, based on the list of participants.

Supervisors can use this feature to better determine the optimal meeting times that otherwise required manual calculation or guesswork.

## Time off

You can use the WFM Web's Time Off Types view to configure multiple types of time off. Doing so enables you to set different characteristics for each type, define different rules for the accumulation of accrued time off and distribution of awarded time off, and fine-tune your record-keeping using the Time Off Report.

Time off can be accrued or awarded. The settings for these differ slightly, but both are configured in the WFM Web's Time-Off Rules view. You can configure separate time-off rules for each time-off type, or assign several time-off types to the same time-off rule, meaning all of the time-off types assigned to this rule share the time-off balance.

You can also associate multiple time-off rules with one time-off type. For example, you might want to have different accrual rules for agents with more seniority than for those who were recently hired. By assigning the appropriate time-off rule to each agent who receives time off of that type, you can determine the rate at which each agent accrues the time off.

Use the Calendar view in WFM Web for Supervisors to set time-off limits. You can set time-off limits for an activity, for a team, or for an entire site. You can also set different time-off limits for a specified period. For example, you might want to further limit time off because of special circumstances.

You can also set different time-off limits for various periods during the day. For example, you might permit more time off in the evening than in the busier morning.

Agents can view their balances for each time-off type and request time off in WFM Web for Agents. Agents can request both full-day and part-day time off. Supervisors can enter time-off requests into the WFM Web for Supervisors Calendar view.

Requested time off can be manually approved by the supervisor or automatically approved by WFM Web, based on agent time-off balances and the limits set on the number of agents with time off per activity, team, or site.

When the Scheduler runs, all time off that has been granted is scheduled. Additional time off can be scheduled, depending on whether it meets time-off limits and scheduling optimization constraints. Once time off is scheduled, agents can no longer edit or remove the time-off assignment using WFM Web for Agents.

## Time off wait list

When a time-off request is made, but time off limits have already been reached, if the agent asks for the request to be wait-listed, the request remains in the WFM Calendar in a **Preferred** status, rather than being declined. Supervisors can view this *wait list* in the Calendar, sorting the time off requests by timestamp, and selectively grant time off requests.

Supervisors can grant agent time off for future periods, if the time off limits are raised, or if other

agents cancel their existing requests. This improves supervisor productivity by no longer requiring them to track these requests with a paper-based system.

Your supervisor can enable automatic approval (also known as *auto-granting*), which eliminates the need for that supervisor to approve your legitimate time-off requests.

### Time off within bidding periods

You can enable time-off bidding by configuring bidding periods in WFM Web and associating them with sites within your enterprise. Agents within the site can submit multiple time off requests concurrently and WFM processes them within the specified bidding period. This configuration ensures that agent requests are all granted, declined, or wait-listed on the same processing date and eliminates the possibility of some requests for a vacation period being granted, while others are not. For details, see Time-Off Bidding.

## Schedule exceptions

*Exceptions* are not work items but are additions to the schedule that must be taken into account to allocate agent time correctly. Examples of exceptions include meetings, training, and special projects.

### Exception types

You create exception types based on the needs of your contact center. These types can be extremely flexible and you can link them to other WFM scheduling features. For example, you can specify that some exception types are used in meeting planning, and that some can be converted to a day off, if necessary.

Exceptions can be full-day or part-day. You can assign multiple part-day exceptions, assuming they do not overlap or otherwise violate internal WFM consistency checks.

### Exceptions and preferences hierarchy

Exceptions and preferences are ranked in a hierarchy. This means that, if multiple exceptions and preferences are assigned for an agent on a single day, Calendar Management analyzes the assignments and immediately selects the highest-priority exception for assignment, noting the others as declined.

However, declined exceptions and preferences are stored in the WFM database, in case there are changes to calendar information later. If, for example, a training session is canceled, an agent's previously overridden day-off preference might then change status and be available for scheduling.

# Time-Off Bidding

## Contents

- 1 Bidding periods
  - 1.1 Date and time settings
- 2 Batch requests
- 3 Bid processing
  - 3.1 Bid process flow
- 4 Time-off balances
- 5 Wait list processing
- 6 Time-off limits
  - 6.1 Time-off limits in the Agents interface



- Administrator

Use time-off bidding periods to efficiently and fairly process your agents' vacation time-off requests.

### Related documentation:

- 

Time-off bidding enables WFM to process agent requests for time off that are within configured bidding periods. This ensures that concurrent requests made for the time slot defined by the bidding period are granted, declined, or wait-listed during multiple iterations of bid processing, which occurs between the bidding period's **Start Date and Time** and **End Date and Time**. WFM grants these requests, based on the **Seniority and Rank** and **First come, first served** bidding period properties, if there are available time slots. After the bidding process is finished, WFM grants all other requests (previously not granted), based on the order of submission.

Time-off requests within a bidding period are processed multiple times, enabling agents to make changes to their requests when they do not get their preferred time-off choice in the first round, due to configured time-off limits. For example, if the highest-ranking agent's time-off request cannot be granted within a bidding period processing iteration, WFM waits for a period of time (set in the **Allowed Agent Timeout** bidding period property) to ensure that the agent has time to change his/her time-off request.

For information about time-off basics, when the bidding feature is not enabled, see the WFM Time Off Primer.

## Bidding periods

Create and configure bidding periods in WFM Web for Supervisors Configuration view. Bidding periods define rules and constraints that are applied when agents enter their time-off requests and continue to be applied during bid processing. Time-off requests are processed between the Processing Start date/time and Closing date/time that is specified in the bidding period. Your contact center requirements will determine whether or not you need to create bidding periods.

Any changes you make to the bidding period can take effect immediately. If items are flagged by a bidding period and you later delete the period before the Processing Start date/time occurs, requests for that period are not processed unless you create a new bidding period that covers the dates of those items. If you enter items and then set the bidding period, items are processed if they are eligible for processing (flagged as Preferred, Wait-Listed).

If you need to temporarily suspend a bidding period process for any reason, you can do so by changing the **Do not process this bidding period** setting in the bidding period **Properties** pane. See Suspending Bidding Periods in the *Workforce Management Web for Supervisors Help*

### Date and time settings

Bidding period properties include a few date and time settings, such as **Opening Date and Time**, **Processing Start Date and Time**, **Closing Date and Time**, **Start Date and Time**, and **End Date and Time**. You must understand how each of these settings (and all of the other properties of the bidding period) affect the bid assignment process, especially if you are creating multiple bidding periods, some with processes running in parallel.

The time zone for these dates/times is specified in the bidding period property **Time Zone**. For a description of this setting and all of the other configurable bidding period properties, see Bidding Period Properties in the *Workforce Management Web for Supervisors Help*.

### Batch requests

WFM batches the agent's time-off request for several dates that fall within a bidding period, marks them as one request and, after all of the items pass validation, saves them to the WFM database. The initial request can contain any number of items.

A request can fall into several bidding periods, but is eligible for processing in only one bidding period. A request is eligible for processing if it is submitted between the bidding period's Opening date/time and the Closing date/time.

Agents cannot delete or recall a single item in a batch request that contains multiple items; WFM performs the same action on all items in the request. The same rule applies if the status of time-off items in the batch changes (to Granted, Preferred, or Declined). However, a supervisor can override it.

### Bid processing

You can manually modify all items in a request before the Processing Start date/time. Items in a request that you manually grant are not automatically processed. WFM processes bidding items between the Processing Start date/time and the Closing date/time if the requests in the specified bidding period have not been processed.

During bid processing, any one of the following scenarios can occur:

- All items in request can be auto-granted (and possibly auto-published), based on the agent's ranking criteria, assuming agent's bidding status is set to Ready.
- WFM keeps all items in a request in Preferred status, if the following conditions apply:
  - Auto-grant does not apply for at least one item in the batch request.
  - The bidding period no longer applies (was deleted or edited) for at least one item in the request.
  - There are no time-off slots available to accommodate all batch request items during bid processing.

After bid processing is finished, requests can become eligible for wait-list processing on a first come, first served basis.

### Bid process flow

This bid process flow is described here, in detail.

#### 1. User creates Bidding Period

The time-off bidding process flow begins with creating a Bidding Period object, specifying time-off request dates/times, setting the Opening date/time and Processing Start/Closing dates/times, and associating it with specific sites within a business unit. The bidding period begins to affect agent requests after the Opening date/time. Preferred, wait-listed time-off requests made before the bidding period is opened are not processed until bidding period processing ends. Then, they are all processed on a first come, first served basis.

#### 2. Agents enter time-off requests

After the Opening date/time, new time-off requests become preferred, wait-listed. WFM begins pooling these requests for future processing. Agents should be encouraged to enter their most preferred time-off choice, even if they don't know whether or not it will be granted. The automatic bidding process works most efficiently when the most preferred time-off choice is in the request pool, because it does not have to stop to allow the agent to make another time-off choice.

After entering their first choice, agents set their bidding status to Ready, enabling bidding process to consider the request at the appropriate time. If agents are not participating in the bidding and not requesting time-off, they must still set their bidding status to Ready. If they do nothing, their status is Entering, which prompts the automatic process to stop and wait for time-off requests.

#### 3. Automatic bid assignment process runs. Agents modify their time off choices, if necessary

At the specified Processing Start date/time, WFM begins attempts to grant agent time-off requests, considering agents one-by-one in the predefined order. If all of the preferred, wait-listed time-off requests within the bidding period can be granted, WFM changes the agent's bidding status to Granted. WFM sends an email notification to the agent, indicating that the requests have been granted and then, moves on to the next agent.

If WFM cannot grant any of the agent's preferred, wait-listed requests within the bidding period, it estimates a timeout interval, enabling the agent to change his/her time-off requests to comply with time-off limits. WFM sets the agent status to Waiting and emails a notification to the agent, indicating the timeout interval in which the agent can update his/her request. WFM does not process lower-ranking agents, based on the bidding criteria, until:

1. The current agent changes his/her time-off requests and/or signals WFM to proceed, by setting his/her bidding status to Ready.
2. The estimated timeout interval expires and WFM sets the agent bidding status to Timed Out.
3. The supervisor manually skips the agent, by setting his/her bidding status to Skipped.

The bid assignment process restarts between Processing Start date/time and the Closing date/time to process the time-off requests at the configured frequency. If there is nothing to process, (some agents are still in the timeout interval or all agents are processed) the process skips the bidding period until the next iteration.

### 4. Supervisors can enter new time-off requests or modify existing requests at any time

Supervisors can enter new time-off requests for the agent, change existing requests, or manually grant requests at any time. Also, when the bid assignment process is waiting for the agent to change the time-off request (agent status is **Waiting**), supervisors can manually skip the agent. To adjust the processing order, supervisors can set the agent's status to **Ready** or **Skipped** at any time, indicating that the bidding process should consider, or not consider the agent for bidding.

When the agent's status is **Skipped**, the bid assignment process moves on to the next agent in the next iteration.

If the supervisor sets the **Wait-listed** option to the preferred time-off item they created and if it is within the time-off bidding period, then the bidding process handles this request as if the agent is bidding. If this time-off item is not within the time-off bidding period, then the **Wait-listed** option will not be saved.

### 5. Agents can enter new requests at any time

Agents can enter new time-off requests at any time between the Opening date/time and Closing date/time, even if the bid assignment process has started and WFM has already processed the agent's existing requests. The new requests are set to preferred, wait-listed, like all other requests that are pooled for bidding. After entering the new requests, agents must change their bidding status to **Ready**. The bid assignment process considers the new requests, based on the bidding period criteria. If there are time-off requests that are already granted to lower-ranked agents, based on the bidding period criteria, those requests are not revoked. However, the agent's new preferred, wait-listed requests are considered ahead of other lower-ranking agents who still have time-off requests that have not been granted.

## Time-off balances

Bidding time-off items display as regular time-off items and reduce the agent's time-off balance for the specific time-off type.

## Wait list processing

Wait-listed items are not processed within bidding periods that are not yet processed. If there are no configured bidding periods or a bidding period for the date of the wait-listed item is already processed, the entire request is wait-listed. In previous releases, WFM wait-listed items one by one.

WFM generates a warning when the time-off limit has been reached.

## Time-off limits

Time-off limits can be changed during an active bidding period, but do not take effect until the Processing Start date/time for that period. The bidding period implies that time-off limits are set to 0

and time-off requests are not granted. If there is no configured bidding period for a certain date, time-off limits work as in previous WFM releases.

### Time-off limits in the Agents interface

This is how time-off limits appear in the Web for Agents interface: If agents are requesting time-off within an open bidding period, only Granted time off will be counted and displayed in their Time Off view.

Initially, when bidding period opens and agents begin to request time off, they will see all open time-off slots according to time-off limits, irregardless of how many agents have preferred a particular time slot. When bid processing starts and WFM begins granting requests, the agents begin to see slots being taken. When the automatic bid assignments process pauses and the agent status is **Waiting**, the agent will see slots available for him/her.

# WFM Task Sequences

## Contents

- **1 Definitions**
  - **1.1 Activities**
- **2 Purpose of task sequencing**
- **3 Creating task sequences**
  - **3.1 How task sequences appear in WFM**



- Administrator

Use task sequences to specify the activities or tasks an agent will work on for defined periods of time.

### **Related documentation:**

- 

This article supplements the information found in *Workforce Management Web for Supervisors Help*.

## Definitions

Within Genesys Workforce Management, a task sequence is a defined period of time during that agents can work only on one task or a specified set of tasks, called an activity set. You could also think of a task sequence as an *activity sequence*.

## Activities

*Activities* (tasks) are defined as work that is tracked and managed using Workforce Management. For example, a business might define the following activities in WFM Web for product A:

- Answering inbound calls
- Responding to e-mail
- Completing after-call work
- Performing scheduled callbacks
- Participating in chat sessions

These same activities might also be defined for products B and C.

You can use any activity set that is configured for a specific site and use the same activity set in any number of task sequences.

## Purpose of task sequencing

Task sequences enable you to control how much the nature of an agent's work changes during part of a day. You can avoid asking agents to jump constantly from activity to activity—a situation that can

result in agent confusion and fatigue and lower productivity. You do this by configuring task sequences. Once configured, you can assign a task sequence to any compatible shift in the same site.

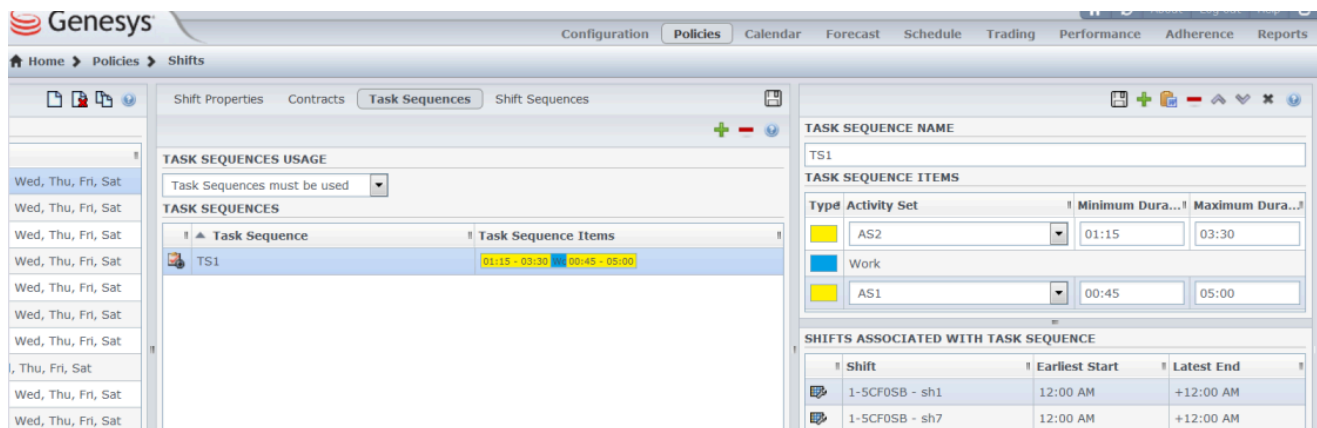
## Creating task sequences

You create task sequences in the Web for Supervisors Policies view, by selecting **Shifts > Task Sequences**. The Task Sequence pane is also where you configure task sequences for a shift, by selecting one of three options:

- **Do not use Task Sequences**
- **Task sequences must be used**
- **Task sequences can optionally be used**

If you want to use task sequences, create them by configuring the settings in the Task Sequence panes. See the Task Sequence panes in Web for Supervisors below.

Also, see the procedure "Creating a Task Sequence" in the *Workforce Management Web for Supervisors Help*.



**Figure:** Task Sequence Settings

## How task sequences appear in WFM

After you configure task sequences and assign them to shifts (which are then assigned to agents), task sequences appear in the Intra-Day and Agent-Extended views. The task sequence appears as a blue area on the color-coded bar (unless you changed the color in the Configuration view in WFM Web Supervisors), where each type of schedule item is represented by a different color. The remainder of the color-coded bar (where no task sequence is scheduled) appears in a different color. For example, the figure above shows a work item in blue and the remainder of the sequence in yellow.

# WFM E-mail Notifications

## Contents

- [1 Preparing to send notifications](#)
- [2 Rules for sending notifications](#)
- [3 Setting up e-mail notifications](#)
  - [3.1 Configuring WFM Daemon](#)
  - [3.2 Configuring a security role](#)
  - [3.3 Assigning security roles to a users](#)
  - [3.4 Adding e-mail addresses to the WFM Database](#)
  - [3.5 Enabling notifications in Web for Supervisors](#)



- Administrator

Set up e-mail notifications in Web for Supervisors to alert agents and supervisors about schedule changes, and status changes in trade and time-off requests.

### Related documentation:

- 

This topic provides information about how to use the Notifications view in Workforce Management (WFM) Web for Supervisors to configure email notifications, by site, for the following types of events:

- Schedule trade status changes—Agents and supervisors who are affected by schedule trade proposals or responses can receive these notifications.
- Time-off request status changes—Agents and supervisors who are affected by time-off requests can receive these notifications.
- Schedule modifications—Agents who are affected by schedule changes can receive these notifications.
- Time-off bidding changes—Supervisors and agents who are affected by time-off bidding status changes can receive these notifications.

## Preparing to send notifications

By default, WFM does not send out notifications to agents and supervisors. There are a few things you need to do before WFM sends them.

For example, agents and supervisors who are to receive email notifications must have their email addresses configured. These email addresses are stored as part of the **Person** object in the Genesys Configuration Database and are synchronized into WFM automatically.

Supervisors must have the appropriate security rights to configure notifications. See [\[\[PEC-WFM/Current/Supervisor/CfgtnRIP\]\]](#) in the *Workforce Management Web for Supervisors (Classic) Help*.

Additionally, WFM must be set up properly and connected to a customer-supplied SMTP server. For assistance with this configuration, contact your Genesys Professional Services representative. After you complete these steps and the procedures below, WFM sends notifications of the selected type.

Finally, you must select at least one site to send notifications of a given type in the **Associated Sites** tab in Web for Supervisors Notifications view.

## Rules for sending notifications

---

WFM uses specific rules for sending each of the four types of notifications, see in the [[PEC-WFM/Current/Supervisor/NtfcrIs]] in the *Workforce Management Web for Supervisors (Classic) Help*.

Users must have the appropriate security rights to receive notifications. See [[PEC-WFM/Current/Supervisor/NtfctnRIP]] in the *Workforce Management Web for Supervisors (Classic) Help*.

## Setting up e-mail notifications

To set up e-mail notifications, complete all of the procedures in this section.

### Configuring WFM Daemon

**Purpose:** To configure the **WFM Daemon Application** object.

#### Tip

If necessary, ask your Genesys Professional Service representative to complete this procedure for you.

#### Start of Procedure

1. Configure the SMTP server settings in the WFM Daemon Application.  
**See the [SMTP] configuration section and related options.**

#### End of Procedure

### Configuring a security role

**Purpose:** To create a user security role to access e-mail notifications.

#### Start of Procedure

1. In WFM Web for Supervisors, select the **Configuration > Roles** view.
2. In the Role pane, click **New**.  
A new security role appears in the Role pane with a default name.
3. In the Role Privileges pane, change the **Name** of the role (if desired).
4. In the list of Role Privileges, expand **Notifications** and check the boxes beside the privileges you want to assign to this role.  
**Be sure to uncheck all privileges in the entire list that you do not want to assign to this role.**
5. Click **Save**.

#### End of Procedure

For a complete description of all privileges, see Role Privileges.

---

## Assigning security roles to a users

**Purpose:** To assign a security role to a user, enabling access to e-mail notifications.

### Start of Procedure

1. In WFM Web for Supervisors, select the **Configuration > Roles** view.
2. At the top of the Role Privileges pane, click **Users**, and choose one of the following:
  - Click **Assign Users** to assign a WFM user to this role.  
A new pane opens, containing a list of WFM users.
  - Click **Import Genesys User** to assign a Genesys user to this role.  
A new pane opens, containing a list of Genesys users (in Genesys Administrator).

**New users are automatically granted access to all modules, objects, and sites.**

3. Select the users you want to assign to this role and click **Apply**.
4. In the Users pane, click **Save Now**.

### End of Procedure

## Adding e-mail addresses to the WFM Database

**Purpose:** To add Supervisor and Agent e-mail addresses to the WFM Database, so they can receive notifications.

### Tip

To receive notifications, supervisor's and agent's e-mail addresses must be in the WFM Database. If necessary, ask your Genesys Professional Service representative to complete this procedure for you.

### Start of Procedure

1. In Genesys Administrator, enter these e-mail addresses into the **Supervisor** and **Agent person** objects.  
**After WFM synchronization the e-mail address will be available in the WFM Database.**

### End of Procedure

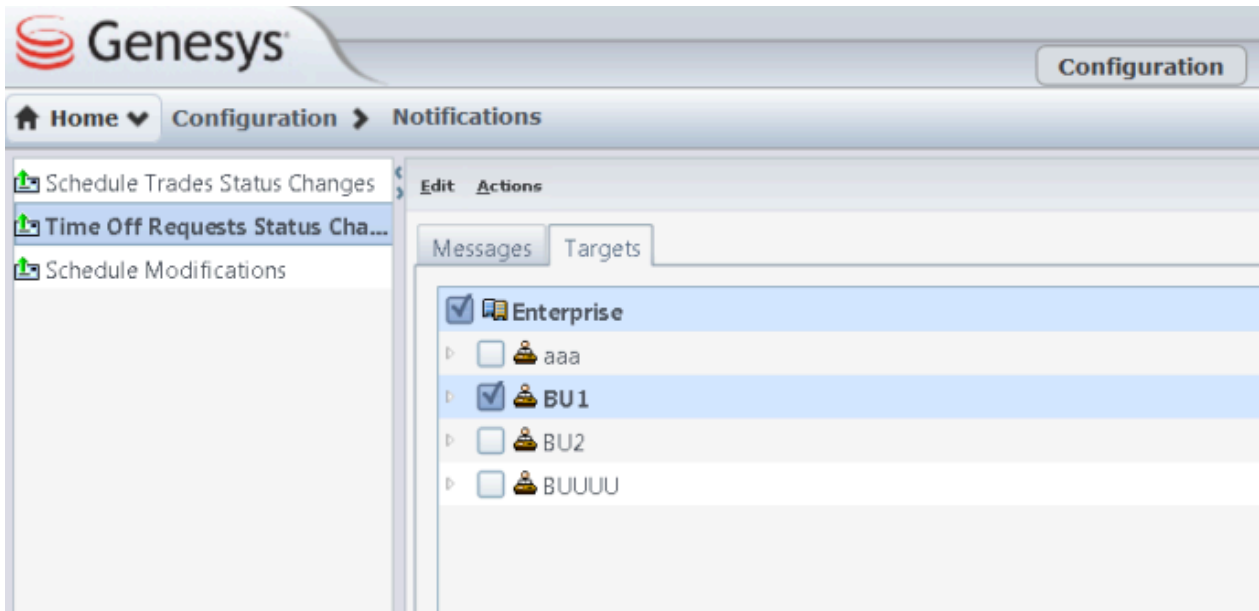
## Enabling notifications in Web for Supervisors

**Purpose:** To configure the Web for Supervisors Application to enable notifications.

### Start of Procedure

1. In Web for Supervisors, select the **Configuration > Notifications** view.  
All three supported e-mail notification types are listed in the left-side navigation pane.

2. Select the one that you want to enable and in the right-side pane, click the **Targets** tab.
3. Check the sites for which you want to enable notifications. See the figure below.



**Figure:** WFM Web Supervisor, with Notifications Selected

4. Use the **Messages** tab to configure the e-mail **Subject** and **Message** for all e-mail notifications of this type. You can change the text or keep the default.

### End of Procedure

# Scheduling Breaks and Meals in WFM

## Contents

- 1 Pre-planned breaks and meals
- 2 Default behavior of the scheduler
  - 2.1 When unpaid breaks conflict with exceptions
  - 2.2 When paid breaks conflict with exceptions
  - 2.3 When meals conflict with exceptions
- 3 Changing the behavior of the scheduler
  - 3.1 Paid breaks are mandatory
  - 3.2 Suppress break-related warnings
  - 3.3 Allow breaks and meals during exception
  - 3.4 Other considerations



- Administrator

Schedule meals and breaks in conjunction with Exceptions and understand how WFM Scheduler impacts these planned events.

### Related documentation:

- 

## Pre-planned breaks and meals

Workforce Management enables you to pre-plan the breaks and meals (called *shift items*) that will be scheduled during a particular shift. You can define several parameters for these shift items, such as the *time window* during which they should be scheduled and whether they are paid or unpaid.

For example, if you set up a shift called **8-Hour Full-Time**, as part of the shift item configuration, you have specified that there should be a 15- minute paid break in the shift. The **Min Length from Shift Start** parameter is set to 2:00 (2 hours) and the **Max Length from Shift Start** parameter is set to 4:00.

Additionally, your shift item configuration specifies that there should be an unpaid meal in the middle of the shift, with both the **Min Time Before This Meal** and **Min Time After This Meal** parameters set to 3:00.

You have configured a rotating pattern for a particular agent that specifies that the agent should work the 8-hour full-time shift every day, starting at 8:00 a.m.

Due to the shift item configuration, when WFM builds a schedule scenario that includes this agent, it will try to schedule the break and meal in the following time windows:

- It will try to schedule the break in the time window between 10:00 a.m. and 12:00 p.m.
- It will try to schedule the meal in the time window between 11:00 a.m. and 1:30 p.m.

Sometimes the configured time windows for breaks and/or meals conflicts with planned exceptions, such as meetings, training sessions, or administrative time, that were entered through the WFM Calendar. In these cases, the behavior of the Scheduler varies, depending on the particular type of shift item and its properties.

## Default behavior of the scheduler

This section describes the default behavior of the Scheduler in the following three scenarios.

## When unpaid breaks conflict with exceptions

When the time window of an unpaid break is covered by a planned exception, the Scheduler *relaxes* the constraints of the break, in order to schedule it. That is, the time window is widened in both directions (if possible) so that the break can be scheduled adjacent to the exception—either immediately before the exception or immediately after the exception.

This relaxation of the break constraints occurs because unpaid breaks are considered mandatory by the Scheduler due to their effect on the paid time of the shift.

There will be instances when one or more unpaid break(s) cannot be scheduled, even though they are considered mandatory. For example, if a shift has a paid duration of 8 hours, and there is a granted exception in the Calendar that also has a paid duration of 8 hours, that would not leave any time remaining for the Scheduler to place an unpaid break. As a result, the unpaid break is not scheduled and a warning is generated when the scenario is built.

## When paid breaks conflict with exceptions

Unlike unpaid breaks, by default, paid breaks are not considered mandatory. Therefore, if there is a conflict between a planned exception and a paid break—so that the time window of the paid break is covered by the exception—by default, the paid break is not scheduled when the scenario is built.

## When meals conflict with exceptions

Meals are considered a mandatory part of a shift, if the shift has a meal configured. If there is a conflict between a planned exception and a meal—so that the time window of the meal is covered by the planned time for the exception—one of two things happen when the scenario is built:

- WFM looks for, and finds, another shift that is compatible with the agent's contract, and allows the exception to be scheduled, or
- When WFM resolves the conflicting items in the Calendar (prior to the schedule being built), it declines the exception unless it can find another shift that is compatible with the agent's contract that allows the exception to be scheduled. In this case, the exception is not scheduled and a warning is generated.

## Changing the behavior of the scheduler

Configuration options are available that can change the default behavior of the Scheduler when breaks and/or mealtime windows conflict with planned exceptions. The options are described in this section.

### Paid breaks are mandatory

This is an optional setting that controls whether or not a paid break is scheduled even when the time window of the break is covered by an exception. As described above, this is always the behavior of the Scheduler with unpaid breaks. However, if this setting is turned on, the same behavior occurs with paid breaks; if the time window of the paid break is covered by an exception, the paid break will be scheduled adjacent to the exception—either immediately before the exception or immediately after it.

There still might be times when some breaks cannot be scheduled, even if this setting is turned on, because there is not enough room in the shift to accommodate the exception and all the configured breaks. In this case, a warning will be generated when the scenario is built.

See below, some sample scenarios when WFM would not be able to schedule a break (paid or unpaid), regardless of whether the user defines this as being mandatory or not:

### **Example 1:**

There is a shift with an 8-hour duration but which is 7.5 paid hours. The user grants a paid exception that is 7.5 hours, right in the middle of the shift, leaving 15 minutes on either side of the exception in which to schedule any breaks. If there is a 30-minute unpaid break to schedule, it cannot be scheduled unless the user wants to allow breaks to be scheduled “during the exception” (see below for more information about that optional setting).

### **Example 2:**

There is an 8-hour shift from 8:00 a.m. to 4:00 p.m. The configuration of Break 1 (15-min) allows the break to be scheduled in a time window between 9:00 A.M -10:30 a.m. The configuration of Break 2 (15-min) allows the break to be scheduled within a time window between 2:00 p.m. - 4:00 p.m. The user grants an exception in the Calendar from 8:00 a.m. - 3:45 p.m. Unless the user wants to allow break(s) to be scheduled “during the exception,” one of the breaks cannot be scheduled, because there are only 15 minutes within the shift that is not already covered by the exception, and two 15-minute breaks to schedule.

### **Example 3:**

There is an 8-hour shift from 8:00 a.m. - 4:00 p.m. The user grants an exception in the Calendar from 8:00 a.m. - 11:45 a.m. and another exception from 12:00 p.m. - 4:00 p.m. This leaves only 15 minutes between the two exceptions in which to schedule any breaks. Unless the user wishes to allow break(s) to be scheduled “during the exception,” it is likely that one or more breaks would not be scheduled.

### **Example 4:**

Assume a shift from 8:00 a.m. - 1:00 p.m., one exception from 8:30 a.m. - 11:30 a.m., and two 1-hour breaks (the first one with configured window from 9:00 a.m. - 11:00 a.m., and the second one from 12:00 p.m. - 1:00 p.m.). Because the exception covers the first break, the break should be placed after the exception (because there is no room before it), from 11:30 a.m. - 12:30 p.m. Because of the scheduling of the first break, there is no room for the second break at all (but not because of the exception). In this case, one of the breaks would not be scheduled.

## Suppress break-related warnings

This is an optional setting to control whether schedule warnings that describe issues with break scheduling are hidden from the user. If you are scheduling a lot of long exceptions that you know will make it impossible for the Scheduler to fit in most of the breaks you have configured, you might want to check this setting so that the bread-related warnings are suppressed. This allows you to focus on the other schedule warnings that you want to resolve.

## Allow breaks and meals during exception

For each **Exception Type**, this setting might be turned on. If this option is configured, then if a

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planned exception of this type is being scheduled and it covers the time window of a break, the Scheduler tries to schedule the break during the exception, preserving the original configured time window. The Scheduler might not always be able to accomplish this, so if it cannot schedule one or more breaks during the exception, it will next try to schedule them adjacent to the exception. This setting always affects the scheduling of unpaid breaks. This setting only affects the scheduling of paid breaks, if paid break scheduling is configured as mandatory.

This setting also controls whether the Scheduler will try to schedule meals during an exception, in cases when the configured time window of the meal is covered by the exception. However, if the Scheduler is unable to schedule the meal during the exception for some reason, it will not be scheduled adjacent to the exception as it will try to do with breaks.

It is important to note that when the user configures an exception type, such that break(s) and meal(s) could be scheduled during the exception, it does not mean that all of these shift items will be scheduled during the exception. For example, the user has configured a 15-minute break with a 5-minute start step. The break configuration permits the break to be scheduled somewhere between 8:45 a.m. and 10:15 a.m. There is an exception from 9:00 a.m. - 10:00 a.m. The break could be scheduled in many possible places, including:

- 8:45 a.m. - 9:00 a.m.
- 9:00 a.m. - 9:15 a.m.
- 9:05 a.m. - 9:20 a.m.
- 9:10 a.m. - 9:25 a.m.
- ...
- 9:45 a.m. - 10:00 a.m.

Also, note that although the absolute start and end times of the exception will not be changed. For example, it is possible that the start of the exception could be covered by a break (both the break and the exception start at the same time).

### Other considerations

When there is no conflict between an exception and some break(s), but yet the exception makes it impossible for WFM to schedule the breaks according to all of their configured constraints, WFM continues its default software behavior, which is to relax the break constraints so that they can be scheduled.

#### **Example 1:**

There is a 15-minute break that could be scheduled between 9:00 a.m. - 1:00 p.m., and a second 15-minute break that could be scheduled between 10:00 a.m. - 2:00 p.m. The user has configured that the minimum distance between these breaks must be 3 hours. The user has granted an exception that goes from 11:00 a.m. - 3:00 p.m. It is impossible to meet the minimum distance constraint and also schedule these two breaks within their configured time windows. Therefore, WFM could relax the break constraints, in order to meet the minimum distance constraint and one break would be scheduled prior to the exception, and the other break would be scheduled after the exception.

As described above, when relaxing break constraints to accommodate planned exceptions, WFM attempts to schedule the break immediately adjacent to the exception. However, it is not always possible to do this, and sometimes there will be a small duration of activity work scheduled between

the break and the exception.

### **Example 2:**

The user has granted an exception from 12:00 p.m. - 1:05 p.m., and the configured time window for a particular 15-minute break specifies that the break must be scheduled somewhere between 1:15 p.m. - 2:15 p.m. Based on schedule coverage, WFM could place that break at 1:15 p.m., leaving just 10 minutes of activity work in between the exception and the break.

### **Example 3:**

The user has granted an exception from 12:00 p.m. - 2:00 p.m., and the configured time window for a particular 15-minute break specifies that the break must be scheduled somewhere between 1:00 p.m. - 2:16 p.m. WFM would only have between 2:00 p.m. - 2:16 p.m. in which to schedule the break. WFM could schedule the break from 2:01 p.m. - 2:16 p.m., leaving 1 minute of work between the exception and the break.

Also note that the features described in this section only address partial-day exceptions, not full-day exceptions. Therefore, if the user needs to schedule an exception that covers a worker's entire shift, they should consider using a full-day exception type.

### **Example 4:**

The user wants to grant an exception (type: meeting) after the Schedule has been built. In the Calendar, the user creates the Calendar Item and rebuilds the schedule. The meeting is reflected in the updated schedule and, in some cases, takes place during a paid break/meal or is adjacent to it.

#### **Tip**

If the user attempts to schedule the meeting, by using the Meeting Planner (after the schedule is built), the meeting is not scheduled, nor are the warning messages suppressed—assuming that the system is configured in this way.

## Hierarchy of constraints

If breaks cannot be scheduled according to all of their configured constraints, WFM tries to satisfy the constraints in the following order:

1. Time window
2. Start step & start offset
3. Minimum distance between shift items
4. Maximum distance between shift items

# Enabling Wait-lists

## Contents

- [1 About wait lists](#)
- [2 Enabling wait-listing](#)
  - [2.1 Automatic approval of time-off requests](#)
  - [2.2 When do time-off slots become available?](#)
  - [2.3 Enabling automatic approval and setting the threshold](#)
  - [2.4 Auto-publishing](#)
  - [2.5 Wait-listing](#)
  - [2.6 Treatment of preferred time-off requests](#)
- [3 Use cases and notes](#)
  - [3.1 When availability overrides seniority](#)
  - [3.2 When seniority overrides availability](#)
  - [3.3 Rules to remember](#)



- Administrator

Use WFM's automatic approval process to initiate wait-listing for efficient handling of various types of time-off requests.

### Related documentation:

- 

If WFM cannot immediately grant a time-off request, it puts the request on a waiting list (called *wait-listing*). When all requirements are met, including configuration, WFM can grant the request and insert it into the Master Schedule automatically.

Read on to find out more about these tasks:

- Automatic Approval (sometimes called auto-granting)
- Auto-publishing
- Wait-listing
- Handling preferred time-off requests
- Making ungranted time-off requests *count* in a build
- Improved viewing time-off availability

The information in this topic supplements the information found in *Workforce Management Web for Supervisors (Classic) Help* and *Workforce Management Web for Agents Help*.

### Important

The features and functionality described in this article are not enabled by default. If you are interested in using these features in your environment, contact your Genesys Professional Services representative.

## About wait lists

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WFM considers all wait-listed time-off requests on a First-In, First-Out (FIFO) basis, using the date and time of the request. To determine if there are slots available for the wait-listed time-off request, the process first considers all time off instances that are **Granted/Granted** and **Scheduled** and have intersecting time steps with the wait-listed request for time off. If the **CalendarOverScheduleData** option is set, then **Granted/Not Scheduled** time off items are also taken into account before processing the wait-list.

Next, WFM considers all **Preferred** time-off requests that were submitted earlier than the wait-listed request that is currently being processed. Only **Preferred** time-off instances that count against the time-off limit according to their actual status are considered. Also, if an earlier **Preferred** request is not valid for time-off within the various limits, it is ignored.

You can configure the advance threshold for automated time-off wait-listing. You can also configure the minimum number of weeks in advance that a request can be made for each time-off rule; that minimum number is called the automatic approval threshold. If an ungranted time-off request in the wait-list violates the automatic approval threshold, then WFM removes the request from the wait-list. That time-off request remains in the status **Preferred**, but it cannot remain wait-listed.

See Enabling automatic approval and setting the threshold below.

Events that might change the system's ability to grant time off, such as the agent's contract availability status, can affect the validity of any time-off request. Thus, wait-listing takes place on a schedule that is specified by a timeout option.

## Enabling wait-listing

The following sections provide information about enabling wait-listing, and describes how auto-approvals, thresholds, and auto-publishing affect wait-listing.

### Automatic approval of time-off requests

Wait-list automation is related to automatic approval functionality. The common workflow of wait-list automation is:

1. An agent's time-off request is automatically approved, but there are no time-off slots within the limits of the request.
2. The request is wait-listed until the appropriate time-off slots appear, and then automatically approved, if possible.
3. If automatic approval is enabled but the time-off request is beyond the automatic approval threshold, then the request cannot be wait-listed. It is instead saved with the status **Preferred**.

#### Important

Automatic approval must be enabled for wait-listing to work. When automatic approval is not enabled, supervisors manually grant time-off requests and requests are not wait-listed, even if requested by the agent.

### When do time-off slots become available?

Time-off slots become available when:

- A supervisor declines a time-off request
- An agent recalls a time-off request
- An agent or supervisor deletes a time-off request.

Time-off slots are taken (or unavailable) when a Granted or Preferred or Scheduled time-off request is entered.

### Viewing available time-off slots

Now agents can see if the time off that they want is available before they request it. In the **Time Off** view, they can hover the cursor over any time slot to see time-off limits and wait-list data about the time slot in a popup.

### Enabling automatic approval and setting the threshold

Automatic Approval must be enabled for wait-listing to work. To learn more, see [\[\[PEC-WFM/Current/Supervisor/RIsFrRqts\]\]](#) in the *Workforce Management Web for Supervisors (Classic) Help*.

To enable and configure automatic approval, see the options:

- **Automatically approve time-off request if: Request is made by the following number of weeks in advance number>**
- **Minimum requested time off is number>** (hours and minutes).

### Auto-publishing

When WFM automatically approves a time-off request, it can also insert it into the Master Schedule automatically, if auto-publishing is enabled.

### Wait-listing

Wait-listing is a background function that is enabled by circumstances and configuration. The circumstances are: automatic approval must be enabled and an agent's time-off request must be valid (time off slots and agent credit must be available).

### When are time-off requests wait-listed?

- When the time-off request is valid (for example, not for time in the past).
- When the time-off request is not for more time than the agent's time-off balance contains.
- When the automatic approval option is enabled.

WFM will only wait-list those time-off requests that would have been automatically approved, if not for time-off limits. Also:

- If automatic approval is not set up in the accrual rule or the threshold has been passed, then that particular time-off item cannot be wait-listed.
- The requesting agent should have sufficient time-off balance and there can be no other restrictions.
- If limits allow, the request will be granted and not wait-listed

## Treatment of preferred time-off requests

Preferred time-off requests (having the status Preferred) are not considered during schedule building. When a master schedule is published, Preferred time-offs do not count against limits and agent balance anymore, because they are usually not scheduled.

You can configure WFM to override this functionality by making unscheduled time off count against the agent balance and time-off limits, by using the **CalendarOverScheduleData** option.

## Use cases and notes

The following use cases discuss scenarios to compare availability and seniority, and provide some additional important rules to keep in mind.

### When availability overrides seniority

1. Request A asks for time slots that are not available (8AM-6PM). The time 8-9AM is not available, and so Request A is wait-listed.
2. Request B comes in later, but asks for time slots that are available (10AM-6PM).

#### **The Result:**

Request B is granted and Request A remains wait-listed, even though Request B came in later.

### When seniority overrides availability

1. Request A is wait-listed. The time slots for automatic approval of this request become available, but the wait-list timeout has not yet expired. So this request remains wait-listed.
2. Request B comes in later and asks for the same time slots as Request A.

#### **The Result:**

- If the time slots are available for both requests, Request B is honored immediately and Request A is honored after the wait-list timeout expires.
- If the time slots are available for only one request, Request B is wait-listed and after the wait-list timeout expires, Request A is granted first.

### Rules to remember

- When the wait-list process can grant a request, it changes the saved status of that request to granted (and removes the internal wait-list flag).
- If the auto-publish and wait-list functions are set up together, then granted requests are published to the master schedule.
- A wait-listed request can be granted only if: automatic approval is enabled, the time-off request is valid, there are no other restrictions.

WFM removes from the wait-list any time-off request that has expired (the time steps that it specifies are in the past) or belongs to an agent with no time-off balance.

# Managing Overtime

## Contents

- 1 Overtime requirements
- 2 Assigning secondary skill sets for overtime
  - 2.1 Configuring overtime for individual agents
  - 2.2 Setting overtime for agents
- 3 Tracking scheduled overtime results
- 4 Overtime bidding
  - 4.1 Continuous processing of overtime offers



- Administrator

Enable supervisors to plan and track overtime hours for a single agent or multiple agents by specifying time intervals and activities.

**Related documentation:**

- 

WFM automates the overtime insertion process in the following ways:

- Finds the appropriate shift definition for the extended shift
- Schedules break/meals on the overtime part of the shift
- Designates overtime by specifying a marked type

**Tip**

Overtime functionality is available on the Master Schedule only. There is no overtime interface for Agents.

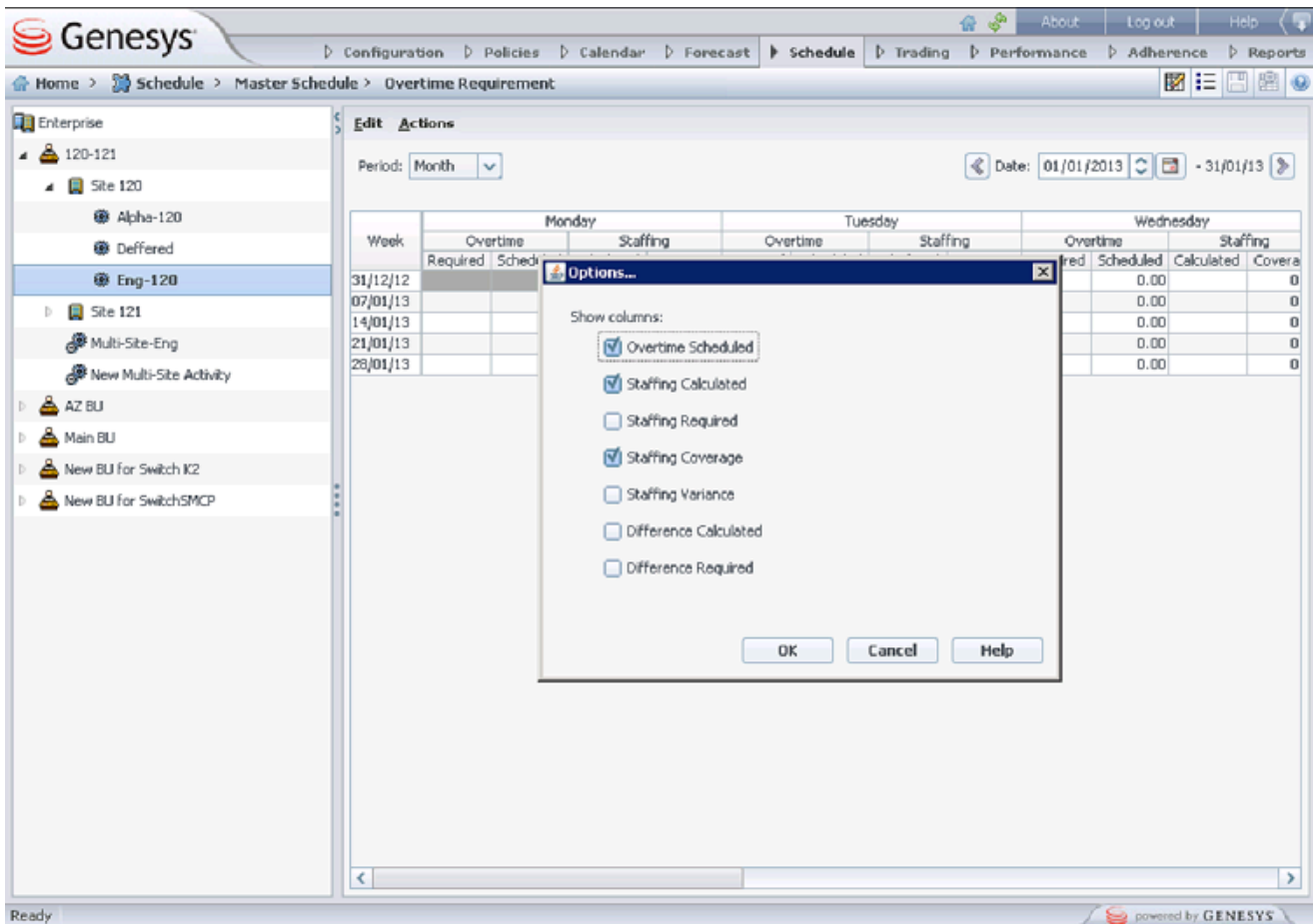
You can also enter overtime in the **Intra-Day**, **Agent Extended**, and **Weekly** views by inserting a work set with **Marked Time**. **Secondary** shifts and activities can be used to plan overtime.

## Overtime requirements

In WFM Web for Supervisors, you can plan, define, and track how overtime requirements are met in the **Master Schedule > Overtime** view. To allow user access to this view, you must first set the user's security rights in the **Configuration** module. Select either **Roles > Role Privileges > Access Overtime Requirement** or **Users > Role Privileges > Access Overtime Requirement**.

Overtime data is displayed in a grid, which has an editable **Overtime Requirement** column and a read-only **Overtime Scheduled** column. The **Overtime Scheduled** column is calculated based on the scheduled **Marked Time** (ensure the **Overtime** option is checked). The following optional columns contain information that justifies the need for overtime hours (see the figure below):

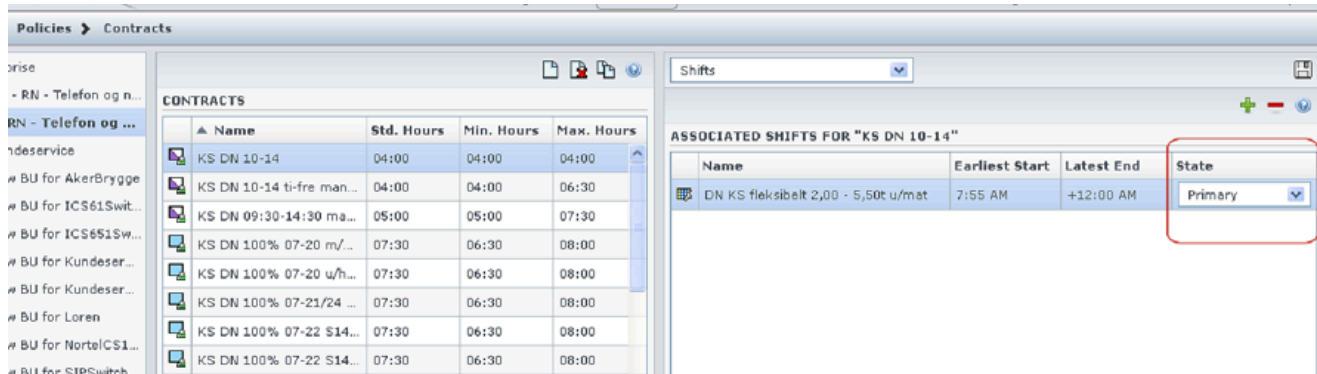
- **Staffing**—Calculated and required staffing.
- **Difference**—Schedule coverage showing the difference between calculated and required.
- **Variance**—Equals the coverage minus the calculated, and is the anticipated unplanned overhead.



**Figure:** Overtime Requirement View with Monthly Granularity

## Assigning secondary skill sets for overtime

Shifts are assigned to contacts in Web for Supervisors in the **Policies > Contracts** view (see the figure below) as either **Primary** or **Secondary**. **Secondary** assignments are used for overtime only and represent a broader set of constraints, while **Primary** assignments are used for other functionality.

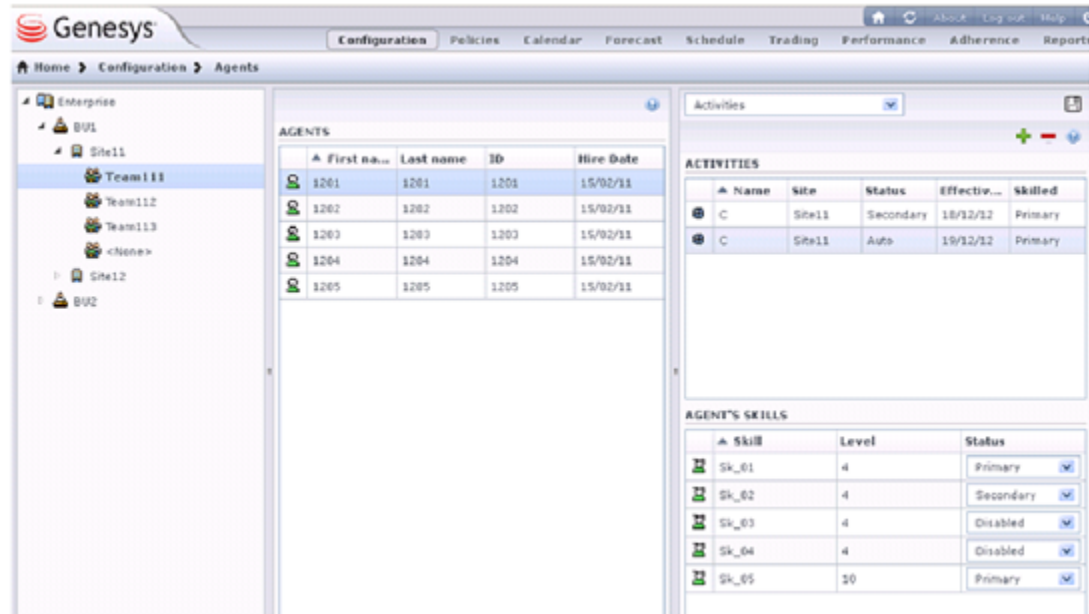


**Figure:** Web for Supervisors—Policies > Contracts > Shift Assignment

Secondary activities can be defined in one of two ways in Web for Supervisors in the **Configuration > Agents > Activities** view (see the figure below):

1. Assigning skills to the agent as **Secondary**
2. Assigning activities as **Secondary** with an effective date.

During overtime, agents can work on activities for which they are not normally scheduled. Therefore, entering overtime for an agent can change the agent’s work day so that the usual shift definition no longer fits.



**Figure:** Web for Supervisors—Configuration > Agents > Activities View

### Configuring overtime for individual agents

The **Overtime** view is available in the Master Schedule only. However, you must publish a scenario with the inserted work sets before the information can be seen in the Overtime view.

You can schedule overtime for an agent by inserting a work set and using **Marked Time** to mark it as overtime. Use one the wizards in the following views:

- **Insert Wizard—Schedule > Intra-Day, Agent-Extended** views (**Master** and **Scenarios**)
- **Insert Multiple Wizard—Schedule > Intra-Day, Agent-Extended**, and **Weekly** views (**Master** and **Scenarios**)

### Setting overtime for agents

**Purpose:** To add an overtime work set for individual agents by using the **Insert Multiple Wizard** in WFM Web.

#### Start of Procedure

1. In the **Intra-Day, Agent Extended**, or **Weekly** view, select **Insert Multiple** from one of the following:
  - Actions toolbar
  - Actions menu
  - On the agent's schedule, Right-click and select the **Shortcut** menu (not in Weekly view)

**If you have unsaved changes, WFM Web prompts you to save them before proceeding.**
2. In the **Insert Multiple Wizard**, select **Insert Work set**.
3. Create a new overtime work set by selecting **Marked Time** for the designated work type.

## Important

You must select **Marked Time**. Otherwise, the resulting work set is not created as overtime (see the figure below). Also, inserting a work set over an existing shift can change the scheduled activities in the affected interval.

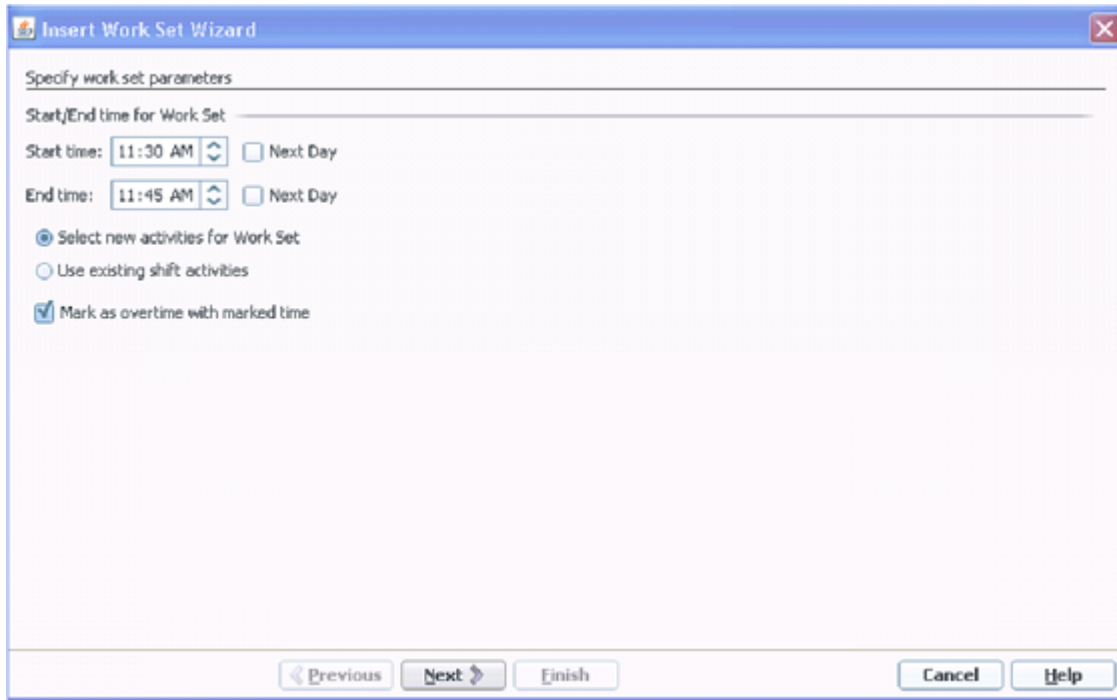


Figure: Insert Multiple Wizard—Inserting an Overtime Work Set

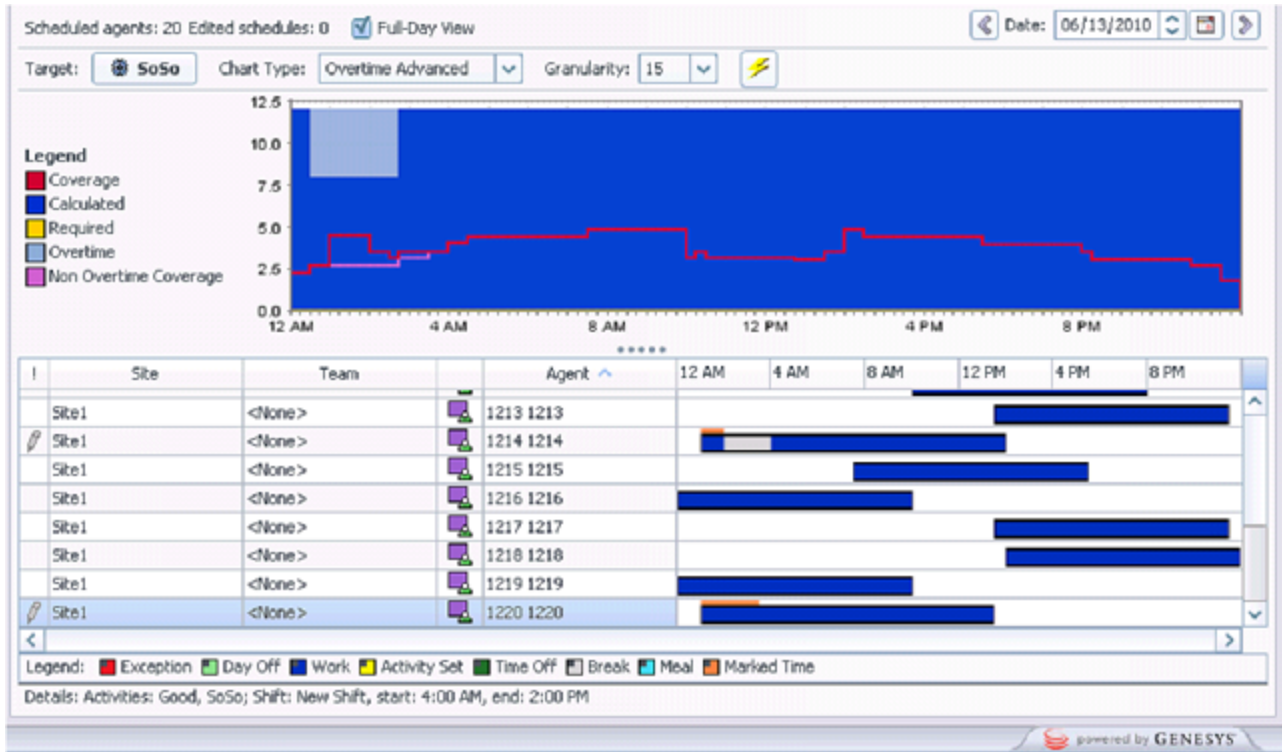
### End of Procedure

## Tracking scheduled overtime results

You can use the following views to track scheduled overtime results:

- **Schedule > Schedule Scenarios > Intra-Day** view in the **Performance Data** pane
- **Schedule > Master Schedule > Intra-Day** view in the **Performance Data** pane
- **Schedule > Master Schedule > Overtime** view

The **Performance Data** pane separates the scheduled overtime part of the coverage within the calculated staffing graph and distinguishes it from the overtime requirement. See the figure below.



**Figure:** Calculated Staffing Graph—Full Day View

## Overtime bidding

Supervisors with the appropriate role privileges can create Overtime Offers for a specific activity or multi-site activity in Web for Supervisors' **Overtime Bidding** view in the **Schedules** module. Offers are associated with the Master Schedule only and WFM uses the offer properties and other data in the automatic overtime scheduling process—the *other data* being the overtime slots chosen by agents when they are bidding on open offers.

Supervisors must have the Access Overtime Requirements and Overtime Bidding role privileges for the Schedule module. Then, they can track the overtime requirement that is currently scheduled, by checking the Marked Time that is denoted as "mark as overtime" in the agents' schedule for the activity or multi-site activity associated with the Overtime Offer.

Agents use the **Bidding** module in Web for Agents to see open schedules bidding scenarios or overtime offers, on which to bid. When they select an overtime offer, they can then choose the overtime slots they want to be added to their schedules. Agents see overtime offers only after the supervisor marks the offer as "open" and only if the supervisor has associated the agent and his/her site with the offer.

## Continuous processing of overtime offers

You can enable WFM to continuously process Overtime offers, which have FIFO selected for agent bid ranking criteria. To enable this functionality, contact your Genesys representative.

## Managing Overtime

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For more information about Overtime bidding, see the *Workforce Management Web for Supervisors Help* and *Workforce Management Agent Help*.

For information about WFM Role Privileges see Assigning Roles to Users and [[PEC-WFM/Current/Supervisor/SchdlRIP]] topics in the *Workforce Management Web for Supervisors Help*.

# WFM Metrics



- Administrator

Find everything you need to know about Workforce Management (WFM) metrics.

### **Related documentation:**

- 

### Tip

Enabling the use of WFM statistics and metrics in your environment might require assistance from Genesys Professional Services. For more information, contact Genesys Customer Care.

- Schedule Summary View and Report
- Contact Center Performance Report
- Agent Adherence Report
- End Notes

In these metrics, a *period* refers to the specific granularity of the report being run. For example, for Intra-day granularity a period is 15 minutes; for Daily granularity a period is 1 day; and so on.

# Schedule Summary View and Reporting

## Contents

- 1 Number of Agents
  - 1.1 How the total / average is calculated
- 2 Service Level - Scheduled
  - 2.1 How the total / average is calculated
- 3 Service Level—Forecasted
  - 3.1 How the total / average is calculated
- 4 Service Level - Difference
- 5 Interaction Volume - Scheduled
  - 5.1 How the total / average is calculated
- 6 Interaction Volume - Forecasted
  - 6.1 How the total / average is calculated
- 7 Interaction Volume - Difference
- 8 AHT - Scheduled
  - 8.1 How the total / average is calculated
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- Administrator

Track and analyze schedule summary data in your contact center and use these metrics to create reports.

**Related documentation:**

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Click any link below to go directly to a specific metric.

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<ul style="list-style-type: none"> <li>• Interaction Volume - Difference</li> <li>• Interaction Volume - Forecasted</li> <li>• Interaction Volume - Scheduled</li> </ul>	<ul style="list-style-type: none"> <li>• Number of Agents</li> </ul>	<ul style="list-style-type: none"> <li>• Occupancy - Difference</li> <li>• Occupancy - Forecasted</li> <li>• Occupancy - Scheduled</li> </ul>	<ul style="list-style-type: none"> <li>• Service Level - Difference</li> <li>• Service Level - Forecasted</li> <li>• Service Level - Scheduled</li> </ul>	<ul style="list-style-type: none"> <li>• Staffing - Calculated</li> <li>• Staffing - Required</li> </ul>
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**Tip**

A period in these metrics refers to the specific granularity of the report being run. For *Intra-day* granularity a period is 15 minutes; for *Daily* granularity a period is 1 day;

and so on.

## Number of Agents

Number of Agents is also called *Headcount* or *Agents in Seats*. If an agent is multi-skilled and is scheduled for more than one activity for a given period, he will actually count as 1 headcount for *each* of the activities for which he is scheduled. Therefore, in comparison with Coverage, Headcount can *double count* an agent if he is multi-skilled and is scheduled for more than one activity during a particular period.

For example, if an agent is scheduled for two activities in a particular 15-minute timestep, he might count as 0.5 towards the Coverage of each of those activities, but he would count as 1 Headcount towards each of those activities. Unlike Coverage, where an agent could count towards partial coverage if he's scheduled for something other than activity work for part of a 15-minute timestep, for Headcount it is *all or nothing*. This means that as long as an agent is scheduled for at least 1 minute of work on an activity during a given 15-minute timestep, he will count as 1 Headcount towards that activity.

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## How the total / average is calculated

The value for Headcount in the totals/averages row at the top of this view (or bottom of the report) is a simple average of all the values for all the timesteps of the selected time period (which can be: Intra-day, Daily, nWeeks, or Monthly).

## Service Level – Scheduled

The Service Level that you should achieve on this activity, with the number of agents currently scheduled for this activity. Due to agent rounding, this value may differ from the original service level objective that was stated when the staffing forecast was built.

For example, WFM might forecast a staffing requirement of 12 agents to meet a service level objective of 80% of interactions answered within 20 seconds. But a Service Level Percentage Forecast may report a higher number, such as 83.48%. This is because 12 was the minimum number of agents required to meet the 80% service level objective but, with that number of agents, the contact center can be expected to achieve a slightly better service level than 80%. With one less agent (11 agents), the contact center would not be expected to achieve the 80% service level.

## How the total / average is calculated

### **A weighted average, calculated across the open hours:**

$$\text{AVG SL Scheduled} = S (\text{Scheduled } SL_i * \text{Forecasted } IV_i) / S (\text{Forecasted } IV_i)$$

Where:

*Scheduled SL<sub>i</sub>*= Calculated Service Level based on the number of scheduled agents for *timestep<sub>i</sub>*  
*Forecasted IV<sub>i</sub>*= Forecasted Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>*= timestep number over the open hours

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## Service Level—Forecasted

The Service Level Percentage objective that you should be able to achieve when staffing with the number of agents from the staffing forecast (also known as Budget - Difference).

### How the total / average is calculated

#### **A weighted average, weighted by Forecasted IV:**

$AVG\ SL\ Forecasted = \frac{\sum (Forecasted\ SL_i * Forecasted\ IV_i)}{\sum (Forecasted\ IV_i)}$

Where:

*Forecasted SL<sub>i</sub>*= Forecasted Service Level for *timestep<sub>i</sub>*  
*Forecasted IV<sub>i</sub>*= Forecasted Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>*= timestep number over the open hours

## Service Level - Difference

Service Level - Scheduled minus Service Level - Forecasted.

## Interaction Volume - Scheduled

The number of interactions that can be handled based on the schedule coverage. Calculated by using the inverse of the WFM's staffing forecast algorithm.

WFM uses a *modified Erlang* algorithm to derive Calculated Staffing based on the IV, the AHT, and service objectives stated when building the forecast. Therefore, to calculate the scheduled interaction volume, WFM uses that formula *in reverse*.

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### How the total / average is calculated

The sum is across the entire report time range.

## Interaction Volume – Forecasted

The interaction volume taken from the Master Forecast.

### How the total / average is calculated

The sum across the entire report time range.

## Interaction Volume – Difference

Interaction Volume – Scheduled minus Interaction Volume – Forecasted.

## AHT – Scheduled

The Average Handling Time (AHT) per interaction that you should achieve, based on the schedule coverage. Calculated by using the *inverse* of the WFM's staffing forecast algorithm.

WFM uses a *modified Erlang* algorithm to derive Calculated Staffing, based on the IV, AHT, and service objectives stated when building the forecast. Therefore, to calculate the scheduled AHT, it uses that formula *in reverse*.

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### How the total / average is calculated

#### **A weighted average, weighted by Forecasted IV:**

$$\text{AVG AHT Scheduled} = \frac{\sum (\text{Scheduled AHT}_i * \text{Forecasted IV}_i)}{\sum (\text{Forecasted IV}_i)}$$

Where:

*Scheduled AHT<sub>i</sub>* = Scheduled Average Handling Time for *timestep<sub>i</sub>*

*Forecasted IV<sub>i</sub>* = Forecasted Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>* = timestep number over the open hours

## AHT – Forecasted

Average Handling Time of interactions, taken from the Master Forecast.

### How the total / average is calculated

#### **A weighted average, weighted by Forecasted IV:**

## Schedule Summary View and Reporting

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AVG AHT Forecasted =  $\Sigma (\text{Forecasted AHT}_i * \text{Forecasted IV}_i) / \Sigma (\text{Forecasted IV}_i)$

Where:

*Forecasted AHT<sub>i</sub>* = Forecasted Average Handling Time for *timestep<sub>i</sub>*

*Forecasted IV<sub>i</sub>* = Forecasted Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>* = timestep number over the open hours

## AHT – Difference

AHT - Scheduled minus AHT - Forecasted.

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## Budget – Scheduled

The budget for this schedule based on the number of agents from the Coverage – Scheduled column. The calculation is based on a full-time equivalent's hourly wage, as well as on the Planned Overhead % and Unplanned Overhead % (which were specified when the staffing forecast was built).

For a 15-minute timestep, the formula is:

$(\text{Coverage}/4) * ((100/(100-\text{Planned Overhead})) * (100/100-\text{Unplanned Overhead}) * \text{Hourly Wage})$

The unit of measure is in whatever monetary unit was used when the Hourly Wage was specified while building the forecast.

## How the total / average is calculated

This figure is in the sum across the entire report time range.

## Budget – Forecasted

The budget for the schedule based on the number of agents from the “Staffing – Calculated” column, based on a full-time equivalent's hourly wage, as well as the Planned Overhead % and Unplanned Overhead % (specified when the staffing forecast was built).

For a 15-minute timestep, the formula is:

$(\text{Staffing}/4) * ((100/(100-\text{Planned Overhead})) * (100/100-\text{Unplanned Overhead}) * \text{Hourly Wage})$

The unit of measure is in whatever monetary unit was used when the Hourly Wage was specified when building the forecast.

### How the total / average is calculated

This figure is in the sum across the entire report time range.

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### Budget – Difference

Budget – Scheduled minus Budget – Forecasted.

### Staffing – Calculated

A value taken directly from the staffing forecast, for the particular timestep.

### How the total / average is calculated

The value in the column footer is calculated based on the same approach as what is described for Coverage – Scheduled.

### Staffing – Required

A value taken directly from the staffing forecast, for the particular timestep. It will be populated only if you put some values in the optional **Required Staffing** column in your staffing forecast.

### How the total / average is calculated

The value in the column footer is calculated based on the same approach as what is described for Coverage – Scheduled.

### Difference – Calculated

Coverage – Scheduled minus Staffing – Calculated.

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### How the total / average is calculated

The value in the column footer is calculated based on the same approach as what is described for Coverage – Scheduled.

## Difference – Required

Coverage – Scheduled minus Staffing – Required.

## Coverage – Scheduled

The actual amount of time that an agent should count towards coverage of the work in this time period. If an agent is multi-skilled and is scheduled for multiple activities during a given period, he may count fractionally towards the coverage of each activity (for example, as 0.5 toward each of two activities for which he's scheduled).

If an agent has something other than activity work scheduled for part of a period, that will be subtracted from the amount of time he's counted towards the coverage of that activity work. For example, an agent who is scheduled for an activity for a given 15-minute timestep but has a break for the first 5 minutes of that timestep, would count as 0.67 towards the coverage of that activity for that period.

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## How the total / average is calculated

This figure is in FTEs. For the calculation, see Endnote 1.

The value in the totals/averages row at the top of this view (or bottom of the report) is calculated as follows:

1. WFM calculates the sum of the agents which are covering this activity within each timestep during the day.
2. The value calculated in step 1 is multiplied by 15 minutes in order to get the total time of activity work.
3. The value calculated in step 2 is divided by the value set for Paid Hours a Day, which was entered while building staffing forecast for this activity.

## Coverage – Published

The original values from the Coverage – Scheduled column the last time a schedule scenario was published to the Master Schedule.

## How the total / average is calculated

The value in the column footer is calculated based on the same approach as what is described for Coverage – Scheduled.

## Coverage – Difference

Coverage – Scheduled minus Coverage – Published.

## ASA – Scheduled

The Average Speed of Answer that you should achieve on this activity, with the number of agents currently scheduled for this activity.

The totals/average row for ASA Scheduled reports a weighted average, calculated across the open hours and weighted by Forecast IV (exactly as for Service Level – Scheduled):

### **A weighted average, weighted by Forecast IV:**

$$\text{AVG ASA Scheduled} = S (\text{Scheduled ASA}_i * \text{Forecasted IV}_i) / S (\text{Forecasted IV}_i)$$

Where:

*Scheduled ASA<sub>i</sub>*= Calculated Average Speed of Answer based on the number of scheduled agents for *timestep<sub>i</sub>*

*Forecasted IV<sub>i</sub>*= Forecasted Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>* = timestep number over the open hours

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## ASA – Forecasted

The totals/average row for ASA Forecasted reports a weighted average, calculated across the open hours and weighted by Forecasted IV (exactly like for Service Level – Forecasted):

### **A weighted average, weighted by Forecasted IV:**

$$\text{AVG ASA Forecasted} = S (\text{Forecasted ASA}_i * \text{Forecasted IV}_i) / S (\text{Forecasted IV}_i)$$

Where:

*Forecasted ASA<sub>i</sub>*= Calculated Average Speed of Answer based on the number of scheduled agents for *timestep<sub>i</sub>*

*Forecasted IV<sub>i</sub>*= Forecasted Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>* = timestep number over the open hours

## ASA – Difference

ASA – Scheduled minus ASA – Forecasted.

## Occupancy – Scheduled

The Occupancy that you *should achieve* on this activity, with the number of agents currently scheduled.

### How the total / average is calculated

The totals/average row for Occupancy reports a weighted average, calculated across the open hours and weighted by Forecasted IV (exactly as for Service Level – Scheduled):

#### **A weighted average, calculated across the open hours and weighted by Forecasted IV:**

$$\text{AVG Occupancy Scheduled} = S (\text{Scheduled Occ}_i * \text{Forecasted IV}_i) / S (\text{Forecasted IV}_i)$$

Where:

*Scheduled Occ<sub>i</sub>*= Calculated Occupancy based on the number of scheduled agents for *timestep<sub>i</sub>*  
*Forecasted IV<sub>i</sub>*= Forecasted Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>*= timestep number over the open hours

## Occupancy – Forecasted

The Occupancy objective that you *should be able to achieve* when staffing with the number of agents from the staffing forecast (Staffing – Calculated).

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### How the total / average is calculated

The totals/average row for Occupancy reports a weighted average, calculated across the open hours and weighted by Forecast IV (exactly as for Service Level – Forecasted):

#### **A weighted average, weighted by Forecast IV:**

$$\text{AVG Occupancy Forecast} = S (\text{Forecast Occ}_i * \text{Forecast IV}_i) / S (\text{Forecast IV}_i)$$

Where:

*Forecast Occ<sub>i</sub>*= Forecast Occupancy for *timestep<sub>i</sub>*  
*Forecast IV<sub>i</sub>*= Forecast Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>*= timestep number over the open hours

## Occupancy – Difference

Occupancy – Scheduled minus Occupancy – Forecasted.

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# Contact Center Performance Reporting Metrics

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- Administrator

Track and analyze performance data in your contact center and use these metrics to create reports.

**Related documentation:**

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Click any link below to go directly to a specific metric.

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<ul style="list-style-type: none"> <li>• Interaction Volume - Actual</li> <li>• Interaction Volume - Difference</li> <li>• Interaction Volume - Forecast</li> <li>• Interaction Volume - Percentage</li> </ul>	<ul style="list-style-type: none"> <li>• Number of Agents - Actual</li> <li>• Number of Agents - Difference</li> <li>• Number of Agents - Percentage of Difference</li> <li>• Number of Agents - Scheduled</li> </ul>	<ul style="list-style-type: none"> <li>• Service Level - Actual</li> <li>• Service Level - Scheduled</li> </ul>
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**Tip**

A period in these metrics refers to the specific granularity of the report being run. For *Intra-day* granularity a period is 15 minutes; for *Daily* granularity a period is 1 day; and so on.

### Important

The *Difference* calculation is controlled by the WFM Web Application option `RevertDiffCalculation` in Management Framework's Configuration Manager.

- `false` (default): *Scheduled or Forecast* minus *Actual*
- `true`: *Actual* minus *Scheduled or Forecast*

This document uses the default value.

## Coverage – Scheduled

The actual amount of time that an agent should count toward coverage of the work in this time period. If an agent is multi-skilled and is scheduled for multiple activities during a given period, he may count fractional amounts of time toward the coverage of each activity (for example, 0.5 toward each of two activities for which he is scheduled).

If an agent has something other than activity work scheduled for part of a period, that will be subtracted from the amount of time counted toward the coverage of that activity work. For example, an agent who is scheduled for an activity for a given 15-minute timestep, but who has a break for the first five minutes of that timestep, would count as 0.67 toward the coverage of that activity for that period.

### How the total / average Is calculated

This figure is in FTEs. For the calculation, see Endnote 1.

The value in the totals/averages row at the top of this view (or at the bottom of the report) is calculated as follows:

1. WFM calculates the sum of the agents who are covering this activity within each timestep during the day.
2. The value calculated in Step 1 is multiplied by 15 minutes in order to get the total time of activity work.
3. The value calculated in Step 2 is divided by the value set for `Paid Hours a Day`, which was entered while building the staffing forecast for this activity.

## Coverage – Optimal

The coverage that would have been required in order to meet the original service objectives, based on the actual IV and AHT.

## Coverage – Difference

Coverage – Optimal minus Coverage – Scheduled.

## Coverage – Percentage

Coverage – Optimal divided by Coverage – Optimal minus Coverage – Scheduled in concept: Optimal / (Optimal – Scheduled).

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## Number of Agents – Scheduled

The number of agents scheduled for this period, also known as *headcount*.

### How the total / average Is calculated

A simple average across the entire report time range. Thus, even if activity is only open for a portion of the day, if this report were run for an intra-day period, the average would be calculated over 96 timesteps.

## Number of Agents – Actual

The number of agents who were actually logged in during this period, also known as *headcount*.

### How the total / average Is calculated

A simple average of the number of time steps when agents were logged in.

$$\sum (Agents_i) / \text{Number of time steps}$$

Where

$Agents_i$  is the number of agents logged in (as reported by Stat Server) during  $timestep_i$

## Number of Agents – Difference

Number of Agents – Scheduled minus Number of Agents – Actual.

## Number of Agents – Percentage of Difference

(Number of Agents – Scheduled minus Number of Agents – Actual) divided by Number of Agents – Scheduled in concept: (Scheduled – Actual) / Scheduled.

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## Interaction Volume – Forecast

The number of interactions forecast for this period (taken directly from the Master Forecast).

### How the total / average Is calculated

This Sum is spread across the entire report time range.

## Interaction Volume – Actual

The number of interactions actually received. The exact nature of this metric will depend on what Stat Server statistic is configured for Interaction Volume.

For example, for voice interactions, normally this is based on Number of Calls Entered.

### How the total / average Is calculated

The sum is of Interaction Volume for each time step within the report time range.

$$\Sigma (IV_i)$$

Where:

$IV_i$  is the Interaction Volume recorded by Stat Server during  $timestep_i$

## Interaction Volume – Difference

Interaction Volume – Forecast minus Interaction Volume – Actual.

## Interaction Volume – Percentage

(Interaction Volume – Forecast minus Interaction Volume – Actual) divided by Interaction Volume – Forecast in concept: (Forecast - Actual) / Forecast.

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## AHT – Forecast

Forecast Average Handling Time for this period (taken directly from the Master Forecast)

### How the total / average Is calculated

#### **A weighted average, weighted by Forecast IV:**

$$\text{AVG AHT Forecast} = \frac{\sum (\text{Forecast AHT}_i * \text{Forecast IV}_i)}{\sum (\text{Forecast IV}_i)}$$

Where:

*Forecast AHT<sub>i</sub>* = Forecast Average Handling Time for *timestep<sub>i</sub>*

*Forecast IV<sub>i</sub>* = Forecast Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>* = timestep number over the open hours

## AHT – Actual

Actual Average Handling Time for calls handled during this period. This metric is based on what Stat Server statistics are configured for Total Handle Time and Number of Calls Handled.

### How the total / average Is calculated

#### **A weighted average, weighted by Number of Calls Handled:**

$$\frac{\sum (\text{AHT}_i * \text{CallsHandled}_i)}{\sum (\text{CallsHandled}_i)}$$

Where: *AHT<sub>i</sub>* = AHT recorded by Stat Server for *timestep<sub>i</sub>*

*CallsHandled<sub>i</sub>* = Number of interactions handled during *timestep<sub>i</sub>* as recorded by Stat Server.

## AHT – Difference

AHT – Forecasted minus AHT – Actual.

## AHT – Percentage

(AHT – Forecast minus AHT – Actual) divided by AHT – Forecast in concept: (Forecast - Actual) / Forecast.

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## Service Level – Scheduled

The Service Level that was scheduled to be achieved, based on the scheduled number of agents.

### How the total / average Is calculated

#### **A weighted average, weighted by Forecast IV:**

$$\text{AVG SL Scheduled} = \frac{\sum (\text{Scheduled } SL_i * \text{Forecast } IV_i)}{\sum (\text{Forecast } IV_i)}$$

Where:

*Scheduled SL<sub>i</sub>* = Calculated Service Level based on the number of scheduled agents for *timestep<sub>i</sub>*  
*Forecast IV<sub>i</sub>* = Forecast Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>* = timestep number over the open hours

## Service Level – Actual

The Service Level that was actually achieved. This metric is based on what Stat Server statistics are configured for Service Factor, Number of Calls Distributed, Average Speed of Answer, and Time Range.

### How the total / average Is calculated

#### **A weighted average, weighted by Number of Calls Distributed:**

$$\frac{\sum (SF_i * \text{CallsDistributed}_i)}{\sum (\text{CallsDistributed}_i)}$$

Where:

*SF<sub>i</sub>*= Service Factor recorded by Stat Server for *timestep<sub>i</sub>*  
*CallsDistributed<sub>i</sub>*= Number of calls distributed during *timestep<sub>i</sub>* as recorded by Stat Server.

(This value does not appear in the report but is recorded by Stat Server. For more details, see Endnote 2.)

## ASA – Scheduled

The Average Speed of Answer that was scheduled to be achieved, based on the scheduled number of agents. Calculated by using the *inverse* of the WFM's staffing forecast algorithm.

WFM uses a *modified Erlang* algorithm to derive Calculated Staffing, based on the IV, AHT, and

service objectives such as ASA that were stated when building the forecast. Therefore, to calculate the Scheduled ASA it uses that formula *in reverse*.

## How the total / average Is calculated

### **A weighted average, weighted by Forecast IV:**

$$\text{AVG ASA Scheduled} = \frac{\sum (\text{Scheduled ASA}_i * \text{Forecast IV}_i)}{\sum (\text{Forecast IV}_i)}$$

Where:

*Scheduled ASA<sub>i</sub>* = Calculated ASA based on the number of scheduled agents for *timestep<sub>i</sub>*  
*Forecast IV<sub>i</sub>* = Forecast Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>* = timestep number over the open hours

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## ASA – Actual

The Average Speed of Answer that was actually achieved. This metric is based on what Stat Server statistics are configured for ASA.

## How the total / average Is calculated

### **A weighted average, weighted by Number of Calls Distributed:**

$$\frac{\sum (\text{ASA}_i \times \text{CallsDistributed}_i)}{\sum (\text{CallsDistributed}_i)}$$

Where: *ASA<sub>i</sub>* = Average Speed of Answer for *timestep<sub>i</sub>* as recorded by Stat Server

*CallsDistributed<sub>i</sub>* = Number of calls distributed during *timestep<sub>i</sub>* as recorded by Stat Server

## Abandons Factor – Scheduled

The expected number of abandoned interactions based on the scheduled number of agents. Calculated by using the *inverse* of the WFM's staffing forecast algorithm.

WFM uses a *modified Erlang* algorithm to derive Calculated Staffing, based on the IV, AHT, and service objectives such as Abandonment percentage that were stated when building the forecast. Therefore, to calculate the Scheduled Abandons, WFM uses that formula *in reverse*.

## How the total / average Is calculated

### **A weighted average, weighted by Forecast IV:**

$$\text{AVG AF Scheduled} = \frac{\sum (\text{Scheduled AF}_i * \text{Forecast IV}_i)}{\sum (\text{Forecast IV}_i)}$$

Where:

*Scheduled AF<sub>i</sub>* = Calculated Abandon Factor based on the number of scheduled agents for *timestep<sub>i</sub>*

*Forecast IV<sub>i</sub>* = Forecast Interaction Volume for *timestep<sub>i</sub>* *timestep<sub>i</sub>* = timestep number over the open hours

## Abandons Factor – Actual

The actual number of abandoned interactions during a specific period, based on which Stat Server statistics are configured for Abandoned Interactions.

How the total / average Is calculated

**A weighted average, weighted by Number of Calls Distributed:**

$$\Sigma (Abandons_i * CallsDistributed_i) / \Sigma (CallsDistributed_i)$$

Where: *Abandons<sub>i</sub>* = Number of calls abandoned during *timestep<sub>i</sub>* as recorded by Stat Server

*CallsDistributed<sub>i</sub>* = Number of calls distributed during *timestep<sub>i</sub>*, as recorded by Stat Server

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# Agent Adherence Reporting Metrics and End Notes

## Contents

- **1 Percentage Adherence Per Day**
  - **1.1 How the percentage is calculated**
- **2 Endnotes**
  - **2.1 Endnote 1**
  - **2.2 Endnote 2**



- Administrator

Track and analyze agent adherence data in your contact center and use these metrics to create reports.

**Related documentation:**

- 

There is only one Workforce Management Adherence reporting metric.

## Percentage Adherence Per Day

The percentage of the day during which the agent was adherent to his or her scheduled state.

How the percentage is calculated

$$100 - ((NC+UNC)*100/(ST+UNC))$$

Where:

*NC* = Noncompliant time  
*UNC* = Noncompliant time outside of scheduled time  
*ST* = Scheduled time

## Endnotes

This section contains detailed descriptions and definitions for formula symbols that are used to calculate WFM metrics.

### Endnote 1

**The Formula for FTEs:**

$$FTEs = \sum_{i=1}^n (staffing_i \div stepsHr \div paidHrs_i \times (100 \div (100 - pOverheadHrs_i)))$$

Where:

*n* = Number of time steps in a day (96)

*i* = Current time step  
*staffing* = Calculated staffing requirements  
*stepsHr* = Time steps in one hour (4)  
*paidHrs* = Paid Hours in a Day as specified in staffing forecast  
*pOverhead* = Planned Overhead percentage as specified in staffing forecast

## Endnote 2

The Total/Average value of Service Level in the Contact Center Performance report is calculated as a weighted average, where for the weight coefficient we use the TotalNumberCallsDistributed configuration option.

That is, for an Activity when we define the Quality of Service Statistic type in the WFM Web, we are required to specify three statistics:

1. Service Factor
2. Distributed Interactions
3. Average Speed of Answer

(plus two time ranges required for Service Factor statistic calculation)

The Number of Distributed Interactions statistic (or TotalNumberCallsDistributed) plays the role of the weight coefficient in order to calculate the weighted average value of Service Level per:

Timestep	If we calculate Service Level for the same activity several objects (for example, across some Queues) this gives us the possibility to get an accurate result rather than a simple average.
Day	A weighted average gives a very accurate result in comparison with simple average.

So the calculation of Total Service Level per day is done by the formula:

$$\text{Service Level Total} = \frac{\text{SUM} (SL_i \times \text{TNCD}_i)}{\text{SUM} (\text{TNCD}_i)}$$

Where:

*i* = 1 ... 96 (intra-day 15 minute timesteps from 00:00 through 23:45)  
*SL<sub>i</sub>* = Service Level value for the timestep<sub>i</sub>  
*TNCD<sub>i</sub>* = TotalNumberCallsDistributed value for the timestep<sub>i</sub>

Here is a simple example of the calculation, using this data:

Timestep	SL	TNCD	TNCDxSL
10:45 am	60.00	20	1200
11:00 am	90.00	1	90
11:15 am	20.00	150	3000
11:30 am	65.00	35	2275

If we assume that during the day we have only 4 timesteps of historical data, our Total Service Level will be:

$$\text{SL weighted} = \frac{60 \times 20 + 90 \times 1 + 20 \times 150 + 65 \times 35}{20 + 1 + 150 + 35} = \frac{6565}{206} = 31.87$$

Here an example of calculating a simple average:

$$\text{SL simple average} = \frac{60 + 90 + 20 + 65}{4} = 58.7$$

This example shows that a timestep with Service Level=90 where only one call has been processed should have minimal impact on the overall Service Level for the day, in comparison with a timestep where SL=20 and 150 calls have been processed. This is the reason the calculation is done in this way.

The user won't be able to see TotalNumberCallsDistributed in the report, as this value is stored in the WFM database for internal purposes only (in the table WM\_perf\_activities in the field WM\_distrib\_calls, for each activity and for each timestep).

Also keep in mind that TotalNumberCallsDistributed is not the same as Interaction Volume, since in general Interaction Volume is configured as TotalNumberCallsEntered (Answered + Abandoned), while TotalNumberCallsDistributed is the number of calls which are being distributed from the queue.

# Using copy and paste for statistics

## Contents

- [1 Using the copy and paste format](#)
- [2 Multimedia statistics for e-mail interactions](#)
- [3 Statistics for chat interactions](#)
- [4 Statistics for intelligent Workload Distribution interactions](#)
- [5 Statistics for voice interactions](#)

Use these sample formats to get a start on setting up statistics for your e-mail, voice, chat, and iWD interactions.

### **Related documentation:**

- 

This article contains four examples of the statistics defined in "WFM Statistics: Recommended Settings". Use these examples only as generic starting points for your configuration, making the modifications necessary to ensure they function properly within your environment.

These statistics do not include any of the required filters or time ranges; those items are specific to your installation. Add these filters only if they are missing from the relevant section(s) of your configuration.

## Using the copy and paste format

All of the statistics in this topic appear in this format:

```
[WFMTotalNumberCallsEntered]
Category=TotalNumber
MainMask=CallEntered
Description=The total number of interactions
Subject=DNAction
Objects=Queue,RoutePoint,GroupQueues
```

You can amend the text within the square brackets (use underscores rather than spaces) and the description line. For example, you could change the above example to this:

```
[Special_Call_Entered_Stat_4_Steve]
Category=TotalNumber
MainMask=CallEntered
Description=This reflects the number of inbound calls received
through a queue
Subject=DNAction
Objects=Queue,RoutePoint,GroupQueues
```

## Multimedia statistics for e-mail interactions

```
[WFM_Email_Entered]
AggregationType=Total
Category=JavaCategory
Description=The total number of interactions
JavaSubCategory=eServiceInteractionStat.jar:EQR Total Entered
```

```
Objects=StagingArea
[WFM_Email_Handle_Time]
Category=TotalTime
MainMask=InteractionHandling
Description=Total time spent handling interactions
Objects=Agent,GroupAgents,GroupPlaces,Place
Subject=AgentStatus
[WFM_Email_Handled]
Category=TotalNumber
MainMask=InteractionHandling
Description=Total number of interactions handled
Objects=Agent,GroupAgents,GroupPlaces,Place
Subject=DNAction
```

## Statistics for chat interactions

```
[WFM_Chat_Entered]
AggregationType=Total
Category=JavaCategory
Description=The total number of interactions
JavaSubCategory=eServiceInteractionStat.jar:OMQ Total Entered
Objects=StagingArea
MediaType=chat
[WFM_Chat_Abandoned]
AggregationType=Total
Category=JavaCategory
Description=The total abandoned from queue
JavaSubCategory=eServiceInteractionStat.jar:OMQ Total Abandoned
Objects=StagingArea
MediaType=chat
[WFM_Chat_Average_Speed_Answer]
AggregationType=Total
Category=JavaCategory
Description=Average time taken to answer
JavaSubCategory=eServiceInteractionStat.jar:OMQ Average Waiting Time
Objects=StagingArea
MediaType=chat
[WFM_Chat_Total_Distributed]
AggregationType=Total
Category=JavaCategory
Description=Total Distributed
JavaSubCategory=eServiceInteractionStat.jar:OMQ Total Distributed
Objects=StagingArea
MediaType=chat
[WFM_Chat_Handle_Time]
Category=TotalTime
MainMask=InteractionHandling
Description=Total time spent handling interactions
Objects=Agent,GroupAgents,GroupPlaces,Place
Subject=AgentStatus
[WFM_Chat_Handled]
```

```
Category=TotalNumber
MainMask=InteractionHandling
Description=Total number of interactions handled
Objects=Agent,GroupAgents,GroupPlaces,Place
Subject=DNAction
```

## Statistics for intelligent Workload Distribution interactions

```
[WFM_OMedia_Entered]
AggregationType=Total
Category=JavaCategory
Description=The total number of interactions
JavaSubCategory=eServiceInteractionStat.jar:OMQ Total Entered
Objects=StagingArea
MediaType=MediaX
[WFM_OMedia_Abandoned]
AggregationType=Total
Category=JavaCategory
Description=The total abandoned from queue
JavaSubCategory=eServiceInteractionStat.jar:OMQ Total Abandoned
Objects=StagingArea
MediaType=MediaX
[WFM_OMedia_Average_Speed_Answer]
AggregationType=Total
Category=JavaCategory
Description=Average time taken to answer
JavaSubCategory=eServiceInteractionStat.jar:OMQ Average Waiting Time
Objects=StagingArea
MediaType=MediaX
[WFM_OMedia_Total_Distributed]
AggregationType=Total
Category=JavaCategory
Description=Total Distributed
JavaSubCategory=eServiceInteractionStat.jar:OMQ Total Distributed
Objects=StagingArea
MediaType=MediaX
[WFM_OMedia_Handle_Time]
Category=TotalTime
MainMask=InteractionHandling
Description=Total time spent handling interactions
Objects=Agent,GroupAgents,GroupPlaces,Place
Subject=AgentStatus
[WFM_OMedia_Handled]
Category=TotalNumber
MainMask=InteractionHandling
Description=Total number of interactions handled
Objects=Agent,GroupAgents,GroupPlaces,Place
Subject=DNAction
```

## Statistics for voice interactions

```
[WFMTotalNumberCallsEntered]
Category=TotalNumber
MainMask=CallEntered
Subject=DNAction
Objects=Queue,RoutePoint,GroupQueues
[WFMTotalNumberCallsAband]
Category=TotalNumber
MainMask=CallAbandoned, CallAbandonedFromRinging
Subject=DNAction
Objects=Queue,RoutePoint,GroupQueues
[WFMTotalNumberCallsDistrib]
Category=TotalNumber
MainMask=CallDistributed
Subject=DNAction
Objects=Queue,RoutePoint,GroupQueues
[WFMServiceFactor1]
Category=ServiceFactor1
MainMask=CallAnswered, CallAbandoned, CallAbandonedFromRinging
Subject=DNAction
Objects=Queue, RoutePoint, GroupQueues
[WFMAverTimeBeforeAnswering]
Category=AverageTime
MainMask=CallAnswered
RelMask=CallAnswered
Subject=DNAction
Objects=Queue, RoutePoint, GroupQueues
[WFMTotalHandleTime]
Category=TotalAdjustedTime
MainMask=CallInbound, CallOutbound, AfterCallWork
Subject=DNAction
Objects=Agent, Place, GroupAgents, GroupPlaces
[WFMTotalNumberCallsHandled]
Category=TotalNumber
MainMask=CallInbound, CallOutbound
Subject=DNAction
Objects=Agent, Place, GroupAgents, GroupPlaces
```

# WFM Primers



- Administrator

Learn more about Workforce Management by using these primers.

### **Related documentation:**

- 

Workforce Management (WFM) primers provide detailed information about certain WFM functions and features and suggest ways in which you might use them in your deployment to optimize the efficiency of your contact center.

Primers contain suggestions and example, which may or may not be applicable to your environment, but the information is provided to help you to make the best choice, based on these recommended uses and applications.

Primers are provided for these important WFM features:

- Multi-Forecasting
- Time Off
- Overlays

# Time Off Primer

## Contents

- 1 Time-off types and rules
  - 1.1 Time-off types
  - 1.2 Time-off rules
  - 1.3 When exceptions are used as time off
  - 1.4 When time-off types no longer apply
- 2 Time-off limits
- 3 Requests and approvals process
  - 3.1 Planning for the future
  - 3.2 Planning for the current schedule period
- 4 Agent time-off planner
  - 4.1 Time-off balances in the agent's planner
  - 4.2 Recalling requests
  - 4.3 Wait-listing requests
  - 4.4 Viewing request statuses



- Administrator

Learn how to use Workforce Management's (WFM) time-off features and processes to meet the needs of your workforce and contact center service level goals.

### **Related documentation:**

- 

## Time-off types and rules

You must understand the basics of the time-off features in WFM to use them correctly and efficiently. Before you can use the time off, you must configure time-off types and time-off rules.

### Time-off types

Probably the simpler of the two objects, because each time-off type is simply a container. You add time off to or remove time off from, each container. You can create and arbitrarily name an unlimited number of time-off types.

You create time-off types for each individual site. You can use the time off to track an agent's request or maintain a balance of requests on a regular basis. Time-off types include vacation, personal time off, flexible time off, paid sick days, floating holidays, and more.

### Time-off rules

You can configure a time-off rule for one or multiple time-off types. When you configure multiple time-off types for the same rule, the time-off balance is calculated and accrued for all time-off types associated with that rule. This configuration enables multiple time-off types to share the same time-off balance.

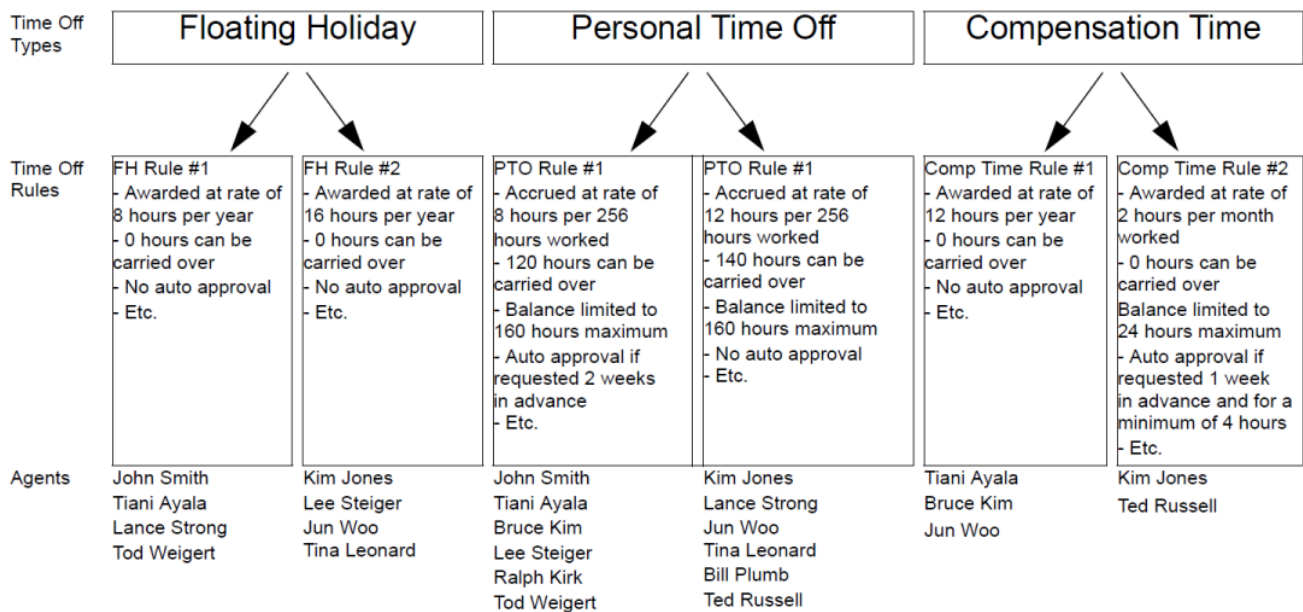
Time-off rules define:

- The rate at which time off is accumulated for an agent, and how and when an agent can request time off.
- Whether or not a time-off request will be manually approved, or auto-approved by the WFM system.

You assign time-off type/time-off rule combinations to agents by using the **Configuration > Agents > Time Off** or **Policies > Time-Off Rules > Assignments** pane in WFM Web for Supervisors.

**Tip**

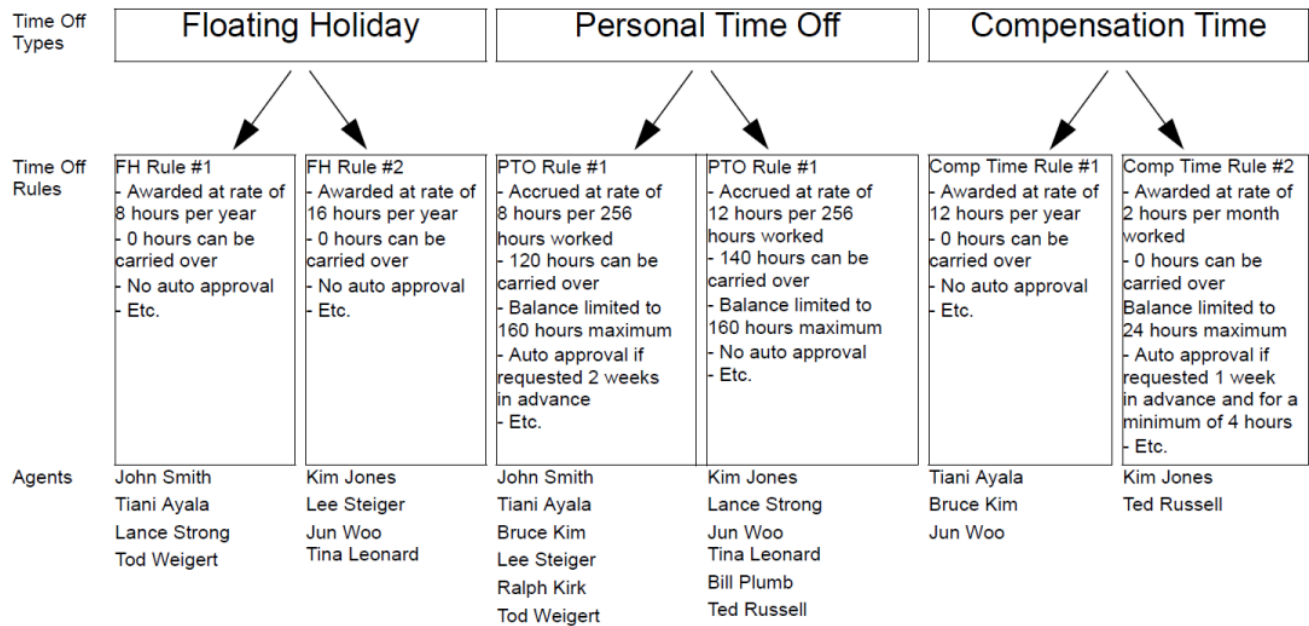
Time-off types are configured on a per-site basis. Therefore, if an agent has outstanding time-off requests and is moved to a different site, the requests are hidden, because WFM tracks them only at the initial site. The default time-off type Vacation is the only exception. Vacation is considered valid for all sites in the system, and time-off requests for vacation are retained in the system even after the agent moves from site-to-site. In addition, WFM recalculates the agent's time-off balance(s) when the agent moves from one site to another, based on the change in time-off rules. Moving an agent to a different site does not affect his/her time-off status.



**Figure:** Relationship Between Time-Off Types, Time-Off Rules, and the Agents Assigned to Them

Notes about the figure above

- Agents are assigned to time-off rules, not directly to time-off types.
- The association of time-off rules to time-off types is many-to-one, because for a single time-off type (for example, personal time off), different agents might be given this type of time off at different rates—perhaps based on seniority. For example, you might want requests from a certain type of agent for paid sick days to be auto-granted by the system, but for another type of agent, you might want the same requests to be manually reviewed.
- When you create a time-off rule, you define whether it is a rule of the type award (a fixed number of hours) or accrual (a number of hours that accumulate during the year). In the figure below, all Floating Holiday time offs are awarded and all Personal time offs are accrued. Compensation time can be either awarded or accrued, depending on an agent's assigned time-off rule.



**Figure:** Awarded versus Accrued Time Off

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Notes about the figure above

- An agent can be assigned to multiple time-off rules.  
**Example 1:** Jun Woo has three time-off rules assigned to him. One rule defines how he will be awarded a Floating Holiday each year and when he can use that time off. The second rule defines the rate at which he will accrue Personal Time Off, how much balance he can have, and when he can use it. The third rule defines how he will be awarded Compensation Time each year.
- Not all agents need to be assigned to a rule for each time-off types  
**Example 2:** John Smith has a Floating Holiday award rule and a Personal time-off accrual rule. However, he has no time-off rule defining how he can accrue or be awarded Compensation time. Therefore, he will have no balance of this time-off type and will not be able to request it.

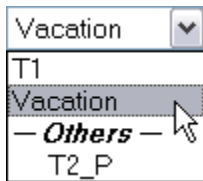
### When exceptions are used as time off

When you configure an exception type in WFM Web, you can use the option **Exception is used as Time Off** to designate the exception as time off. This is a legacy feature from earlier versions of WFM, which supported only one type of time off. WFM now supports an unlimited number of time-off types, which means agents and supervisors can request both full-day and partial-day time off. Therefore, Genesys recommends that you *do not* use exceptions to represent time off.

### When time-off types no longer apply

A combo box in the upper-left corner of an agent's **Time-Off Planner** displays all the time-off types that are configured for that agent's site. Some of these might not be relevant to the agent. (Agents are assigned to time-off rules, which in turn are associated with time-off types.)

An agent can create, edit, delete, or recall time-off requests only for those types correspond to a time-off rule that is assigned to that agent. Therefore, an agent might be able to view time-off types corresponding to time-off rules are no longer assigned to him or her. The agent can see these “old” time-off types, but he or she cannot interact with them. They appear below the **Others** legend in the combo box.



**Figure:** Time-Off Types Combo Box

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Time-off types that the agent can use appear above the **Others** legend.

WFM enables an agent to select a time-off type from below the **Others** legend in the combo box; however, the agent cannot perform any functions with it (such as requesting time off or viewing his or her time off balance).

## Time-off limits

Before giving your agents the ability to request time off, you should configure time-off limits. To do so, use the **Calendar** module in WFM Web Supervisor.

If you have the correct permissions, you can configure the maximum number of Agents who can take time off for each 15-minute interval of each calendar day.

For example, you could configure that from midnight to 8 a.m. on March 3, 2007, 5 agents can be allowed to take time off, whereas from 8 a.m. to 4 p.m., only 3 agents can take time off. You can set time-off limits either for an absolute number of agents or for a maximum percentage of agents.

Additionally, you can set time-off limits at three levels: Site, Team, and Activity.

### Tip

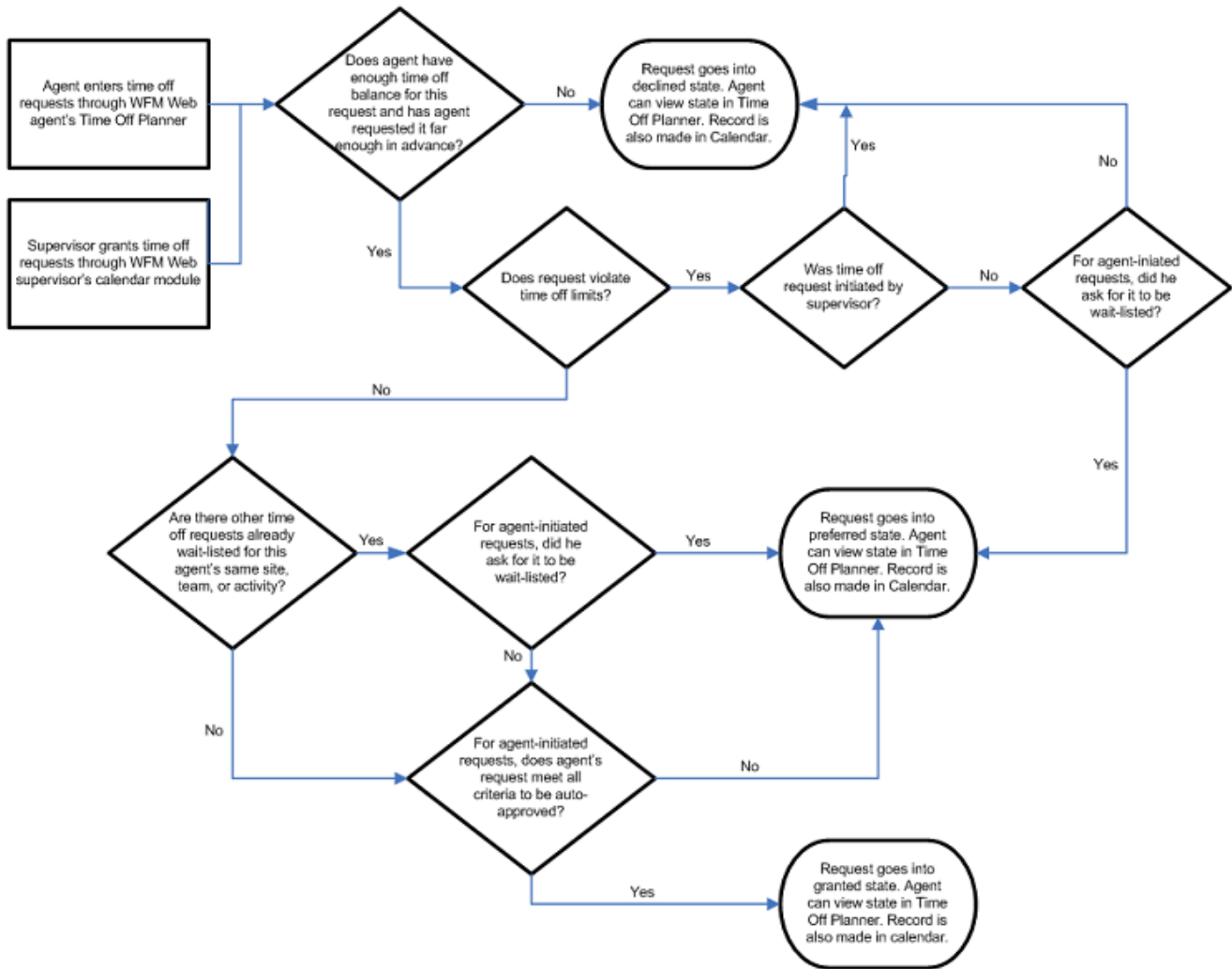
You can set different time-off limits for different time-off types.

## Requests and approvals process

There are two different processes for scheduling time off for agents. The process that is used depends on whether the user is planning for a future schedule period (see [Planning for the Future](#)) or working within a schedule period that is already published to the Master Schedule (see [Planning for the Current Schedule Period](#)).

## Planning for the future

For future time periods (schedule days that are not yet published to the Master Schedule), the process works as shown in the below.



**Figure:** Future Time Periods Process

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The **Time-Off Planner** (in the WFM Web Agent application) and the **Calendar** (in the 'WFM Web Supervisor application) are really two different ways to input the same information. The Time-Off Planner is the agent's method of entering Calendar items. It allows the agent to enter time off, but that is all.

The Supervisor's **Calendar** has much more power: the Supervisor can enter all types of Calendar items, including shifts, working hours, exceptions, days off, and time off.

Both of these schedule-building input tools have the same result: the time-off items are recorded in the WFM Calendar.

## Granted time off versus preferred time off

WFM considers only time-off items with the status granted when building a schedule scenario. It does not include time-off items with the status **preferred**.

### Tip

WFM enables supervisors to consider agents' preferences when building schedules. These preferences include day off, availability, and shift preferences; but not time-off preferences.

## Time-off items in the Calendar hierarchy

When you enter multiple types of Calendar items for the same agent on the same day, WFM uses its internal hierarchy to resolve their status.

- **Example 1: Full-Day Time Off versus Rotating Schedule Day In**—An agent is assigned a Rotating Pattern for the week starting September 17, 2006, and for the date of September 19 his Rotating Pattern assignment states he should be on a *Day In*. But a supervisor grants a full-day time off for September 19. Now, the agent has two conflicting Calendar items for the same day: a working day according to the Rotating Pattern assignment, and a full-day time off according to the Calendar. The Calendar hierarchy specifies that the full-day time-off item should be granted and this should cause the Rotating Pattern assignment for that day should be declined. The statuses are reflected in the Calendar and the supervisor can read the reasons there. Some items in the Calendar do have a higher priority than full-day time-off items.
- **Example 2: Full-Day Exception versus Full-Day Time Off**—A full-day exception is granted for an agent in the Calendar for the same day as a full-day time off. The Calendar hierarchy specifies that the full-day exception should take priority and the full-day time-off item should be declined.

The hierarchy of the WFM Calendar is described in [\[\[PEC-WFM/Current/Supervisor/Calltms\]\]](#) in the *Workforce Management Web for Supervisors (Classic) Help*.

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## Using the Calendar to understand time-off statuses

You can view the *Actual Status* of any item in the Calendar; a status of **Granted**, **Preferred**, or **Declined** confirms that no schedule has been published for an agent on this date. In a built and published schedule, the *Actual Status* of an item is either **Scheduled** or **Not Scheduled**. If a Calendar item was not scheduled, you can view a Reason field which will describe why it was not scheduled (in the **Reason** column).

## Planning for the current schedule period

To enter agent time-off items for days that are already published to the Master Schedule, use either of these methods:

1. Enter time off directly into the **Master Schedule**.

### Tip

The agent can view this Time-Off entry in his schedule by logging in to the **WFM Web for Agents Application**. He/she will also see a change to his time-off balance in the **WFM Web for Agents' Time Off Planner** and he/she can see that time off for this day is scheduled, when he views his **Time-Off Planner**. However, no entry for this time off will be made in the **WFM Calendar**, because the **Calendar** is a planning tool, and is meant for entering items such as exceptions, time off, days off, etc., that are to be considered when building a schedule scenario.

2. Enter the granted time-off request into the **WFM Calendar**.
3. Click **Update Schedule**.

WFM has now automatically updated the Master Schedule with the agent's granted time off.

Using **Update Schedule** from within the Calendar updates the Master Schedule from the Calendar for the agent's time-off request and streamlines the review and approval process, eliminating the need to manually rebuild the schedule.

### Tip

From within the Calendar module, users can update the Master Schedule with a granted time-off items for any agent on any date for which the agent has a schedule published, and the time-off request is compatible with the agent's existing schedule. For more details, see [\[\[PEC-WFM/Current/Supervisor/Calltms\]\]](#) and [\[\[PEC-WFM/Current/Supervisor/UpdtSchOpts\]\]](#) in the *WFM Web for Supervisors (Classic) Help*.

## Agent time-off planner

Agents request time off and see the status of these requests in the WFM Web for Agents Time-Off Planner. If you do not want your agents to have access to the Time-Off Planner, you can disable this through the **Time-Off Planner Enabled** setting. In Genesys Administrator, find your **WFM Web Application**, open **Options > AgentTimeOff**, and set the variable **AllowTimeOffPlanner** to false.

### Tip

If necessary, ask your Genesys Professional Services representative to make this configuration change for you.

## Time-off balances in the agent's planner

The Time-Off Planner displays the balances for an agent's time off, in this way: the agent selects a time-off type and clicks on a date in the yearly planning calendar to view balances for that type, up to that date.

The agent can also view the types of time-off hours prior to the selected date. For example, Granted, Preferred, Declined and Scheduled, Bonus, Advance, or Carried-Over.

When an agent's time-off rule is changed, his time off is recalculated, based on the new rules. For example:

- If a time-off rule is assigned to an agent and you change any of the rule's properties.
- If a time-off rule is assigned to an agent and you use the **Time Off** tab under **Configuration** > **Organization** > **Agents** > **Properties** to change the rule.
- If a time-off rule is assigned to an agent and you use the **Assignments** tab under **Policies** > **Time-Off Rules** > **Properties** to remove the assignment.

In each case, the user is asked to approve the calculation before it is performed.

### Warning

Moving agents to different sites can affect their time-off balances. After the move, they might appear to have lost a portion of their time-off balance since WFM tracks that time off only at the old site. To preserve the time-off hours that agents earn at previous sites, enter these hours as a bonus to the **Agent Rule** under the new site. For details, see [\[\[PEC-WFM/Current/Supervisor/AgtTOBnses\]\]](#) in the *Workforce Management Web for Supervisors (Classic) Help*.

## Recalling requests

An agent can recall a time-off request that is in **Preferred** or **Granted** status, as long as the time-off item has not been scheduled. See *Recalling requests* in the *Workforce Management Agent Help*.

After an agent's time-off request has been granted, scheduled, and published to the Master Schedule, the agent cannot recall the time off. Only the supervisor can do that, by manually changing the agent's schedule for that date, through the Master Schedule; and only the supervisor can schedule a different activity for the agent for that date, in lieu of the time off.

## Wait-listing requests

*Wait-listing* means that if a time-off request is denied because the time-off limits have been reached, the request stays in a **Preferred** status in case an opening becomes available. The request could eventually be granted by a supervisor, although this is not guaranteed.

In detail, this means that if the time-off request would be declined because the time-off limits have already been reached, wait-listing gives it a **Preferred** status. If some time-off slots become available for certain dates due to cancellations, or if the supervisor decides to raise the time-off limits for a certain date, the supervisor can review all of these Preferred time-off items in the Calendar and

grant some of them. If the time slot becomes available agents' time-off requests may be automatically pulled from this waitlist and auto granted accordingly to the first-come, first-served order.

## Viewing request statuses

Agents can view the status of any time-off request, for any calendar date, with some limitations. If an agent requests time off for a date on a schedule that is already been published to the Master Schedule:

- This request will not be scheduled.
- The agent can view the reason it was not scheduled, in the **Reason** column.
- The request, with the same status and reason, will appear in the WFM Calendar, where supervisors can see it.

However, the supervisor will not know to look for the request unless the agent tells him to look for it. Therefore, if an agent sees time-off requests with status **Not Scheduled** in the **Time-Off Planner**, she should alert her supervisor.

The supervisor can then do one of two things:

1. Grant the time off through the WFM Calendar and rebuild/republish the agent's schedule for the affected date(s).
2. Manually add the time off to the Master Schedule.

The Time-Off Planner gives agents a limited view of their time-off status in the WFM Calendar. Therefore, when a supervisor adds or deletes time off in the WFM Calendar, he must rebuild and republish the schedule for the affected date(s).

# Overlays Primer

## Contents

- 1 Impact on prediction data
  - 1.1 Multiplicative overlays
  - 1.2 Overriding overlays
- 2 Impact on historical data
- 3 Calculating an overlay's impact
  - 3.1 Impact of multiplicative overlays
  - 3.2 Impact of overriding overlays



- Administrator

Overlays can be used to indicate abnormalities in historical data or anticipate ones in the future.

### Related documentation:

- 

In Workforce Management, overlays can be used to indicate abnormalities in historical data or anticipate ones in the future. Abnormalities are things like fluctuations in interaction volumes, AHT (other than the usual, seasonal fluctuations), or intra-week and intra-day trends. If events occur that highlight an abnormality, of the type that happens multiple times or can happen in again in the future, you can arrange these overlay events (or *Overlays*) into overlay groups. Some examples are billing, promotion, or catalog drops.

## Impact on prediction data

Overlays impact prediction data directly when a specific overlay event occurs over a prediction interval.

Two types of overlays exist, based on how the impact on prediction data is calculated:

- **Multiplicative**—Increase (or decrease) every step of predicted data by a percentage. The percentage is defined by overlay impact distribution, multiplied by the *strength* of the event. The duration of the interval is affected by event changes.
- **Overriding**—Re-distribute (but does not change) the volume of an event's interval. The total volume does not change, but it might be moved from one event-step to another.

### Multiplicative overlays

This type of overlay factor has existed in WFM since early versions and was called Factor. Each step (daily or hourly) of prediction data covered by the event is adjusted by a certain percentage, which is also multiplied by event strength.

### Overriding overlays

This type of overlay is designed to keep the predicted total of the affected period and adjust the distribution of the volumes within that period. WFM applies the events of this overlay type as the last step of the prediction. It applies the seasonal components (intra-day, daily, or yearly) and multiplicative overlays before the overriding overlays are calculated.

The overriding overlay distributes the volumes according to the weight (or the percentage) of each

event-step (daily or hourly). It adjusts the volume of each event-step, so the event-step receives its portion of the total of the entire event period, according to its weight.

For example, an overriding overlay has 3 event-steps with the following weights: 20, 30, 50. If the predicted total of the entire interval is 1000, then the first event step receives 200, the second 300, and the last one 500.

### Tip

The initially predicted total of the event-step is not considered when the impact of this overlay type is calculated. The weight of the event-step is determined by the overlay itself, and the predicted total of the entire interval that is affected by the event, is considered.

When the event-step (daily or hourly) is calculated, its total is distributed proportionally to 15-minute timesteps to a volume of each timestep before the event was applied. So, the intra-day or intra-hour pattern is preserved.

The overriding overlay event type cannot be calculated when it overlaps with other events of the same type, even if both events belong to different overlays. However, it can overlap with events of multiplicative overlays.

### Event impact distribution

There are three ways to determine the impact of each event-step:

1. By using start-end.
2. By keeping the entire detailed distribution.
3. By performing the calculation for each event-step during the prediction.

These three methods of determining impact distribution are applicable to both multiplicative and overriding overlay type. WFM specifies how each overlay's impact distribution will be determined and applies it to all of the overlay's events.

### Start-end

WFM determines the overlay's impact distribution by specifying the start and end impact values. It gradually changes the impact by the same amount every event-step from the start value to end value. For example, if the start value is 100 and the end value is 200 and it is a daily overlay with a length of 6 days, then the impact on the first day is 100, on the second day it is 120, then 140, 160, 180 and 200 on the last day.

### Distribution

The overlay saves the impact of each event-step separately. You can either determine the impact by precalculating it, by entering it manually, or by using a combination of both methods.

### Always calculating

The overlay impact is always calculated during the prediction. To ensure the calculation is successful, the historical period must have one or more events for the same overlay. The impact of the overlay is determined by the prediction algorithm according to the historical data, and it is then used in the prediction.

### Impact on historical data

Events within an overlay type can have a *ignore historical data* flag. If this flag is set for an event, the historical data interval data covered by the event is not used in the calculation of either volume prediction or impact of overlays (see Calculating an overlay's impact).

If an event does not have the ignore historical data flag set, the data covered by the event is considered for prediction.

### Calculating an overlay's impact

You can determine the impact of overlay by analyzing the historical data and using a prediction algorithm. The algorithm analyzes the period of historical data, which contains one or more overlay events to be calculated.

You can pre-calculated Overlays before starting volume forecasting or during volume forecasting (see, Event impact distribution). If the historical data and method used are the same, the results will be identical.

### Impact of multiplicative overlays

WFM calculates Multiplicative overlays by separating seasonal component (yearly, daily, intra-day) from the event impact for each event of the overlay in the given historical data. The impact is divided by the *strength* of the event and then averaged.

When the impact of an event is applied to the prediction interval, it is multiplied by the *strength* of that event.

### Impact of overriding overlays

The percentage of each event-step in the total of the whole event period is calculated for each event and then averaged. For example, a historical period has two daily overlay events that are 3 days long. The 3 days of the first event are: 150, 200, 150 (that is 30%, 40%, 30% of the total respectively) and the 3 days of the second event are: 150, 150, 200. In this example, the overlay is calculated as 30%, 35%, 35%.

# Multi-Forecasting Primer

## Contents

- **1 Multi-site forecasting**
  - 1.1 Set Up multi-site activities
  - 1.2 Determine the total demand
  - 1.3 Volume splitting
  - 1.4 Staffing splitting
- **2 Multi-skill forecasting**
  - 2.1 Support for multi-skilled agents
  - 2.2 Enabling multi-skill support
  - 2.3 Calculating multi-skill equivalents



- Administrator

Increase forecasting efficiency by enabling agents in multiple sites with multiple skills to perform multiple tasks within a single timestep.

### **Related documentation:**

- 

The Workforce Management approach to multi-site forecasting in a networked contact center, is one in which some call types and activities are distributed to agents working across multiple sites. The Genesys approach to multi-skill forecasting, is one in which agents with multiple skills can increase the center's efficiency by performing multiple tasks within a single timestep.

## Multi-site forecasting

A contact center analyst can use WFM to model a networked contact center, where some call types and activities are distributed to agents working across multiple sites. To model a multi-site environment, follow the steps and guidelines outlined in these sections:

### Set Up multi-site activities

These multi-site activities are work activities that are handled at the site (child) level, and in the object tree, they appear higher in the hierarchy.

### Determine the total demand

To configure Multi-Site Forecasting (MSF) properly, you need data to inform your choices. To gather that data, you can configure WFM to collect:

- Historical Interaction Volume (IV) and Average Handle Times (AHT) for multi-site activities
- Historical average handle times at the child level

After you build a volume forecast at the multi-site activity level and understand the total demand for this call type across all sites, you can configure MSF for two scenarios:

#### **Option A:** Contact centers that do a percentage allocation across their sites

To configure for this scenario, perform these steps:

1. Split the volume of the multi-site activity to the site level.

2. Build staffing forecasts at the site level for each child activity.

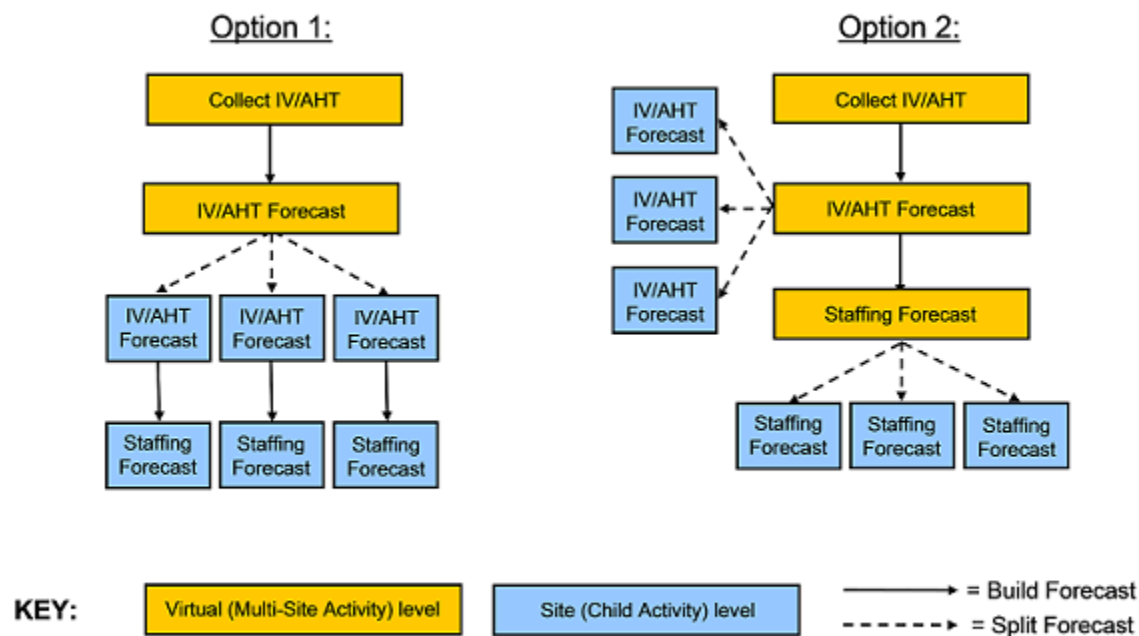
**Option B:** Virtual contact centers that do routing based on resource availability, open hours, etc.

To configure for this scenario, perform these steps:

1. Split the volume of the multi-site activity to the site level.
2. Build a staffing forecast at the multi-site activity level. (See the figure Comparing Two Multi-Site Scenarios.)
3. Split the staffing forecast to each child activity.

**Tip**

The volume split is the required first step, so that the staffing splitting algorithm understands the demand at each site.



**Figure:** Comparing Two Multi-Site Scenarios

Volume splitting

In a multi-site enterprise, when you split the volume of multi-site activity interaction to the child sites, you must decide which Average Handling Time (AHT) to use:

- AHT collected at the multi-site activity level
- AHT collected at the child activity level

To inform your decision, determine if there is a measurable difference in AHT at the various sites in the enterprise. For example, if one site consists of many less-skilled agents (perhaps they are new to their jobs), you may expect to see a longer AHT at this site for some activities. In this case, you would do well to use the child AHT rather than the multi-site AHT.

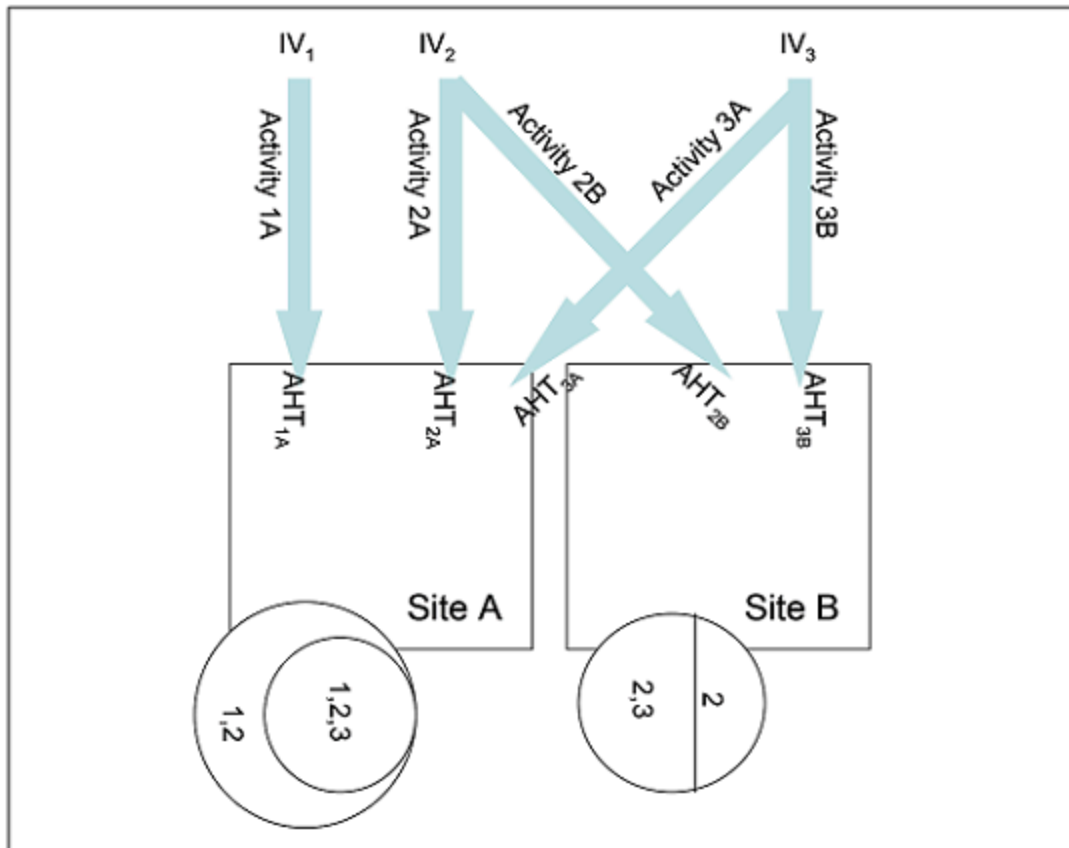
After you split the volume to the child sites, decide if you want to:

- Build staffing forecasts for each activity, at the site level
- Build staffing forecast at the multi-site activity level and then split that forecast to the site level

Be aware, when WFM splits the interaction volume to the child sites, the forecast splitting algorithm considers:

- Agent skills
- Contract availability
- Activity open hours
- Time zones
- Agent hire/termination dates
- Granted, pre-planned items from the WFM Calendar (days off, time off, shifts, working hours, availability, exceptions, and rotating patterns)

In the figure *Model of Contact Center Environment Used by WFM*, you can see a model of the contact center environment that WFM uses when splitting volumes from the multi-site activity level to the site (child) activity level.



**Figure:** Model of Contact Center Environment Used by WFM

Key to figure: Model of the Contact Center Environment

**IV**—Interaction Volume at the multi-site activity level. There is a separate IV for each of three MSAs (1, 2, 3)

**Arrows**—The distribution of the activity work from the multi-site activity level to the site level.

**1, 2, 3**—These numbers represent MSAs.

**AHT<sub>subscript</sub>**—Average Handle Time. When each MSA is split to the site level, there is a separate set of AHT values for each activity/site combination. As described above, this is an option. The user might also choose to use the AHT collected at the multi-site level, in which case, for example, AHT<sub>3A</sub> and AHT<sub>3B</sub> would be equivalent.

**Circles**—The agent pool at each site. At site A, there are two sets of agents. One set of agents has skills that qualify them to work on activities 1 and 2. The other set of agents has skills that qualify them to work on MSAs 1, 2, and 3. At site B, there are also two sets of agents. One set can only work on activity 2, and the other set can work on either MSA 2 or 3.

## Model of the contact center environment explained

As the activity work is distributed from the multi-site level to the site level, WFM must estimate (for each timestep) the percentage of time that an agent will be handling each type of activity for which she is skilled. In some cases, there is only one choice.

**For MSA 1:** No agents at site B are skilled to handle that activity. Thus, all the workload must be distributed to site A.

**For MSA 3:** Agents at both site A and site B who can handle this activity. But the diagram shows other factors to consider in distributing activity 3 work:

- Not every agent at every site can handle activity 3.
- Some of the agents who can handle activity 3 can also handle other activities.

Therefore, when WFM estimates for each agent how much of each timestep should be allocated to a certain type of work, WFM will consider:

- The demand for the activity
- The number of agents who can handle that activity across all sites
- The work allocation of these other agents

## Volume splitting using percentages

You can specify a percentage to allocate volumes from a multi-site activity to each Child (site) activity or apply a template. The interval can be the entire forecast scenario, weekday, or timestep.

For more information about this feature, see the *Web for Supervisor Help* topic **Forecast > Forecast Scenarios > Volume Split Wizard**.

## Staffing splitting

As described above in Scenario B, for virtual contact centers, you can build a staffing forecast at the multi-site activity level and then split that staffing forecast across the child activities. This allows the enterprise to more accurately model a virtual routing environment where there is an efficiency gain in the way that calls are handled. WFM recalculates service objectives at this multi-site level and makes these calculations available in the Performance and Schedule views, and in reports.

When building the staffing forecast at the MSA level, you may specify the indirectly occupied time (IOT) and service objectives.

However, you cannot specify the hourly wage or paid hours a day when building the MSA staffing forecast. Instead, you specify those values during the splitting process, when you split the calculated staffing from the MSA level to the child activity level.

### Tip

Before you split the staffing forecast from the MSA level to the child activity level, you must first split the volume forecast so that the staffing splitting algorithm knows the resource demand at each site. The staffing splitting wizard gives you the option to consider the AHT values of the child activities. You can use it to better estimate how to distribute staffing requirements across child activities. Although the staffing splitting wizard splits calculated staffing by default, it offers you the option to split required staffing.

After the staffing split is accomplished, you can view results data for calculated staffing (and optionally, required staffing) at the child activity level.

You can examine this data at the MSA level or as the sum or weighted average of the child activities, in these views:

- Schedule Coverage
- Intra-Day Schedule
- Schedule Summary
- Performance views

You can manipulate the MSA staffing results in the same way that you can manipulate child activity staffing. Forecast graphs are also available for MSA staffing.

## Multi-skill forecasting

A multi-skilled contact center presents an opportunity for increased productivity.

An agent might be idle in a single-skill environment because she cannot answer calls that are queuing for an activity/skill which she may possess—, but a skill that the schedule prevents her from using.

In a multi-skilled environment, she can use her additional skills to answer those calls.

### Tip

A *high-load environment* does not present many opportunities for increased efficiency, because the agents have very little idle time. However, in an *overstaffed environment*, agents have more idle time and can use their multiple skills to increase efficiency.

## Support for multi-skilled agents

A multi-skilled agent is qualified to work on multiple activities and therefore may perform different types of work during a shift.

In a multi-skill environment, an agent might be available for multiple activities during any timestep. That agent can be scheduled to work for an activity for only part of a time interval, and only the fraction of the time period during which she or he works is counted.

Because of this, the value for staffing can be expressed as a fraction. Consider the following example of a 15-minute timestep:

**Example:** An agent is scheduled to work on Activity A for 10 minutes and for 5 minutes on Activity B. She is counted as 2/3 (or .667) of an agent for Activity A, and as 1/3 (or .333) of an agent for Activity B.

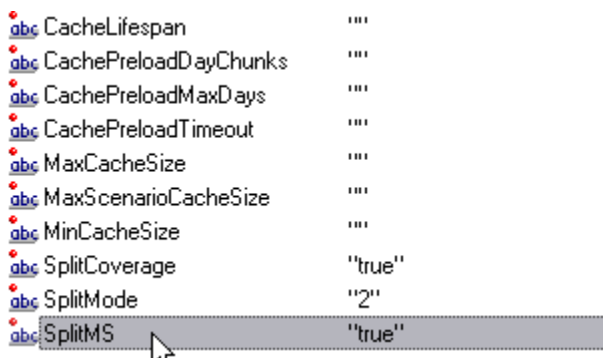
## Enabling multi-skill support

### Tip

If necessary, ask your Genesys Professional Services representative to complete this procedure for you.

To enable multi-skill support, follow these steps:

1. Open Genesys Administrator.
2. Open the **WFM Server Application**.
3. From the **Options** tab, open the section **[ScheduleService]**.
4. Create a new option named SplitMS and set the value to true. (See the figure Enable Multi-Skill Support.)



The screenshot shows a list of configuration options in the Genesys Administrator. The options are listed in two columns. The first column contains the option name, and the second column contains the value. The option SplitMS is highlighted with a mouse cursor, and its value is set to "true".

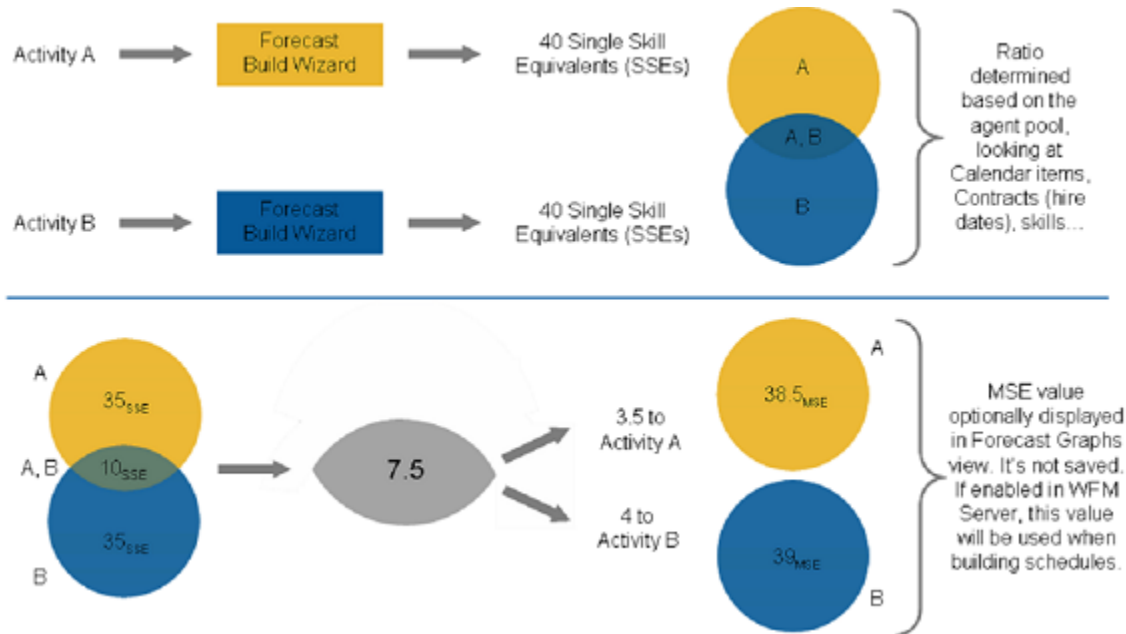
CacheLifespan	""
CachePreloadDayChunks	""
CachePreloadMaxDays	""
CachePreloadTimeout	""
MaxCacheSize	""
MaxScenarioCacheSize	""
MinCacheSize	""
SplitCoverage	"true"
SplitMode	"2"
SplitMS	"true"

**Figure:** Enable Multi-Skill Support

### Calculating multi-skill equivalents

Consider the comparison of Single Skill Equivalents (SSE) to Multi-Skill Equivalents (MSE) in the figure Comparing Multi-Skill and Single-Skill Equivalents.

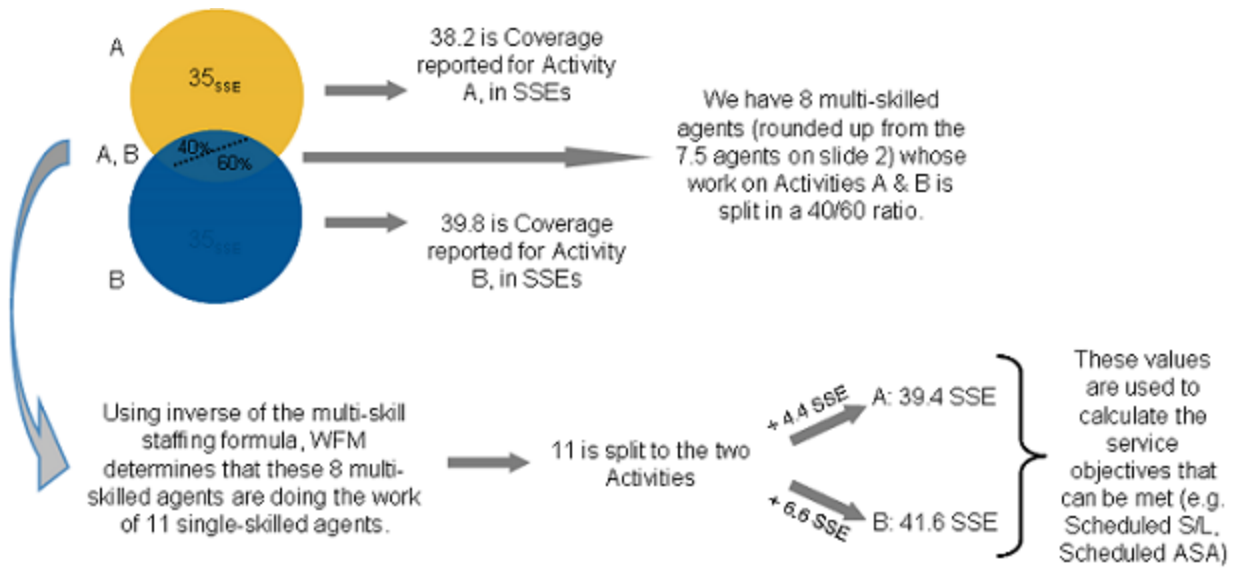
The Multi-Skilled forecasting algorithm takes into account how many agents (with their various skill sets) could be available to work on each Activity, as well as how the occupancy of an average agent would be divided among this Activity and the other Activities on which the agent could work.



**Figure:** Comparing Multi-Skill and Single-Skill Equivalents

When building a schedule, WFM can optionally use the staffing forecast in Multi-Skilled Equivalents (MSE) while taking into account agents that the schedule is being built for, as well as agents for whom schedules have already been built.

If the **Multi-Skilled Equivalents** option is set, in the **Performance** views/reports and **Schedule** views/reports, coverage for an Activity is based on MSEs, calculated from actual agent schedules. See the figure Multi-Skill Gains, which depicts multi-skill gains.



**Figure:** Multi-Skill Gains

# Schedule validation errors and warnings

## Contents

- [1 Error messages](#)
- [2 Warning messages](#)

Find out what the error and warning messages mean that you might see when building schedules.

**Related documentation:**

- 

When Workforce Management (WFM) is building or validating schedules, you might see one or more of the following Error or Warning messages. The descriptions in this topic will help you to understand what causes these messages to occur and (in some cases) what you can do to resolve them.

When WFM generates these messages, the variable text shown in braces { } is replaced with the actual value.

### Error messages

<b>Error[4]</b>	Schedule build was canceled by user.
<b>Error[6]</b>	Wrong scheduling start date {A} and/or end date {B}.
<b>Error[8]</b>	0 is not a valid value for minimal daily workload in contract {A}.
<b>Error[9]</b>	The minimum/maximum constraints for contract {A} make it impossible to schedule.
<b>Error[10]</b>	The minimum weekly workload cannot be reached for contract {A}.
<b>Error[11]</b>	The minimum planning period workload cannot be reached for contract {A}.
<b>Error[12]</b>	The specified day {A} is not in the schedule scenario.
<b>Error[13]</b>	An unknown activity {B} on day {A} was found. WFM cannot update the staffing requirement.
<b>Error[15]</b>	The staffing requirement for activity {B} on day {A} has an invalid number of elements.
<b>Error[16]</b>	An incorrect contract index {A} was specified for the agent {B}.
<b>Error[21]</b>	Invalid agent index: {A}.
<b>Error[28]</b>	Invalid shift index: {A}.
<b>Error[29]</b>	Invalid meal index: {A}.
<b>Error[32]</b>	An invalid day-of-the-week index {A} was specified for shift {B}.
<b>Error[34]</b>	Too many activities configured: {A} is the maximum number of activities. Configured {B}.

<b>Error[36]</b>	WFM cannot overwrite shift for agent {A} on {B}. Not enough availability to schedule the shift.
<b>Error[38]</b>	Invalid open hours {A} - {B} for activity {C}.
<b>Error[43]</b>	Too many shifts configured: {A} is the maximum number of shifts.
<b>Error[45]</b>	Invalid availability time window {A} - {B} on {D} for agent {C}.
<b>Error[46]</b>	Rescheduling data of agent {A} on day {B} is inconsistent with the current meal definition.
<b>Error[47]</b>	Internal error. The number of time windows for a meeting between dates {A} and {B} is incorrect.
<b>Error[50]</b>	Weekly paid hours constraint for agent {A} has invalid dates {B} and {C}.
<b>Error[52]</b>	Invalid break index: {A}
<b>Error[53]</b>	Invalid activity index: {A}
<b>Error[55]</b>	Activity {A} already belongs to activity set {B} and therefore, cannot be included in activity set {C}.
<b>Error[56]</b>	Invalid break sequence {A}: All alternatives of the combine list must share the same unpaid length.
<b>Error[58]</b>	Invalid task sequence {A}: Mismatched start/end anchors.
<b>Error[60]</b>	No agent has been defined: solve aborted.
<b>Error[62]</b>	The shortest shift item sequence for shift {A} has a minimum duration of {B}. A sequence, covering minimum shift duration, is required.
<b>Error[63]</b>	The shift {A} item sequence for the longer shift contains less unpaid time ({B} minutes) than the shorter sequence.
<b>Error[64]</b>	The added item sequence number is incorrect. Specified {A} when {B} is expected.
<b>Error[65]</b>	Schedule build was canceled due to scheduling error from another site in the scenario.
<b>Error[66]</b>	Internal scheduling engine error.
<b>Error[1000]</b>	The schedule scenario failed to load. Scenario ID={A}
<b>Error[1001]</b>	The loaded schedule scenario does not contain the required site. Scenario ID={A}, site ID={B}.
<b>Error[1002]</b>	The specified schedule interval is {A} days. At least one week is required.
<b>Error[1003]</b>	The specified schedule interval is {A} days long. The schedule period cannot be longer than 6 weeks.
<b>Error[1004]</b>	The specified schedule interval is {A} days long. The schedule period must contain the exact number of weeks.
<b>Error[1005]</b>	An invalid long period type={A} is detected (more

	than 6 weeks or less than 0) for site {B}.
<b>Error[1006]</b>	WFM Server returned 0 sites.
<b>Error[1007]</b>	Site to be scheduled was not found in database. Site ID={A}.
<b>Error[1008]</b>	Activities not found in the database for site {B}.
<b>Error[1009]</b>	Activity {B} belongs to unknown activity set. Set ID={A}.
<b>Error[1011]</b>	The task anchor value {A} is incorrect for the sequence {B} task index={A}.
<b>Error[1012]</b>	An unknown break ID={A} was assigned to shift {B}.
<b>Error[1013]</b>	An unknown meal ID={A} was assigned to shift {B}.
<b>Error[1014]</b>	Meal ID={A} is in the combined list but was not assigned to shift {B}.
<b>Error[1015]</b>	Break ID={A} is in the combined list but was not assigned to shift {B}.
<b>Error[1016]</b>	WFM cannot create the schedule. The schedule scenario or configuration is not valid.
<b>Error[1017]</b>	The synchronized work start threshold value {A} is out of range [-1, 6]—for site {B}.
<b>Error[1018]</b>	WFM cannot schedule the task sequences in single-skill scheduling mode. Use multi-skill scheduling instead.
<b>Error[1020]</b>	An unknown calendar item Exception type ID={A} was assigned to agent {B} on day {C}.
<b>Error[1021]</b>	There are no activities configured for scheduling. Check schedule scenario and configuration.
<b>Error[1022]</b>	There are no contracts configured for scheduling. Check schedule scenario and configuration.
<b>Error[1023]</b>	There are no shifts configured for scheduling. Check schedule scenario and configuration.
<b>Error[1024]</b>	There are no agents configured for scheduling. Check schedule scenario and configuration.
<b>Error[1025]</b>	A long period start date is not defined for site {A}.
<b>Error[1035]</b>	There are no daily agent schedules available for schedule re-optimization.
<b>Error[1036]</b>	There are no profiles configured for scheduling for site {A}. Check the schedule scenario and configuration.
<b>Error[1037]</b>	The estimated number of profile agents is zero.
<b>Error[1038]</b>	The time zone with specified ID={A} was not found.
<b>Error[1039]</b>	There are sites from different business units specified in the scheduling request.

<b>Error[1040]</b>	Internal error. WFM cannot load the configuration of some of sites in the schedule request.
<b>Error[1041]</b>	Internal error. Some sites in the schedule request do not exist in the schedule scenario.
<b>Error[1066]</b>	Internal error.
<b>Error[1068]</b>	WFM Builder failed to save the schedule.
<b>Error[1069]</b>	WFM Server communication problem: {A}.
<b>Error[1070]</b>	WFM Server communication problem.
<b>Error[1071]</b>	Configuration Server communication problem: {A}.
<b>Error[1072]</b>	There is more than one WFM Server specified in the WFM Builder connections.
<b>Error[1073]</b>	WFM Server is not specified in the application connections.
<b>Error[1074]</b>	WFM failed to retrieve WFM Server {A} information.
<b>Error[1075]</b>	WFM failed to retrieve business unit ID={A}.

## Warning messages

<b>Warning[4]</b>	<p>More days off have been assigned for agent {A} on week with first day {B} than are permitted by the agent's constraints.</p> <p>The user has assigned more days off to an agent in the specified week than are permitted by the agent's constraints. Contract weekend and/or day-off rules limit the number of days off allowed.</p>
<b>Warning[8]</b>	<p>No shifts match the constraints for agent {A} on day {B}; agent assigned a day off.</p> <p>Scheduler is forced to schedule a day off for {A} agent because there are no shifts matching the agent's contract constraints for this day {B}. If a shift is configured to be available on this day, then this warning signals a bad configuration of either the shift or an associated meal. Verify that the duration for the shift and meal are valid.</p>
<b>Warning[16]</b>	<p>The specified starting timestep value {A} for meal {B} is invalid. It must be positive number greater than 0.</p>
<b>Warning[28]</b>	<p>Forced day off for agent {A} on day {B} lowered weekly/monthly goals by {C} hours.</p> <p>Conflicting contract constraints will force the agent {A} to have the day off on {B}. This is possibly due to a combination of min/max/consecutive day-off and weekend day-off rules. It can also be caused by shift rejections.</p>
<b>Warning[31]</b>	<p>Failed to satisfy constraint of type {A} for agent {B}.</p>

	Scheduler was unable to assign the schedule items for the agent required by the specified constraint. Usually, this is due to a conflicting combination of constraints.
<b>Warning[34]</b>	The start-step constraint {A} is not satisfied for initial values of shift {B}.  Check that the shift start time is compatible with the timestep requested.
<b>Warning[43]</b>	Planning period work constraint for the dates {A} - {B} for agent {C} cannot be satisfied.  The workload constraints for this agent cannot be fulfilled for the specified days due to conflicts in Planning Period constraints settings.
<b>Warning[44]</b>	The specified agent's {A} schedule cannot be given to any other agent, because it contains fixed elements that cannot be exchanged.
<b>Warning[49]</b>	A part-day paid exception {C} request that was violating shift settings was removed, so that Scheduler could assign agent {B} a shift on {A}.
<b>Warning[50]</b>	A part-day paid time-off {C} request that was violating shift settings was removed, so that Scheduler could assign agent {B} a shift on {A}.
<b>Warning[53]</b>	There are no shifts of {A} contract that can match preferences on {B}.
<b>Warning[55]</b>	Meal {A} does not fit in to shift {B}. The shift cannot be scheduled.
<b>Warning[56]</b>	The time-window for day {A} of agent {B} is reduced to [{C},{D}] to match activity open hours.
<b>Warning[57]</b>	the break and meal sequence for [{A},{B}] duration of shift {C} was ignored as infeasible. Sequence: {D}
<b>Warning[61]</b>	The planning period paid hours limit granted preferences to {A} for agent {B}. Decreasing quotas to {C}.
<b>Warning[63]</b>	Single-skill mode cannot be used when task sequences are defined. Changing to multi-skill mode.
<b>Warning[64]</b>	The {A} constraint for agent {D} cannot be satisfied for the specified date range {B}-{C}.  The specified constraint for this agent cannot be satisfied for the specified date range.
<b>Warning[65]</b>	Some breaks could not be scheduled for agent {A} on {B}.
<b>Warning[66]</b>	The maximum shift item distance constraint could not be satisfied for agent {A} on {B}.
<b>Warning[67]</b>	The minimum shift item distance constraint could not be satisfied for agent {A} on {B}.

<b>Warning[68]</b>	Shift items could not be scheduled at configured time intervals for agent {A} on {B}.
<b>Warning[69]</b>	Team/shared transport shift item synchronization ignored for agent {A} since contract shift item synchronization is enabled.
<b>Warning[70]</b>	Shift items could not be synchronized with other agents of the team/shared transport for agent {A} on {B}.
<b>Warning[71]</b>	{A} constraint cannot be satisfied for team/shared transport {D} starting at {B} and ending at {C}.
<b>Warning[77]</b>	Failed to satisfy constraint of type {B} for agent {A} on {C}.
<b>Warning[78]</b>	{A} constraint cannot be satisfied for team/shared transport {B} on {C}.
<b>Warning[79]</b>	{A} constraint cannot be satisfied for team/shared transport {D} with contract {E} starting at {B} and ending at {C}.
<b>Warning[81]</b>	Contracts with different weekend start days were assigned for agent {A} during the scheduling period {B} - {C}.
<b>Warning[82]</b>	Contracts with different maximum consecutive work days were assigned for agent {A}. Value configured on the first day of scenario will be used.
<b>Warning[83]</b>	Contracts with different minimum consecutive work days were assigned for agent {A}. Value configured on the first day of scenario will be used.
<b>Warning[90]</b>	Meeting {A} for agent {B} could not be scheduled.
<b>Warning[91]</b>	Meeting {A} for agent {B} could not be scheduled on {C}.
<b>Warning[92]</b>	Meeting {A} for agent {B} could not be scheduled during {C} - {D}.
<b>Warning[93]</b>	The parameters of multi-site meeting {A} are invalid. The min/max group size cannot be satisfied with current number of agents and number of instances.
<b>Warning[94]</b>	The parameters of the meeting {A} are invalid. The min/max group size cannot be satisfied with current number of agents and number of instances.
<b>Warning[95]</b>	Multi-site meeting {A} was not scheduled. Could not find enough agents for one instance of the meeting.
<b>Warning[96]</b>	Meeting {A} was not scheduled. Could not find enough agents for one instance of the meeting.
<b>Warning[97]</b>	Multi-site meeting {A} could not be scheduled.
<b>Warning[98]</b>	Meeting {A} could not be scheduled.
<b>Warning[99]</b>	The parameters of multi-site meeting {A} on {B} are invalid. The min/max group size cannot be satisfied with current number of agents and

	number of instances.
<b>Warning[100]</b>	The parameters of meeting {A} on {B} are invalid. The min/max group size cannot be satisfied with current number of agents and number of instances.
<b>Warning[101]</b>	The parameters of multi-site meeting {A} during {B} - {C} are invalid. The min/max group size cannot be satisfied with current number of agents and number of instances.
<b>Warning[102]</b>	The parameters of meeting {A} during {B} - {C} are invalid. The min/max group size cannot be satisfied with current number of agents and number of instances.
<b>Warning[103]</b>	Multi-site meeting {A} on {B} was not scheduled. Could not find enough agents for one instance of the meeting.
<b>Warning[104]</b>	Meeting {A} on {B} was not scheduled. Could not find enough agents for one instance of the meeting.
<b>Warning[105]</b>	Multi-site meeting {A} on {B} was not scheduled. Could not find enough agents for one instance of the meeting.
<b>Warning[106]</b>	Meeting {A} on {B} was not scheduled. Could not find enough agents for one instance of the meeting.
<b>Warning[107]</b>	Multi-site meeting {A} could not be scheduled on {B}.
<b>Warning[108]</b>	Meeting {A} could not be scheduled on {B}.
<b>Warning[109]</b>	Multi-site meeting {A} could not be scheduled during {B} - {C}.
<b>Warning[110]</b>	Meeting {A} could not be scheduled during {B} - {C}.
<b>Warning[111]</b>	{B} out of {C} instances of multi-site meeting {A} could not be scheduled.
<b>Warning[112]</b>	{B} out of {C} instances of the meeting {A} could not be scheduled.
<b>Warning[1000]</b>	The Calendar item containing invalid shift ID={A} was assigned to agent {B} on day {C}.
<b>Warning[1001]</b>	The Exception will be ignored for overnight shift on day {A} for agent {B}. The strict work time cannot accommodate the partially covered Exception.
<b>Warning[1002]</b>	The schedule start date weekday is not the same as the long period start day. Moving the long period back {A} days.
<b>Warning[1003]</b>	Task sequence {A} was removed either because it contains activity set {B} with no activities, or the assigned activities are not present in schedule scenario.
<b>Warning[1005]</b>	Neither the break and meal are null elements in the

	break/meal list of shift {A}.
<b>Warning[1006]</b>	Shift {A} task sequence ID={B} was not found.
<b>Warning[1007]</b>	Agent {A} has no assigned contract. The agent will not be scheduled.
<b>Warning[1008]</b>	The contract ID={A} assigned to agent {A} is unknown at site {B}.
<b>Warning[1009]</b>	Agent {A} has an accrual rule ID={B} that is not known to WFM Server.
<b>Warning[1010]</b>	The team ID={A} of agent {B} does not exist at site {C}.
<b>Warning[1012]</b>	Removed activity set {A} with no activities. Activities are either not present in schedule scenario or not configured properly.
<b>Warning[1013]</b>	Removed task sequence {A} ID={B} since it contains invalid activity sets. Check prior warnings for activity set configuration problems.
<b>Warning[1014]</b>	Removed agent {A} with no activities. Activities are either not assigned to this agent, missing in schedule scenario, or not configured properly.
<b>Warning[1015]</b>	The minimum shift {A}'s paid duration is not covered by the combined list. The minimum shift paid time was changed to {B} hours {C} minutes.
<b>Warning[1016]</b>	Task sequence ID={A} was removed from shift {B}. The task sequence may be misconfigured or contain an unavailable activity set.
<b>Warning[1017]</b>	Shift {A} was removed since it has no assigned mandatory task sequences.
<b>Warning[1018]</b>	One or more shifts assigned to contract {A} could not be used due to configuration problems.  Not all shifts that were assigned to the contract could be used for scheduling. This warning usually is issued after more detailed shift configuration warnings.
<b>Warning[1019]</b>	Agent {A} will not be scheduled. Scenario activities cannot be used in any of the task sequences in the contract shifts.  The Schedule scenario does not contain activities that are required to schedule shifts with mandatory task sequences.
<b>Warning[1020]</b>	Activity sets will be used for scheduling even though task sequences exist in the site. Task sequences exist in the database but are not assigned to the shifts.
<b>Warning[1021]</b>	Contract {A} was removed. Shifts assigned to this contract are not configured properly.  The contract has no usable shifts and therefore, is removed from scheduling. Shift configuration problems are described in other warnings.

<b>Warning[1022]</b>	<p>Agent {A} was removed with a contract that was not correctly configured.</p> <p>The contract that was assigned to the agent cannot be used. This warning usually follows Warning[1021].</p>
<b>Warning[1023]</b>	<p>Agent {A}'s schedule was not reoptimized.</p> <p>During Intra-Day scheduling, the agent's schedule for a particular day could not be modified, because the current configuration prevents scheduling of a valid shift on that day.</p>
<b>Warning[1024]</b>	<p>Weekly rotating paid hours {A}:{B} - {A}:{B} for agent {C} on week {C} - {C} are not compatible with the contract on this week.</p>
<b>Warning[1025]</b>	<p>The Calendar item for agent '{A}' on the last day of the schedule overlaps the shift on the next day.</p>
<b>Warning[1026]</b>	<p>Profile {A} was removed because it has no activities. Activities are either not assigned to the profile, missing in schedule scenario, or not configured properly.</p>
<b>Warning[1027]</b>	<p>Profile {A} was removed because its contract is incorrectly configured.</p>
<b>Warning[1028]</b>	<p>Profile {A} will not be scheduled. Scenario activities cannot be used in any of the task sequences of the contract shifts.</p>
<b>Warning[1029]</b>	<p>Contract ID={A}, that is assigned to profile {B}, is unknown at site {C}.</p>
<b>Warning[1030]</b>	<p>The understaffing limit could not be reached during profile optimization scheduling.</p>
<b>Warning[1031]</b>	<p>Meeting {A} cannot be scheduled after time zone conversion.</p>
<b>Warning[1032]</b>	<p>Meeting {A} time zone cannot be determined.</p>
<b>Warning[1033]</b>	<p>Meeting {A} cannot be scheduled at site {B} due to an inaccessible Exception type.</p>
<b>Warning[1034]</b>	<p>No activities are available for agent {A} on {B}. The agent is assigned a day off.</p>
<b>Warning[1035]</b>	<p>No contract is assigned for agent {A} on {B}. The agent is assigned a day off.</p>
<b>Warning[1036]</b>	<p>Meeting {A}'s start or end date is not specified. WFM cannot schedule this meeting.</p>