Workforce Management Administrator's Guide

Scheduling

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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
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> 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.