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inContact Workforce Management v2

Scheduler Web Site User Manual

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inContact WFM v2 Scheduler Web Site User Manual

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1. Overview

The WFM v2 Scheduler Website, which will be referred to simply as the Website, is the user interface providing access to all of its functionality. Its basic function is to allow users to submit scheduling requests, manage those requests, and view the output (schedules and other data) from the WFM v2 Workforce Management (WFM) Portal.

The purpose of this User Manual is to provide a comprehensive description of the WFM v2 Scheduler. This document is organized by Website feature. The following documentation provides information on various other modules and functionality:

- WFM v2 Forecaster User Manual
- WFM v2 Planner User Manual
- WFM v2 Capacity Planner User Manual
- WFM v2 WFM Portal Admin User Manual

2. Schedule Profiles

A Schedule Profile is a set of configuration options for generating schedules. A user may create multiple Schedule Profiles, each storing a different configuration, and use them to generate schedules for any environment. A Schedule Profile is a convenient way for a user to set up a particular configuration once and then use that configuration to generate schedules. Using Schedule Profiles, the user does not have to enter all the configuration parameters for each schedule generation.

Users that have Administrator, Manager or Scheduler access level can create, edit, and delete Schedule Profiles. Users with the Viewer access level can view the details of Schedule Profiles associated with generated schedules for the environments assigned to them, but cannot create their own Schedule Profiles, or edit or delete Schedule Profiles. All users can view the details of a Schedule Profile by following the link from the Schedule Profile name on the *Manage Schedules* page.

For users with Administrator, Manager or Scheduler access level, the *Schedule Profiles* choice appears in the *Planning -> Scheduler -> Schedule Profiles* menu. To view the *Schedule Profile Manager* module, click on the *Schedule Profiles* menu item. By default, the *Manager Schedule Profiles* module displays the list of Schedule Profiles that the user has configured. This page should appear similar to as shown in Figure 2.1.

Figure 2.1 – Schedule Profile Manager

The following sections describe features of the *Schedule Profile Manager* in detail.

2.1. Create New Schedule Profile

The user can create a new Schedule Profile by entering a name and a description for the new Schedule Profile and then selecting the *Add Profile* button, as shown in Figure 2.2.

Figure 2.2 – Create New Schedule Profile

If there is an error creating the Schedule Profile, a message will be displayed above the entry fields. If the Schedule Profile is successfully created, then it will be opened immediately in the edit mode, as described in section 2.3., below. Upon returning to the *Schedule Profile Manager*, the new Schedule Profile will appear in the Schedule Profiles list

2.2. View Schedule Profile Details

One of the features provided by the *Manage Schedule Runs* module is the ability to view the details of a Schedule Profile in a non-editable form. The user can view the details of a Schedule Profile for selected run by double clicking on the Schedule Profile under Configuration. Doing this causes the *Schedule Profile Manager* to display the details of the Schedule Profile, as shown in Figure 2.3.

Figure 2.3 – View Schedule Profile

The user may click on *Back* to close the detailed view for the Schedule Profile and return to the *Manage Schedule Runs* page.

2.3. Edit Schedule Profile

The *Schedule Profile Manager* allows the user to edit his or her Schedule Profiles. The user can edit a Schedule Profile by selecting the *Edit* icon button for a Schedule Profile. When editing a Schedule Profile, the page appears as shown in Figure 2.4.

Figure 2.4 – Edit Schedule Profile

To cancel editing of a Schedule Profile without saving any changes entered since the most recent update, select the *Cancel* button. Following is a description for each of the configuration items in a Schedule Profile.

2.3.1. Optimization Parameters

The items grouped under Optimization Parameters are used to configure the optimization strategy to be applied when scheduling an environment.

2.3.1.1. Optimization Time

Optimization Time is the amount of time the Scheduler should spend optimizing schedules for a skill group (SG), once the first schedule for that SG is found. Other factors may cause the Scheduler to finish before the optimization time is expired. For instance, a schedule may be found that satisfies the other optimization parameters such as *Percent Gap*.

2.3.1.2. Agent Time or Cost Minimization

The Scheduler searches for schedules by minimizing either total *Agent Time* or *Total Agent Cost*. Agents may have different hourly and fixed (benefits) costs depending on numerous factors including skills, organizational unit (OU), and whether or not they are full-time or part-time agents. This information can be configured using Agent Costs Tables, described below. Since hourly and fixed agent costs differ, different schedules may be found when optimizing for cost than when optimizing for agent time. When the *Total Agent Cost* option is selected, it is applied to each skill group to schedule the least cost agents in that skill group.

2.3.1.3. Peak or Balanced Scheduling

Peak or Balanced Scheduling applies when agent requirements cannot be met with available agents. Choosing the *Peak* option causes the Scheduler to emphasize meeting the

requirements during peak periods, while choosing the *Balanced* option causes it to emphasize all planning periods equally. When all agent requirements can be met with available agents, the emphasis is on cost or agent time minimization, and this parameter does not apply.

Warning: If there are advanced tour groups in a schedule run with agent shortages, using a Schedule Profile with the Agent Time Minimization and Balanced Scheduling options may not result in the longest weekly agent schedules. In such cases, the user should use a Schedule Profile with the Cost Minimization and No Emphasis options to generate longest weekly schedules.

2.3.1.4. Schedule Generation

Schedule Generation configures the degree of agent availability to be considered by the Scheduler when generating schedules. The options for *Schedule Generation* are as follows:

- *Unconstrained Tour Groups*: This option directs the Scheduler to consider only agent requirements, shift templates, and tour groups, and not include the number of agents assigned to particular tour groups.

- *Agent Tour Group Assignments*: This option directs the Scheduler to not only consider the agent requirements, shift templates, and tour groups, but also the number of agents assigned to particular tour groups.

- *Incremental Scheduling with Existing Schedules and Agents*: This option directs the Scheduler to incorporate the existing schedules for user specified agents (agents on "fixed" schedules) to meet the forecasted agent requirements. The Scheduler considers only those agents who are not on a fixed schedule to generate schedules to meet the remaining agent requirements (if any). The agents on fixed schedules are specified by a user-created table.

- *Incremental Scheduling with Existing Schedules and New Agents*: This option is similar to the Incremental Scheduling with Existing Schedules and Agents option, except that agent requirements remaining unsatisfied after applying agents on fixed schedules are met by considering both existing agents, who are not on a fixed schedule, and new agents, as specified by a user-created table.

2.3.2. System Settings

2.3.2.1. Forecast Period

Forecast Period is the length of time used by the Forecaster to generate forecasts. Currently, the *Forecast Period* is provided in the Schedule Profile for information only. *Forecast Period* may be set for all users by a user with Administrator access level through the *Application Settings* module described in the *WFM v2 WFM Portal Administrator User Manual.*

Note: If the selected bucket size for the Generate Forecasts in Buckets of option for a forecast run is different than the forecast period specified through the Application Settings, forecasts generated cannot be used for scheduling agents.

2.3.2.2. Scheduling Period

Scheduling Period is the length of time taken as the smallest unit of time allowed in generated schedules. Schedule start, end, increment, and break times are generated as integer multiples of the *Scheduling Period*.

Currently, the *Scheduling Period* is provided in the Schedule Profile for information only. It should be set to match the granularity desired in schedules. Only users with Administrator access level can change the value through the *Application Settings* module described in the *WFM v2 WFM Portal Administrator User Manual.*

2.3.3.   Scheduling Parameters

The configuration items grouped under Scheduling Parameters specify the structure, or requirements, of the generated schedules.

2.3.3.1. Balance Distribution of Schedules With Days Off

The Scheduler can be directed to balance days-off patterns by swapping compatible schedules between multiple organizational units (OUs). The options are to balance *All Days-Off Combinations*, or to balance *Weekends Only*. Schedules are considered compatible when they are configured with the same tour group and template, start and end within the local operating hours, and have the same skill requirements. If a non-zero Minimum Number of Agents is specified for each stream and scheduling period, the schedules generated to meet this requirement are not considered for swapping among OUs.

2.3.3.2. Skills-based Scheduling

Skills-based Scheduling directs the Scheduler to develop schedules based on skill groups, which are collections of Contact Groups and define the combinations of skills that each agent may possess. When this option is not selected, the Scheduler generates schedules with agents that meet requirements exclusively from their assigned contact groups for a non-skills based environment.

Note: Selecting the Unconstrained Tour Groups *option with* Skills–based scheduling *may result in meeting service level goals with most skilled agents only.*

2.3.3.3. Minimum Number of Agents Per Period Per Stream

Minimum Number of Agents Per Period Per Stream specifies the minimum number of agents the Scheduler will schedule for each scheduling period for each OU. The Scheduler first considers the agents who are on fixed schedules to meet the minimum agents specified by the user. If these agents' schedules are not sufficient to meet the minimum number of agents specified, additional schedules are generated by first considering the agents who are specified as Must Work, and then, if there is a need, the remaining agents who are neither on fixed schedules nor selected as Must Work.

Warning: If there are advanced or mixed tour groups in a schedule run with agent shortages, using a Schedule Profile with a non-zero value for the Minimum Number of Agents Per Period Per Stream option may not result in the longest weekly agent schedules.

2.3.3.4. Minimum Separation

Minimum Separation Between Consecutive Shifts specifies the minimum amount of time required between shifts on consecutive work days for an agent. This value must be a whole number of hours and must also be a multiple of the *Scheduling Period*.

Note: When an agent has availabilities applied as Hard-Constraints or a pre-assigned schedule, the minimum shift separation is not applied.

2.3.3.5. Frontloading

Frontloading When Understaffing Exists specifies that the Scheduler should attempt to meet requirements exactly during a user-specified part of the day, as specified by the start and end times. Satisfaction of all requirements over the frontloading period by the Scheduler is not guaranteed. The Start and End Times options appear when the *Yes* option is selected.

2.3.4.   Simulation Parameters

2.3.4.1. Number of Replications

The *Minimum Number of Replications* parameter is available when Skills-based scheduling is selected. Skills-based scheduling includes simulation and a set of simulation replications. This option is available for the user to specify a longer simulation phase including more replications, if desired.

2.3.4.2. Agent Selection

The *Agent Selection* option allows the user to specify the routing rule to be used for assigning contacts to agents in Skills-based simulation. Two selections are available: i) Highest Skill–Most Idle, and ii) Most Idle. The Highest Skill–Most Idle option results in selecting the agent with the highest skill level for a contact waiting. If there are two or more agents with the same (highest) skill level available, the idlest agent is selected. The Most Idle option results in selecting the agent who is the most idle among the agents with skill for a contact waiting. The Most Idle option does not take the skill level of the agent into consideration.

2.3.4.3. Call Selection

The *Call Selection* option allows the user to specify the routing rule to be used for assigning contacts to agents in Skills-based simulation. Two selections are available: i) Highest Skill–Longest Wait Time, and ii) Longest Wait Time. The Highest Skill–Longest Wait Time option results in selecting the contact that an available agent has the highest skill level for. If there are two or more contacts with the same (highest) skill level waiting, the contact with the longest wait time is selected. The Longest Wait Time option results in selecting the contact with the longest wait time among contacts that the agent has skill for. The Longest Wait Time option does not take the skill level of the agent into consideration.

2.3.5.   Advanced Settings

The *Advanced Settings* link opens the Advanced Scheduling Parameters and Advanced Simulation Parameters settings. To close the Advanced Settings click on the *Hide Advanced Settings* link. (Figure

2.3.5.1. Advanced Scheduling Parameters

The items grouped under Advanced Scheduling Parameters are used to further specify the optimization strategy to be applied when scheduling an environment.

2.3.5.1.1. Percent Gap

Percent Gap is the maximum possible amount of reduction in the cost or agent time of a schedule with respect to the estimated cost or agent time for the best theoretical schedules (lower bound). It is a measure of the estimated maximum improvement from the current schedule that can be achieved if the Scheduler is allowed to continue to search for better schedules. The user can specify a value for *Percent Gap* to indicate that the Scheduler should stop searching for a better schedule when the gap reaches below this level.

2.3.5.1.2. Balance Distribution of Start Times

The *Balance Distribution of Start Times* option directs the Scheduler to balance shift start-time patterns by swapping compatible schedules between multiple OUs. Compatible schedules are described in section 2.3.3.1. above.

2.3.5.1.3. Balance Break Spread Times

The *Balance Break Spread Times* option directs the Scheduler to balance break patterns by swapping breaks between compatible schedules in multiple OUs. Compatible schedules are described in section 2.3.3.1. above.

2.3.5.1.4. Generate Schedules with Consistent Start Time

The *Generate Schedules with Consistent Start Times* option specifies whether the daily start times for each agent in a schedule should be the same, or should be allowed to vary. When *Yes* is selected for this option, it overrides all consistent start time specifications in the tour group definitions specified.

2.3.5.1.5. Report Schedules in Local Time Zone

This configuration item specifies whether the generated schedules should be reported in the local time zone of the agent scheduled, according to the OU that an agent belongs to, or if they should be reported in the main database time zone, which is configured by users with Administrator access level, as described in the *WFM v2 WFM Portal Administrator User Manual*. This applies to the schedules reported in Implementation Format only. All other schedule information is reported in the main database time zone.

2.3.5.1.6. Maximum Number of Scheduling Iterations

The *Maximum Number of Iterations* specifies the maximum number of cycles that should be used in optimizing schedules. It provides finer-grained control over the length of the optimization process than does the optimization time parameter. Given that the percentage of CPU time that the Scheduler obtains depends somewhat on the other processes running on the servers, the number of iterations may naturally vary over the same amount of time.

2.3.5.1.7. Prioritize Email in Skills-based Scheduling

This feature allows the user to specify whether or not Email has a priority over calls in a Skills-based Scheduling run. The choice is determined by the setting in the schedule profile, under Advanced Scheduling Parameters -> Prioritize Email in Skills-based Scheduling. The default value is "No" which directs the scheduler not to prioritize Email.

2.3.5.1.8. Advanced Skills Backup Scheduling

This feature allows the user to specify the type of backup to be applied in a non-skills-based run. The type is determined by the setting in the schedule profile, under Advanced Scheduling Parameters -> Skill Backup type. The default value is "Default" which directs the scheduler to assign fractional backup slack at interval level. The following options are available.

- *None*: No backup slack is applied (any excess agent time is ignored)
- *Shift*: Whole agent shifts are assigned as backup, only when the entire shift is excess time. Only the working time (not breaks) counts as backup.
- *Specified*: The user can specify a minimum amount of time to consider for backup and only slots at least this long will be used. Slot time may increase in interval size (e.g. 15 minutes) increments.
- *Interval*: Equivalent to Specified, if the time specified is equal to the interval size (e.g. 15 minutes).

2.3.5.1.9. Use Longest Tours Only:

This feature allows the user to specify whether the scheduler is to use only the longest tour groups or not. The type is determined by the setting in the schedule profile, under Advanced Scheduling Parameters -> Use Longest Tours Only. The default value is "No" which directs the scheduler to use all tour groups.

2.3.5.2. Advanced Simulation Parameters

The items grouped under Advanced Simulation Parameters are used to further specify the simulation strategy to be applied when scheduling an environment.

Warning: Since the Advanced Simulation Parameters may increase the total run time for a schedule run significantly, these settings should not be changed without a thorough understanding of discrete event simulation techniques.

2.3.5.2.10.   Transient Period Length

The *Transient Period Length* specifies the portion of the simulation experimentation period during which the initial conditions may be in effect. This value may be fractional but must be between 1 and 3.

2.3.5.2.11. Multiple of AST to Simulate

The *Multiple of AST to Simulate* specifies the length of the simulation experimentation period as a multiple of the longest average service time for any contact group. This value may be fractional but must be between 2 and 8 and also must not be less than the Transient Period Length (see section 2.3.5.2.1, above).

2.3.5.2.12. Threshold for Abandonments

The *Threshold for Abandonments* specifies the period in seconds for short abandonment calls.

2.3.5.2.13. Step Size

The *Step Size* specifies the default step size to be used for staffing level search.

2.3.5.2.14. Maximum Number of Simulation Passes

The *Maximum Number of Simulation* passes specifies the maximum number of simulation passes permitted. Agents in all skill groups are rescheduled in each simulation pass to improve schedules and performance. The simulation process may be terminated either when i) the maximum number of simulation passes is reached, ii) performance targets specified are met in all intervals for all contact groups, or iii) no significant improvement is detected from one simulation iteration to the next.

2.3.5.2.15. Simulate Using Default Seed

The *Simulate Using Default Seed* option specifies whether the simulator should use a default seed provided or generate a new one based on the time and date for a Skills-based run.

2.3.5.2.16. Maximum Number of Simulation Iterations

The *Maximum Number of Simulation Iterations* specifies the maximum number of simulation iterations permitted per simulation experimentation period.

2.3.5.2.17. Simulation Margin

The *Simulation Margin* specifies the simulation precision adjustment parameter to eliminate randomness effect.

2.3.5.2.18. Batch Size

The *Batch Size* is used in simulation to shorten the simulation time by generating call arrivals in batches rather than one by one.

2.4. Save Schedule Profile
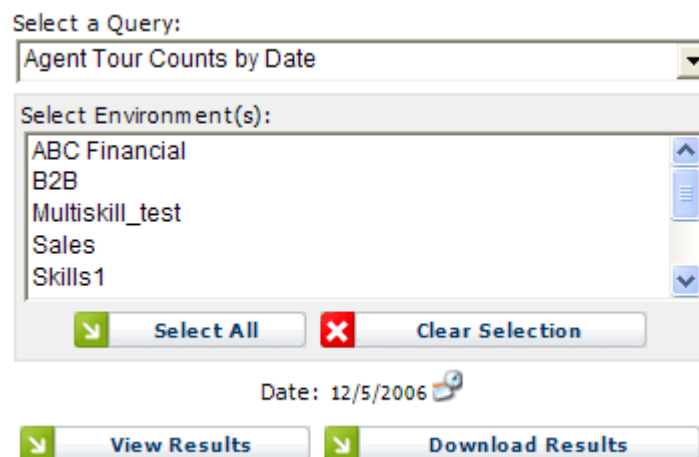
To save changes made to a Schedule Profile select the *Save Profile* button. There are a number of reasons that saving a Schedule Profile may not succeed. If invalid values or contradictory settings are specified by the user, one or more messages located near to the incorrect value or values will appear, asking the user to correct these values and resubmit the update. Editing a Schedule Profile while a schedule is being generated with it is not allowed.

3. Configuration

There are several modules related to configuration of the scheduling environment, as described in this section. Users with Administrator access level have access to all of the modules described in this section. Depending on the system configuration, users with Scheduler access level may not have access to the *Agent Cost Tables* module. Users with Viewer access level have access only to the Agent Query feature through the Agents menu item. They have access to view agent tables through links from the *Manage Schedule Runs* module.

3.1. Agent Query

The *Agent Query* module (Figure 3.1.) can be found under the *Database -> Workforce* menu item. Queries can be generated based on a number of   criteria. First, the user needs to select a particular query, including queries for schedulable or unschedulable agents, filtered by Contact Group, Business Unit, Organizational Unit, or other feature. Environment and skill level options will appear only for those queries that require them. For queries that require an environment selection, the Environment Selection box will appear. Finally, the user can select a minimum skill level to specify for those queries that require it. By selecting *View Results,* the query results can then be viewed in the Website. The results of a query may also be downloaded to a comma-separated file.

Figure 3.1 – Agent Query Module

The following sections describe features of the *Agent Query* module in detail.

3.1.1.   Query Selection

There are seven choices for *Query Selection*, found in the *Select A Query* drop-down menu. The first three choices are *Schedulable Agent Counts* by contact group, business unit, and organizational unit*.* An agent is Schedulable if he or she can be assigned to a schedule. The forth query choice is *Unschedulable Agent Counts By Reason*, which returns data about unschedulable agents with an explanation. An agent is Unschedulable if he or she is specified as inactive, has minimum or maximum weekly hours that are not available, or has missing information. Unschedulable agents may not be assigned to organizational units, and therefore cannot be grouped. The fifth query choice is *Schedulable Agents List*, which

returns the list of all schedulable agents in the database. Finally, the sixth query choice is *Unschedulable Agents List.*

3.1.2. Environment Selection

The *Environments* box allows the user to select one or more environments to use in the agent query. The environments that are displayed in the box are those that are assigned to the user. The user can select multiple environments by holding down the Ctrl key or the Shift key while clicking on environment names using the mouse. In addition, two buttons are provided below the environments box to aide in environment selection. The *Select All* button causes all environments in the list to become selected. The *Clear Selection* button causes all environments in the list to become deselected. At least one environment must be selected before starting a query (if that query requires environment selection), or a message will be displayed. When a user has only one environment assigned to him or her, that environment is automatically selected by default.

3.1.3. Minimum Skill Level

The user may select a minimum skill level to consider for those queries that require it. The *Minimum Skill Level* drop-down box allows the user to choose a minimum skill level. The first choice is *Skill Level 1*, which indicates that all agents with a skill level 1 for a stream should be considered in the query. The remaining choices are the skill levels of agents currently stored in the database. Skill level 1 is the highest skill level and higher numbers represent lower skill levels. If the user selects the skill level 2 as a minimum, then agents with skill level 1 or 2 will be considered, and so on.

3.1.4. View Query Results

The user can execute the query and view the results in a table in the Website by selecting the *View Results* button. An example of the results obtained by querying for the counts of schedulable agents with all skill levels grouped by CG is shown in Figure 3.2.

Agent Query

Figure 3.2 — Query Results

3.1.5.   Downloading Query Results

The user can download the query results by selecting the *Download* button. The results are downloaded in comma-separated values format, which can be saved as a text file or loaded directly into Microsoft Excel.

3.2. Agent Costs Tables

The *Agent Costs Tables* module displays a list of agent costs tables that have been configured. It is located under the *Planning -> Scheduler -> Configuration* menu item. Depending on the system configuration, users with Scheduler access level may not have access to the *Agent Cost Tables* module. The module appears as shown in Figure 3.3.

Figure 3.3 — Agent Costs Tables

The *Agent Costs Tables* module stores data regarding the cost of agents belonging to particular OUs within an environment. Therefore the costs tables are specific to environments. Only agent costs tables created for a particular environment may be used to generate schedules for that environment. The following sections describe features of the *Agent Costs Table* in detail.

3.2.1. Create New Agent Costs Table

The user may create a new Agent Cost Table by entering the name for the table, entering a description, selecting the Environment the new table will be generated for in the *Add Agent Costs Table area* and clicking on the *Add Table* button. However, this form appears only if the Administrator has given the user's level permission to create Agent Costs Tables.

When a new table is created, it is populated with default data for each OU in the associated environment. The new table will automatically open in edit mode, once it is created.

If there is an error creating the table, such as when the user already has a table with the same name, a message will be displayed, and the table will not be created. The user may correct the problem and attempt to create the table again.

3.2.2. View Agent Costs Table Details

If the user's level has permission to view Agent Costs Table details, then the user may view the contents of an agent costs table by selecting the link for a costs table from the *Manage Schedule Runs* module. This causes the details of the selected table to be displayed as shown in Figure 3.4.

Figure 3.4 – Agent Costs Table Details

Selecting the *Back* link will close the details view. An agent costs table contains one row of entries for each stream and OU in the environment associated with the table. For each row of entries, there are hourly and fixed cost values for ranges of weekly work hours.

The user can view the Agent Costs Table details depending on the permissions set by their administrator.

3.2.3. Edit Agent Costs Table

If the user's level has permission to edit Agent Costs Tables, then the user can edit an Agent Costs Table by selecting the *Edit* icon on the Agent Costs Tables List. The details are displayed in a similar fashion as in the Agent Costs Table Details view, except that the values are contained in editable text boxes. The user may cancel editing the table by selecting the *Cancel* button.

3.2.4. Save Agent Costs Table

The user may save changes to an agent costs table data by selecting the *Save Table* button. The values entered are checked to make sure they are not blank, are well-formatted numbers, and are zero or positive. If any values fail to meet these criteria, a message is displayed. The user may correct the invalid values and resubmit the changes by selecting the *Save Table* button again.

Editing an agent costs table is not allowed if it is currently being used to schedule an environment.

3.3. Agent Breaks Tables

The *Agent Breaks Tables* module displays a list of agent breaks tables that the user has configured. It is located under the *Planning -> Scheduler -> Configuration* menu item. The list appears as shown in Figure 3.5.

Manage Agent Breaks Tables

Agent Breaks Table	Description	User	Environment	Created		Modified		Action
Default Breaks (Customer Service)	Default Breaks for Customer Service	admin, admin	.Model Customer Service	10/27/2009	1:30 PM	10/27/2009	1:30 PM	
Default Breaks (Model Other)	Default Breaks for Model Other	admin, admin	Model Other	10/27/2009	1:31 PM	10/27/2009	1:32 PM	
Default Breaks (Technical Support)	Default Breaks for Technical Support	admin, admin	Technical Support	10/27/2009	1:31 PM	10/27/2009	1:32 PM	
Default Breaks for HRZ Inbound-Outbound	Default Breaks for HRZ Inbound-Outbound	admin, admin	HRZ Inbound-Outbound	7/15/2014	5:14 PM	7/15/2014	5:14 PM	
Default Breaks for HRZ Inbound-Outbound (2)	Default Breaks for HRZ Inbound-Outbound	admin, admin	HRZ Inbound-Outbound	7/15/2014	5:47 PM	7/15/2014	5:47 PM	
Default Breaks for HRZ Inbound-Outbound (3)	Default Breaks for HRZ Inbound-Outbound	admin, admin	HRZ Inbound-Outbound	7/15/2014	6:06 PM	7/15/2014	6:06 PM	
Default Inbound-Outbound	Default Inbound-Outbound	admin, admin	HRZ Inbound-Outbound	3/26/2014	4:59 PM	3/26/2014	4:59 PM	
Model 1 Breaks	Model 1 Agent breaks	admin, admin	Model 1	10/1/2009	2:54 PM	10/1/2009	2:54 PM	

Figure 3.5 – Agent Breaks Tables

An Agent Breaks Table is created for a specific environment, and allows the user to specify whether various breaks are paid or unpaid, depending on the number of breaks in the shift and the duration of each break. The following sections describe features of the *Agent Breaks Table* in detail.

3.3.1. Create New Agent Breaks Table

The user can create a new Agent Breaks Table using the *Add New Agent Breaks Table* form below the tables list. The user must enter a name for the new table and a description, and then select the environment the table should be created for. The user must select the *Add Table* button to create the table. The table is initially created with a default configuration. The new table will appear immediately opened in editing mode. The user can then edit the new table as described in section 3.3.3. A message will be displayed if the name or description field is left blank, or there is a system error that prevents the table from being created.

3.3.2.   View Agent Breaks Table Details

The user can view the details of an Agent Breaks Table by selecting the link for the table from the *Manage Schedule Runs* module. This will cause the table details to be displayed as is shown in Figure 3.6.

View Agent Breaks Table Details

← Back

User:	Admin, Admin	Created:	4/21/2006 10:01 AM
Agent Costs Table:	Default for Bidding	Modified:	4/21/2006 10:01 AM
Description:	Default for Bidding		
Environment:	Sales		

| Number of Daily Breaks | Break Duration | | | | | | |
	15 Minutes	30 Minutes	45 Minutes	1 Hour	1 Hour 15 Minutes	1 Hour 30 Minutes	2 or More Hours
1	Paid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid
2	Paid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid
3	Paid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid
4	Paid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid
5	Paid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid	Unpaid

Figure 3.6 – Agent Breaks Table Details

Selecting the *Back* button will close the details display for the table.

3.3.3.   Edit Agent Breaks Table

Each row of entries in an Agent Breaks Table contains the configuration for a specific number of daily breaks. In each row, there are values for break durations ranging from 15 minutes to 2 or more hours. The user can edit the content of an Agent Breaks Table by selecting the *Edit* icon button on the *Agent Breaks Tables* module. This causes the details of the table to be displayed, as occurs with viewing details, but in this case the details can be modified by selecting one of the values of paid or unpaid for each combination of number of breaks and break duration. The user may exit editing mode by selecting the *Cancel* button, and any changes made since the last update will be lost.

3.3.4.   Save Agent Breaks Table

When the Agent Breaks Table is in editing mode, the user may change the paid/unpaid settings for any combination of breaks. The user can save these changes to the table by selecting the *Save Table* button. Any changes made that are not saved by selecting the *Save Table* button will be lost.

Updating a table while it is being used to generate schedules for an environment is not allowed.

3.4. New Agent Counts Tables

The *New Agent Counts Tables* Module displays a list of New Agent Counts Tables that the user has configured. It is located under the *Planning -> Scheduler -> Configuration* menu item. The list appears as in Figure 3.7.

Figure 3.7 – New Agent Counts Tables List

A *New Agent Counts* table is created for a specific environment, and allows the user to specify the maximum number of new agents that should be considered for each tour group, shift template, and stream combination. These tables are used in *Incremental Scheduling with Existing Schedules and New Agents*.

3.4.1.　Create New Agents Count Table

The user can create a New Agent Counts Table by using the *Add New Agent Counts Table* form below the New Agent Counts Tables list. The user must enter a name and a description, and then select an environment for the table. The user must click on the *Add Table* button to create the new table. The table is initially created with a default configuration. The new table will appear immediately opened in editing mode. The user can then edit the new table as described in section 3.4.3. A message will be displayed if the name or description field is left blank, or if the user already has a New Agent Counts table with the same name or the table cannot be created for any other reason.

3.4.2.　View New Agent Counts Table Details

The user can view the details of a new Agent Counts Table by selecting the link for the table from the *Manage Schedule Runs* module. This will cause the table details to be displayed as is shown in Figure 3.8.

View New Agent Counts Table Details

[← Back]

User:	**scheduler, scheduler**	Date Created:	**3/09/2006 05:33 PM**
Agent Count Table:	**Default Counts**	Date Modified:	**3/09/2006 05:33 PM**
Description:	**Default Counts**		
Environment:	**Sales**		

Please note: Available CTs, Tour Groups, and Templates are determined at creation of New Agent Counts table. Invalid CTs, Tour Groups, and Templates are not automatically removed from table, but will be ignored by Scheduler. It is recommended that a new table be created whenever CTs, Tour Groups, or Templates are created or removed.

Stream	Tour	Shift	Hours/Week	Workdays/Week	Agent Count
Atlanta-Gen	AM 8x5	AM 8 hrs	42.50	5	0
Atlanta-Gen	AM 10x4	AM 10 hrs	42.00	4	0
Atlanta-Gen	AM 6x5	AM 6 hrs	30.00	5	0
Atlanta-Gen	AM 5x5	AM 5 hrs	25.00	5	0
Atlanta-Gen	AM 5x4	AM 5 hrs	20.00	4	0
Atlanta-Gen	PM 8x5	PM 8 hrs	42.50	5	0
Atlanta-Gen	PM 10x4	PM 10 hrs	42.00	4	0
Atlanta-Gen	PM 6x5	PM 6 hrs	30.00	5	0
Atlanta-Gen	PM 5x5	PM 5 hrs	25.00	5	0
Atlanta-Gen	PM 5x4	PM 5 hrs	20.00	4	0

Figure 3.8 – View New Agent Counts Table Details

3.4.3.   Edit New Agent Counts Table

Each row of entries in a New Agent Counts Table specifies a particular stream, tour group, and shift template combination that are considered for the existing agents. For each combination, the corresponding hours and workdays per week are displayed. For each combination, the user is able to specify an agent count, which configures the maximum number of new agents that the Scheduler should consider scheduling for that combination.

3.4.4.   Save New Agent Counts Table

When the New Agent Counts Table is in editing mode, the user may change the name or the description of the table, and the agent counts for any and all of the stream, tour group, and template combinations. The user can save these changes to the table by selecting the *Save Table* button. Any changes made that are not saved by selecting the *Save Table* button will be lost.

Updating a table while it is being used to generate schedules for an environment is not permitted.

3.5. Agent Configuration Tables

The *Agent Configuration* module allows the user to create and edit Agent Configuration Tables for use in schedule creation. These tables can be used to configure which agents should be considered on fixed schedule (for incremental scheduling), and which agents should be considered Must Work (for all but the Unconstrained scheduling scenario). Agents that are specified as being on fixed schedules, and which have valid schedules available in the database, will be considered by the Scheduler to meet agent requirements first; these agents are assigned to their existing schedules in the database and the Scheduler does not generate new schedules for them. Agents that are configured as Must Work will have

schedules generated for them regardless of whether the Scheduler needs those agents scheduled to meet agent requirements.

The Agent Configuration Tables list appears in Figure 3.9, below. It is located under the *Planning -> Scheduler -> Configuration* menu item. For each table, it displays the name of the table, the description, the environment that the table was created for, the user the table belongs to, the date and time the table was created, the date and time when the table was last modified, and icon buttons to delete or edit the contents of the table.

Manage Agent Configuration Tables

Agent Configuration Table	Description	User	Environment	Created		Modified		Action
Agent 71626	Agent 71626	admin, admin	.Model Customer Service	12/11/2014	5:27 PM	12/11/2014	5:32 PM	
Default Inbound-Outbound	Default Inbound-Outbound	admin, admin	HRZ Inbound-Outbound	3/26/2014	5:00 PM	3/26/2014	5:00 PM	
Model 1 All Must-Work	Model 1 All Must-Work	admin, admin	Model 1	11/3/2009	11:59 AM	11/3/2009	11:59 AM	
Model 1 Must-Work & Fixed Schedules	Model 1 Must-Work & Fixed Schedules	admin, admin	Model 1	11/3/2009	11:58 AM	12/15/2009	5:42 PM	
Model 1 No Must-Work No Fixed-Schedules	Model 1 No Must-Work No Fixed-Schedules	admin, admin	Model 1	11/3/2009	12:00 PM	11/3/2009	12:00 PM	
Technical Support MW	Technical Support MW	admin, admin	Technical Support	4/29/2014	7:43 PM	4/30/2014	7:37 AM	
Tetech Yes-Must Work No-Fixed	Tetech Yes-Must Work No-Fixed	admin, admin	Teletech	1/29/2011	10:46 AM	8/24/2015	12:20 PM	

Add New Fixed Schedules/Must-work Configuration Table

Table Name: [   ] Description: [   ] Environment: [.Model Customer Service ▼] [Add Table]

Figure 3.9 – Agent Configuration Tables

3.5.1.   Create New Agent Configuration Table

The *Add New Agent Configuration Table* form is located below the list of tables, and enables the user to create new tables. The user can enter a name and a description, select an environment for the new table, and then select the *Add Table* button. If the table is successfully created, it will be opened in edit mode, as described in section 3.5.3, below. A message will be displayed if the user leaves the name or description field blank, or if the user already has an Agent Configuration Table with the same name, or if the table cannot be created for any other reason.

3.5.2.   View Agent Configuration Table Details

The user can view the details of an Agent Configuration Table by selecting the link for the table from the *Manage Schedule Runs* module. This will cause the details of the table to be displayed as in Figure 3.10, below.

Edit Agent Configuration Table Details

[Save Table] [Cancel] [Download]

User: admin, admin — Date Created: 11/3/2009 11:58 AM
Agent Configuration Table: Model 1 Must-Work & Fixed — Date Modified: 12/15/2009 05:42 PM
Description: Model 1 Must-Work & Fixed
Environment: Model 1

Organizational Unit	Fixed Schedule	Must Work	Team Lead	Fixed Schedule	Must Work	Agents
Model_New York	All Agents ▼	All Agents ▼	NY Team 1	By Agent ▼	By Agent ▼	Show Team Members
			NY Team 2	By Agent ▼	By Agent ▼	Show Team Members
Model_Atlanta	No Agent ▼	No Agent ▼	ATL Team 1	By Agent ▼	By Agent ▼	Show Team Members
			ATL Team 2	By Agent ▼	By Agent ▼	Show Team Members
Model_Dallas	By Team/Agent ▼	By Team/Agent ▼				
Model_TPA_Sales	By Team/Agent ▼	By Team/Agent ▼	Model_TPA_Team_1	By Agent ▼	By Agent ▼	Show Team Members
			Model_TPA_Team_2	By Agent ▼	By Agent ▼	Show Team Members
			Model_TPA_Team_3	By Agent ▼	By Agent ▼	Show Team Members
			Model_TPA_Team_4	By Agent ▼	By Agent ▼	Show Team Members
			Model_TPA_Team_5	By Agent ▼	By Agent ▼	Show Team Members

Figure 3.10 – View Agent Configuration Table Details

The *View Detail*s module displays the OUs, Team Leads, and Agents for the table's environment in a hierarchical fashion. By default, the agent lists for each Team Lead are hidden, but can be displayed by selecting the *Show Team Members* link at the right end of the row. The lists can be hidden again by selecting the *Hide* link. For each level – OU, Team Lead, and Agent – the table displays the settings for Fixed Schedule and Must Work.

3.5.3.   Edit Agent Configuration Table

The Edit Agent Configuration Table screen is similar to the View screen, except that the user is able to edit the table name and description, and the settings at the OU, Team Lead, and Agent levels, as is shown in Figure 3.11, below.

Figure 3.11 – Edit Agent Configuration Table

At the agent level (furthest to the right), the lowest level, each agent can be specified to have a fixed schedule or not, and to be required to have a schedule (Must Work) or not. These settings are represented by check boxes. The user may select fixed schedule or Must Work for each agent by checking or un-checking the checkbox corresponding to the particular agent.

For the OU level, the user may select, in the appropriate drop-down box, *By Team/Agent*, *All Agents*, or *No Agent*. At the Team Lead level, the user may select *By Agent*, *All Agents*, or *No Agent*.

The Scheduler interprets these settings in a hierarchical fashion. Thus, the setting at the OU level overrides the setting at the Team Lead level, which in turn overrides the setting at the individual agent level. For instance, selecting *All Agents* at the OU level directs the Scheduler to consider all the agents in the OU to be considered for Fixed Schedule or Must Work, regardless of the settings for those agents at their Team Lead or individual agent levels. Selecting *By Team/Agent* at the OU level defers configuration to the Team Lead and Agent levels. For instance, selecting *By Team/Agent* at the OU level directs the Scheduler to look at the Team Lead and individual agent levels to determine the fixed schedule or Must Work status of an agent. Likewise, selecting *No Agent* at the OU level directs the

Scheduler to consider all agents in that OU to be considered not on Fixed Schedules or Must Work regardless of the settings for those agents at their Team Lead or individual agent levels.

3.5.4. Save Agent Configuration Table

When an Agent Configuration Table is in editing mode, the user may change the name or the description of the table, and the settings for any OU, Team Lead, or individual agent. The user can save these changes to the table by selecting the *Save Table* button. Any changes made that are not saved by selecting the *Save Table* button will be lost.

Updating a table while it is being used to generate schedules for an environment is not allowed.

3.6. Service Profiles

A Service Profile is a set of configuration options for specifying performance targets and customer patience. A user may create multiple Service Profiles, each storing a different configuration, and use them for any environment and over any period of time. A Service Profile is a convenient way for a user to set up a particular configuration once and then use that configuration to schedule agent. Thus, the user does not have to enter all the configuration parameters for each run.

Users that have Administrator, Planner, or Scheduler access level can create, edit, and delete Service Profiles. Users with the Viewer access level can view the details of Service Profiles associated with completed runs for the environments assigned to them, but cannot create their own Service Profiles, or edit or delete Service Profiles. All users can view the details of a Service Profile by following the link from the Service Profile name on the *Manage Schedule Runs* or *Manage Requirement Runs* page.

For users with Administrator, Manager, Planner or Scheduler access level, the *Service Profiles* choice appears in the *Planning -> Scheduler -> Service Profiles* menu. To view the *Service Profile Manager* module, click on the *Service Profiles* menu item. By default, the *Service Profile Manager* displays the list of Service Profiles that the user has configured. This page should appear similar to as shown in Figure 3.12.

Manage Service Profiles

Profile	Service %	Wait Time (sec)	ASA (sec)	Occupancy %	Abandonment %	User	Last Modified	Action
.80% in 20 secs	80	20	120	N/A	2	admin, admin	3/7/2015 3:23 PM	
.80% in 20 secs only	80	20	N/A	N/A	N/A	admin, admin	4/11/2014 4:05 PM	
.demo	70	20	N/A	N/A	N/A	admin, admin	2/9/2015 10:35 AM	
.Max Ab 2%	N/A	20	N/A	N/A	2	admin, admin	3/4/2014 2:17 PM	
.Max Ab 4%	N/A	20	N/A	N/A	4	admin, admin	10/19/2012 12:36 PM	
.Max Ab 6%	N/A	20	N/A	N/A	6	admin, admin	10/19/2012 2:26 PM	

Figure 3.12 – Service Profile Manager

The following sections describe features of the *Service Profile* in detail.

3.6.1. Create New Service Profile

The user can create a new Service Profile by entering a name for the new Service Profile and then selecting the *Add Profile* button, as shown in Figure 3.13.
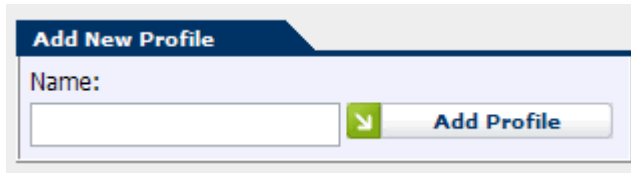
Figure 3.13 – Create New Service Profile

If there is an error creating the Service Profile, a message will be displayed above the entry fields. If the Service Profile is successfully created, then it will be opened immediately in the edit mode, as described in section 3.6.3., below. Upon returning to the *Service Profile Manager*, the new Service Profile will appear in the Service Profiles list.

3.6.2.   View Service Profile Details

One of the features provided by the *Manage Schedule Runs* and *Manage Requirement Runs* pages is the ability to view the details of a Service Profile in a non-editable form. The user can view the details of a Service Profile by selecting the link for the Service Profile used for a run. Selecting the link for a Service Profile causes the *Service Profile Manager* to display the details of the Service Profile, as shown in Figure 3.14.
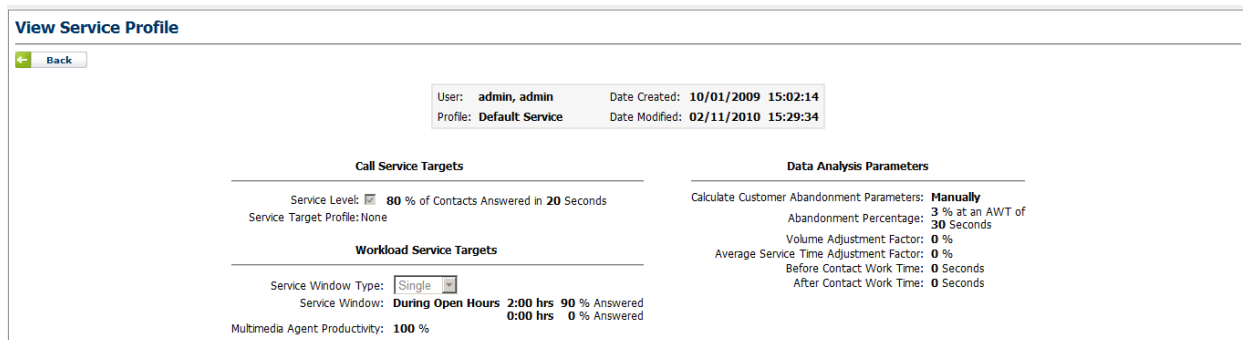
Figure 3.14 – View Service Profile Details

The user may click on *Back* to close the detailed view for the Service Profile.

3.6.3.   Edit Service Profile

The *Service Profile Manager* allows the user to edit his or her Service Profiles. The user can edit a Service Profile by selecting the *Edit* icon button for a Service Profile. When editing a Service Profile, the page appears as shown in Figure 3.15.

Figure 3.15 – Edit Service Profile

Following is a description for each of the configuration items in a Service Profile.

3.6.3.1. Call Service Targets

The items grouped under Call Service Targets are used to configure the overall targets for service performance.

Note: If there are more than one call service targets selected in a Service Profile used in a skills based scheduling run, only the first one selected (in the order displayed in the Edit Service Profile page) is applied.

3.6.3.1.1. Service Level

To set a specific Service Level target, the user should check the Service Level check box. Once Service Level is checked, the user must also provide a Percentage of Contacts and Service Threshold (in seconds) targets. These items default to 80% and 20 seconds.

3.6.3.1.2. Average Speed of Answer

To set a specific Average Speed of Answer (ASA) level as the service performance target, the user should check the Average Speed of Answer check box. Once this is selected, the user must also supply the target ASA target in Seconds.

3.6.3.1.3. Maximum Occupancy

A Maximum Occupancy level may also be specified as the service performance target. To configure, the user should check the Maximum Occupancy check box and enter a target Maximum Occupancy level as a percentage.

3.6.3.1.4. Abandonment Level

An Abandonment Level specifying a maximum abandonment level as the service performance target may also be selected. To configure, the user should check the Abandonment Level check box and enter a target Abandonment level as a percentage.

3.6.3.1.5. Service Target Profile

The Service Target Profile can be used to define a service target goal for each forecast period in a week. To select a *Service Target Profile*, click on the *Service Target Profiles* drop-down and select a profile. The creation and management of Service Target Profiles is described in the section 3.7 below.

3.6.3.2. Workload Service Targets

The *Workload Service Targets* section identifies the service window targets to use for multimedia contact groups.

3.6.3.2.6. Service Window Type

The *Service Window Type* can be set to *Single* or *Multiple*.

3.6.3.2.7. Service Window

If *Single* is selected, the user must supply a *Service Window* in minutes for service. If the window is specified as 120 minutes, for example, the service level target is to answer all contacts received in an interval within the following 120 minutes if the window is during the operating hours. Any portion of the Service Window beyond contact group operating hours is considered to be continuing in the next operating day. If *Multiple* is selected, the user should specify two windows, one for regular response window, and one for beyond the regular response window (after hours). For the regular response window, start and end times are specified in the Service Span area. For contacts received during the regular response window, a Service Window is specified in minutes. For contacts received beyond the regular response window, a Service Window is specified in the After Hour Contacts area in minutes. Contacts received after hours are targeted to be answered within the Service Window specified in the next regular response window.

Workload Service Targets

Service Window Type: Multiple
Service Window: 120 Minutes
Service Span: 00:00 - 00:00
After Hours Contacts: 0 Minutes

Figure 3.16 – Service Window

3.6.3.3. Data Analysis Parameters

The *Data Analysis Parameters* section identifies the parameter values for customer abandonment modeling, forecast adjustments, and before and after call work.

3.6.3.3.8. Abandonment Percentage

Abandonment Percentage is the rate at which contacts were abandoned when they had been waiting for a certain *Average Wait Time (AWT)* measured in seconds in the recent past. As staffing levels change, so do the actual AWT to be experienced by the callers for the same contact volumes and average service times. As a result, abandonment rates will

vary. The Abandonment Percent and AWT parameters are used to model callers' patience to capture this relationship to accurately account for abandonments. When *Automatically* option is selected on the *Calculate Customer Abandonment Parameters* drop-down, the Abandonment Percentage and AWT parameters are calculated using the historical data.

3.6.3.3.9. Volume and Average Service Time Adjustment Factor

The *Volume* and *Average Service Time Adjustment Factors* allow the Contact Volume and Average Service Time forecasts for each period to be adjusted by a fixed percentage. These values may be positive or negative.

3.6.3.3.10. Before and After Contact Work Time

The *Before* and *After Contact Work Time* values allow constant amounts of time to be pre-pended and appended to the average handling time values to account for time such as non-phone agent work time.

3.6.4. Save Service Profile

In order to save changes made to a Service Profile, the user must click the *Save Profile* button. There are a number of reasons that saving a Service Profile may not succeed. If invalid values or contradictory settings are specified by the user, one or more messages located near to the incorrect value or values will appear, asking the user to correct these values and resubmit the update. Furthermore, editing a Service Profile while agent requirements are being generated is not allowed.

3.7. Service Target Profiles

Service Target Profiles provide a way for the user to specify service performance targets for individual forecast periods. They provide more granularity than do Service Profiles.

The *Manage Service Target Profiles* page is located under the *Planning -> Scheduler -> Schedule Profiles* menu item, and appears as in Figure 3.17.

Manage Service Target Profiles

Service Target Profile	Description	User	Bucket Size	Created		Modified		Action
Test	Test	admin, admin	15 Minutes	4/9/2010	03:29 PM	6/5/2013	04:53 PM	
ccl test	ccl test	admin, admin	15 Minutes	6/5/2013	01:33 PM	6/5/2013	01:33 PM	
tesezt2	test	DeHart, Derek	15 Minutes	8/6/2015	11:18 AM	8/6/2015	11:18 AM	

Figure 3.17 – Service Target Schedule Profile Manager

To view a *Service Target Profile* without editing, select the *Service Target Profile name* link. To delete a *Service Target Profile*, select the *Delete* icon, and accept the delete confirmation dialog. To edit a *Service Target Profile*, select the *Edit* icon. The *Edit Service Target Profile* page is described in section 3.7.2.

3.7.1. Create New Service Target Profile

The user can create a new Service Target Profile by entering a name in the New Service Target Profile form and then selecting the *Add Profile* button, as shown in Figure 3.18.

Figure 3.18 – Create Service Target Profile

If there is an error creating the Service Target Profile, a message will be displayed above the entry fields. If the Service Target Profile is successfully created, then it will be opened immediately in the edit mode, as described in section 3.7.2, below. Upon returning to the *Service Target Profile Manager*, the new Service Target Profile will appear in the list.

3.7.2.   Edit Service Target Profile

The *Edit Service Target Profile* page allows editing of the selected Service Target Profile, and appears as in Figure 3.19.

Period		Service Level (%)	Service Level Threshold (sec)	Average Speed of Answer (sec)	Abandonment Target (%)	Abandonment (%)	Average Waiting Time (sec)
0 Monday	00:00	80	20	10	0	3	20
1 Monday	00:15	80	20	10	0	3	20
2 Monday	00:30	80	20	10	0	3	20
3 Monday	00:45	80	20	10	0	3	20
4 Monday	01:00	80	20	10	0	3	20
5 Monday	01:15	80	20	10	0	3	20
6 Monday	01:30	80	20	10	0	3	20
7 Monday	01:45	80	20	10	0	3	20
8 Monday	02:00	80	20	10	0	3	20
9 Monday	02:15	80	20	10	0	3	20
10 Monday	02:30	80	20	10	0	3	20

Figure 3.19 – Edit Service Target Profile

For each period, the following service level target values can be specified: Service Level (percentage), Service Level Threshold (seconds), Average Speed of Answer (seconds), Abandonment Target (percentage), Abandonment (percentage), Average Wait Time (seconds), at Abandonment %, Before and After Contact Work Time (seconds), Percentage Sale, and estimated Profit per call (dollars). When a Service Target Profile is specified in a Service Profile, the values in the Service Target Profile take precedence over values specified in the Service Schedule Profile while the service performance target type checked (e.g. service level, ASA) remains the same.

3.7.3.   Save Service Target Profile

Changes made to a Service Target Profile are saved by clicking the *Save Profile* button. There are a number of reasons that saving a Service Target Profile may not succeed. If invalid values or contradictory settings are specified by the user, one or more messages located near to the incorrect value or values will appear, asking the user to correct these values and resubmit the update.

3.8. Occupancy/Shrinkage Profiles

Occupancy/Shrinkage Profiles can be used to specify maximum occupancy and shrinkage for particular periods, which provides a greater level of granularity than that provided in the Service Profile. Occupancy/Shrinkage Profiles can be uploaded and edited.

3.8.1.   Upload Occupancy/Shrinkage Profile

An Occupancy/Shrinkage Profile can be uploaded by selecting the *Upload Occupancy/Shrinkage Profiles* from the *Administration -> Operations -> Upload* menu item. The *Upload Occupancy/Shrinkage Profiles* module appears as in Figure 3.20.
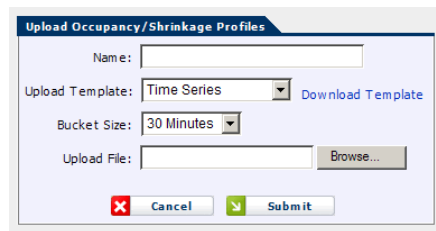
Figure 3.20 – Upload Occupancy/Shrinkage Profiles

The data must be uploaded in a recognized format, as specified by the selected *Upload Template*. The selected template can be downloaded into Excel by selecting the *Download Template* link.

There are two selections on the *Download Template* drop-down. These are Time Series and Pattern. Using the Time Series template, the user defines a specific time range over which the occupancy/shrinkage values will be applied. The times included in the Date column of the uploaded template will be mapped on a one-to-one basis with the horizon of a schedule or requirements run. For instance, should the file contain a record for 01/01/2008 11:00 the occupancy/shrinkage values for that row will be directly applied for that time. With this template, a specific profile for each planning horizon will have to be uploaded.

A pattern template can be used to define a repeatable Occupancy/Shrinkage Profile. The pattern is created for the time frame described. Thus, the Single Day pattern would create a single day of intervals of the size defined in Bucket Size (described below). If the user selects the Single Day pattern and a 30-Minute Bucket Size, and then clicks on the *Download Template* link, a file will be downloaded into Excel with 48 timestamps, one for each 30 minute period in a single day. A shrinkage and occupancy value can be entered for each period and uploaded through the *Upload Occupancy/Shrinkage* module. This template is then applied on a repeating basis for every day over the horizon during a run using this profile. Using other patterns, the user can create a pattern at a Single Day, Weekly, Monthly, Quarterly or Yearly level.

This Bucket Size field specifies the length of interval periods within a template. The Bucket Size may not be a greater than the pattern template selected. Thus, a Monthly Bucket Size, for example, can no be selected with a Single Day Pattern.

3.8.2.   Manage Occupancy/Shrinkage Profiles

The *Manage Occupancy/Shrinkage Profiles* page is located under the *Database -> Manage* menu item, and appears as in Figure 3.21.

Manage Occupancy/Shrinkage Profiles

Page: 1 ▼ Records Per Page: 25 ▼ |< << < 1 > >> >|

Delete	Factor Name	Factor Template	Interval Bucket Size	Created Date	Modified Date	Action
☐	Week Shr 23% Occ 100%	Week Pattern	1 Day	3/20/2015	3/20/2015	
☐	Year/Month 17/92	Year Pattern	1 Month	9/5/2014	9/5/2014	
☐	Quarterly 16/91	Quarter Pattern	1 Day	9/5/2014	9/5/2014	
☐	Monthly/Daily 15/90	Month Pattern	1 Day	9/5/2014	9/5/2014	
☐	Year Pattern Monthly	Year Pattern	1 Month	6/10/2014	6/10/2014	
☐	Daily 11%	Week Pattern	1 Day	3/19/2014	4/1/2014	
☐	Test - Single Day	Single Day Pattern	30 Minutes	1/1/1901	6/5/2013	
☐	Daily Pattern 1-D 20-/35-94%	Week Pattern	1 Day	1/1/1901	1/1/1901	

Figure 3.21 – Occupancy/Shrinkage Profile Manager

From the Manage Occupancy/Shrinkage Profiles page, profiles may be viewed, graphed, edited, or deleted, by selecting the appropriate icon. Selecting the *Edit* icon displays the *Shrinkage Factor Data* page, as displayed in Figure 3.22.

View Occupancy/Shrinkage Profile

← Back   ↓ Edit   ↓ Download

Shrinkage Factor Name:	**Occupancy/Shrinkage BOM**
Shrinkage Template Name:	**Week Pattern**
Bucket Size:	**30 Minutes**

Start Date & Time	Shrinkage	Maximum Occupancy
Sunday 00:00	22.00	93.00
Sunday 00:30	23.00	93.00
Sunday 01:00	24.00	93.00
Sunday 01:30	25.00	93.00
Sunday 02:00	26.00	93.00
Sunday 02:30	27.00	93.00
Sunday 03:00	27.00	93.00
Sunday 03:30	27.00	93.00
Sunday 04:00	27.00	93.00
Sunday 04:30	27.00	93.00
Sunday 05:00	27.00	93.00
Sunday 05:30	27.00	93.00
Sunday 06:00	27.00	93.00
Sunday 06:30	27.00	93.00

Figure 3.22 – View Occupancy/Shrinkage Profile

Note: A maximum occupancy limit may be specified to keep the percentage of time agents will be occupied with work below a target. The Scheduler will attempt to meet the target. However, meeting this limit is not guaranteed in every interval.

4. Scheduling

This section describes how to create a new request to have the Scheduler generate schedules for an environment, how to manage currently running jobs, and how to view the results of finished jobs. To start a new scheduling request, select the *New Schedule Run* item under the *Planning -> Scheduler* menu item. To examine existing schedule runs, select the *Manage Schedule Runs* items under the same menu item. The following sections describe the *New Schedule Runs* and *Manage Schedule Runs* modules.

4.1. New Schedule Run

When a user selects the *New Schedule Run* menu item, the *New Schedule Run* page will be displayed. If there are multiple environments assigned to the user, a drop-down box with all of the user's assigned environments will be displayed. Otherwise, the one environment assigned to the user will be selected by default.

4.1.1. Environment Selection

If there are two or more environments assigned to the user, a drop-down box with the user's assigned environments will be displayed. The other configuration items will not be visible prior to the selection of an environment, since some of the configuration items depend on the selected environment. The user may proceed to configure the rest of the items by first selecting the appropriate environment, and then selecting the *Continue* button. Once the environment has been selected, the configuration items will appear as shown in Figure 4.1.

Figure 4.1 – New Schedule Configuration Details

4.1.2.   Schedule Profile Selection

The first option for a schedule generation request is the choice of a Schedule Profile. See section 2 for information about Schedule Profiles. All the Schedule Profiles that the user has created will appear in the drop-down box and the user may select any of those Schedule Profiles to use for the scheduling request. Schedule Profiles are not dependent on a specific environment.   If the user has no Schedule Profiles available, then a message will be displayed indicating that the user will not be able to submit scheduling requests before creating one first.

4.1.3.   Description

The user is required to enter a short description for the scheduling request into the Description field. A New Schedule Run cannot be submitted if this field is left blank. Its value is strictly for the user's informational use and can be used to identify and distinguish individual scheduling requests.

4.1.4.   Agent Costs Table Selection

The user must select an agent costs table to use for a scheduling request. If the user does not have an agent costs table available, a message will be issued indicating that the user will not be able to submit a request for schedule generation before creating one first.

4.1.5.   Agent Breaks Table Selection

The user must select an agent breaks table to use for a scheduling request. If the user does not have an agent breaks table available, a message will be issued indicating that the user will not be able to submit a request for schedule generation before creating one first.

4.1.6.   New Agent Counts Table Selection

This choice will be displayed whenever the Schedule Generation option in the Schedule Profile selected for a schedule run is *Incremental Scheduling with Existing Schedules and New Agents*. If the user does not have a New Agent Counts Table available, a message will be issued indicating that the user will not be able to submit a request for schedule generation before creating one first.

4.1.7.   Agent Configuration Table

This choice will be displayed whenever the Schedule Generation option in the Schedule Profile selected for a schedule generation request requires an Agent Configuration table. This will be the case when the Schedule Profile specifies any scenario other than *Unconstrained Tour Groups*.   For Schedule Profiles that do not specify incremental scheduling, fixed schedules are not used, and only the information on the agents' Must Work status is considered.   Adjacent to the drop-down box that contains a list of all the Agent Configuration tables that the user has configured for this environment, are check boxes which the user can use to specify that the settings from the agent configurations from the Database should be used, instead of the settings from the table, for determining either the agents on fixed schedule or those configured as Must Work.

4.1.8.   Agent Requirements Information

The next four configuration parameters specify the agent requirements that are used to generate the schedules.

4.1.8.1. Planning Period

The *Planning Period* is the number of weeks the user wants to consider for agent requirements to use in generating schedules.   This field is inactive if a schedule profile configured for skills-based scheduling is selected. The default value is one week. Selecting a two-, three-, or four-week requirements period causes data from those weeks to be combined to determine agent requirements for a one-week period.   The method used to aggregate agent requirements is determined by the *Aggregate Method* chosen.

4.1.8.2. Aggregate Method

The *Aggregate Method* is the method that should be used to combine agent requirements data if the *Planning Period* is longer than one week.   This field is inactive if a schedule profile configured for skills-based scheduling is selected. For each forecasting period during the week being scheduled, and for each contact group in the environment, the agent requirement is calculated by applying the Aggregate method to the forecasted agent requirements in that forecasting period for all weeks selected in the *Planning Period*.   When the *Aggregate Method* selected is Average, the values in the forecasting period are averaged.   When the *Aggregate Method* selected is Maximum, the highest value during a forecasting period over the weeks specified by the *Planning Period* is taken as the agent requirement for that forecasting period.   Likewise, when the *Aggregate Method* selected is

Minimum, the lowest value during a forecasting period over the *Planning Period* is taken as the agent requirement for that forecasting period.

4.1.8.3. Forecast Source

Forecast Source is the type of forecast data that should be used to generate schedules. The options are to use Forecast, namely Contact Volume and Average Handling Time from a forecast run, or Requirements, from a requirements run or uploaded requirements. The Forecast option is selected if a schedule profile configured for skills-based scheduling is chosen for the run. The Requirements option is selected if a schedule profile configured for non-skills based scheduling is chosen for the run. The options available in the next section vary depending on the option selected.

4.1.8.3.1. Forecast or Requirements Run Selection

The *Forecast or Requirements Run Selection* drop-down allows selection of a specific forecast or requirements run, or the official requirements, for the specified planning period. Whether Forecast runs or Requirements runs are displayed depends on which option is selected in the *Forecast Source.*

4.1.8.4. Scheduling Period Start Date

Scheduling Period Start Date is the date of the week from which to retrieve agent requirements or forecast data. The drop-down box will contain the dates available to choose from, based on the data stored in the database, and the source selected. Only days configured as the first day of the week in the *Application Settings* will be enabled. If there are no data available in the database for an environment, a message will be displayed to inform the user that a scheduling request cannot be submitted because there are no agent requirements or forecast data available.

4.1.8.5. Service Profile

The *Service Profile* option is available when Forecast is selected as the Forecast Source. This allows selection of a Service Profile for use in scheduling.

4.1.8.6. Occupancy/Shrinkage Profile

The Occupancy/Shrinkage Profile option is available when Forecast is selected as the Forecast Source. This allows selection of an Occupancy/Shrinkage Profile for use in scheduling.

4.1.9. Skills Availability Period Start Date
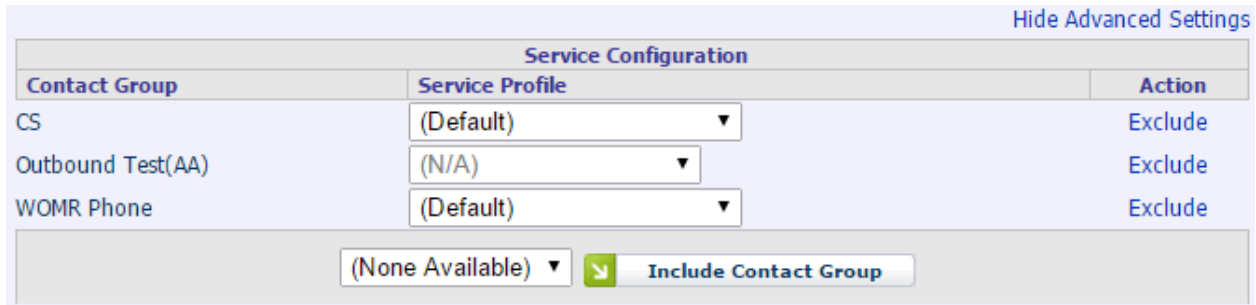
The *Skills Availability Period Start Date* is the week from which the Scheduler should draw agent minimum and maximum availability hours, and tour group and template assignments. This value, when left blank, defaults to the same week as the first week of the Scheduling Period Start Date.

4.1.10. Adjustment Factor

The Adjustment Factor parameter enables the user to increase or decrease the forecast values or agent requirements. The value for this field must be between –99% and +99%.

4.1.11. Advanced

The *Advanced Settings* area provides the user with control over the Service Profile for contact groups in an Environment. As shown in Figure 4.2, the user can select a different Service Profile for each contact group. This allows for precise configuration over a given Environment.   If the user wishes to exclude a contact group from a schedule run, the *Exclude* link for the contact group is used to remove it from the *Advanced Settings* page.

Figure 4.2 – Advanced Settings

4.1.12. Submit New Schedule Run

The user may submit the new request for schedule generation by selecting the *Submit New Schedule Run* button. A confirmation message will appear after selecting the button, and pressing the OK button will continue processing the request. Pressing the Cancel button will close the confirmation message but not submit the request for processing. When a request is submitted for processing, the browser will be directed to the *Manage Schedule Runs* module, described in section 4.2. The new scheduling request will appear at the top of the Schedule run list with a *Queued* or *Running* status. The user must click on the *Refresh* button to update the status. Once the run has finished processing the Status will change to *Completed*.

4.2. Manage Schedule Runs

The *Manage Schedule Runs* module, which is available to all users, presents a list of scheduling requests as shown in Figure 4.3. It is located under the *Planning -> Scheduler* menu item.   For users with the Administrator access level, all schedule requests are displayed.   For a user with the Viewer access level, all schedule requests for the environments assigned to the user are displayed. For a user with the Scheduler access level, only schedule requests submitted by the user are displayed.

The *Manage Schedule Runs* module displays *Action* links for each schedule request in the list. The actions that are available for a particular schedule request depend on the status of that request. The actions available for each status are described in the following sections.

Figure 4.3 – Manage Schedule Runs

4.2.1.   Environment Selection

The *Filter* drop-down lets the user filter the run list by environment. The user may also filter the result with text. The *(All)* drop-down contains methods to filter by text. Enter text here and the user will be able to search through the description fields.

Clicking Filter will refresh the table, applying the filtering criteria.

Note: When a user has only one environment assigned to him or her, that environment is automatically selected by default.

4.2.2.   Schedules in Queued Status

Schedule requests that are in *Queued* Status are waiting to be processed by the Scheduler. A request may be in a queued state because there are no instances of the Scheduler available for processing, or because the environment is currently being processed by some instance of the Scheduler. When a request has queued status, the only action available to the user is the *Cancel* action. Selecting this icon button will cause the request to be cancelled and removed from the queue. The status of the request will then be changed to *Aborted*. For requests in the Queued status, the position in the queue is displayed below the status.

4.2.3.   Schedules in Running Status

Schedule requests that are in *Running* status are currently being processed by the Scheduler. The action available in this state is to *Abort* the request.

4.2.4.   Schedules in Error or Aborted Status

In the unlikely event of a system error that causes a scheduling request to be aborted, the status of the request will be set to *Error*. If the user chooses to abort a request, as described above in section 4.2.3, the status of the request will be set to *Aborted*. In either

case, because the output data for the scheduling request is incomplete, it is discarded, and therefore there is no icon button provided to view the data. However, the *Run* and *Delete* icon buttons are available, as described in sections 4.2.6 and 4.2.8, below. For a schedule request in Error state, a short description of the cause of the error may be obtained by clicking on the *Error* link for that request.

4.2.5.   Schedules in Completed and Edited Status

A schedule request that has completed successfully has three or four actions available depending on whether the request is a Skills-based or Non-skills based. First, a new schedule request can be created with the same configuration options. Second, the schedule request, along with its results, can be deleted. Finally, the results of the schedule run can be viewed. If a schedule request run is Skills-based, the schedules can also be re-simulated with adjusted parameters and forecasts. These features are described in the following sections.

4.2.6.   Re-Running a Completed Schedule

To configure a new schedule request using the same configuration settings as the completed schedule request, the user can select the *Run* icon button. This will present the user with the *New Schedule Run* module, as described above, with default settings selected automatically to match the settings of the completed schedule.

4.2.7.   Re-simulating a Skills-based Schedule

A completed Skills-based schedule run can be re-simulated to analyze the effects of changes in parameters and forecasts used in the original run on performance. The *New Simulation Run* page (Figure 4.4) reached by clicking on the *Re-simulate* icon button is used to configure a re-simulation run. For Non-skills based schedule runs, such re-simulations can be carried out directly from the Performance page described in section 4.2.8.3 below. A number of Scenario options can be configured including percent adjustments to contact volume and average service time (AST) forecasts, agent on-duty counts (AOD), and values for abandonment parameters, and before and after contact work time. The Service Profile used for the original run can also be changed by clicking on the *Activate* icon next to Service Profile. The user is required to provide a description for the re-simulation Scenario which, upon completion, is used in the Performance page to select between Scenarios for viewing data. When the Scenario configuration is completed, re-simulation is started by clicking on the *Submit Simulation* button.

Figure 4.4 – New Simulation Configuration Details

4.2.8. Viewing a Completed Schedule

The user can view the output data for a completed schedule by selecting the *View* icon button. Selecting this button displays the *View Schedules* module as shown in Figure 4.5.

Figure 4.5 – View Schedules Module

This module provides access to the output data produced by the Scheduler. The Schedule data is presented in three different formats, and also in a summary format.

4.2.8.1. Schedule Reports by Skill Group

Schedule information is provided in five different formats grouped by Skill Group (or Contact Group for Non-skills based runs). These formats are Performance, Overages/Underages Summary, Agent Start Times, Implementation format, Analytical format, and Summary format, all of which are described below. They can be viewed in the Website by selecting the corresponding *View* link (except for Analytical Format), or downloaded to a comma-separated values file by selecting the *Download* link (except for Performance). All tables for an environment for each format type including Performance can be downloaded in a compressed file format by selecting the *Download All* link at the bottom of the appropriate column. In addition, data for Performance can be displayed in graphical form as described below.

4.2.8.2. Schedule Reports by Business Unit

Schedule information is provided in four formats grouped by Business Unit. These are the Agent Start Times, Implementation Format, Analytical Format, and Schedule Tour Counts. They can be viewed in the Website by selecting the corresponding *View* icon button, or downloaded to a comma-separated values file by selecting the *Download* icon button.

4.2.8.3. Performance

The Performance display contains information about the net agent requirements, number of agents scheduled, service levels, ASA, occupancy, abandonment %, on a per-scheduling period basis, for the entire week scheduled in the time zone of the database.   Thus, if the scheduling period is 15 minutes, there will be information for 672 scheduling periods in the week. This performance information can be graphed or downloaded. To view these tables in graphical form, the user can select the *Graph* icon button for the appropriate Skill Group. There are two ways in which the Performance data can be displayed graphically.   First, selecting the Monday through Sunday option from the *Graph* drop-down list and selecting the *Redraw Graph* button will display data for the entire week. An example of this graph is shown in Figure 4.6.
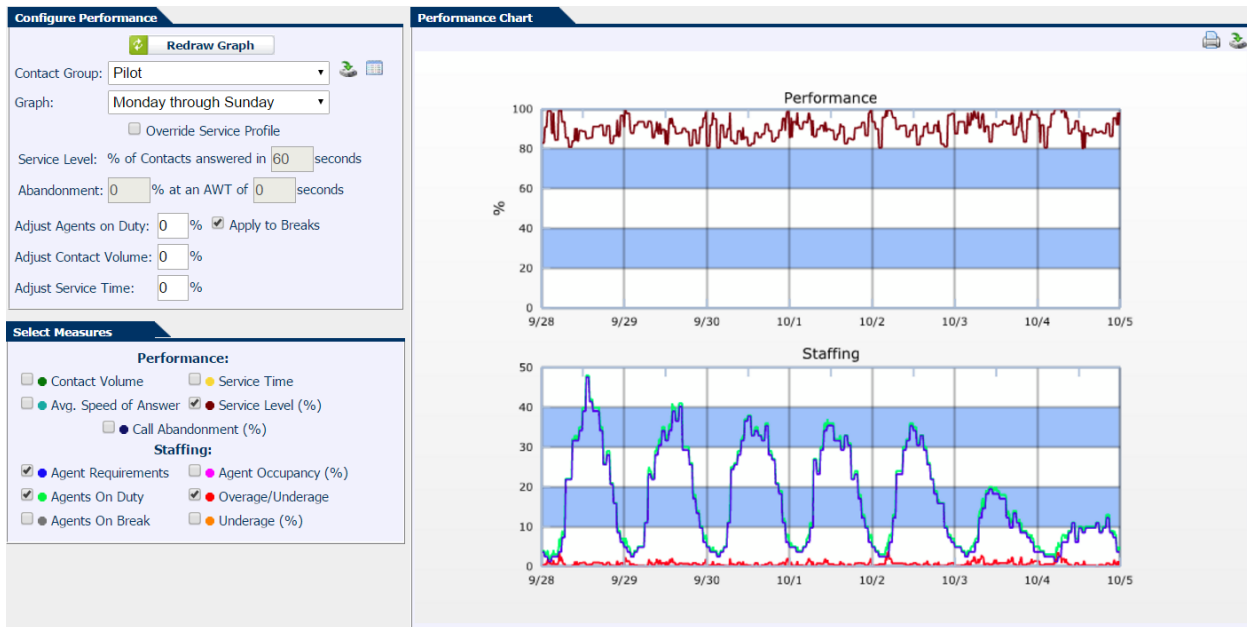
Figure 4.6 – Performance Chart Whole Week

The alternative is to choose individual days to see the data, presented hourly, for just the specified day.

If a schedule run is Non-skills based, service level and abandonment characteristics can be changed from the default and forecasts can be manually adjusted directly in the *Configure Performance* area.   If a schedule run is Skills-based, most of the configurations in the *Configure Performance* area are de-activated since analyzing performance with adjusted parameters or forecasts require Re-simulation as described in section 4.2.7

There are ten different measures available for plotting. Color used in the chart for each measure is shown in the *Select Measure* pane next to the measure.

- Agent *Requirements* are the required number of agents for each scheduling interval against which agent schedules were generated.

- *Agents On Duty* and *Agents On Break* are the numbers of agents working and on break, respectively, as scheduled for each interval.

- *Overage/Underage* is the difference between *Agent Requirements* and *Agents On Duty* for each period.

The remaining measures are calculated from the previous measures and are based on the criteria selected under *Configure Performance*.

- Average Speed of Answer (ASA): Average waiting time experienced by contacts that are eventually served. This measure includes contacts that are not delayed, but does not include contacts that are abandoned before reaching an agent.

- Service Level (%): Percentage of contacts answered within specified service level threshold.

- Agent Occupancy (%): Percentage of scheduled work time agents are busy serving contacts or completing any necessary after-contact work.

- Call Abandonment (%): Percentage of contacts that are expected to be abandoned before reaching an agent. Actual customers' patience or impatience is described by an expected abandonment rate (%) at an Average Waiting Time.

- Overage/Underage (%): Percentage by which the agents on duty exceed or fall short of agent requirements for each scheduling interval. It is calculated by dividing the difference between *Agents On Duty* and *Agent Requirements* by *Agent Requirements*.

- Underage (%): Agent shortages as a percentage of *Agent Requirements*, displayed as non-negative values for convenience.

4.2.8.4. Overages/Underages Summary

The Overages/Underages Summary tables contain information about the net agent requirements, the number of agents on duty, and agent overages and underages on a per-scheduling period basis, for the entire week scheduled in the specified time zone (by default, in the time zone of the database. These tables can be viewed directly in the Website, or downloaded. In addition, a printable version is accessible by clicking on the *Print* link, visible at the top of the table.

Warning: It important to remember that, in Skills-based scheduling, Agent Requirements and schedules for different Skill Groups are considered together to meet service performance targets. Agent requirements provided for each skill group should be interpreted together with the other Skill Groups. In a Skills-Based environment, there are alternative ways of meeting service performance targets by scheduling agents from different Skill Groups with needed skills. Thus, when service performance targets are not met, the Scheduler reports the agent requirements for each Skill Group if that Skill Group alone will make up for the additional staffing needed, given the agents scheduled in other Skill Groups. Therefore, if additional agents are available to schedule for two or more Skill Groups, it is advised that these agents be added one Skill Group at a time followed by a Re-simulation run to update the service levels.

4.2.8.5. Implementation Format

Schedules can be displayed in Implementation Format, as is shown in Figure 4.7. In this format, for each schedule, the following information is provided: The shift length, start and end times, and break times for each day of the week, in 24-hour time measurement. Depending on the configuration item selected in the Schedule Profile used to generate schedules, times in the implementation format may be in local time zone of the agents on

the first day of the week or in the main database time zone. The second column, *Fixed*, indicates whether the particular schedule was included from a previous scheduling run and not generated specifically for this run.

View Schedule Results

[Back]

Schedules in Implementation Format for Contact Group TS-ST

							DAILY SHIFT LENGTH							DAILY SCHEDULE														BREAK 1 FOR SHIFT STARTING ON							BREAK
							SUN	MON	TUE	WED	THU	FRI	SAT	SUN 10/25	MON 10/25	TUE 10/25	WED 10/25	THU 10/25	FRI 10/25	SAT 10/25					SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON
SCHED_ID	FIXED	NEW	CG	OU	TOUR	SHIFT	10/25	10/26	10/27	10/28	10/29	10/30	10/31	START END	START END	START END	START END	START END	START END	START END					10/25	10/26	10/27	10/28	10/29	10/30	10/31	10/25	10/26
AM08-mf-1982903	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	5:00 13:00		3:30 11:30	3:00 11:00	3:45 11:45		5:00 13:00	7:15		5:45	5:15	5:45		7:15	10:00
AM08-mf-1982904	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	5:45 13:45		3:30 11:30	3:00 11:00	3:45 11:45		5:00 13:00	7:45		5:45	5:15	5:45		7:15	9:45
AM08-mf-1982905	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		3:30 11:30	3:15 11:15	3:45 11:45		5:00 13:00	8:00		5:45	5:15	5:45		7:15	10:00
AM08-mf-1982906	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		3:30 11:30	3:15 11:15	3:45 11:45		5:00 13:00	8:30		5:45	5:15	5:45		7:15	11:00
AM08-mf-1982907	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		3:30 11:30	3:30 11:30	3:45 11:45		5:00 13:00	8:30		6:00	5:45	5:45		7:15	11:00
AM08-mf-1982908	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		3:30 11:30	3:30 11:30	4:30 12:30		5:00 13:00	8:30		6:15	5:45	6:45		7:15	11:00
AM08-mf-1982909	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		3:45 11:45	4:00 12:00	4:30 12:30		5:00 13:00	8:30		5:45	6:15	6:45		7:15	11:00
AM08-mf-1982910	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		3:45 11:45	4:00 12:00	4:30 12:30		5:30 13:30	8:30		5:45	6:15	6:45		7:30	11:00
AM08-mf-1982911	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		3:45 11:45	4:00 12:00	5:00 13:00		5:30 13:30	8:45		5:45	6:15	7:45		7:30	11:00
AM08-mf-1982912	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		3:45 11:45	4:00 12:00	5:00 13:00		5:30 13:30	8:45		5:45	6:15	7:45		7:30	11:00
AM08-mf-1982913	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		3:45 11:45	4:00 12:00	5:00 13:00		5:30 13:30	8:45		5:45	6:15	7:45		7:30	11:00
AM08-mf-1982914	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		4:30 12:30	4:00 12:00	5:00 13:00		5:30 13:30	8:45		7:15	6:15	7:45		7:30	11:00
AM08-mf-1982915	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		4:30 12:30	4:00 12:00	5:00 13:00		5:30 13:30	8:45		7:15	6:15	7:45		7:30	11:00
AM08-mf-1982916	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		6:00 14:00	4:00 12:00	5:00 13:00		6:00 14:00	8:45		8:00	6:15	7:45		8:00	11:00
AM08-mf-1982917	N	N TS-ST	TSSTLR	5x8	8HR	8:00		8:00	8:00	8:00		8:00	6:00 14:00		6:00 14:00	6:00 14:00	5:00 13:00		6:00 14:00	8:45		8:15	8:00	7:45		8:15	11:00
AM08-mf-1983506	N	N TS-ST	TSSTVB	5x8	8HR	8:00		8:00	8:00	8:00		8:00	7:45 15:45		6:30 14:30	6:00 14:00	6:15 14:15		7:00 15:00	10:30		9:15	8:00	8:15		9:00	11:45

Figure 4.7 – Implementation Format

4.2.8.6. Analytical Format

Schedules can also be downloaded in Analytical Format. This format describes the status of agents for each scheduling period during the day for seven days of the week in the time zone of the database. The format considers a 48-hour period starting from the beginning of a weekday in order to account for a particular schedule continuing into the next day. In this format, the code 0 indicates that the agent is off duty. The code 1 indicates that the agent is on duty and available to take calls (not on a break). The codes 2 or higher indicate that the agent is taking his or her first, second, third break, etc., respectively. Because of the size of this table, it is available only for downloading.

4.2.8.7. Summary

In addition to the preceding, a summary of statistical information for each Skill Group is provided, as is shown in Figure 4.8. These statistics include the total cost for the best schedule found, objective (agent cost or time) value, estimated lower bound (total cost or agent time), estimated percent gap, full-time equivalent (FTE) agents scheduled, total agent minutes required, total agent minutes scheduled, total agent minutes paid, total shortages, and percent shortage. For schedules generated using incremental scheduling, the total agent cost for fixed schedules, the total paid agent minutes for fixed schedules, and the numbers of fixed schedules are also displayed.
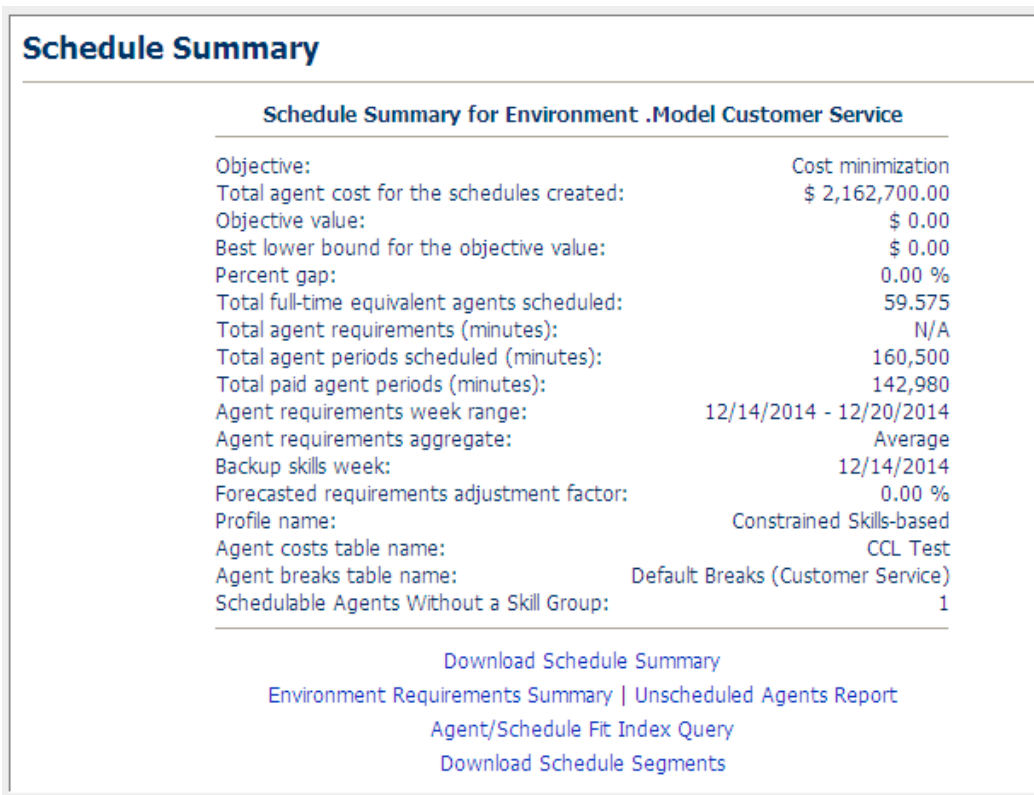
Schedule Summary

Schedule Summary for Environment .Model Customer Service

Objective:	Cost minimization
Total agent cost for the schedules created:	$ 2,162,700.00
Objective value:	$ 0.00
Best lower bound for the objective value:	$ 0.00
Percent gap:	0.00 %
Total full-time equivalent agents scheduled:	59.575
Total agent requirements (minutes):	N/A
Total agent periods scheduled (minutes):	160,500
Total paid agent periods (minutes):	142,980
Agent requirements week range:	12/14/2014 - 12/20/2014
Agent requirements aggregate:	Average
Backup skills week:	12/14/2014
Forecasted requirements adjustment factor:	0.00 %
Profile name:	Constrained Skills-based
Agent costs table name:	CCL Test
Agent breaks table name:	Default Breaks (Customer Service)
Schedulable Agents Without a Skill Group:	1

Download Schedule Summary

Environment Requirements Summary | Unscheduled Agents Report

Agent/Schedule Fit Index Query

Download Schedule Segments

Figure 4.8 – Summary for Contact Group

4.2.8.8. Schedule Summary for Environment

On the main *View Schedules* module display, as is shown in Figure 4.8 above, summary information for the entire environment is provided. This information includes the aggregated statistical information that is provided for each Skill Group individually for the entire environment, as described in the previous section, and also a restatement of the schedule request configuration parameters, such as the Agent Requirements settings and the Schedule Profile, Agent Costs Table, Agent Breaks Table, Schedule Profile names. For schedules generated using incremental scheduling, the number of fixed schedules, the number of paid agent minutes, and the total cost for the fixed schedules are also displayed in the summary.

4.2.8.9. Balance Reports

A link to the *Balance Reports* display screen is provided on the main *View Schedules* module display, as shown in Figure 4.5 above. This link will be available if the schedule generation option selected in the Schedule Profile used for the run is not the *Unconstrained Tour Groups* option. This screen allows selection of several reports related to schedule balancing options. One of these reports is the *Weekends Off by Business Unit/Organizational Unit*, which appears as shown in Figure 4.9 below. This display shows the number of schedules generated which have one, two, or no days off during the weekend, on a per-OU basis. This enables the user to see the balance of weekends off between OUs. The statistics presented are after the Scheduler has attempted to balance the weekends off between OUs, if the schedule run's Schedule Profile requested balancing to be done.

Figure 4.9 – Weekends Off by Organizational Unit

4.2.8.10.   Environment Requirements Summary

On the *View Schedules* module display, there is a link to the Environment Requirements Summary, which is shown in Figure 4.8, above. The user can use this module to view required, agents on duty, call volume, etc. at an environment level, as shown in Figure 4.10.

Warning: The Environment Requirement Summary report in skills-based scheduling runs should be used with caution. In a skills based run, staffing requirements and agent schedules are for skills groups and not directly attributable to individual skills or contact groups. This report is exact for a non-skills based scheduling run. But for a skills-based run, it is only a gross allocation of skill group staffing requirements and AOD to provide information about the alignment of total AOD with respect to staffing requirements.

Figure 4.10 – Environment Requirements Summary Report

4.2.8.11. Backup Skills Schedule Report

When an option other than *None* is selected for Backup Skill Scheduling in the Schedule Profile, the specific times allotted for backup are available in the Agent Backup Report. A link to the *Agent Backup Report* is provided on the main *View Schedules* module page.

4.2.8.12. Unscheduled Agents Report

A link to the *Unscheduled Agents Report* is provided on the main *View Schedules* module page. When *Auto-bidding* is used to assign schedules to agents based on their preferences and ranking criteria specified, the *Unscheduled Agents Report* lists the agents for which schedules were not created with a brief explanation below the agent's name.

4.2.8.13. Schedule Editing

The *View Schedules* module provides Schedule Editing capabilities. To access this functionality, select a Skill Group (or Contact Group for Non-skills-based runs) from the *Select Skill Group* drop-down, within the Edit Schedules block, and then click the *Edit* icon button to begin editing the schedules, as shown in Figure 4.11.

If this is an unedited schedule run, a copy of the original run will be made and will be available from the *Manage Schedule Runs* page. The original schedules and the edited schedules can be compared at any point.
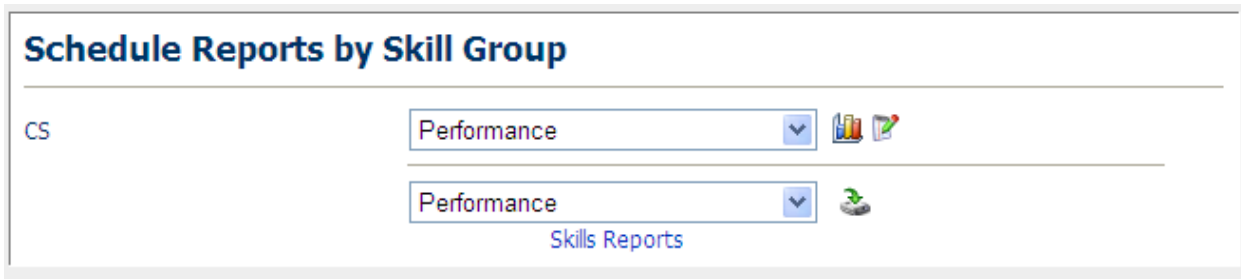

Figure 4.11 - Edit Schedule

4.2.8.13.1. Agent Overages/Underages

Clicking the *Show Performance Chart* link will reveal the Agent Overages/Underages graph, as shown in Figure 4.12. This graph displays the weekly Agent Schedule data, which is updated as schedules are added, edited, or deleted. The graph will show the effects of schedule editing on the total weekly scheduling for the Contact Group.
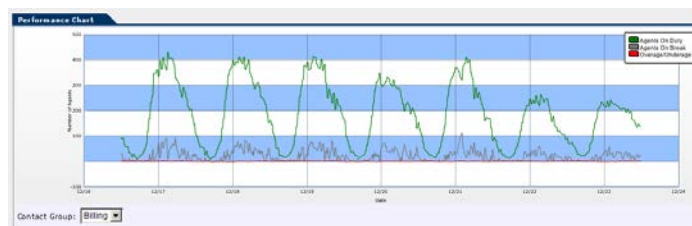

Figure 4.12 - Agent Overages/Underages

4.2.8.13.2. Performance Chart Configuration

Clicking the *Show Chart Configuration* link will open the *Select Measures* and *Configure Performance* windows as shown in Figure 4.13. These windows manage the Performance Chart in the same way as the *Performance* page, as described in section 4.2.8.3. Please refer to this section of the manual for more details.
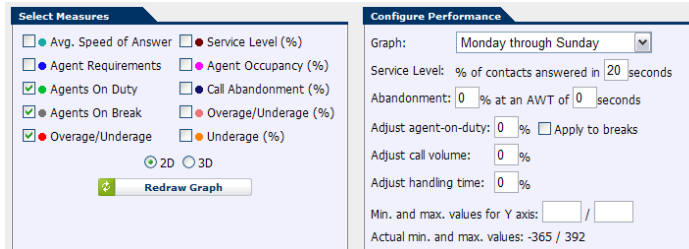

Figure 4.13– Performance Chart Configuration

Note: Configurable fields in the Configure Performance area will be de-activated for Skills Based schedule runs. Service performance updates for Skills-Based schedule runs after editing require Re-simulation. Please see sections 4.2.7 and 4.2.8.4 for more information.

4.2.8.13.3. Schedule Details View

The *Schedule Details* area provides a weekly Gantt chart view of all of the schedules for this Skill Group (or contact group for Non-skills-based runs), as shown in Figure 4.14. The time intervals in green represent an agent's at work state (breaks are not shown), the time intervals in blue represent off work time periods. If the schedule start times for a schedule are the same on every work day during the week, the schedule's start time will be present in the *Start Time* column. If the start times are variable during the week for the given schedule, the *Start Time* column will display VAR. The schedules shown may be filtered by making selections from the *Organizational Unit Name* list and the *Tour* list, or by using the page controls at the top right corner to select the page to view. At most, 20 schedules will be displayed on a given page.

By default, the schedules are ordered by Schedule ID in ascending order. The schedules can be sorted by Schedule ID or Start Time, ascending or descending, by selecting the appropriate column header. An arrow appears next to the column header to indicate sort order.
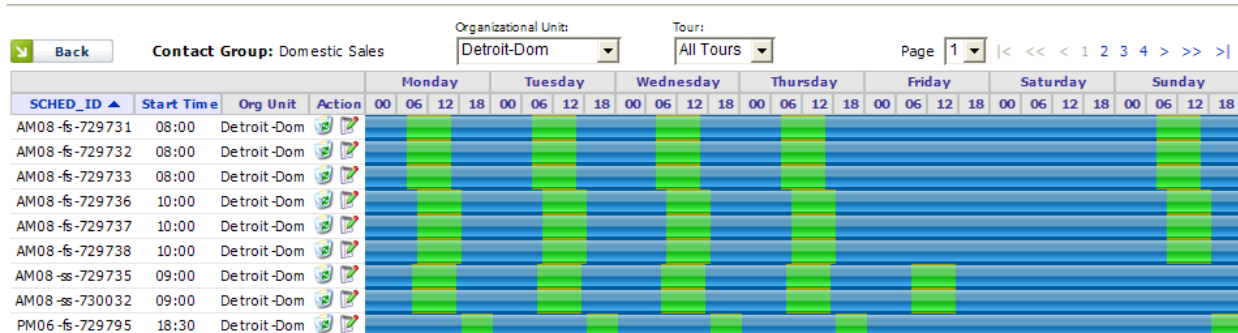

Figure 4.14 - Schedule Details

The start time and day of a schedule may be edited through this view by clicking on one of the green schedule periods. A dialog box, as shown in Figure 4.15 is presented for editing.

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The *Day* field will be populated with available days of the week for this particular shift. The *Start Time* field will be populated with valid start times throughout the selected day for the given shift. Clicking *Save* will commit this change, and the Schedule Details and Agent Overages/Underages will be updated. Clicking *Cancel* will abort the edit request.
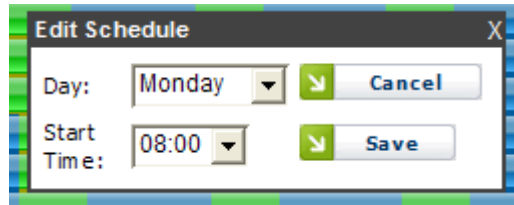

Figure 4.15 - Edit Schedule Dialog

4.2.8.13.4.   Edit Weekly Schedule

Clicking the *Edit* icon button on the *Schedule Details* module opens the *Weekly Schedule* module for the selected schedule. This view presents a more detailed view of the selected schedule.

Weekly Schedule Summary

The Weekly Schedule Summary, as shown in Figure 4.16, provides high level details about the selected schedule, including Schedule ID, Contact Group, Business Unit, Organizational Unit, and Tour Group Name.

To modify the Organizational Unit, select a new Organizational Unit from the *Organizational Unit* drop-down. The change will be stored immediately.

Figure 4.16 - Weekly Schedule Summary

Schedule Start and End Times

The Schedule Start and End Times area displays the current start time, end time and shift length for each workday in this schedule, as shown in Figure 4.17. The start time and day may be edited by selecting a new day or start time from the drop-down menus. Each drop-down is populated with only valid days or start times for the given shift. The end time is updated automatically.

Figure 4.17 - Schedule Start and End Times

Schedule Break Details

The Schedule Break Details area displays the configured breaks for this schedule, as shown in Figure 4.18. The break times may be edited. When a schedule Start Time or Day is edited, the break times will be adjusted automatically. For example, if the Monday schedule were shifted from 08:15 to 10:15 in Figure 4.18, the Monday break would be shifted to 14:45.

Figure 4.18 - Schedule Break Details

Weekly View Chart

The Weekly View chart is a graphical representation of each daily shift for this schedule, as shown in Figure 4.19. Days of the week are represented horizontally. Time within a given day is represented vertically. The color of each cell of the table represents the status of that planning period.
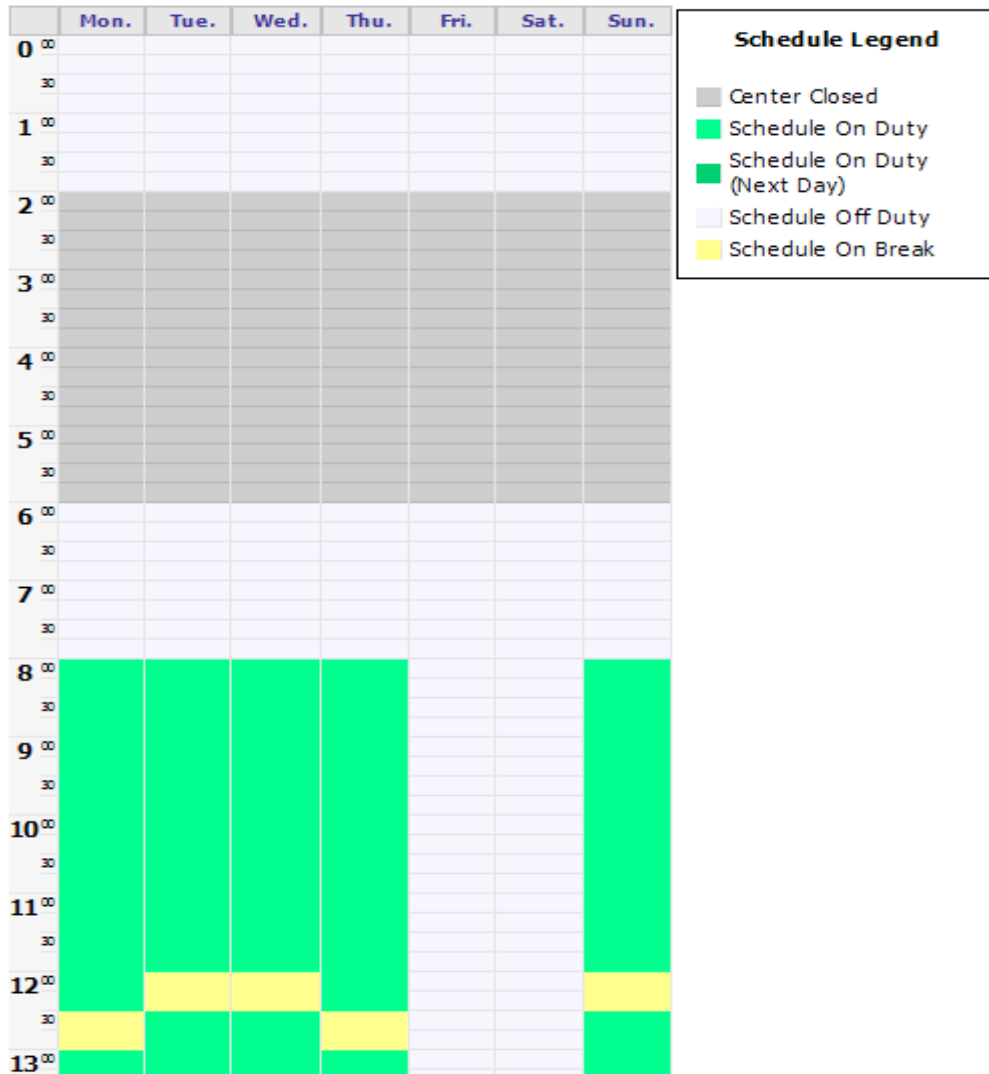
Figure 4.19 - Weekly View Chart

4.2.8.13.5. Delete Schedule

Clicking the *Delete* icon button for a schedule in the *Schedule Details* view will remove this schedule from the database. The schedule will be removed immediately.

4.2.8.13.6. Add New Schedules

Clicking on the *Show Add New Schedules* link will reveal the *Add New Schedules* control, as is shown in Figure 4.20, below. This control allows the creation of one or more schedules, all with the same Schedule Profile. The *OU*, *Tour*, *Shift*, and *Start Time* must be selected. Then, the specific days the schedules should be configured for must be selected, according to the rules presented in the *Tour Requirements* section. The number of schedules to create must be specified. Finally, clicking the *Add Schedules* button will check the information specified for any errors and either report an error message or create the schedules. Once schedules are created, the *Schedule Details* view is updated to reflect the new schedules, which are shown at the top of the list before any previously existing schedules. These new schedules can be edited by the normal means, as presented above.

Figure 4.20 Add New Schedules Control

4.2.9. Email Notification

The system is configured to automatically notify the user when the scheduling request is taken off the request queue and begins to process, the Scheduler has finished its processing and has generated schedules which are available for view, has ended processing because of an error, or a user-requested abort. A valid email address must be configured for the user in order for this feature to be enabled. Depending on the system configuration, this feature may or may not be available.

4.2.10. Deleting a Completed Schedule

The user can delete a completed schedule run, or a schedule request that is in the *Error* state or in the *Aborted* state, by checking the checkbox in the first column of the schedule row in the Manage Page, and then selecting the *Delete* button at the top of the column. Any data generated by the Scheduler for this schedule request is deleted, but the associated Schedule Profiles, Agent Costs tables, and Agent Breaks tables, Service Profiles etc., are not deleted.

5. Bidding Processes

In this Section *Preference Based Bidding, Manual Bidding and Auto-Bidding* processes are discussed.

Preference Based Bidding is a process by which agents prioritize their specific schedule choices during an established time period, and then they are assigned a schedule through an automated awarding function based on their ranking. These schedules become official once the bid award is processed. This type of bidding is typically used when the schedules are to be for a period of time (e.g. 14 weeks).

Manual Bidding is a process by which an agent name list and schedules are downloaded into a file. The names are then manually assigned to schedules in the file and the results are uploaded back in to the system as official schedules.

Auto-Bidding is an automated process that assigns agents to schedules based on their bid group ranking, organizational unit, tour group and preferred work days and times. During this process official schedules are created.

Note: For Segment Bidding/Agent Lists please refer to the WFM v2 WFM Portal Administrator User Manual sections 15 and 16.

5.1. Preference Based Bidding

The *Preference Based Bidding* Module allows the user to define agent bid groups, select schedule packages, schedule grouping criteria and set the bidding period rounds during which the agents submit their schedule choices. Once the bid window closes, the bid award can be processed. This page is found under *Planning -> Bid Manager - Bidding Periods* menu item..

5.1.1. Bidding Groups

The *Bidding Groups* module handles the assignment of agents to a bidding group which is used in the *Preference Based Bidding* and *Auto-bidding* processes. A bid group includes group members and attributes used for ranking. This page is accessed by selecting *Planning -> Bid Manager -> Bidding Groups* from the menu.

5.1.1.1. Add New Bidding Group

From the Manage Bidding Group page in the *Add New Bidding Group* box enter the bid group name and description as shown in Figure 5.1 and click on the *Add* button.
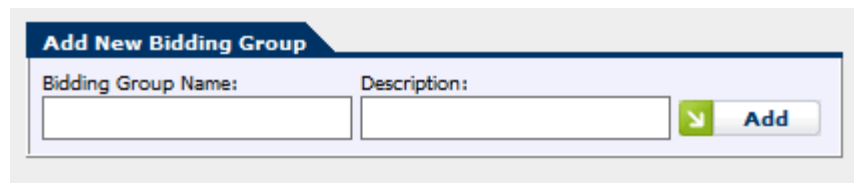
Figure 5.1 – Add New Bidding Group

5.1.1.1.1. Edit Bidding Group

The *Edit Bidding Group page* allows the user to configure his or her bid group. The page appears as shown in Figure 5.2.
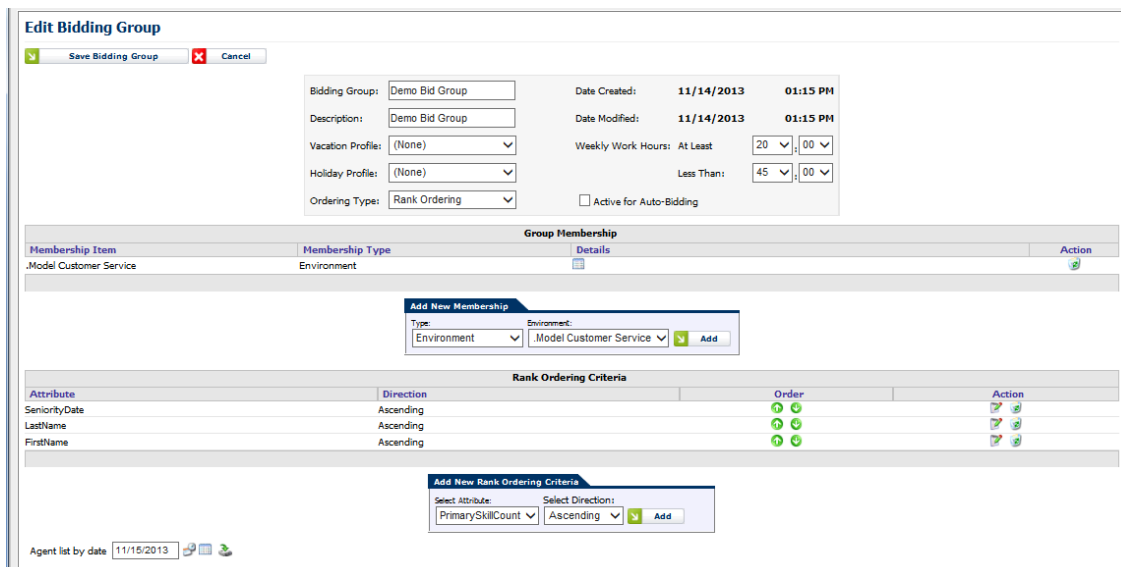
Figure 5.2 – Edit Bidding Group

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5.1.1.1.2. Order Type

Order Type offers the options for Ranking Ordering or Composite Ordering. Ranking is used to rank agents in a certain order based on the assigned order of the attributes. In ranking agents, first attribute is used to rank agents. Any tie between two or more agents based on the first attribute is broken using the second (or third) attribute.

Composite is used to rank agents in a certain order based on the weighted value of the attributes. The user selects attributes and assigns weights to them. Each attribute value for an agent is converted into a scaled value between zero and one using the maximum and minimum values specified for the attribute. These scaled values are then multiplied by the attribute weights to determine a composite score for each agent.

5.1.1.1.3. Weekly Work Hours

Weekly Work Hours are used to determine which full time or part time agents will be associated with the bidding group.

5.1.1.1.4. Active for Auto-Bidding

When the *Active* for Auto-Bidding box is checked the bid group can only be used in the *Auto-Bidding* process. For Preference bidding leave the box unchecked. The *Auto-Bidding* process is discussed in Section 1.2.

5.1.1.1.5. Group Membership

The *Group Membership* option allows the user to include agents at the Environment, Business Unit or Organizational Unit level. To exclude Organization Units at the Environment or Business Unit levels click on the *Details* icon and uncheck the ones not to be included.

5.1.1.1.6. Rank Ordering Criteria

If the Ordering Type selected is Ranking Order the *Rank Ordering Criteria* Section is displayed. It allows the user to select which order the agents will be ranked. Either System or Custom attributes can be used. This option is available in both auto-bidding and preference bidding.

5.1.1.1.7. Composite Ordering Criteria

If the Ordering Type selected is Composite Ordering the *Composite Ordering Criteria* Sections is displayed. It allows the user to select the attribute and assign a weight. Each attribute value for an agent is converted into a scaled value between zero and one using the maximum and minimum values specified for the attribute. These scaled values are multiplied by the attribute weights and summed up for each agent to obtain a composite score. This score is then used to rank agents for schedule assignment. This option is available in both auto-bidding and preference bidding.

5.1.2. Add New Bidding Periods

The user can create a new bidding period by entering a name for the new bidding period, period start and end dates, participants, awards and method and click on the *Add* button in the Manage Schedules Bid Periods page, as shown in Figure 5.3.

Figure 5.3 – Add New Bidding Period

The Administrator may set up any number of Schedule Bid Periods allowing different bidding groups to bid at different times. A schedule bid period will span a specific period of time as defined by the Bid Start Date and Bid End Date.

5.1.3. Edit Bidding Period

To manage a new bidding period, the user should simply click on the *Manage* icon in the Action column of the corresponding row. The *Edit Bidding Period* page will be displayed as shown in Figure 5.4.

Figure 5.4 – Edit Bidding Period

5.1.3.1. Agent Bid Groups and Schedule Packages

On the *Agent Bid Groups and Schedule Packages* tab, the user can select bid groups and a schedule package to be used for this bidding period shown in Figure 5.5. Schedules in the schedule package selected can be edited by clicking on the *Edit Schedules* link.

Figure 5.5 – Agent Bid Groups and Schedule Packages

5.1.3.2.　　Schedule Grouping Criteria and Rotations

On the *Schedule Grouping Criteria and Rotations* tab, the user can select to group items and create rotations.

5.1.3.2.1.　Grouping Criteria

The *Schedule Grouping Criteria* Section allows the user to group schedules by Start Times, Shift Length and Days Off to limit the number of schedule combinations to be displayed to agents to bid on as shown in Figure 5.6.
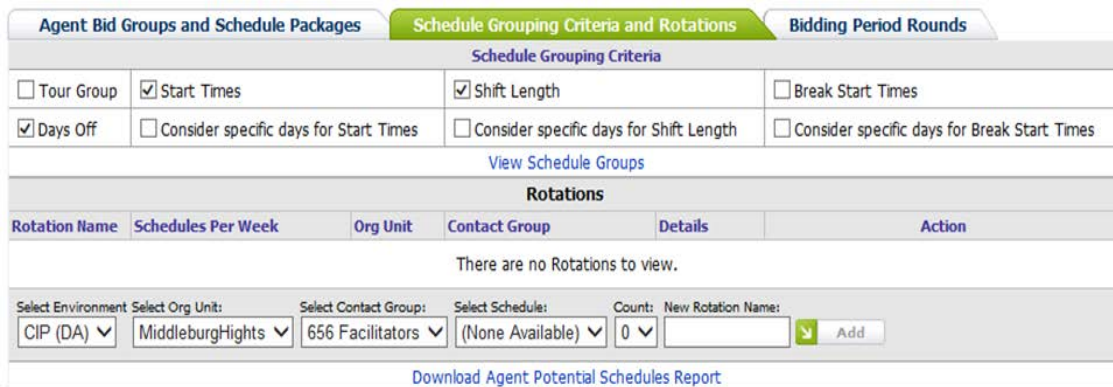
Figure 5.6 – Schedule Grouping Criteria

5.1.3.2.2.　Rotations

The *Rotations* Section allows the user to put together schedules from one Organizational Unit and one Contact Group creating a rotation and giving it a name.　Once the first schedule and rotation name is added, click on the *Edit* icon for the corresponding row.　From the Select Schedules drop-down select additional schedules to complete the rotation as shown in Figure 5.7.

Figure 5.7 – Rotations

5.1.3.3.   Bidding Period Rounds

On the *Bidding Period Rounds* tab the user can specify when the bid window will be open for agent bidding. The user should enter a bidding round name, the Date/Times the bidding round will open and close, and then click on the *Add* icon as shown in Figure 5.8.
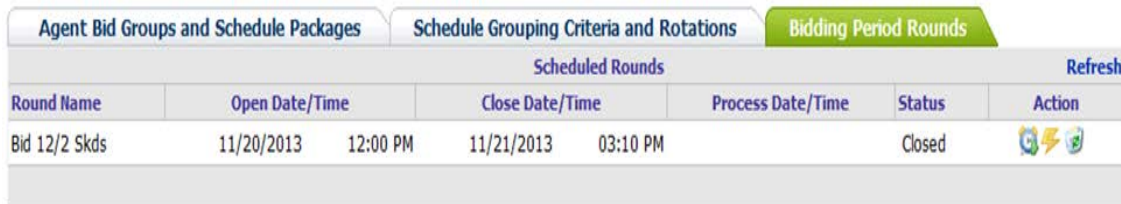

Figure 5.8 – Bidding Period Rounds

A bid round can be re-opened by clicking on the *Re-Open* icon (Clock) on the Bidding Period Rounds tab as shown in Figure 5.9.

Figure 5.9 – Bidding Period Rounds Re-Open

5.1.3.4. Process a Bid

Once a bidding round is closed, the Administrator can process the bid by clicking on the *Process* icon ⚡ on the Bidding Period Rounds tab as shown in Figure 5.10. The Status will change to show Processing. Click on *Refresh* to check the status.

Agent Bid Groups and Schedule Packages	Schedule Grouping Criteria and Rotations		Bidding Period Rounds		
		Scheduled Rounds			Refresh
Round Name	Open Date/Time	Close Date/Time	Process Date/Time	Status	Action
Bid 12/2 Skds	11/20/2013 12:00 PM	11/21/2013 03:10 PM		Closed	🔄⚡📄

Figure 5.10 – Bidding Period Rounds Process

Once the process is complete you can view the awards by clicking on the *Show Awards* link.

5.1.3.5. Accept a Bid Result

The user can accept the bid results when the processing is completed. To do this, the use should click on the *Accept* icon ✅ in the Action column on the *Bidding Period Rounds* tab as shown in Figure 5.11

Agent Bid Groups and Schedule Packages	Schedule Grouping Criteria and Rotations		Bidding Period Rounds		
		Scheduled Rounds			Refresh
Round Name	Open Date/Time	Close Date/Time	Process Date/Time	Status	Action
Open to Bid	11/21/2013 03:26 PM	11/21/2013 03:26 PM	11/21/2013 03:27 PM Processed		⚡✅📄
					Accept
					Show Awards

Figure 5.11 – Bidding Period Rounds Process Accept

5.1.3.6. Accept Bidding Period Result

Once all bid rounds are complete and accepted, the user can click the *Accept Bidding Period Results* button to accept the results of the entire bid period as shown in Figure 5.12. The official schedules are populated for the entire bid period and be visible to agents at the AWO Agent Workstation web site.

Figure 5.12 – Accept Bidding Period Results

5.2. Auto Bidding

The *Auto-Bidding Transfers* module handles the assignment of schedules to agents through an automated process. It uses i) the ranking order from the bid group, ii) obtains the agents organizational unit and skills, iii) checks agents tour group and availability settings, and iv) the agents preferences specifying preferred work Days/Times. The *Auto-Bidding* process then tries to find a schedule for each agent that is the closest match to that agent's preferences. Agents are assigned to schedules based on the rank order. These schedules automatically become the official schedules. This page is accessed by selecting *Planning -> Bid Manager – Auto-Bidding Transfers* from the menu.

5.2.1. Bidding Group

A bidding group must be created with the box checked for "Active for Auto-Bidding" see Section 5.1 Bidding Groups.

5.2.2. Run Auto-Bidding Assignments

To run an auto-bid from the *Run AutoBidding Assignments* page, the user can select the Environment, the published scheduling package and click on the *Run Assignment* button in the *Run New AutoBidding Assignment* area as shown in Figure 5.13. The user can click on the *View Potential Agent Schedule Assignments* icon to preview possible assignments.

Once the run has completed the user has the options to *Delete*, *View Assignments*, *Download* or *Transfer Again* using the icons in the Action column.
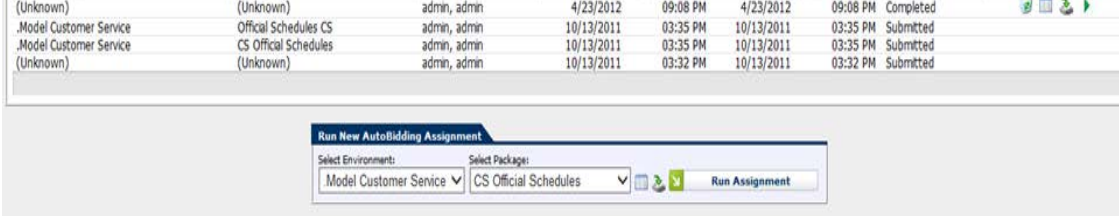
Figure 5.13 – Run Auto-Bidding Assignments

5.3. Manual Bidding

The *Manual Bidding* Module allows the user to download schedules from a specific published schedule run, assign agents to schedules manually and upload the assignments. This page is accessed by selecting *Planning -> Bid Manager -> Manual Bidding* from the men, as shown in Figure 5.14.
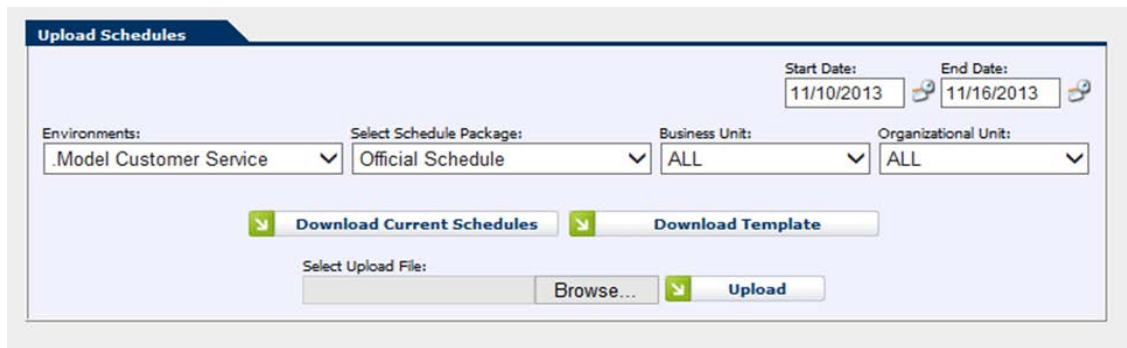

Figure 5.14 – Upload Schedules

5.3.1.   Download Current Schedules

The *Download Current Schedules* button allows the user to get a current list of official agent schedules for the date range specified. The user should select an Environment, enter Start and End dates, and set the Select Schedule Package to Official Schedules.

5.3.2.   Download Template

The *Download Template* button is used to download a file that contains two tabs, 1) Schedules and 2) Schedulable Agents for the week dates specified in the Start and End Date boxes. The user should use the agent names and HR ID numbers in this file to assign schedules found on the Schedules tab. Once completed, the file should be saved to a local folder. The user can click on the *Browse* button, locate the file and then click on the *Upload* button to complete manual bidding. These schedules automatically become the official schedules.

Note: Changes made to schedules in the downloaded file will be ignored during uploading. Schedule changes can be made by an Administrator using the Manage Agent Schedules page at the Agent Workstation web site. Editing schedules is discussed in Section 11.3.2 of the WFM v2 Agent Workstation Administrator Web Site User Manual.