GENESYS™

Outbound Contact Deployment Guide

Dialing Modes

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Contents

Dialing Modes

Outbound Contact supports the following dialing modes:

- Predictive (a Transfer mode). For a standard environment, see Predictive Dialing Modes; for a VoIP environment, see Predictive GVP Dialing Mode.
- Predictive with seizing (an Active Switch Matrix [ASM]) mode). For a standard environment, see Predictive with Seizing Dialing Mode; for a VoIP environment, see Outbound-VoIP in ASM Dialing Modes.
- Progressive (a Transfer mode). For a standard environment, see Progressive Dialing Mode; for a VoIP environment, see Progressive GVP Dialing Mode.
- Progressive with seizing (an ASM mode). For a standard environment, see Progressive with Seizing Dialing Mode; for a VoIP environment, see Outbound-VoIP in ASM Dialing Modes.
- Preview. See Preview Dialing Mode.
- Push Preview. See Push Preview Dialing Mode.
- Direct Push Preview. See Direct Push Preview Dialing Mode.
- Power GVP. See Power GVP Dialing Mode.
- Last In First Out (LIFO). See Last In First Out Campaign Groups for Record Processing.

Note:	For more information about a VoIP deployment, see Outbound VoIP Deployment.

After a dialing session for a campaign has started, the user can change the dialing mode in the following ways:

- From Predictive to Progressive, and vice versa

Note:	If you change the mode from Progressive to Predictive while the Campaign is running, the Campaign switches to the new mode when it reaches the value set by the history_length option. If that value has already been reached at the time of the change, the mode changes immediately.

- From Predictive with seizing to Progressive with seizing, or vice versa

To change from any Predictive or Progressive dialing mode to Preview dialing mode, you must stop and restart the dialing session for the campaign group.

Outbound Contact supports call blending in any dialing mode. Among other considerations, OCS takes into account queued inbound calls. By using the progressive_blending_reserved_agents option, you can specify the number of reserved agents in Progressive dialing mode that should be available for inbound traffic. For more information about the progressive_blending_reserved_agents option, see Outbound Contact Configuration Options.

Dialing Modes and Third-Party Clients

Outbound Contact supports communication with Interaction Server, as a third party client, over a dedicated ESP port. For Campaign Groups in Push Preview and autodial modes the following third party client operations are supported if they meet the Request Attribute Requirements:

- Cancel records

- Mark records as Do Not Call

- Update records

- Process records

- Reschedule records

- Add records

Request Attribute Requirements

To support all operations of third-party clients:

- For requests to cancel records or mark records as Do Not Call, the request must include one of the following to identify the target record(s):

  - A valid record handle.
    If the record handle is specified in the request and OCS finds a record that has that record handle, the record or the entire chain is marked as canceled in the Calling List(s).

  - Contact Info.
    If Contact Info is specified in the request without the record handle, all records that have that Contact Info (and all chains, if any, that include these records) are marked as canceled in the Calling List(s).

  - Customer ID.
    If Customer ID is specified in the request without the record handle, all records that have that Customer ID (and all chains, if any, that include those records) are marked as cancelled in the Calling List(s).

Note:	Optionally, the Campaign name can also be specified to limit record cancellation to a Campaign that has the specified name.
	Interaction ID should be specified if URS is processing an interaction that was created by Interaction Server.

- For all other records, the request must include a valid record handle.

Routing Strategy Design

You can enhance your strategies which are used to route outbound call to the group of agents or group of places. You do so by using strategy blocks from the Outbound folder in Interaction Routing Designer (IRD). As with all the other blocks that you use in the strategy, you select the block you want to use (for example, Update record) and set the properties within this block, such as the name of Outbound Contact Server, the record handle (which you can extract from the user data of the

outbound call), and user data values that you want to pass to OCS for update.

Predictive Dialing Modes

There are three predictive dialing modes:

- Predictive Dialing Mode
- Predictive with Seizing Dialing Mode
- Predictive GVP Dialing Mode

In the predictive dialing modes, Outbound Contact can dial more calls than the number of available agents in a group--making use of the predictive algorithm to determine the pacing.

Predictive Dialing Mode

The Predictive dialing mode predicts agent availability when it dials calls from a calling list. Predictive mode is recommended for high-volume, low-value campaigns.

Predictive with Seizing Dialing Mode

In the *Predictive with seizing* dialing mode (an ASM mode), a call is dialed automatically, based on a prediction of agent availability, and the agent is "seized" (engaged) before the called party answers. There is no delay time after the customer is connected. Predictive with seizing is an Active Switching Matrix (ASM) mode.

Predictive GVP Dialing Mode

In the Predictive GVP dialing mode, the non-zero waiting time is taken into account, implementing a call flow that uses a system queue for impatient customers. In this model, a waiting customer might give up (or abandon) the call after a period of time. Based on the assumption that these time periods are exponentially distributed random values with an average value that characterizes the customer's patience, the Predictive GVP algorithm calculates an outbound dialing rate to achieve the Target Value of the optimization method, by using the average customer patience time. The algorithm dynamically estimates the average patience time, based on the last call's statistics.

The following optimization methods can be used with Predictive GVP dialing mode:

- Agent Busy Factor
- Overdial Rate
- Average Waiting Time
- Average Distribution Time

Note:	OCS always uses Hot Start in the Predictive GVP dialing mode. If the options for the predefined statistical data (predictive_patience_time, predictive_hit_ratio,

	predictive_outbound_call_duration, predictive_inbound_rate, and predictive_inbound_call_duration) are not configured, OCS applies their default values, which may not be efficient.

Agent Feedback for the Predictive Dialing Modes

To improve dialing efficiency in the predictive modes (for example, to increase the Busy Factor for a given value of the Abandon Rate), OCS supports better optimization by accepting estimated call-completion time notifications from agents through the ReadyTime event. In this event, the agent desktop provides OCS with preliminary information on the time remaining for an agent to complete call processing.

As a result of these notifications, OCS evaluates whether an agent is trusted or distrusted. A *trusted agent* is one with a calculated trust factor that is less than the Overdial Rate optimization parameter for that campaign. In other words, the agent is available to handle another call when OCS expected the agent to be available.

A *distrusted agent* is one with a trust factor that is greater than the Overdial Rate for that same campaign.

The *trust factor* is the percentage of false notifications in comparison to all ReadyTime events received. A notification is considered false when an agent is not ready within the tolerance set in the time-to-ready-tolerance option after OCS receives the ReadyTime event. This tolerance is the allowed accuracy in the agent's estimation of when that agent will complete call processing and become Ready.

OCS and the predictive algorithm rely on the accuracy of this information to determine when the agent is Ready.

Note:	All agents are distrusted when a dialing session for a campaign first starts.
	The predictive_algorithm option must be set to advanced_small_group for the time estimate (when the agent will become Ready) that is delivered to OCS from the agent desktop to be considered by the predictive algorithm.
	Time to going Ready estimates are taken into account only if the Overdial Rate is used as the optimization parameter.

Note:	OCS does not support the Agent Feedback feature in the Predictive GVP dialing mode.

Predictive Algorithm

The predictive dialing algorithm performs real-time pacing calculations based on continuously sampled values for the following parameters:

- Statistics:

- Average talk time (for both outbound and inbound calls)

- Average not ready time

- Average wrap-up time

- Average contact rate per campaign (percentage of answered calls over total dialed calls)

- Number of currently queued calls (both inbound and outbound)

- Average inbound traffic volume based on the value of the history_length option

- Resources:

  - Number of available agents logged in the group

  - Number of available dialing ports

- Controllable parameters:

  - Optimized parameters, such as Agent Busy Factor, Overdial Rate, Average Waiting Time, Average Distribution Time (for Predictive GVP dialing mode only)

  - Goal value of the chosen optimized parameter

Outbound Contact can support an unlimited number of agent groups, each of which has its own independent dialing engine. In other words, each group can run its own outbound campaign with its own pacing based on real-time, campaign-specific statistics. By default, Outbound Contact treats all agent groups with which it works as blended groups by immediately adjusting pacing if both inbound and outbound calls are routed to the same group.

Optimization Parameters

In predictive dialing modes, Outbound Contact offers *optimization parameters*. These parameters directly affect the performance of dialing algorithms in the predictive dialing modes. These parameters include the following:

- Agent Busy Factor
- Overdial Rate
- Average Waiting Time
- Average Distribution Time
- Maximum Gain

You specify these parameters as part of the campaign group configuration process within Genesys Administrator > Provisioning tab > Outbound Contact > Campaign > Campaign Group.

Predictive Algorithm for Customer Abandoned Calls

This algorithm, used in the Predictive GVP dialing mode, implements the Average Distribution Time optimization method (in addition to the other four optimization methods). See Optimization Parameters. The Target Value for this optimization method is the average waiting time in queue for all calls, including abandoned calls. The waiting-time-in-queue begins the moment a call is queued to be transferred to an agent and ends when the call is connected to the agent or abandoned. The Predictive GVP algorithm calculates and logs the actual value of the average waiting-time-in-queue, which is the actual average distribution time.

The Target Value for the Average Distribution Time optimization method should be less than the average patience time. In accordance with the Erlang-A model for exponentially-distributed customer waiting times, the expected Abandon Rate is calculated as follows:

Abandon Rate = Average Distribution Time / Average Patience Time

The Predictive algorithm for the Predictive GVP dialing mode handles inbound traffic in the same way as all other Predictive algorithms, but also applies the following restrictions, and performs the following calculations:

Restrictions

- Restricts the outbound dialing pace so that the expected Abandon Rate does not exceed 30 percent.

- Restricts the outbound dialing rate so that the number of busy ports does not exceed the total number of ports available for Campaign Group. The number of busy ports equals the current number of calls in the dialing and queued states. The total number of available ports is the lesser of the total ports for the Trunk Group as reported by SIP Server in the EventResourceInfo parameter and the non-zero value of the number of CPD ports that are specified for the Campaign Group.

- Restricts the outbound dialing rate so that the number of requested outbound calls-per-second does not exceed the maximum number of dialing-requests-per-second, as specified for Campaign Group by using the dialing_rate_limit configuration option.

Calculations

- Calculates the Hit Ratio as the percentage of queued calls, relative to all dialed calls. Calls answered by a live persons and released without this queuing are considered a special type of No Contact call.

- Calculates the Overdial Rate as the percentage of abandoned queued calls, relative to all calls that are queued to be transferred to an agent. When the actual Abandon Rate (calculated from the time when the Campaign Group is started) exceeds the value that is specified by the predictive_max_overdial_rate configuration option, OCS switches the predictive algorithm to the Advanced Small Group algorithm, where the Target Value equals the predictive_max_overdial_rate configuration option or the pa-abandon-rate-limit configuration option, if the latter is smaller.

The Predictive algorithm for the Predictive GVP dialing mode supports the features that are currently implemented for the other Predictive algorithms, including Agent Assignment, the dynamic allocation of dialing rate and ports, and the self-diagnostic.

Configuration Options

The following options can be configured to optimize the Predictive GVP algorithm:

- predictive_patience_time--Use this option to specify the starting value of the average patience time.

- pa-selfcheck-adt-threshold--Use this option to specify the percentage of the target Average Distribution Time that the Predictive algorithm uses as the threshold to report the dialing performance degradation.

Note:	When you are using the Predictive GVP dialing mode, there are some important things to note.
	The pa-dial-expire and pa-queue-expire configuration options specify the timeouts for cleaning up stuck calls that are in dialed and queued states. The timeouts are used to distinguish normal

and abnormal call flows. These options should be set to values that are higher than the maximum expected durations of each state. When you are using Predictive GVP mode, these durations might be significantly higher than for other dialing modes.

The pa-hitratio-min configuration option specifies (as a percentage), the minimum value of the Hit Ratio, which is used to predict the dialing pace. The Hit Ratio is the percentage of queued calls, relative to all dialed calls. For Predictive GVP mode, calls are queued only when conversations with live agents are required. Therefore, the Hit Ratio can be significantly less than that of a regular Predictive mode. This option should be set to a value that is less than the minimum expected percentage of conversations with agents to all dialed calls.

Predictive Algorithm for Pacing Based on Gain/Loss Criteria

This algorithm uses the Maximum Gain optimization method for the Predictive dialing mode. This method dynamically predicts the optimal dialing pace to maximize the total gain of a campaign, based on a given ratio of benefit-per-established-call to loss-per-abandoned-call. This method has no target value in the strict sense, but Target Value is used to set the benefit-to-loss specific ratio (see Configuring Maximum Gain). Contact center managers can set this ratio in accordance with the real impact of established and abandoned calls on a campaign.

The Maximum Gain optimization method can be used in the Predictive, Predictive with Seizing, and Predictive GVP dialing modes. This method supports existing features for the other optimization methods, such as a preliminary Progressive-in-Predictive mode (using *Hot Start* with predefined statistical data), Agent Assignment, the dynamic allocation of the dialing rate and ports, and the self-diagnostic algorithm.

In addition, the Maximum Gain optimization method includes a special algorithm that maximizes the total gain for small groups of agents. This algorithm considers the benefit-to-loss specific ratio, the current readiness of agents to answer calls (including estimated call-completion time notifications from agents), the current numbers of dialed and queued calls in progress, and the estimated value of the Hit Ratio. It is configured in the same way as the Advanced Small Group algorithm for the OverDial Rate optimization method.

Example

To find the optimal Target Value for this optimization method, compare the beneficial effect of an increase in Agent Busy Factor to a negative effect of an increase in Overdial Rate. The Agent Busy Factor is determined by the number of established calls (answered by agents) and the Overdial Rate is determined by the number of abandoned calls.

Assuming that each established call provides a benefit (B) and each abandoned call incurs a loss (L), the total gain (TG) (the total B minus the total L) per average service time is calculated as follows:

TG = ABF*N*B - ODR*DP*L

Where:

- ABF = Agent Busy Factor

- N = Number of agents

- B = Benefit value per each established call

- ODR = Overdial Rate

- DP = Dialing pace (in Erlang units)

- L = Loss value per each abandoned call

Configuring Maximum Gain

Use Genesys Administrator to set the Maximum Gain optimization parameter for any type of Predictive dialing mode that uses this parameter. When this optimization parameter is selected, you will be prompted for the following two values:

- Established outbound call gain

- Abandoned outbound call loss

When Genesys Administrator communicates with OCS to store information in the Campaign Group configuration object, it uses the following formula to convert the two values to the following single value:

Target Value = (Established Gain/Abandoned Loss) * 100

Restricting the Abandon Rate

The predictive_max_overdial_rate configuration option is used to restrict the real Abandon Rate by switching the dialing mode from Predictive to Progressive if the current actual Abandon Rate exceeds the value of this option. However, switching to Progressive mode can significantly reduce the Busy Factor. Therefore, this option is best used to guarantee compliance with the legal requirements of Abandon Rates.

Genesys recommends that you use the pa-abandon-rate-limit configuration option (see pa-abandon-rate-limit) with the Predictive algorithm to restrict the expected Abandon Rate in all types of Predictive modes and for all the types of optimization methods.

Predictive Algorithm for Small Groups

Outbound Contact provides you with two predictive algorithms for dialing outbound calls during a campaign that are specifically designed to handle small groups of agents.

- Small group algorithm--This algorithm waits until all dialed calls are completed before dialing new calls.

- Advanced small group algorithm--This algorithm accounts for all inbound calls and also allows calls to be initiated, even if one or more calls remain in the dialing stage, instead of waiting until all dialed calls are completed.

You specify the small group algorithm by configuring the predictive_algorithm option with either the small_group or advanced_small_group value. You can choose to exclude current outbound calls with long dialing durations from pacing calculations made by the advanced small group algorithm. To do so, set the value for the pa-exclude-long-dialing configuration option to true.

Predictive Algorithm Self-Diagnostic

In release 7.6.101 and higher, the predictive algorithm has been enhanced with self-diagnostic

capabilities to limit performance degradation, which could result in a deviation from the optimization parameters (Busy Factor, Overdial Rate, and Average Waiting Time) that are associated with the loss of a dialing pace.

Four options are associated with this self-diagnostic capability:

- pa-selfcheck-awt-threshold
- pa-selfcheck-bf-threshold
- pa-selfcheck-odr-threshold
- pa-selfcheck-interval

Diagnostic results are reported using log events that identify the expected cause of the degradation and addresses four areas:

- 12-50131: call-related factors, which include the following scenarios:
    - Unexpected call-related agents' activity, which can be caused by:
        - Agent state PA_StatAgentBusyRingOrDial that is not caused by Outbound, OutboundOther, or Inbound call types.
        - Agent goes to the Not Ready state from the Ready state but is not checked out.
        - Agents log out from the Ready state, but does not use Smart LogOut.
    - Low Hit Ratio.
    - Transferring outbound calls to another campaign.
    - Receiving outbound calls that are transferred from another campaign.
    - Engaging call duration influence.

A sample log event of this type might be:

12:35:49.844 Std 50131 Campaign Group 'Alpha Campaign@AlphaAgentGroup', Busy Factor defined 80, actual 50, call-related reason: Hit Ratio is low

- 12-50132: configuration factors, which include the following scenarios:
    - Long calls, which last more than outbound_agent_outlier_limit) on agents and thus agents become Not Available.
    - A dials-per-second limitation on the switch or Campaign Group level
    - Violation of Overdial Rate limitation (predictive_max_overdial_rate) with a transition to the Progressive-in-Predictive mode.
- 12-50133: malfunctions, which include the following scenarios:
    - Abandoned calls in the presence of Ready agents.
    - Cleaning or removing outbound calls (calls that are frozen in either a Dialed or Queued state and removed by the Garbage Collector).
    - Not Ready agents become Busy with new outbound calls (usually caused by an inadequate telephony event sequence).
    - The Outbound dialing rate is greater or less than predicted.

- 12-50134: external conditions, which include the following scenarios:

  - Lack of dialing ports.

  - Campaign Group--related waits:

    - Lack of dialing records.

    - Lost connections to important supporting servers (for example, T-Server or Stat Server).

    - Missing connection to the Do Not Call list.

Time-Optimized Predictive Algorithm

The time-optimized predictive algorithm provides contact centers with the flexibility to adjust the dialing pace for a specific period. The main benefit of this algorithm is that it allows you to increase the Busy Factor but still keep the overdial rate (ODR) within legislative limits. This improves the daily performance for the Busy Factor and the wait time for each agent.

In releases prior to 8.0, the classical predictive algorithm calculated the required dialing pace only based on the ODR that was set in the Campaign Group object. However, the actual overdial rate might be less at any given time because of factors such as:

- A non-zero waiting time for accepted outbound calls in a queue that the classical predictive algorithm does not take into account.

- A decrease in the hit ratio and in the average call duration and an associated increase in the number of available agents.

- The loss of dialing and queued outbound calls due to errors or transfers to other campaigns.

This time-optimized algorithm optimizes predictive dialing by recalculating the dialing rate so that the overdial rate criteria is met for a specific period of time (day, month, and so on). For example, if the target value for the overdial rate is 3 percent for an eight-hour business day, a new target value can be calculated and the dialing rate can be adjusted every hour so that the overdial rate for the eight-hour period meets the target value for that 8-hour period (as configured in predictive_max_overdial_rate. This increases the predictive dialing efficiency.

Depending on the current overdial rate, this time-optimized algorithm functions as follows:

- If the current overdial rate is less than the target, the acceptable overdial rate can be greater than the target for this time period. Therefore, the new dialing rate can be greater than the dialing rate that is predicted by the classical predictive algorithm. With this new algorithm, OCS increases the dialing rate by the difference between the target and the current overdial rates. This dialing rate increases the agent-busy factor. As a result, outbound campaigns that run under legislative limitations on the overdial rate can be more efficient.

- If the current overdial rate is greater than the target, the acceptable overdial rate must be less than the target in order to average out ultimately to meet the target value.

Therefore, the new dialing rate must be less than the dialing rate predicted by the classical predictive algorithm. In this case, the algorithm evaluates whether it can maintain the higher dialing rate, which increases the agent-busy factor, but at the same time meets the overdial rate target. If it cannot achieve the target, the algorithm chooses the dialing rate that produces the minimum predicted overdial rate. Decreasing the dialing rate decreases the overdial rate; hence, outbound campaigns that run under legislative limitations on overdial rate are more reliable as they take into account the

busy factor, the overdial rate, and the changing call load over the course of a time period (such as an eight-hour day).

Note:	If the predicted busy factor for the chosen dialing rate is less than the predicted busy factor for the Progressive dialing mode, the time-optimized algorithm switches to the Progressive dialing mode, because it will result in a zero overdial rate for the remainder of the time period.

Configure the following options for the time-optimized algorithm:

- **predictive_algorithm**--Set the option to time_optimized_odr (a new value that was added in 8.0) that enables the use of this algorithm.

- **pa-odr-interval**--Specify the period of time, in minutes, over which OCS averages the overdial rate that must match the target overdial rate.

- **predictive_max_overdial_rate**--Specify the maximum allowed overdial rate for dialing in Predictive mode.

- **predictive_min_overdial_rate**--Specify the minimum allowed overdial rate for dialing in Progressive mode.

Predictive Algorithm and Engaging Call Dialing Duration

In release 7.6.101 and higher, OCS calculates the average engaging dialing call duration (defined as the time between an agent going ready and becoming ASM Engaged when the engaging call is delivered to the agent) for a given Campaign Group. The predictive algorithm takes this value into account when it calculates dialing pacing. With this enhancement, OCS changes the dialing rate based on the optimization parameters:

- When using the Overdial Rate optimization parameter, OCS can restrict the dialing rate so that its growth will be less than 10 percent.

- When using Average Waiting Time or Busy Factor, OCS can increase the dialing rate.

In addition, be aware of the following:

- As part of the self-diagnostic capability (Predictive Algorithm Self-Diagnostic), if OCS detects that the target value of the optimization parameter cannot be reached or that the dialing rate is restricted, OCS sends the STANDARD 12-50131 event, identifying the impact of the engaging call dialing duration.

- In a primary/backup configuration, OCS passes the value of the average engaging call dialing duration to the backup Predictive Algorithm.

- For the advanced small group predictive algorithm, when using the ASM dialing modes, after OCS receives the agent's ReadyTime notification specifying when the agent will become ready for engaging calls, OCS increases the value by the average engaging call dialing duration to predict when the agent will actually become ready for new outbound calls. OCS uses this corrected ReadyTime value when it compares the value to the value when the agent actually becomes ready to determine the agent's trust factor.

Progressive Dialing Mode

The Progressive dialing mode dials calls from a calling list when an agent is actually available. Progressive mode is recommended for low-volume, high-value campaigns. The number of calls that are dialed depends on the number of Ready agents. The next dialing attempt is triggered by either of the following factors:

- The AGENT_VOICE_MEDIA_STATUS - WaitForNextCall Stat Event message is received from Stat Server

- A non-positive call-progress result is received from the dialer

OCS places one (1) outbound call for one (1) Ready agent.

This dialing mode also supports Progressive Multiplier functionality ("lines-per-agent"), which enables you to change the number of outbound calls dialed for each available agent. This feature is configured using the pa-progressive-multiplier option.

Progressive with Seizing Dialing Mode

In the Progressive with seizing dialing mode (an ASM mode), a call is dialed automatically when an agent is already on the line and ready to take the call. *Progressive with seizing* means Progressive dialing in ASM mode.

In both Progressive with seizing and Predictive with seizing modes, the agent should be on the line before the customer answers; however, there is a distinct difference between these two dialing modes:

- In the Progressive with seizing mode, the agent is already reserved for the call when it is dialed.

- In the Predictive with seizing mode, the agent is *predicted* to be available when the dialer places the call.

This dialing mode also supports Progressive Multiplier functionality ("lines-per-agent"), which enables you to change the number of outbound calls dialed for a single engaged agent. This feature is configured using the pa-progressive-multiplier option.

Preview Dialing Mode

In Preview dialing mode, an agent requests one or several records from OCS, previews each record, and decides whether to dial a call. The agent interacts with the records by using the desktop application that communicates (via T-Server) with OCS. The OCS-desktop communication protocol enables the desktop application to perform the following tasks:

- Request and receive a record for preview.

- Update certain record fields.

- Schedule campaign or personal callbacks.

- Receive a scheduled record as an unsolicited event from Outbound Contact.

- Reject, cancel, or mark a record as Do Not Call.

Preview mode is recommended for low-volume, high-value applications for which individual ownership of accounts is the highest priority.

Preview dialing mode supports treatments based on call results.

Outbound Contact supports simultaneous participation by agents in multiple preview campaigns, including one Predictive/Progressive-mode campaign based on the following behavior:

- Outbound Contact Server distributes Campaign Status Notification messages for every campaign with which an agent is associated.

- If the agent participates in multiple preview campaigns, the record request for a specific campaign may be specified explicitly in the GSW_CAMPAIGN_NAME attribute of the PreviewRecordRequest. If not specified, Outbound Contact Server will select a record from any of the campaigns in a round-robin fashion. In this scenario, the GSW_CAMPAIGN_NAME attribute should have empty string value, or a NULL string value.

Note:	To take effect for the round-robin algorithm, an agent must be configured for the single group that is assigned to multiple campaigns.

- If an agent wants to retrieve preview records from multiple campaigns, and the agent_preview_mode_start option is set with a value of yes, the PreviewDialingModeStart and PreviewDialingModeOver campaign requests should be submitted from the desktop for every campaign.

Note:	The preview_release_nocontact_action option, instructs OCS on what action to apply to an agent's DN when the agent releases an outbound call that was placed manually in the Preview dialing mode but could not be established. For this option to take effect, the attached data of this manually placed call must contain the GSW_RECORD_HANDLE attribute with the record handle, which OCS had passed previously to the agent desktop. In release 8.x, OCS can process records with an Instant Messaging phone type for preview campaigns.

OCS monitors outbound calls that are manually dialed in the Preview mode if they contain UserData attached by OCS. If OCS does not receive GSW_CALL_RESULT in UpdateCallCompletionStats and RecordProcessed requests, OCS updates the `call_result` field with the call result received from the dialer. If no dial attempts with the attached UserData have been made, OCS updates the `call_result` field with "Answer" if the record has been retrieved with the `call_result` value of "OK" or "Unknown". Otherwise, OCS does not change the value of the `call_result` field.

Push Preview Dialing Mode

The Push Preview dialing mode uses Interaction Server to "push" records to agents. The number of records that are "pushed" depends on the value of the Max Queue Size parameter. See Genesys eServices (formerly, Multimedia) for more information about this dialing mode.

Note:	In release 8.x, OCS supports stopping the processing of interactions and also updating records that have not been processed (that is, an agent did not receive the interaction) when the dialing session for an outbound campaign is unloaded. As a result, OCS updates the Calling List with the appropriate status. When the dialing session for a Campaign Group is started again, no customer receives duplicate contacts for the associated campaign.

When an agent requests a personal callback in push preview mode, the agent_id field is populated with the place id, instead of the agent id, in the following format: `tenant-dbid@place`. This means that callback is treated as a "place callback" because it is delivered to the same place. Therefore, if you have more than one agent using the same place, then the callback might not be delivered to the agent who made the request.

If the campaign dialing mode is changed from push preview to some other mode, personal callbacks do not work because the `tenant-dbid@place` format is used instead of an agent id.

Direct Push Preview Dialing Mode

Unlike regular Push Preview Dialing Mode, Direct Push Preview Dialing Mode does not require a connection to Interaction Server in order to have records pushed to agent desktops. Instead, OCS pushes preview records directly to agent desktops by sending unsolicited User Events (GSW_USER_EVENT = PushPreviewRecord) to agents that are Push Preview Ready. Refer to the Communication Protocols page in the *Outbound Contact Reference Manual* for a description of user events.

OCS will try to keep n records (where n >= 1) on each Push Preview Ready agent desktop, provided there are sufficient records in the OCS buffers.

Notes:	• Similar to Push Preview Dialing Mode, OCS uses a percentage for the **Buffer Size Coefficients** settings. For Direct Push Preview Dialing Mode, OCS uses a different calculation (Number_of_agents * desktop-chains-limit, instead of using the value of maxQueueSize). Therefore, Genesys recommends that you set the Campaign Group buffer size coefficients to **Minimum** = 100 and **Optimal** = 150. • Similar to regular Preview Dialing Mode, OCS

	considers Direct Push Preview Dialing Mode non-autodialing. This means that when an agent participates in a Direct Push Preview campaign, the person gets assigned to an inbound activity, unless there is an autodialing campaign running for the same agent group. An agent can participate in multiple Direct Push Preview campaigns at the same time, as in Preview Dialing Mode.

If you are using Direct Push Preview with Workspace Web Edition (Genesys Web Services), refer to this article for additional configuration information.

Push Preview Ready Agents

When distributing Direct Push Preview records to agents, OCS considers the following agents *Push Preview Ready*:

- An agent is configured in the Agent Group.
- An agent is logged in (an agent is not required to be in the Ready state).
- An agent has sent a PreviewDialingModeStart desktop request to OCS (if the agent_preview_mode_start is set to true).
- An agent has less interactions on the desktop than the value of desktop-chains-limit option, where an interaction is any chain delivered to the desktop through a User Event:
  - PushPreviewRecord (actually a chain of such records).
  - PreviewRecord (actually a chain of such records).
  - Personal Callback (in any dialing mode).
  - Personal Rescheduled (in any dialing mode).
  - Campaign Callback if it is configured to be delivered as a User Event.

Each second, OCS calculates Push Preview Ready agents for a given Agent Group and places them in the ordered list as follows:

- Agents who do not have any processed Push Preview Records (for example, agents who have just logged in).
- Agents who have one interaction on the desktop. OCS sorts agents by the time when interactions are processed and moves the longest waiting agent to the top of the list.
- Agents who have two interactions on the desktop. OCS sorts agents by the time when interactions are processed and moves the longest waiting agent to the top of the list.

OCS starts from the top of the list and distributes one Push Preview Record to each agent, until agents are no longer Push Preview Ready or until available records are depleted.

Configuration Options

To enable this functionality, configure the following configuration options:

- direct-push-preview—Enables the dialing mode that OCS uses for a Campaign Group that is started in Push Preview dialing mode.

- desktop-chains-limit—Controls how many preview interactions can reside simultaneously at an agent desktop.

Last In First Out Campaign Groups for Record Processing

Starting with 8.1.525.04, OCS supports a special logic for record processing, called Last In First Out (LIFO). With this Campaign Group logic, after a record is added via a Web AddRecord API request to CX Contact, OCS places that record at the top of the dialing buffer (instead of placing it at the bottom of priority buffers), so that the record is dialed immediately. Each newer record placed on the top of the buffer effectively shifts existing records lower in the buffer position.

Campaign Groups with the LIFO logic can be used with any dialing mode. LIFO Campaign Groups do not retrieve records from the contact lists. They only operate on records that are added to the OCS buffer via the AddRecord API request over a Communication DN, originated from CX Contact.

When CX Contact issues an AddRecord notification to primary and backup OCS instances over the Communication DN, they immediately process it, as follows:

- Primary and backup OCSs generate an internal chain of records consisting of one record.

- Primary and backup OCSs add this record at the top of the dialing buffer.

- The primary OCS dials this record when the OCS internal logic allows a call to be placed (for example, an agent is in Ready state in Progressive dialing mode).

- The primary OCS applies a treatment to the record from a limited set of supported treatments as described in the next section.

Treatments

LIFO Campaign Groups support all treatments of type `Apply To Call`, similar to regular Campaign Groups. However, LIFO Campaign Groups support a limited set of `Apply To Record` treatments, as follows:

- Delegate for Processing—allows the execution of a Copy Contact Treatment (in CX Contact terms) over a LIFO record

- Execute SQL statement

- Mark as Agent Error

- Assign to Group

- Update all records in chain—updates records as `record_status = Updated`

- No Treatment

LIFO Campaign Groups ignore all other treatments of type `Apply To Record`.

Limitations

The LIFO Campaign Groups functionality in OCS requires CX Contact and is not supported in a standalone OCS deployment.

Configuration Options

To enable this functionality, configure the following configuration options:

- lifo-mode—Enables a LIFO Campaign Group record processing.
- lifo-record-expiration—Specifies the timeout for record expiration in the dialing buffer.
- lifo-unload-pace—Specifies the number of chains that OCS attempts to process per second while a LIFO Campaign Group is unloading.