



Unica Optimize

Version 8.0.0

User's Guide

Publication Date: December 18, 2009

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Table of Contents

Preface	Contacting Unica technical support.....	9
1 Introduction		11
About Unica Optimize .....	.....	11
Advantages of using Unica Optimize .....	.....	11
Understanding the Unica Optimize data flow .....	.....	13
About Unica Campaign .....	.....	14
Unica Campaign key concepts .....	.....	15
Campaigns .....	.....	15
Flowcharts .....	.....	15
Offers .....	.....	15
Cells .....	.....	16
Unica Optimize key concepts .....	.....	16
Using Unica Optimize .....	.....	19
Unica Optimize in a multi-locale environment .....	.....	20
Getting started with Unica Optimize .....	.....	21
Before using Unica Optimize .....	.....	21
Planning for Unica Optimize .....	.....	21
Required data .....	.....	23
Implementing Unica Optimize .....	.....	24
Defining an audience level .....	.....	24
To define a new audience level for Unica Optimize .....	.....	25
Creating template tables .....	.....	25
To create a template table .....	.....	26
Building offer templates for Unica Optimize .....	.....	27

2 Working with optimization sessions	28
Optimization sessions	28
Creating a new session	29
To create a new session using the New Optimize Session page.....	29
To create a new session using another session as a template.....	30
Optimize Session page reference.....	30
3 Setting up optimization rules.....	32
Optimization rules	32
Rules and constraints	32
Rule order	33
Minimum constraints	33
Tracking contacts	34
Rule types	34
The Customers In rule	36
Definitions for the Customers In rule	37
The Interactions Where rule.....	38
Definitions for the Interactions Where rule.....	38
The Min/Max # Offers Capacity rule	39
Definitions for the Min/Max # Offers Capacity rule	39
The Custom Capacity rule	41
Definitions for the Custom Capacity rule	41
The Min/Max # Offers For Each Customer rule.....	42
Definitions for the Min/Max # Offers For Each Customer rule.....	43
The Max # Packages rule	45
Definitions for the Max # Packages rule	45
The Max # Duplicate Offers rule.....	46
Definitions for the Max # Duplicate Offers rule	47
The Never A with B rule.....	48
Definitions for the Never A with B rule.....	49
The Never A Followed By B rule.....	50
Definitions for the Never A Followed By B rule.....	51
The B Only With A rule	52
Definitions for the B Only With A rule	53
Rule definitions	54

Table of Contents

Using segments in optimization rules	55
To use a segment in an optimization rule.....	55
Using offer lists in optimization rules	56
To use an offer list in an optimization rule.....	56
Using offer versions in optimization rules	57
About the offer versions query builder	58
Conditions and groupings	59
To use offer versions in your optimization rule.....	61
Smart lists and the offer versions query builder	62
Retired offers and offer lists.....	63
Working with rules.....	64
To create a rule.....	64
To edit a rule.....	64
To delete a rule.....	64
Optimization session rule general reference	65
Optimization rule example	65
4 Setting up scores	69
Scores Overview.....	69
Configuring an optimization session to use a score field from the PCT	70
To configure Unica Optimize to use a score field from the PCT	71
Manually entering scores using the score matrix	71
Empty cells.....	72
Contacts that belong to more than one strategic segment	73
To manually enter scores using the score matrix	73
Selecting offers and strategic segments for the score matrix.....	74
To select offers and strategic segments	74
5 Generating a list of proposed contacts for optimization	75
Generating a list of proposed contacts	75
Creating a flowchart with an Optimize process	76
To create a flowchart with an Optimize process.....	76
Target control spreadsheet and pre-optimization flowcharts	77
Configuring the Optimize process.....	77
The Optimize process Assignment tab	78
To select the cells for input	78

To assign a contact date to all contacts.....	79
To assign offers or offer lists to a cell	79
Optimize process Assignment tab reference	80
The Optimize process Parameters tab	80
To select the cells for which you want to specify parameterized offer attribute values	81
To assign values to parameterized offer attributes	81
Optimize process Parameters tab reference	82
The Optimize process Optimize tab.....	82
To specify an optimization session	83
To map additional table fields required by the PCT.....	83
Optimize process Optimize tab reference.....	83
The Optimize process Score tab	84
To assign score fields in the Optimize process	85
Optimize process Score tab reference.....	85
Run the flowchart.....	86
Performing a production run of the optimization session.....	86
To perform a production run of an optimization session.....	86
Reviewing optimization results.....	87
6 Using optimized contacts in a marketing campaign	88
Using optimized contacts.....	88
Selecting optimized contacts	89
To select the package that contains the optimized contacts	89
To retrieve optimized contacts by PCT/OCT field.....	90
Link the optimized contacts to a contact process.....	90
Running the post-optimization flowchart.....	91
(Optional) Define a trigger to start the post-optimization flowchart	91
Handling multiple packages.....	92
To include one Extract process per package.....	92
To select more than one package from a single Extract process.....	93
Sampling for hold-out control groups.....	94
To sample at the audience ID level	95
To sample at the offer level	96
Assigning final cell codes.....	97
Target control spreadsheet and post-optimization flowcharts	97

Table of Contents

To assign final cell codes.....	98
7 Viewing Reports	100
Viewing Reports.....	100
To view reports	101
To clear run history	101
Offer Filtering Summary report	101
Customer Redistribution by Campaign report.....	103
Offers by Type and Segment report	104
To select offers and strategic segments	105
Campaign Optimization Summary report.....	106
Channel Utilization Over Time report.....	107
Customer Interaction Volume Report	108
Capacity Rule Sensitivity report.....	109
A Administering Unica Optimize.....	110
Administering Unica Optimize.....	110
Using the Unica Optimize Utility	110
Prerequisites for the Unica Optimize Utility	110
Unica Optimize command-line utility.....	111
Configuring Unica Optimize for a multi-locale environment.....	112
Configure database load utility	112
Increase virtual memory allocation for a process (UNIX only)	113
Tuning the optimization algorithm.....	114
Multi-threaded optimization	114
Setting CustomerSampleSize	115
Indexing Unica Optimize tables	117
B Unica Optimize configuration properties	119
Unica Optimize configuration properties.....	119
unicaACOListener category	119
sessionRunMonitor category	122
MemoryTuning category	122
userTemplateTables category	122
AlgorithmTuning category	123
Debug category.....	126
logging category.....	126

Table of Contents

unicaACOptAdmin category.....	128
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Preface

- Contacting Unica technical support

Contacting Unica technical support

If you encounter a problem that you cannot resolve by consulting the documentation, your company's designated support contact can log a call with Unica technical support. Use the information in this section to ensure that your problem is resolved efficiently and successfully.

If you are not a designated support contact at your company, contact your Unica administrator for information.

Information you should gather

Before you contact Unica technical support, you should gather the following information:

- A brief description of the nature of your issue.
- Detailed error messages you see when the issue occurs.
- Detailed steps to reproduce the issue.
- Related log files, session files, configuration files, and data files.
- Information about your product and system environment, which you can obtain as described in "System Information" below.

System information

When you call Unica technical support, you might be asked to provide information about your environment.

If your problem does not prevent you from logging in, much of this information is available on the About page, which provides information about your installed Unica applications.

You can access the About page by selecting **Help > About Unica**. If the About page is not accessible, you can obtain the version number of any Unica application by viewing the `version.txt` file located under each application's installation directory.

Contact information for Unica technical support

For ways to contact Unica technical support, see the Unica Product Technical Support website: (<http://www.unica.com/about/product-technical-support.htm>).



1 Introduction

- About Unica Optimize
- Advantages of using Unica Optimize
- Understanding the Unica Optimize data flow
- About Unica Campaign
- Unica Campaign key concepts
- Unica Optimize key concepts
- Using Unica Optimize
- Unica Optimize in a multi-locale environment
- Getting started with Unica Optimize

About Unica Optimize

Unica Optimize is a web-based extension of Unica Campaign that allows you to determine the optimal contact strategy for each customer over time by looking across the proposed offers and channels across multiple marketing campaigns. Unica Optimize helps you limit contact fatigue, prevent conflicting offers, meet channel or inventory capacity limitations, and maximize marketing returns on investment (ROI) or profitability.

With Unica Optimize, you can effectively target customers with timely, relevant offers to increase response likelihood, generate positive ROI, and develop long-lasting, profitable customer relationships, while meeting corporate goals and objectives.

Advantages of using Unica Optimize

Unica Optimize lets you take a larger pool of targets and compare them to a complex set of rules to find the best candidates for a particular offer, considering not just the local data available within a single campaign, but data across multiple campaigns, taking into account business constraints at a much higher level (for example, outbound call center capacity). In other words, Unica Optimize can help you maximize your

marketing across your entire business, not just for a single campaign or offer. Since Unica Optimize works across campaigns, you can prevent customers from being over-contacted and lower the probability that those valuable customers will opt-out from further communications or simply dispose of your communication without reading it. Starting with a larger initial selection expands your opportunities to reach previously under-resourced segments of your customer base, while also maximizing overall optimality within your business constraints.

You configure Unica Campaign to select targets for your marketing campaign from your customer data. This selection process can be very simple:

- all female customers

or more complex:

- all female customers between the ages of 25 and 45 who earn over \$45,000 a year, have purchased your product in the last 90 days, and have not been contacted for at least 30 days

However, in any marketing organization that is product- or offer-centric, multiple campaign designers are competing for the best targets for their product or offer. This often raises the following challenges:

- **Cross-campaign collision**—Cross-campaign collision occurs when multiple campaigns target the same customer. For example, if you have two campaigns, one person creating a mortgage refinance offer for people who have recently moved to a new home and another person creating a free online banking offer for people who have recently opened accounts. It is highly probable that many of your customers might be targeted for both campaigns.
- **Customer fatigue**—Repeatedly contacting the same customers, leading to decreasing response rates over time. Many of your best customers are good candidates for virtually any offer. Campaigns commonly overlap in their target selection by selecting from your top-tier and/or most loyal customers.
- **Missed opportunities**—Some customers may be satisfactory candidates for an offer, but are consistently ignored by the current selection process.

Unica Optimize in practice

For example, consider the following scenario:

One member of the marketing team creates a campaign that identifies high-value customers based on recent use of loyalty cards at the stores in his region. Customers that meet these criteria are sent tickets to a private invitation-only sales event at a small set of larger stores.

Another member of the marketing team creates a campaign that identifies high-margin customers based on significant spending through the Web site channel. Customers that meet these criteria receive a special online-only coupon the next time they login to the online store.

Yet another member of the marketing team creates a campaign that identifies top-tier customers based on the long-time and consistent use of loyalty cards and correspondingly high spending habits. Customers that meet these criteria receive special mailings with in-store coupons.

Many of the customers will probably be targets for at least two, if not all three of these independent marketing campaigns. Excessive contact might drive away some business, or cannibalize success of one marketing campaign at the cost of another. For example, if a high-value customer received both a web coupon and an in-store coupon, the customer might spend the same amount of money regardless, resulting in a wasted contact and a lower response rate for one of the campaigns. Worse yet, sending out a 15% off coupon and a 20% off coupon to the same customer for the same time frame will surely result in a lower-than-expected response rate from the 15% offer. To combat the fatigue issue, you may have different business rules such as "only four email contacts are allowed in any one-month time period" or "at least 14 days must elapse between direct mailings." However, since individual campaigns do not interact with each other, this strategy does not support other guidelines, such as "customers who receive the invitation-only sales event offer cannot receive the in-store coupons."

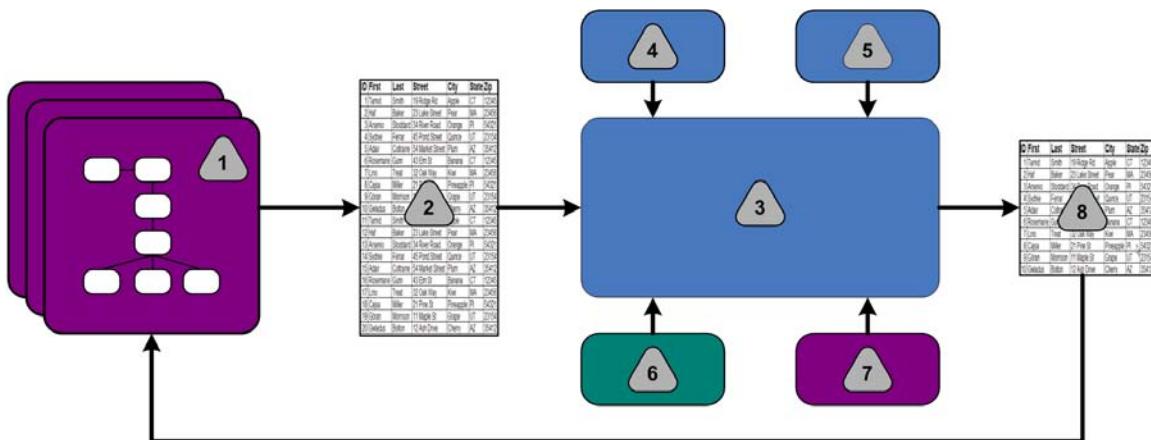
Companies that have evolved to customer-centric (for example, segment-based) marketing largely avoid these types of offer conflicts, since a single individual controls the entire stream of communications to the customer segment. This segment-based approach has its benefits, but it is typically a difficult and time-consuming process for a company to change from a product-centric to a customer-centric marketing organization.

With Unica Optimize, you create a set of constraints or rules that address all three of these situations to determine the best candidates for each across the whole of your customer pool. Using the Max # of Packages rule, you can limit the number of offers a customer receives. Using the Never A with B rule, you can enforce that no one receiving the invitation-only sales event offer receives any coupons. Each marketer determines a score for each offer. Unica Optimize optimizes the contacts, providing the surviving list of contacts that satisfy the specified rules and constraints. The marketers then extract the contacts for their offer and complete their campaigns, each campaign reaching out to the globally optimized set of best customers.

Understanding the Unica Optimize data flow

Unica Optimize works by taking a list of proposed contacts from one or more Unica Campaign flowcharts, applying rules to the proposed list, and generating an optimized list of contacts.

The following diagram shows how data flows between Unica Campaign and Unica Optimize.



1. Unica Campaign flowchart(s)
2. Proposed contacts
3. Unica Optimize optimization algorithm
4. Constraint rules from optimization session
5. Business rules from optimization session
6. Contact history
7. Segments and offer lists from Unica Campaign
8. Optimized contacts

In Unica Campaign, you create a flowchart to select your proposed contacts. You then create an optimization session which takes the constraints and business rules you create, contact history, any other necessary data from your customer data, and applies it all to your proposed contacts via an optimization algorithm. The optimization session returns an optimized list of contacts to Unica Campaign. You can then use this optimized list in a flowchart that uses a contact processes. Contact processes control the actual execution of completed campaigns, which includes the management and output of contact lists, the treatment of target audiences, and the logging of data.

About Unica Campaign

Unica Campaign is a web-based Enterprise Marketing Management (EMM) solution that enables users to design, execute, and analyze direct marketing campaigns. Unica Campaign provides an easy-to-use graphical user interface that supports the direct marketing processes of selecting, suppressing, segmenting, and sampling lists of customer IDs.

Once you have selected your targets, you can use Unica Campaign to define and execute your marketing campaign by assigning offers, sending e-mails, and so on. You can also use Unica Campaign to track the response to the campaign, creating output lists and logging contacts to contact history, and use that information in your next campaign.

Unica Campaign key concepts

Before you use Unica Optimize, you should be familiar with these Unica Campaign concepts.

For more information, see the *Unica Campaign User's Guide*.

Campaigns

In marketing, a campaign is a selection of related activities and processes that are performed to achieve a marketing communication or sales objective. Unica Campaign also contains objects called campaigns which are representations of marketing campaigns that facilitate design, testing, automation, and analysis.

Campaigns include one or more flowcharts that you design to perform a sequence of actions on your data for executing your campaigns.

Flowcharts

In Unica Campaign, flowcharts represent a sequence of actions that you perform on your data, as defined by building blocks called processes. Flowcharts can be run manually, by a scheduler, or in response to some defined trigger.

You use flowcharts to accomplish particular marketing goals, such as determining qualified recipients for a direct mail campaign, generating a mailing list for this group of recipients, and associating each recipient with one or more offers. You can also track and process respondents to your campaign, and to calculate your return on investment for the campaign.

Within each of your campaigns, you design one or more flowcharts to implement the campaign, configuring the processes that make up the flowchart(s) to perform the required data manipulation or actions.

Each flowchart has the following elements:

- name
- description
- one or more mapped tables from one or more data sources
- interconnected processes that implement the marketing logic

Offers

An offer represents a single marketing message, which can be delivered in a variety of ways.

In Unica Campaign, you create offers that can be used in one or more campaigns.

Offers are re-usable:

- in different campaigns;

- at different points in time;
- for different groups of people (cells);
- as different “versions” by varying the offer’s parameterized fields.

You assign offers to target cells in flowcharts using one of the contact processes, and track your campaign results by capturing data about customers who received the offer, and customers who responded.

Cells

A cell is simply a list of identifiers (such as customer or prospect IDs) from your database. In Unica Campaign, you create cells by configuring and running data manipulation processes in flowcharts. These output cells can also be used as input for other processes in the same flowchart (downstream from the process which created them). There is no limit to the number of cells you can create.

Cells to which you assign one or more offers in Unica Campaign are called target cells. A target cell is a distinct group of homogeneous audience members. For example, cells can be created for high-value customers, customers who prefer to shop on the web, accounts with on-time payments, customers who have opted to receive email communications, or loyal repeat buyers. Each cell or segment you create can be treated differently, with different offers or contact channels, or tracked differently, for comparison in performance reporting.

Cells containing IDs qualified to receive an offer but that are excluded from receiving the offer for analysis purposes, are called control cells. In Unica Campaign, controls are always hold-out controls.

The term “cell” is sometimes used interchangeably with “segment.” Strategic segments are cells that are created in a session rather than in a campaign flowchart. A strategic segment is no different from other cells (such as those created by a Segment process in a flowchart) except that it is available globally, for use in any campaign. A strategic segment is a static list of IDs until the flowchart that created it originally is re-run.

Unica Optimize key concepts

This section describes some of the key concepts you should understand before you work with Unica Optimize.

Proposed Contacts Table

The proposed contacts table (PCT) is the list of contacts, associated offers, channels, contact dates, and scores to which Unica Optimize applies optimization rules and constraints. Once Unica Optimize sorts through the PCT using the rules and constraints you have created, it produces the list of optimized contacts.

The PCT is created when you create an optimization session. Unica Campaign populates the PCT with proposed contacts and associated offers. Specifically, you link Unica Campaign with Unica Optimize by including an Optimize process in an Unica Campaign flowchart. When configuring the Optimize process, you select an optimization session to associate with that flowchart. When you run the flowchart, Unica Campaign writes to the PCT associated with the selected optimization session.

A PCT can contain proposed contacts from more than one flowchart or campaign.

The columns of the PCT are made up of the audience level that you select in an optimization session (and that is defined in Unica Campaign), the pre-defined fields in the UACO_PCTBASE table, and, if you have selected an Unica Optimize template table in your optimization session, the columns you defined in the Unica Optimize template table.

Optimized Contacts Table

The optimized contacts table (OCT) is the list of optimized contacts and associated offers that Unica Optimize produces after applying rules and constraints to the PCT.

The OCT is created when you create an optimization session. When you run an optimization session, Unica Optimize analyzes the PCT (populated by Unica Campaign) using the optimization rules and constraints you configured. Unica Optimize populates the OCT with optimized contacts and their associated offers during this process. Unica Campaign then retrieves the results from the OCT for use in a marketing campaign. The OCT is made up of a subset of the PCT fields, as well as a field for the score used for optimization (that is, the score being maximized).

Optimization period

The optimization period refers to the elapsed time between the earliest proposed contact and the latest proposed contact. For example, if a PCT contains proposed contact dates between April 1 and April 30, the optimization period is 30 days long.

The optimization period is determined by the dates specified in the Contact Date field of the PCT, which is populated in the Assignment tab of the Optimize process.

Unica Optimize template table

The Unica Optimize (UO) template table is a database table you can choose to create before working in Unica Optimize. You need to create an Unica Optimize template table if you want to include user-defined columns in the PCT for reference by one or more optimization rules. When you create a session in Unica Optimize, you can select one of the Unica Optimize template tables that you created. You must create the Unica Optimize template table in the same database where the system tables are located.

During the optimization process, the columns that you created in this table (along with their defined data types and sizes) are automatically appended to the base PCT fields contained in the UACO_PCTBASE table. These fields can then be populated by Unica Campaign flowcharts and subsequently used in rules by Unica Optimize.

These fields are not appended to the OCT. However, the OCT references the PCT, therefore you can also extract any data from additional fields in your post-optimization flowchart.

Examples of the information (columns) you might add to the template table include vendor name, age, account type, and so on. This information is likely specific to the nature of your business. Based on this example, you could then write an Include rule that specifies that only AccountTypes = "Good Standing" are eligible to receive "credit offers."

Optimization session

In an optimization session, you define the rules that Unica Optimize uses to include or eliminate contacts and their associated offers from the PCT. When you create an optimization session, you select an audience level to be added to the PCT and OCT. You can also include an optimization template table whose fields will be appended to the PCT and OCT.

You associate a marketing campaign with an optimization session in the following way:

1. Create a flowchart in Unica Campaign.
2. Add an Optimize process to that flowchart.
3. Select the optimization session when you configure the Optimize process.

The same optimization session can receive proposed contacts from multiple flowcharts and campaigns.

Optimization rules and constraints

Unica Optimize rules and constraints allow you to define the criteria by which the set of final contacts (the OCT) will be determined. You can define multiple rules and constraints within a single optimization, which apply to all campaigns participating in the optimization session.

The terms "rules" and "constraints" are often used interchangeably as the difference between them is subtle. By strict definition, constraints have many possible alternative solutions and the "best alternative" is chosen by maximizing an objective function (for example, maximizing a score value), while rules eliminate possible alternatives.

To understand constraints, consider this example: A constraint specifies that each customer can receive only three offers in any given 30-day window. If a customer is eligible to receive offers A, B, C, and D, the possible combinations of viable alternatives satisfying this constraint include A, B, C, AB, AC, AD, BC, BD, ..., ABC, ABD, BCD.

To understand rules, consider this example: A Gold credit card offer cannot be sent within 90 days of a Platinum credit card offer.

When working with rules and constraints, you will encounter the following terms:

- **Customer**—A customer represents any marketable entity. In your implementation, a customer can be an individual person, a household, an account, or any other audience level defined in Unica Campaign.

- **Interaction**—A communication of one offer to one customer. This can also be referred to as a contact.
- **Offer**—A message, often promotional, such as a low credit card interest rate or a coupon for a certain percent discount at a retail store, sent to a customer over a contact channel on a specific date.
- **Channel**—A means of contacting, being contacted by, or interacting with a customer or prospect as part of a campaign. Examples include direct mail, telemarketing, fax, customer service or support, point-of-sale, email, and Web sites.
- **Package**—All offers sent to the same customer via the same contact processes (in Unica Campaign), delivered on the same channel at the same time. A package represents a single "interruption" to the recipient, but may contain multiple communications or offers. For example, a package could be multiple coupons in a coupon book or multiple offers within the same email. Contact fatigue constraints will likely be based on packages rather than offers. For example, a marketing company wants to limit the number of direct mail pieces a prospect may receive, which is based on packages. The customer may additionally want to limit the total number of offers any individual receives, regardless of how those offers are grouped into packages.
- **Scope**—The contacts impacted by a rule as specified by the use of a strategic segment, offer or offer list, and/or channel. Rules define both the action and the contacts to which that action applies. For example, a rule might state that "high-value customers" must receive between one and three "discount offers" each 60-day period. "High-value customers" might be a strategic segment defined in Unica Campaign and "discount offers" might be a smart offer list defined in Unica Campaign. The scope of this rule is restricted to this segment and offer list. The action is to specify a minimum and maximum number of contacts over a 60-day time period.

Using Unica Optimize

The following steps outline how to use Unica Optimize to determine the overall optimal communication strategy across campaigns.

1. (Optional) If you would like to create an Unica Optimize template table, create this table in the Unica Campaign system table database.
2. Create an optimization session containing the rules and constraints to apply.

You can create a single optimization session to handle all campaigns you want to optimize. Or, you can create separate optimization sessions to handle different types of campaigns, campaigns using different communication channels, or for different lines of businesses. The broader the scope of a single optimization session, the more opportunity you have to truly optimize across your business. By specifying business rules and constraints, and leveraging scores such as response likelihood, you will be able to determine the optimal communication strategy for maximizing the value of each customer contact.

3. Set up a campaign that has a flowchart with one or more Optimize processes.

When configuring the Optimize process, you select an optimization session to associate with the process. The eligible contacts will be written with their associated offers to the PCT of the selected optimization session.

4. Set up another flowchart in the campaign mentioned in the previous step.

This flowchart retrieves the optimized contacts from the optimization session and executes marketing communications to the list of contacts.

5. Run the flowchart that contains the Optimize process(es).

When you run the flowchart, Unica Campaign writes to the PCT, allowing Unica Optimize to access the list of proposed contacts and offers. If you have multiple campaigns, each campaign manager must execute his or her Unica Campaign sessions to create a complete proposed contact list for optimization.

6. Perform a production run of the optimization session to generate the optimized contact list.

Reviewing the rules and the optimization results may be an iterative process, especially in the beginning. During the review process, you can make changes to rules or the initial selection criteria to address each campaign manager's goals. If adjustments are required, you can edit the definitions, rules (and scoring for the session, if you are using the internal scoring table within Unica Optimize. Unica Campaign managers can also modify the flowcharts that submit contacts and/or scores to Unica Optimize and then run the flowcharts again.

7. Trigger or manually run the flowchart that retrieves the optimized contact list from the optimization session and sends marketing communications.

Unica Optimize in a multi-locale environment

Support for displaying Unica Optimize in multiple languages is based on the concept of a locale. Locale refers to the language displayed in the user interface, and how the interface displays time, numbers, and dates.

Each Unica Marketing application supports a specific set of locales, including a default locale. The locale used to display Unica Campaign and Unica Optimize is determined by the interaction of support for a locale, the default locale for the application, and the user's locale preference. Your Unica Marketing administrator can define a preferred locale for users.

Unica Optimize and Unica Campaign both support simultaneous access by multiple users with different locale preferences. Consult with your Unica Marketing administrator to determine the locales available to you.

There are no locale preferences or restrictions on the names you assign to objects in Unica Optimize or Unica Campaign. You can use any language to name an optimization session or rule. However, the names you use are not translated. For example, if you have a French locale Unica Optimize user with permission to see the Spanish locale Unica Optimize user's optimization sessions, the French locale user sees the optimization session and rule names in Spanish.

Getting started with Unica Optimize

- Before using Unica Optimize
- Planning for Unica Optimize
- Defining an audience level
- Creating template tables
- Building offer templates for Unica Optimize

Before using Unica Optimize

Getting the best value from Unica Optimize requires forethought and planning. Unica Optimize can optimize your marketing campaign and improve response from customers, but only if you know what you want to optimize. You need a plan, the data to support the plan, and an implementation method.

Optimization is not a static concept. As your business plans grow and change, so must your optimizations. As you track the results of your campaigns, you can analyze the effectiveness of your optimizations, and modify them as your needs change. Over time, you can re-evaluate how you have implemented Unica Optimize and "optimize your optimizations."

Planning for Unica Optimize

You must answer several questions before starting to implement Unica Optimize.

Choose an audience level

An optimization session works at a single audience level, so depending on the audience level—what contactable entity such as customer, prospect, account, or household—you choose to optimize over, you may need more than one optimization session.

Choose an optimization metric

Once you have decided on your audience level, one of your first questions should be, "By what metric or goal do I want to optimize?" For example, whether you are maximizing profit, revenue, or ROI. This will determine what "score" you will use for optimization—dollars of profit, revenue in dollars, probability of response, expected profitability in dollars, profitability in dollar over cost per offer, and so on. Unica Optimize maximizes the sum of this score in the optimized (surviving) transactions. All marketing campaigns and flowcharts participating in the same optimization session must use the same meaning of "score" for optimization.

Determine rules and constraints

Once you know your optimization metric, you should ask "What rules or constraints does my business have that drive the optimization process?" The following describes different types of business problems you may want to address through optimization.

- Channel capacity optimization—with fixed channel capacity, what channels should be used to communicate with which customers and when?
- Customer optimization—with limited opportunities to communicate with my customers, which offers should I give to which customers while managing contact fatigue?
- Offer optimization—which customers should get offer X, when you have only a limited number to distribute?
- Time optimization—which offers conflict with each other? Which ones should be given only if another offer has already been presented? Which offers are most valuable to present to a particular customer first?
- Budget optimization—how should I allocate my money across different campaigns, offers, or customers?

You can create optimizations that address many of these issues. You should also consider these rules and constraints for use across your organization, including global suppressions (such as ensuring customers who have elected to not receive email are not contacted by email) and rules you will use to manage contact fatigue (by segment, by channel, time periods, or specific offers).

Choose a time period

Once you have determined the rules and constraints that are appropriate for your organization, you should ask yourself "for what period of time should I optimize?" The larger your time window—the amount of time you are looking into the future across proposed contacts that have not yet been delivered—the more opportunities there are to optimize. However, too large of a time window may be prohibitive for a number of different reasons. For example, trying to use a six-month time window would require that all your campaigns be designed and implemented at least six months in advance.

Choose a scoring method

Unica Optimize also uses scores as a measure for choosing one proposed transaction over another when solving the optimization problem. Therefore, you need a method for generating scores. Some common methods are as follows:

- A constant per-offer or offer-cell combination
- A computation per individual, offer, or offer-cell combination
- A predictive model (based on individual, offer, channel, or time)

Determine your optimization scope

As you ask yourself these questions, you may want to start small, with only a few campaigns, one product line, or one business division. You should also start with simple optimization problems. Although you may want to maximize profit while working with offer, budget, and customer optimization, you may want to apply fewer rules and constraints at first, and analyze the results before adding more. Remember, each time you add more constraints, you reduce the optimality of your results. You should therefore focus on those that are most important to you first and weigh carefully the business benefit of additional constraints. After studying the results of your initial optimization sessions, you can add more rules and constraints to add complexity if desired. Figuring out the right set of rules and constraints to use for your business that will likely take some testing; you will likely need to refine your rules over time.

Required data

Once you know what you want to do, you must be sure that you have all the data you need to implement your plan. Unica Optimize works with Unica Campaign and requires the following:

- Response tracking and analysis, including contact and response history—if you want to manage contact fatigue by ensuring you do not send too many offers to the same person, you must keep track of what you send. If you want to monitor how effective your campaigns and optimizations are, you must track customer response. You may compare the results of contacting a target group versus not contacting members of a statistically similar control group. In addition, to evaluate the effectiveness of using Unica Optimize, you may want to hold out a group of proposed contacts that do not undergo optimization and compare that to the results of optimized contacts. Measurement of the benefit of optimization may take multiple forms (for example, increased response rate or ROI, fewer opt-outs, greater customer satisfaction, and so forth.)
- Defined offers—You need a list of all the offers included in your optimizations as you design your rules and constraints, as these may be applied to specific groups of offers (defined as offer lists, typically based on the offer attributes or types of offers). If you plan to manually enter scores in the centralized score matrix, you need a list of the offers for which you plan to enter score values.

- Defined segments—You must understand all the segments you want to optimize across as you design your rules and constraints, as you can constrain the applicability or scope of rules and constraints to specific segments. If you plan to manually enter scores in the centralized score matrix, you need a list of the segments for which you plan to enter score values.
- Defined scores—As you planned your implementation, you chose a scoring method. You must have a process for generating these scores. For example, if you are populating the scoring matrix with constants, you must choose the granularity at which you will represent the scores (that is, for which offers and segments) and determine the actual score values. If you are using computations (for example, using a derived field to calculate the profitability of a proposed credit limit increase offer based on the average carried balance of an individual), you must define the equations. If you are using predictive models, you need to collect, aggregate, pre-process, and model your data in your modeling application(s).

Implementing Unica Optimize

Follow these steps to start your implementation:

- In Unica Campaign, define your audience levels, offers, offer lists, and segments. See [Building offer templates for Unica Optimize](#) for offer template requirements.
- Create your optimization sessions—where you define your rules and constraints—and then link the optimization sessions to the campaigns.
- Once your building blocks (offers/offer lists and segments) are created in Unica Campaign, build your campaigns and flowcharts.

Defining an audience level

When you create an optimization session, you must select an audience level for that session. An optimization session works at a single audience level. If your company uses Unica Campaign to communicate with contacts at different audience levels (for example, customer, household, and account audience levels), you must create a separate optimization session for each audience level that you want to optimize.

The audience level you select for a session becomes a field in the proposed contacts table (PCT) and optimized contacts table (OCT). This field defines the type of contact that ultimately receives communication from your organization.

To define a new audience level for Unica Optimize

You may need to define a new audience level for your Unica Optimize session. This can be done by a Unica Campaign administrator. Every time a new audience level is created, a virtual contact history table is created—a contact history table “mapping”—in the Unica Campaign system tables. The administrator must map the Unica Campaign contact history table mapping to a database contact history table (a “physical” contact history table). This step ensures that a record is kept of customer contacts. Because certain optimization rules are based on whether previous communications were made to a proposed contact (and this information is stored in the database contact history table) this is an important step.

Once an administrator creates and maps an audience level to a contact history table, the audience level is available for use in an optimization session.

For more information on defining a new audience level, see the *Unica Campaign Administrator’s Guide*.

Creating template tables

When you create a session in Unica Optimize, you can select a template table. The template table is a table that you can create in your database to append customized fields to the PCT and to the OCT. If you select a template table for your session, the PCT and OCT contains the fields from that template table along with the predefined fields specified in the UACO_OCTBASE table, and the audience level that you choose when creating a session.

Prohibited fields

Your optimization template table should not include fields that are also included in the following:

- The audience level you have chosen for your optimization session. For example, if you have chosen Customer as your session’s audience level, and that audience level contains a field called `CustomerID`, you should not include an optimization template table field of the same name.
- The `UACO_PCTBase` table. For example, you should not include an Unica Optimize template table field named `ScorePerOffer` or `CostPerOffer`, since these are fields in the `UACO_PCTBase` table.

The repetition of the field name can cause confusion when Unica Optimize retrieves information from the `ContactHistory` table.

Using database views

You should create a single physical database table that contains all possible customized fields that you might want to use in an optimization session. This practice is preferable to creating separate physical tables, each with its particular pairing of fields, for each session. For example, instead of creating two optimization template tables, one with fields A, C, and E, and another with fields B and D, it is better to create one database table with fields A, B, C, D, and E.

You can then create standard database views that include the permutations you want, based on the same physical table. Each view you create represents a separate optimization template table that you can use in an optimization session.

Creating a field to represent the Optimize process

You may need to include a Segment process in your post-optimization flowchart, to divide customer IDs back into their individual packages. Packages originate from a Optimize process. To select the Optimize process, or package, as the field by which you want to segment, you must include a field in the optimization template table that will act as this signifier. For example, you might include a field called `OptimizeProcess` in your optimization template table, which you later select as the field by which to segment.

Creating a score field

By default, the PCT template contains the `ScorePerOffer` field which you can use when assigning scores in an optimization session. However, Unica Optimize can use any numeric field in the template table for scores in an optimization session. The `ScorePerOffer` field has a float data type, so if you must use another data type for your scores, you need to either create a new column in your template table or edit the existing score column. You may also have several types of scores that you are comparing to determine which is most optimal for a particular optimization session. By creating many possible score fields in your template table, you can easily switch between score types when configuring your optimization sessions without requiring each of the participating campaigns and flowcharts to be rerun.

To create a template table

1. Create a database table that contains all possible customized fields that you might want to use in your optimization sessions.
2. Create database views for each combination of fields that you want to use in an optimization session.

 The database table and the database views must exist in the same database where the system tables are located.
3. Add the new table and database views to the `Campaign > partitions > partitionn > Optimize > userTemplateTables > tablename` configuration parameter with a comma delimited list.

For example, `Database1.UACO_UserTable,Database1.view1`.

 The names of the table and database views must be fully qualified. For example: `database_schema.table_name` or `database_schema.view_name`.

Building offer templates for Unica Optimize

All offers that you work with in Unica Optimize must contain the offer attributes **Cost Per Offer** and **Channel**. You must confirm your offer templates include these offer attributes. If you do not include them, the Channel and Cost per Offer attributes in your optimization rules default to values that can cause your rule to be less effective.

For more information about creating offer templates see the *Unica Campaign Administrator's Guide*.



2 Working with optimization sessions

- Optimization sessions
- Creating a new session

Optimization sessions

To begin using Unica Optimize, you must create an optimization session.

An optimization session is a combination of rules and scores (if included) that apply to a set of proposed contacts. You define these various constraints (rules) once you have created an optimization session.

An optimization session works at a single audience level. If your company uses Unica Campaign to communicate with contacts at different audience levels (for example, customer, household, and account audience levels), you must create a separate optimization session for each audience level that you want to optimize.

You may choose to create smaller optimization sessions for particular types of campaigns, for a particular branch or division of your company, for example. You may even use Unica Optimize to optimize within a single campaign by managing exclusions, using contact history to prevent contact fatigue, and ensuring consistent communications over time.

An optimization session contains the rules and constraints to apply. It may also contain scores to use for each proposed transaction. Scores, which represent the value of a proposed transaction, can either be passed in by each flowchart with their proposed transactions (in a score field in the Proposed Contacts Table) or be assigned in the Segment/Offer Scores matrix within an optimization session. Having individual scores (for example, generated by a predictive model) for each proposed transaction is more likely to yield better optimization results. However, if granular scores are not available,

the Score matrix allows you to enter scores based on the strategic segment into which a recipient falls and the offer which it being proposed. This matrix provides the means to rank offers for a particular segment, but there is no distinction among individual recipients within the same strategic segment (that is, everyone in the same segment getting offer X has the same score Y).

Each Unica Campaign flowchart participating in an optimization session submits its proposed contacts for optimization using the Optimize process. The Optimize process specifies to which optimization session it writes its proposed contacts. An optimization session can receive proposed contacts from multiple campaigns. Unica Campaign flowcharts determine the eligibility criteria for receiving offers and assign those offers as possible communications to the recipients. Unica Optimize considers all possible contacts to a recipient (including those made from other campaigns), along with that recipient's contact history and applies the rules and constraints in the optimization session to identify the best set of offers to send to that individual.

Once the campaign administrators run the Unica Campaign flowcharts—populating the Proposed Contacts Table (PCT) for your optimization session—you can run your optimization session. The optimization session then applies the rules you created to optimize the proposed contacts it received from Unica Campaign. The rules exclude a subset of the proposed contacts to form the optimized contact list that you can use in Unica Campaign marketing campaigns.

Creating a new session

You can create a new optimization session in either of two ways:

- Using the New Optimize Session page to create an optimization session from scratch.
- Using a pre-existing optimization session as a template to create a copy.

When you use another optimization session as a template, the copy that is created copies the rules and scores from the template session. You can then make any modifications desired to your new optimization session. (The original template session is unchanged.) You may want to create an optimization session containing all of your standard optimization rules, then use that session as a template for all other new sessions to minimize data re-entry. This allows you to save time and ensure the consistent application of your business rules and objectives across all optimization sessions.

This section describes both methods for creating a new optimization session, as well as how to edit an existing optimization session.

To create a new session using the New Optimize Session page

1. Select **Campaigns > Optimizations**.

The All Unica Optimize Sessions page appears.

2. Click the **Add an Optimization Session** icon.

The New Unica Optimize Session page appears.

3. Complete the fields on the New Optimize Session page.

4. Click **Save Changes**.

The Summary tab for the session appears. You can now add Unica Optimize rules and scores to the session.

To edit the Session Name, Objective, or Description of an optimization session, click the **Edit Session Properties** link on the optimization Summary tab. You cannot change the Audience Level or Unica Optimize template table after creating the optimization session.

To delete an optimization session, click the **Delete this Session** icon.

To create a new session using another session as a template

 The Audience Level and Unica Optimize template table for the new session cannot be edited. They are by default the same as the original optimization session.

1. Navigate to the Summary tab of the optimization session that you want to copy.

2. Click the **Create Duplicate Session** icon.

You are prompted to confirm that you want to copy the session.

3. Click **OK**.

The Edit Properties page of the new session appears.

4. Complete the fields on the Edit Properties page.

5. Click **Save Changes**.

The Summary tab for the session appears. The new session contains the rules and scores of the template session. You can now edit the new session if you need to.

Optimize Session page reference

Field	Description
Session Name	<p>Enter a name for the session. Each session must have a unique name. Avoid using the pound (#), dollar (\$), ampersand (&), less-than (<), and apostrophe ('') characters.</p> <p>Once you save this session, its name appears on the All Optimize Sessions page.</p>

Field	Description
Audience Level	<p>Select an audience level for this session.</p> <p>The audience level you select will be appended as one or more fields in the proposed contacts table (PCT) and optimized contacts table (OCT). The audience level defines the type of contact that will ultimately receive communication from your organization.</p> <p>Audience levels are defined by an administrator in Unica Campaign. For more information on audience levels, see <i>The Unica Campaign Administrator's Guide</i>.</p>
Unica Optimize template table	<p>(Optional) Select an optimization template table to include user-defined fields to this session's PCT and OCT.</p> <p>When you select a table, the template table details appear in the adjacent section.</p>
Objective	<p>(Optional) Enter the goal of the session.</p>
Description	<p>(Optional) Enter a description of the session.</p> <p>Once you save this session, the description appears below the session name on the All Optimize Sessions page.</p>



3 Setting up optimization rules

- Optimization rules
- Rules and constraints
- Rule types
- Rule definitions
- Using offer versions in optimization rules
- Working with rules
- Optimization rule example

Optimization rules

Unica Optimize uses all the rules (and any scores) you define in your optimization session to mathematically determine the best combination of final contacts you can use across your marketing campaigns.

You can create an unlimited number of rules in Unica Optimize, allowing you to implement simple or highly complex optimization strategies. These rules might involve strategic segments, offers, offer lists, offer attributes, channels, time periods, budgets, and so on.

Rules and constraints

In Unica Optimize, you define how optimization behaves by defining different combinations of rules and constraints in an optimization session. Most of the time, this guide uses rules and constraints interchangeably and generally refers to all rules and constraints within Unica Optimize as "rules." From a strict definition standpoint, rules are requirements that have a single solution—for example, global exclusions using the Interactions Where rule, or a Never A with B rule. For a particular set of offers for an

individual, the combination is either allowed or it is not, that is, the rule is either true or it is not. For example, an A not following B rule may state that offer A cannot be given within 30 days of offer B. The customer, Mr. Jones, who is being proposed offer A is either allowed to receive it (because he has not received offer B within the last 30 days) or not (because he has received offer B within the last 30 days). If Mr. Jones has not received either offer A or B in the past, but is being proposed offer A and B, he can receive only one of them in any 30-day window, so any proposed offer combinations must satisfy this condition.

A constraint typically specifies a minimum or maximum threshold that cannot be exceeded, but there are many possible solutions satisfying the constraint where the goal is to pick the solution that maximizes a particular objective function—for example, maximizing the sum of scores. Constraints might limit contacts by the maximum number of calls the sales team can make in a week, or the amount of marketing activity based on the budget, or the pieces of collateral available in inventory.

You can create rules with a single answer, such as "If customerA receives a Platinum credit card offer, customerA cannot receive a Gold offer within the same month." You can also create rules with many possible answers. These rules might limit contacts by the maximum number of calls the sales team can make, or the amount of activity based on the budget, or the pieces of collateral available in inventory. Furthermore, you can define customer preferences such as contact frequency and channel capacity in rules.

Rule order

Unica Optimize executes all optimization rules in a session using logical AND operations. As a result, the order in which Unica Optimize applies the rules does not affect the optimization results, except for analysis in the Transaction Filtering Summary report. The Transaction Filtering Summary report presents analysis of the number of transactions eliminated by each rule in the order in which rules are entered. When a single contact may be rejected by multiple rules, the Transaction Filtering Summary report credits only the first applicable rule in the list.

Minimum constraints

Unica Optimize handles minimum constraints differently depending on the type of rule in which the constraints are used. In capacity rules (for example, Min/Max # Offers), Unica Optimize gives as many offers as possible. It may not be possible to achieve the minimum. For example, if you have a rule saying a minimum of 10,000 of offer X must be given out, there may be fewer than 10,000 proposed offer X's in the PCT, or even if there are over 10,000 instances of offer X in the PCT, it may not be possible to give all of them out as they may potentially conflict with offers those individuals may have already received in the past.

When working with For Each Customer rules, Unica Optimize gives out the minimum number of an offer or it does not give out any offers to that recipient. For example, if you have a rule saying a minimum of 6 offers for each customer, and customerX is only eligible for 5, Unica Optimize does not propose any offers for customerX.

If an optimization session does not meet a minimum, you can either expand the number of relevant proposed contacts included in the optimization session, or you can re-examine the other rules in the optimization session to see if they are too restrictive.

Tracking contacts

When managing contact fatigue rules (for example, the Max # of Packages rule), Unica Optimize automatically uses the contact history recorded in Unica Campaign's system tables. In Unica Campaign, each "contact" recorded into contact history is recorded with a specific "contact status" which is specified when configuring the contact process. Contact statuses can be subsequently updated using the Track process (for example, to update a "Contacted" status to "Undeliverable"). Contact statuses are customized for your particular implementation. The `UA_ContactStatus.CountsAsContact` field determines whether or not communication with a particular contact status value counts as a contact from Unica Optimize's contact fatigue perspective. Unica Optimize only considers contacts where `UA_ContactStatus.CountsAsContact` is 1.

For more information about configuring contact statuses, see the *Unica Campaign Administrator's Guide*. For more information about populating contact status with the Mail List or Track process, see the *Unica Campaign User's Guide*.

Rule types

Optimization rules fall into one of three categories:

- Exclude/Include
- Capacity
- For Each Customer (FEC)

The following sections defines each rule type and lists the available rules of that type.

Exclude/Include

This rule type determines whether Unica Optimize includes or excludes a contact in the optimized contact list. Use this type of rule to apply global exclusions, opt-in and opt-out lists, or to ensure that particular customers do not receive particular types of offers. This category contains the following rules:

- **Customers In**—Allows you to specify that customers in a specific strategic segment can or cannot receive particular offer(s). For example, a financial institution may want to exclude credit offers to individuals with low credit ratings.
- **Interactions Where**—Allows you to include or exclude specific transactions based on any attributes in the Proposed Contacts Table. For example, a retailer may want to exclude proposed transactions with a score less than or equal to zero from being delivered.

Capacity

This rule type specifies the minimum and maximum number of contacts that can occur on a particular channel over a period of time. For example, setting a maximum for offer X means that it cannot be given out more than the number of times that you specify, and that the scope of the constraint is all customers. This category contains the following rules:

- **Min/Max # Offers**—Offer capacity rule that allows you to specify a minimum or maximum number of offers to send over a particular time period. For example, a telecommunications company might limit the number of free cell phone offers given per month to 100,000.
- **Custom Capacity**—Additional constraints you can specify based on an aggregation (sum or average) of a score field. For example, a bank giving out loan offers might specify that the average "risk score" must be below a certain threshold.

For Each Customer (FEC)

This rule type determines the contact strategy on a per-customer basis. That is, it determines how your organization communicates with each customer over time. For example, setting a maximum of Y offers, determines that each customer is allowed only Y offers over a specified time period. This category contains the following rules:

- **Min/Max # Offers**—Offer capacity rule that allows you to specify a minimum or maximum number of offers to give to a particular segment on a channel over time. For example, a collectibles company may want to limit the dilution of multiple offers by targeting their best customers with at least 3 and at most 25 different offers in any given 30-day period.
- **Max # Packages**—Contact-fatigue control that prevents over-communicating with customers by controlling the number of different packages (or interruptions) allowed to any recipient over a specified time period. For example, a hotel chain may want to limit the number of communications to their low value customers to a maximum of one per quarter.
- **Max # Duplicate Offers**—Rule that controls the maximum number of times you will present the same offer to the same recipient over a specified time period. For example, an online web retailer may want to present any given cross-sell offer a maximum of 7 times to a web customer over a six-month period.
- **Never A with B**—Offer-conflict resolution rule that prevents two conflicting offers (or sets of offers) from ever being given together within a specified time period. For example, a retailer may want to prevent a "\$10 off a purchase of \$100 on the web" offer and a "\$20 off a purchase of \$100 in-store" offer from going to the same individual within the same month.
- **Never A followed by B**—Sequencing rule that prevents certain offers from following too closely after other offers. For example, a bank may want to ensure adequate spacing between sending a high-interest certificate of deposit (CD) offer to a customer after sending them a credit-limit decrease notification.

- B only with A**—Sequencing rule that specifies offer B may be sent only after offer A. For example, a mortgage company may specify that a call center representative may initiate a follow-up call only after the initial mortgage offer has been sent by direct mail.

Rule Scope

The scope of a rule is the set of proposed contacts affected by that rule, which can be specified using various dimensions such as customer, offer, channel, cost, and time. The following table shows which scopes are available with each rule.

	Include/ Exclude	Channels	Offer/Offer Lists	Offer Attributes	PCT Columns	Segments	Time	Channel B	Offer/Offer Lists B	Offer Attributes B	Min Count	Max Count
Customers In	X	X	X	X		X						
Interactions Where	X				X							
Min/Max # Offer Capacity		X	X				X				X	X
Custom Capacity		X	X		X							
Min/Max # Offers FEC		X	X	X		X	X				X	X
Max # Packages		X				X	X					X
Max # Duplicate Offers		X	X	X		X	X					X
Never A with B		X	X	X		X	X	X	X	X		
Never A Followed by B		X	X	X		X	X	X	X	X		
B only with A		X	X	X		X		X	X	X		

The Customers In rule

The Customers In rule allows you to include or exclude contacts based on strategic segments defined in Unica Campaign. You can refine the scope of this rule to affect only a particular channel or a particular offer or offer lists defined in Unica Campaign.

Use this rule to enforce global suppression across all participating campaigns. For example:

- To create ‘do not contact’ lists or to support global control groups (could be channel-specific)
- To prevent customers who have opted-out of a given channel from receiving messages on that channel

- To prevent customers with a particular characteristic (in default, poor credit rating, returning too many products, etc.) from receiving a list of particular offers (highest value offers, expanded credit lines, and so on) or any individual offer.

You might have a segment called "DoNotCall" representing the highest value customers that have requested not to be contacted by phone. Use this rule to ensure all individuals in the "DoNotCall" segment do not receive any telemarketing offers.

Definitions for the Customers In rule

Field	Value
This optimization session should	<ul style="list-style-type: none"> • Exclude removes those contacts that meet the criteria that follow. • Include keeps only those contacts that meet the listed criteria. When used with segments, Unica Optimize moves contacts outside the segment but that meet the offer, contact, and channel criteria.
customers in the segment	<ul style="list-style-type: none"> • Any Customer includes or excludes all contacts satisfying the other criteria. • Segment Name includes or excludes the contacts that meet the subsequent channel and offer criteria applied to all customers in the segment you select.
for offers from channel	<ul style="list-style-type: none"> • Any Channel applies to offers regardless of delivery channel. • Channel name narrows the inclusion or exclusion to only those offers on the channel you specify.
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer applies to all offers. • Offer/offer list narrows the inclusion or exclusion to the specific offer or offer list you select. • Offer Versions narrows the inclusion or exclusion to offer versions with the offer attribute(s) you specify in the query builder. This allows you to scope the rule to apply to only specific offer versions defined using parameterized offer attributes.

Examples of the Customers In rule

"This optimization session should *Exclude* customers in the segment *OptOutTable* for offers from channel *Any Channel* concerning offer/offer list *Any Offer*." This rule removes all proposed contacts for any customers in the OptOutTable.

"This optimization session should *Include* customers in the segment *GoodCreditRating* for offers from channel *Any Channel* concerning offer/offer list *Credit Offers*." This rule ensures that only customers in the GoodCreditRating segment receive Credit Offers, regardless of channel.

"This optimization session should *Exclude* customers in the segment *DoNotCall* for offers from channel *Call Center* concerning offer/offer list *Any Offer*." If you create a segment called DoNotCall containing all customers who filled out a form that said they did not want any solicitation calls, you can exclude them from receiving any offers delivered by the Call Center channel.

"This optimization session should *Include* customers in the segment *Email* for offers from channel *Email* concerning offer/offer list *Any Offer*." This rule ensures the optimized contact list contains only email offers for those customers in the Email segment.

"This optimization session should *Include* customers in the segment *HighCreditScores* for offers from channel *Any Channel* concerning offer/offer list *Platinum Cards*." This rule ensures the optimized contact list gives only platinum card offers only to customers in the HighCreditScores segment.

"This optimization session should *Include* customers in the segment *Any Customer* for offers from channel *Any Channel* concerning offer/offer list *Platinum Card Email with Expiration Date > 1/30/07*." This rule ensures the optimized contact list contains only platinum card email offers that expire after 1/30/07.

The Interactions Where rule

The Interactions Where rule allows you to include or exclude contacts based on any criteria available in the PCT data.

Use this rule to use specific customer, campaign offer, channel, cost, or time criteria to suppress specific proposed offers. These criteria come from the same tables you would use in Unica Campaign. This is especially useful when you do not have an explicit segment to suppress. It also provides much greater flexibility and is very powerful in implementing complex suppressions.

This rule gives you direct access to optional fields included in the optimization template table and the proposed contacts table (PCT). For example, you could use an Interactions Where rule to prevent customers whose percentage of returned products exceeds 10% from receiving discount offers. This rule would require that the optimization template table used for the optimization session contain a variable representing the percent of returned products that would be populated by each of the participating campaigns for each submitted audience ID.

Definitions for the Interactions Where rule

Field	Value
This optimization session should	<ul style="list-style-type: none"> • Exclude removes those offers that meet the criteria that follow. • Include keeps only those offers that meet the criteria that follow.

Field	Value
Interactions where	Narrows the inclusion or exclusion to the offer criteria you specify in the query builder.

Examples of the Interactions Where rule

"This optimization session should *Exclude* interactions where *CustomerValue < 100 and OfferValue > 10 and Channel = Phone*." This rule ensures that high-value offers are not given to low-value customers using an expensive communication channel (phone).

"This optimization session should *Include* interactions where *Score >= 10*." This rule ensures that the optimized contact list contains only those proposed offers with a value greater than or equal to ten in the Score field.

The Min/Max # Offers Capacity rule

The Min/Max # Offers Capacity rule allows you to set capacity constraints by defining the maximum and minimum number of offers that should be sent across customers (in general, or for a particular offer, channel, and/or period of time).

Use this rule to control the usage of a given offer and/or channel over some period of time. To control the number of offers given to an individual, see the [Min/Max # Offers For Each Customer rule](#).

- ✿ You should avoid using offer capacity constraints whenever possible, as these will reduce the optimality of the overall solution. If you must use offer capacity constraints, try to use either a minimum or a maximum instead of both. If you must use both a minimum and a maximum, try to avoid using extremely close minimum and maximum values, such as setting the minimum equal to the maximum. Such a narrow range reduces the degree of flexibility Unica Optimize has to optimize.

You may want to limit the number of free cell phone handsets you give away to existing customers who upgrade to a premium monthly plan. You could create an offer capacity rule that limits the maximum number of "Free cell phone with 2-year premium subscription" offers to 20,000.

Definitions for the Min/Max # Offers Capacity rule

Field	Value
Total number of offers from channel	<ul style="list-style-type: none"> • Any Channel applies the limit to the offer(s) regardless of the delivery channel. • <i>Channel name</i> limits the rule to offers from the channel you specify.

Field	Value
over the time period	<ul style="list-style-type: none"> • A <i>time period</i> you specify applies the rule to all time periods with the specified duration. The duration is a number of days. The duration is a number of days. In other words, the rule must be true for any time period specified. For example, if you create a rule that says a maximum of 3 offers can be sent to any customer in a 30-day period, Unica Optimize does not allow any optimized offers (also considering offers already given in contact history) to exceed 3 in any 30-day window. This "sliding window" interpretation of the time period allows you to truly control your offer presentation strategy. • 0 represents "this optimization period" and sets the minimum and maximum number of offers made over the entire time range for proposed contacts across all participating campaigns in this optimization session (that is, between the earliest and latest proposed dates in the PCT). When a value of zero is used, no sliding windows are used (The entire optimization period is considered as a single time window). In addition, contact history is not considered.
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer applies the capacity limit regardless of the offer. • Offer/offer list limits the rule to the offer or offer list you select.
should be between	<ul style="list-style-type: none"> • minimum allows you to specify the minimum number of offers you want to be sent. Unica Optimize optimizes offers so that at least this number of offers are given out, if possible, given the constraints. <p> It may not be possible to achieve the minimum.</p> <p>For example, suppose you have a rule specifying that a minimum of 10,000 of offer X must be given out. You cannot achieve this minimum in either of the following situations:</p> <ul style="list-style-type: none"> • The PCT contains fewer than 10,000 contacts. • There are not 10,000 contacts in the PCT eligible for the offer, for example the contacts are limited by Never A with B rules. <p>Unica Optimize will give out as many offers as possible, given the constraints.</p> <ul style="list-style-type: none"> • maximum allows you to specify the maximum number of offers you want to be sent. This is the maximum number of this type of specific offer/channel or offer list/channel combination that Unica Optimize allows within the specified time period.

Examples of the Min/Max # Offers Capacity rule

"The number of offers from channel *Telemarketing* over the time period *1 day* concerning offer/offer list *Any Offer* should be between *minimum 0 and maximum 3,000.*" This rule limits the number of telemarketing calls in the optimized contact list to 3,000 per day.

"The total number of offers from channel *Any Channel* over the time period *30 days* concerning offer/offer list *Platinum Cards* should be between *minimum 0 maximum 50,000.*" This rule limits the number of platinum card offers in the optimized contact list to 50,000 over each rolling 30-day period.

"The total number of offers from channel *Telemarketing* over the time period *7 days* concerning offer/offer list *Platinum Cards* should be between *minimum 5000 maximum 15000.*" This rule causes Unica Optimize to include at least 5000 platinum card telemarketing calls and no more than 15,000 in the optimized contacts list over each rolling 7-day period.

The Custom Capacity rule

The Custom Capacity rule allows you to build your own constraints based on the sum or average of a column in your PCT.

This rule is flexible and can be used in many situations. For example, you can use this rule to keep an optimization session within a budget. If you create a Custom Capacity rule where the sum of a CostPerOffer column in the PCT must be less than or equal to 10,000, you have defined that all the offers given out must cost less than ten thousand dollars.

You can also use this rule to limit the range of offers given out. If you create a Custom Capacity rule where the average of the APR of the offer is greater than or equal to 7, you are ensuring that you do not give out too many offers with very low APR.

Definitions for the Custom Capacity rule

Field	Value
Sum or Average	<ul style="list-style-type: none"> Sum specifies that Unica Optimize should add the values of the PCT column before comparing it to the value. Average specifies that Unica Optimize should take the average of the values in the PCT column before comparing it to the value. <p> While you are using the values from the PCT, the sum or average is based on the values in the final OCT.</p>
of the PCT Column	The name of a numeric column in the PCT you want to constrain your optimization session by.

Field	Value
should be	Select an operator to compare the PCT column to the value: less than or equal to or greater than or equal to.
the value	A positive number to which you compare the sum or average of the PCT Column. The number can be an integer or decimal.
for transaction from offer/offer list	<ul style="list-style-type: none"> • Any Offer specifies that Unica Optimize consider all offers and offer lists. • Offer/offer list limits the rule to the offer or offer list you select.
from channel	<ul style="list-style-type: none"> • Any Channel applies the rule across all channels. • <i>Channel name</i> limits the rule to offers from the channel you specify.

Examples of the Custom Capacity rule

"The Sum of the *CostPerOffer* should be <= the value 100000 for transactions from the offer/offer list *Any Offer* from channel *Any Channel*." This rule limits the budget of the entire campaign (any offer on any channel) to \$100,000.

"The Sum of the *RiskScore* should be <= the value 100 for transactions from the offer/offer list *Any Offer* from channel *Any Channel*." This rule limits the amount of risk your business is exposed to by your campaign.

"The Average of the *APR* should be >= the value 8 from the offer/offer list *CreditOffers* from channel *Any Channel*." This rule prevents giving out only low interest rate offers to ensure profitability.

The Min/Max # Offers For Each Customer rule

The Min/Max # Offers For Each Customer rule allows you to limit the number of offers that any one customer receives. It can be used to help prevent dilution of messages and inundation with a large number of offers, even if they are consolidated into a small number of actual contacts and packages, for example, sending 50 different offers in a single email.

- 💡 This is different from the number of interruptions or “packages” that a customer receives. To manage customer contact fatigue, use the “Max # of Packages” rule instead.

You can define these constraints specific to a certain strategic segment, channel, or set of offers.

This rule allows you to manage the number of different messages you are sending to an individual. In particular, use this rule to control your customer offer strategy on a per-customer basis. Specifically, this rule controls the minimum and maximum number of offers (or a particular kind of offer) to be given to an individual over a particular time period. This rule is often created on a per channel basis to limit the number of different types of communications (cross-sell versus retention versus upsell, and so on).

By specifying a minimum, you might use this rule to ensure that varied marketing messages reach the customer. You might set the condition that, at most, two contacts to high-value customers would be upsell or cross-sell offers, leaving one offer for retention, and so on.

You can also create a set of high-cost offers, then limit the number of times each customer can receive an offer from that set.

Definitions for the Min/Max # Offers For Each Customer rule

Field	Value
For each customer in segment	<ul style="list-style-type: none">• Any Customer applies the rule to all customers.• <i>Segment</i> limits the rule to customers in the segment you select.
the number of offers from the channel	<ul style="list-style-type: none">• Any Channel applies the rule across all channels.• <i>Channel name</i> limits the rule to offers from the channel you specify.
over the time period	<ul style="list-style-type: none">• A <i>time period you specify</i> applies the rule to all time periods with the specified duration. The duration is a number of days. In other words, the rule must be true for any time period specified. For example, if you create a rule that says a maximum of 3 offers can be sent to any customer in a 30-day period, Unica Optimize will not allow any optimized offers (also considering offers already given in contact history) to exceed 3 in any 30-day window. This "sliding window" interpretation of the time period allows you to truly control your offer presentation strategy.• 0 represents "this optimization period" and sets the minimum and maximum number of offers made over the entire time range for proposed contacts across all participating campaigns in this optimization session (that is, between the earliest and latest proposed dates in the PCT). When a value of zero is used, no sliding windows are used (The entire optimization period is considered as a single time window). In addition, contact history is not considered.

Field	Value
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer specifies that Unica Optimize consider all offers and offer lists. • Offer/offer list limits the rule to the offer or offer list you select. • Offer Versions limits the rule to offers containing the offer attribute(s) you specify in the query builder, including parameterized offer attribute values.
should be between	<ul style="list-style-type: none"> • minimum allows you to specify the minimum number of offers that you want to send. Unica Optimize optimizes offers so that this number is reached. <p> As an FEC rule, if the minimum cannot be met for any particular individual, no offers are given to that recipient.</p> • maximum allows you to specify the maximum number of offers that you want to send. <p> Try to avoid using extremely close minimum and maximum values, such as a minimum of two and a maximum of three. Such a close range reduces the optimality of the solution.</p>

Examples of the Min/Max # Offers For Each Customer rule

"For each customer in segment *Recent Accounts*, the number of offers from the channel *Any Channel* over the time period 30 days concerning offer/offer list *Any Offer* should be between minimum 0 and maximum 2." This rule limits the contacts in the optimized contact list so that the number of offers for each customer who recently opened accounts is no more than two over any 30-day period.

"For each customer in segment *Any Customer*, the number of offers from the channel *Email* over the time period 30 days concerning offer/offer list *Any Offer* should be between minimum 0 and maximum 5." This rule ensures that the number of email offers in the optimized contact does not exceed five in any 30-day period for any customer.

"For each customer in segment *Any Customer*, the number of offers from the channel *Direct Mail* over the time period 30 days concerning offer/offer list *Gold Cards* should be between minimum 0 and maximum 3." This rule ensures that the number of gold card mailings in the optimized contact list is limited to three for any 30-day period for any customer.

"For each customer in segment *Any Customer*, the number of offers from the channel *Direct Mail* over the time period 30 days concerning offer/offer list *Offer Version Expiration date = 1/30/07* should be between minimum 0 and maximum 3." This rule ensures that the number of mailings for any offer with an expiration date = 1/30/07 is limited to three in any 30-day period for any customer.

The Max # Packages rule

The Max # Packages rule allows you to prevent contact fatigue and possible opt-outs or customer backlash by defining the maximum number of packages or interruptions that any customer receives over a particular time period. Multiple instances of this rule can be used to construct a contact strategy that ensures proper spacing of communications, without over inundating your customers or prospects with too many messages.

Packages are defined in Unica Campaign as all contacts made to the same audience entity in the same contact process in the same flowchart run. Packages represent interruptions and contact processes in Unica Campaign should be configured to adhere to this definition if contact fatigue rules will be used in Unica Optimize.

You can define the Max # Packages rule for a particular channel. You may also limit the scope of your rule to a segment.

Use this rule to help manage a contact strategy to prevent contact fatigue by controlling the number of “interruptions” or packages sent to each customer. It is an important rule that can prevent over-communicating with your customers. For example, you can define a rule to limit the maximum number of packages sent to high-value customers to 3 over any 30-day period.

- 💡 Packages are defined in Unica Campaign. All offers sent to the same customer via the same contact process are considered a single “package” delivered on the same channel at the same time. For example, this could represent multiple coupons in a coupon book or multiple offers within the same email. It is important that flowcharts created in Unica Campaign adhere to this practice. That is, separate contact processes must be used for communications on different channels or for offers given to the same individual at different points in time. Conversely, if multiple offers will be delivered in a single “package” to a recipient, those offers must all be assigned within the same contact process.
-

Definitions for the Max # Packages rule

Field	Value
For each customer in segment	<ul style="list-style-type: none">• Any Customer applies this constraint to all customers.• Segment limits the rule to customers in the segment you select.

Field	Value
over the time period	<ul style="list-style-type: none"> • A <i>time period</i> you specify applies the rule to all time periods with the specified duration. The duration is a number of days. In other words, the rule must be true for any time period specified. For example, if you create a rule that says a maximum of 3 offers can be sent to any customer in a 30-day period, Unica Optimize will not allow any optimized offers (also considering offers already given in contact history) to exceed 3 in any 30-day window. This "sliding window" interpretation of the time period allows you to truly control your offer presentation strategy. • 0 represents "this optimization period" and sets the minimum and maximum number of offers made over the entire time range for proposed contacts across all participating campaigns in this optimization session (that is, between the earliest and latest proposed dates in the PCT). When a value of zero is used, no sliding windows are used (The entire optimization period is considered as a single time window). In addition, contact history is not considered.
the number of packages from the channel	<ul style="list-style-type: none"> • Any Channel specifies that Unica Optimize consider packages from all channels. • <i>Channel name</i> limits the rule to packages from the channel you specify.
should not exceed	Limits the maximum number of packages that can be sent to each customer to the value you enter.

Examples of the Max # Packages rule

"For each customer in segment *Recent Accounts*, over the time period 30 days, the number of packages from the channel *Any Channel* should be between minimum 0 and maximum 2." This rule limits the contacts in the optimized contact list so that the number of packages for each customer who recently opened accounts is no more than two in any 30-day period.

"For each customer in segment *Any Customer*, over the time period 30 days the number of packages from the channel *Email* should be between minimum 0 maximum 5." This rule ensures that the number of email packages any customer receives is limited to five for any 30-day period.

The Max # Duplicate Offers rule

The Max # Duplicate Offers rule allows you to limit the number of times a customer receives the same offer in a given time period from a particular channel. You can create a single Max # Duplicate Offers rule for all offers in an offer set. For example, if you create a Max # Duplicate Offers rule for a set of offers, setting a max of 0, then each customer can get only one of any offer (zero duplicates, but an individual can get many different offers.)

Use this rule to limit the number of duplicate offers that may be given to the same individual, potentially over different channels. You can prevent duplicates of any offer by creating a smart offer list in Unica Campaign representing all offers. For example, you can use this rule to ensure that if you send a customer an offer through email, you do not send the customer the same offer in regular mail within a one month period.

Definitions for the Max # Duplicate Offers rule

Field	Value
For each customer in segment	<ul style="list-style-type: none"> • Any Customer applies this constraint to all customers. • Segment limits the rule to customers in the segment you select.
the number of duplicate offers from the channel	<ul style="list-style-type: none"> • Any Channel specifies that Unica Optimize consider offers from all channels. • Channel name limits the rule to offers from the channel you specify.
over the time period	<ul style="list-style-type: none"> • <i>A time period you specify</i> applies the rule to all time periods with the specified duration. The duration is a number of days. In other words, the rule must be true for any time period specified. For example, if you create a rule that says a maximum of 3 offers can be sent to any customer in a 30-day period, Unica Optimize will not allow any optimized offers (also considering offers already given in contact history) to exceed 3 in any 30-day window. This "sliding window" interpretation of the time period allows you to truly control your offer presentation strategy. • 0 represents "this optimization period" and sets the minimum and maximum number of offers made over the entire time range for proposed contacts across all participating campaigns in this optimization session (that is, between the earliest and latest proposed dates in the PCT). When a value of zero is used, no sliding windows are used (The entire optimization period is considered as a single time window). In addition, contact history is not considered.
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer specifies that Unica Optimize consider all offers and offer lists. • Offer/offer list limits the rule to the offer or offer list you select. • Offer Versions limits the rule to offers containing the offer attribute value(s) you specify in the query builder, including parameterized offer attributes.

Field	Value
should not exceed	Limits the maximum number of duplicate offers (that can be sent to each customer) to the value you enter. If you set this value to one, the customer receives at most two—or, one duplicate—of the same offer. Use zero to eliminate the possibility of duplicate offers.

Examples of the Max # Duplicate Offers rule

"For each customer in segment *High Value Customers*, the number of duplicate offers from the channel *Any Channel* over the time period 30 days concerning offer/offer list *Any Offer* should not exceed 4." This rule allows only four of the same offer to appear in the optimized contact list for any high-value customer during any 30-day period.

"For each customer in segment *Any Customer*, the number of duplicate offers from the channel *Direct Mail* over the time period 30 days concerning offer/offer list *Any Offer* should not exceed 2." This rule allows only two of the same offer to appear in the optimized contact list for each customer during any 30-day period.

"For each customer in segment *Any Customer*, the number of duplicate offers from the channel *Any Channel* over the time period 30 days concerning offer/offer list *Brokerage Product* should not exceed 3." This rule allows no more than four (one original and three duplicates) of the same Brokerage Product offers to appear within the optimized contact list for each customer in any 30-day period.

"For each customer in segment *Any Customer*, the number of duplicate offers from the channel *Any Channel* over the time period 90 days concerning offer/offer list *Brokerage Product = free consultation* should not exceed 2." This rule allows no more than three of the free consultation Brokerage Product offers (one original and two duplicates) to appear within the optimized contact list for each customer in any 90-day period.

The Never A with B rule

With the Never A with B rule, you can prevent a customer from receiving a pair of offers together within a certain period of time. You can refine this rule by customer segment, channel, and offer set.

Use this rule to prevent incompatible offers from being given to the same contact. By specifying offer sets, you can specify that none of the offers from the first set should be given to the same recipient with any of the offers from the second set.

This rule helps ensure consistency of your messages to a customer, preventing conflicting offers from being sent to the same individual. If the customer consistently gets a specific type of offer, this rule ensures that the customer continues to get that type of offer. For example, if you do not want to send conflicting new phone renewal versus upgrade phone plan offers to the same individual within a 60 day period, you can write a rule that says "For each customer in All Segments, they cannot receive interaction A from All Channels concerning New Phone Renewals and interaction B from All Channels concerning Upgrade Phone Plans together within 60 days."

Definitions for the Never A with B rule

Field	Value
For each customer in segment	<ul style="list-style-type: none"> • Any Customer specifies that Unica Optimize consider customers in all segments. • <i>Segment</i> limits the rule to customers in the segment you select.
that receives an offer from channel	<ul style="list-style-type: none"> • Any Channel specifies that Unica Optimize consider offers from all channels for this field. • <i>Channel name</i> limits this field to offers from the channel you specify.
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer specifies that Unica Optimize consider all offers and offer lists for this field. • Offer/offer list limits this field to the offer or offer list you select. • Offer Versions limits the rule to offers containing the offer attribute value(s) you specify in the query builder, including parameterized offer attributes.
cannot receive an offer from channel	<ul style="list-style-type: none"> • Any Channel specifies that Unica Optimize consider offers from all channels for this field. • <i>Channel name</i> limits this field to offers from the channel you specify.
within the time period	<ul style="list-style-type: none"> • <i>A time period you specify</i> applies the rule to all time periods with the specified duration. The duration is a number of days. In other words, the rule must be true for any time period specified. For example, if you create a rule that says a maximum of 3 offers can be sent to any customer in a 30-day period, Unica Optimize will not allow any optimized offers (also considering offers already given in contact history) to exceed 3 in any 30-day window. This "sliding window" interpretation of the time period allows you to truly control your offer presentation strategy. • 0 represents "this optimization period" and sets the minimum and maximum number of offers made over the entire time range for proposed contacts across all participating campaigns in this optimization session (that is, between the earliest and latest proposed dates in the PCT). When a value of zero is used, no sliding windows are used (The entire optimization period is considered as a single time window). In addition, contact history is not considered.

Field	Value
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer specifies that Unica Optimize consider all offers and offer lists for this field. • Offer/offer list limits this field to the offer or offer list you select. • Offer Versions limits this field to offers that contain the offer attribute(s) you specify in the query builder.

Examples of the Never A with B rule

"For each customer in segment *Wireless*, that receives an offer from channel *All Channels* concerning offer/offer list *New Phone Renewal* cannot receive an offer from channel *All Channels* within the time period *90 days* concerning offer/offer list *Phone Plan Upgrade*." This rule removes any phone plan upgrade offer to a customer who received a new phone renewal offer in the previous 90 days from the optimized contact list.

"For each customer in segment *All Segments*, that receives an offer from channel *All Channels* concerning offer/offer list *Interest Rate > 10%* cannot receive an offer from channel *All Channels* within the time period *60 Days* concerning offer/offer list *Interest Rate < 5%*." This rule removes any less than 5% interest rate offers to a customer who received a greater than 10% interest rate offer in the previous 60 days from the optimized contact list.

The Never A Followed By B rule

The Never A Followed by B rule lets you prevent a customer who just received one offer from receiving another offer for a certain period of time, but it does not prevent the customer who received the second offer from receiving the first offer. The Never A Followed by B rule is unidirectional—meaning that it enforces suppression of offers in one direction only—as opposed to the Never A with B rule, which is bidirectional—meaning that offers are not allowed together regardless of sequence. You can refine the Never A Followed by B rule by customer segment, channel, and offer set.

Use this rule to ensure that the order of offers makes sense from a customer-service perspective. For example, you may break your offers into low and high tiers, and say that customers who receive a high-tier offer cannot receive a follow-on low-tier offer within the same 30-day period.

The following are examples of particular constraints you could apply with this rule:

- Do not follow a better offer with a worse offer. For example, do not send an offer for 10,000 frequent flyer miles and then send an offer for 5,000 miles.
- Do not send a negative offer following a positive offer. For example, do not send a cross-sell offer a few days after you lowered a person's credit card credit limit due to a lowered credit score.

Definitions for the Never A Followed By B rule

Field	Value
For each customer in segment	<ul style="list-style-type: none"> • Any Customer applies the constraint to all customers. • <i>Segment</i> limits the rule to customers in the segment you select.
that first receives an offer from channel	<ul style="list-style-type: none"> • Any Channel specifies that Unica Optimize consider offers from all channels for this field. • <i>Channel name</i> limits this field to offers from the channel you specify.
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer specifies that Unica Optimize consider all offers and offer lists for this field. • Offer/offer list limits this field to the offer or offer list you select. • Offer Versions limits the rule to offers containing the offer attribute value(s) you specify in the query builder, including parameterized offer attributes.
cannot later receive an offer from channel	<ul style="list-style-type: none"> • Any Channel specifies that Unica Optimize consider offers from all channels for this field. • <i>Channel name</i> limits this field to offers from the channel you specify.
within the time period	<ul style="list-style-type: none"> • <i>A time period you specify</i> applies the rule to all time periods with the specified duration. The duration is a number of days. In other words, the rule must be true for any time period specified. For example, if you create a rule that says a maximum of 3 offers can be sent to any customer in a 30-day period, Unica Optimize will not allow any optimized offers (also considering offers already given in contact history) to exceed 3 in any 30-day window. This "sliding window" interpretation of the time period allows you to truly control your offer presentation strategy. • 0 represents "this optimization period" and sets the minimum and maximum number of offers made over the entire time range for proposed contacts across all participating campaigns in this optimization session (that is, between the earliest and latest proposed dates in the PCT). When a value of zero is used, no sliding windows are used (The entire optimization period is considered as a single time window). In addition, contact history is not considered.

Field	Value
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer specifies that Unica Optimize consider all offers and offer lists for this field. • Offer/offer list limits this field to the offer or offer list you select. • Offer Versions limits the rule to offers containing the offer attribute value(s) you specify in the query builder, including parameterized offer attributes.

Example of the Never A Followed By B rule

"For each customer in segment *All Segments*, that first receives an offer from channel *All Channels* concerning offer/offer list *Platinum Cards* cannot later receive an offer from channel *All Channels* within the time period 90 days concerning offer/offer list *Gold Cards*." This rule removes any gold card offers to a customer who first received a platinum card offer in the previous 90 days from the optimized contact list.

"For each customer in segment *All Segments*, that first receives an offer from channel *Any Channel* concerning offer/offer list *CreditLimitReduction* cannot later receive an offer from channel *Any Channel* within the time period 90 days concerning offer/offer list *CrossSellCreditCardInsurance*." This rule removes any offers for credit card insurance from customers who first received a Credit Limit Reduction notice in the previous 90 days.

The B Only With A rule

The B only with A rule ensures that Unica Optimize does not send a follow-up offer unless it sends the original offer. Unica Optimize cannot send Offer B unless it also sends an offer A. When Unica Optimize uses an offer set for offer B, the rule applies to any offer which matches the set. When you use an offer set for offer A, any offer within that set satisfies the requirement for all proposed offer Bs. In other words, a single original offer allows any number of follow-up offers. This rule allows you to control sequencing of related offers, for example, to specify that offer B should be sent to a recipient only if offer A is also sent to the recipient. This allows you to manage follow-up waves of communication within your optimization strategy.

Marketing studies show that the lift achievable with two linked communications—for example, a direct mail piece followed by a service representative call—can be much more successful than either individual communication. The B Only With A rule allows you to propose linked offers and ensure that offer B is only given to a recipient if they also receive offer A. Therefore, allowed combinations would include giving out only offer A or offers A and B together, but not offer B alone. For example, if you want to first make an offer using direct mail and then follow up using a telemarketing call, you could create the telemarketing call as Offer B and the direct mail as Offer A. If Unica Optimize determines that the customer should not receive the direct mail, then this rule automatically eliminates the telemarketing call that was paired with it.

Additionally, if you have two offers, Offer1 and Offer2, which must be sent together or not at all, you can create two B only with A rules. Create one rule as Offer1 only with Offer2 and the other rule as Offer2 only with Offer1. Unica Optimize delivers both of the offers or neither of them. In this scenario, Unica Optimize ensures that sufficient contact opportunities exist on the required channels to send both Offer1 and Offer2 and that the combination of offers (as opposed to other alternative offers that could be given on those channels instead) together are optimal.

Use this rule when one offer must always precede another.

The scope of the B only with A rule is always the current optimization period, that is, Unica Optimize considers only the proposed contacts within the optimization session; Unica Optimize does not give out offer B if offer A was given out in the past. This ensures that an offer B is selected only if offer A is also selected within the proposed transactions considered during the current optimization session. This rule does not look at contact history to see if offer A has been received in the past.

Definitions for the B Only With A rule

Field	Values
Each customer in segment	<ul style="list-style-type: none"> • Any Customer applies the constraint to all customers. • <i>Segment</i> limits the rule to customers in the segment you select.
can receive an offer from channel	<ul style="list-style-type: none"> • Any Channel specifies that Unica Optimize consider offers from all channels for this field. • <i>Channel name</i> limits this field to offers from the channel you specify.
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer specifies that Unica Optimize consider all offers and offer lists for this field. • Offer/Offer list limits this field to the offer or offer list you select. • Offer Versions limits the rule to offers containing the offer attribute value(s) you specify in the query builder, including parameterized offer attributes. <p> This is the prerequisite offer for the follow-up offer. When an offer list is selected in this field, any offer within that list satisfies the requirement for any follow-up offer proposed.</p>
only if they receive an offer from channel	<ul style="list-style-type: none"> • Any Channel specifies that Unica Optimize consider offers from all channels for this field. • <i>Channel name</i> limits this field to offers from the channel you specify.

Field	Values
concerning offer/offer list	<ul style="list-style-type: none"> • Any Offer specifies that Unica Optimize consider all offers and offer lists for this field. • Offer/offer list limits this field to the offer or offer list you select. This is the prerequisite offer for the offer in the second offer field. When an offer list is selected in this field, any offer within that list satisfies the requirement for any offer proposed in the second offer field. • Offer Versions limits the rule to offers containing the offer attribute value(s) you specify in the query builder, including parameterized offer attributes. <p> This is the follow-up offer. When an offer list is used for the follow-up offer, the rule applies to every offer in that list given to the customer.</p>

Examples of the B Only With A rule

"Each customer in segment *New Customers*, can receive an offer from channel *Email* concerning offer/offer list *Follow Up* only if they receive an offer from channel *Email* concerning offer/offer list *Initial*." This rule ensures that customers in the New Customers segment are not sent a Follow Up offer unless they are sent an Initial offer.

"Each customer in segment *Any Segment*, can receive an offer from channel *Telemarketing* concerning offer/offer list *FreeNightAtDisney* only if they receive an offer from channel *DirectMail* concerning offer version *Destination = Orlando, Florida*." This rule assumes that the air travel offers have a parameterized attribute called destination. This rule ensures that only customers sent an offer with a destination of Orlando, Florida receive the free night at the Walt Disney World resort offer.

Rule definitions

Rule definitions allow you to create a rule's scope or to determine the action performed on that scope. The scope of a rule is the set of proposed contacts affected by that rule, which can be specified using various dimensions such as customer, offer, channel, and time.

For example, you may define your scope as a set of contacts within a segment called Low Value, that are contacted through the email channel, and that include an offer for 10% off. You can define a For Each Customer Max # Offer rule to ensure that this set of contacts do not receive more than one of these communications a month.

This section discusses three main rule definitions:

- segments—for scoping the rule to pertain to specific customers and audience IDs

Segments are available for the Customers In, Min/Max # Offers FEC, Max # of Packages, Max # Duplicate Offers, Min # Unique Offers, Never A with B, Never A Followed by B, and B only with A rules.

- offer lists—for applying the rule to specific offers
Offer lists are available for the Customers In, Min/Max # Offers Capacity, Min/Max Total Cost, Min/Max # Offers FEC, Max # Duplicate Offers, Min # Unique Offers, Never A with B, Never A Followed by B, and B only with A rules.
- offer versions—applying the rule only to specific versions of offers as defined by their offer attribute values
Offer versions are available for the Customers In, Min/Max # Offers FEC, Max # Duplicate Offers, Min # Unique Offers, Never A with B, Never A Followed by B, and B only with A rules.

Using segments in optimization rules

Some optimization rules allow you to specify a strategic segment in your rule definition. Strategic segments are created in Unica Campaign and are available for use within Unica Optimize. A segment, or strategic segment, is a set of audience IDs (all at the same audience level) you have grouped in some meaningful way. For example, you may create a segment called Women that groups all female contacts. You may have another called High Value, which groups all contacts who have spent over \$1000 in the past 3 months.

You can then perform an action on the segment you specify in the rule definition. For example, you may create a rule that specifies that all High Value contacts should receive at least three email offers every month.

-
- ✳ An optimization rule may apply to all customers or to a single strategic segment. To apply an optimization rule to multiple strategic segments, either create a new strategic segment containing all the desired contacts in Unica Campaign, or create multiple copies of the rule, one for each strategic segment to which it should apply.

For more information on strategic segments, see the *Unica Campaign User's Guide*.

If you are using Unica Interact, smart segments cannot be used with Unica Optimize.

To use a segment in an optimization rule

1. Click **Segment** in the Rule Definition section of an optimization rules page.
A blank field and Select button appear.
2. Click the **Select** button.
The Add/Remove Segments window appears.
3. Select a segment.
4. Click **Accept and Close**.
The segment populates the Segment field. Unica Optimize applies the constraints of the segment when you run your optimization session.

Using offer lists in optimization rules

You may find it helpful to use an offer list when defining an optimization rule to apply to more than one offer. An offer list is a grouping of related offers that you can create for organizational purposes. Offer lists are defined in Unica Campaign and are available within Unica Optimize when defining offers. There are two types of offer lists:

- **Static**—which refers to a pre-defined list of offers that does not change unless it is specifically edited.
- **Smart**—which refers to a dynamic list of offers. The content of a smart list changes when new offers that meet the criteria of the smart list are automatically added to it. Using a smart offer list allows you to specify the criteria that define the key characteristics of the offers that are important to the optimization rule.

For most cases, you should use smart offer lists in Unica Optimize. Smart offer lists are evaluated at the time the optimization session runs and resolves to any offers within Unica Campaign at that point in time that satisfy the offer query. Static offer lists contain only the exact offers specified by the user when the static offer list was created and do not change over time unless explicitly modified.

For example, you may have an offer list called Holiday Travel, which contains all offers for discounted airfare in December and January. You could then create an optimization rule that limits the number of Holiday Travel offers an individual can receive in December to two.

If this offer list is static (and all other rule criteria remain the same), the same offers are included with each run of the optimization session. If this offer list is a smart offer list, the offers that are included with each run of the optimization session may vary, depending on whether new offers were created that fulfilled the criteria of the smart offer list. In this case, a subsequent run of the optimization session would yield additional offers.

An example of a smart offer list might be "Loan offers". This could be defined to include all offers that reside in the folder "Loan product offers" (and its subfolders). You then could create a rule that limits any individual from receiving more than two loan offers in any given 60-day window to prevent the risk of individuals overextending their credit by accepting multiple credit offers over a short period of time. This smart offer list would automatically include any new loan product offers created, so an optimization session run periodically using this rule would always have the most up-to-date list of loan product offers.

For more information on defining offer lists, see the *Unica Campaign User's Guide*.

To use an offer list in an optimization rule

1. Click **Offer** in the Rule Definition section on an optimization rules page.
A blank field and Select button appear.
2. Click the **Select** button.
The Select Offers window appears.

3. Select an offer list.

Offer lists are identified by an icon with a picture of multiple offers . Smart offer list icons include a magnifying glass .

4. Click **Accept and Close**.

The offer list populates the Offer field. Unica Optimize applies the constraints of the offer list when you run your optimization session.

Using offer versions in optimization rules

Certain optimization rules allow you to specify offer versions as part of your rule definition. This allows you to write a query that determines the exact set of offer versions to which a particular rule applies. For example, rather than applying a rule to any version of the "Gold credit card" offer, you may want to apply it only to the versions of that offer where the "go to interest" rate is below the current prime rate, where "go to interest" is a parameterized attribute of the "Gold credit card" offer. You can create a query based on any offer attributes and specify the exact version(s) of an offer that are included in the scope of the rule, for example, `go_to_interest_rate < 5`.

An offer version is a unique instance of an offer that is created by using parameterized offer attributes. A parameterized offer attribute is an offer attribute for which a user can provide a unique value when the offer is used in a marketing campaign. Each unique permutation of offer attributes creates a new offer version. For example, if the "Gold credit card" offer had two parameterized offer attributes called "promo interest rate" and "go to interest" rate, and the first could have a value of 0% or 2.9% and the latter could be 18.9% or 21.9%, there could be a total of 4 offer versions created:

Promo interest	Go to interest
0%	18.9%
0%	21.9%
2.9%	18.9%
2.9%	21.9%

You could then write a rule that limits the number of 0% interest promo rate offers your company will give out in any given 30-day period. (The values for a non-parameterized offer attribute are predefined as part of the offer.)

For example, the Unica Campaign administrator may create a parameterized offer attribute named Card Type in an offer template. When a user assigns the offer to a cell in Unica Campaign (for example, in the Optimize Process), that user provides a value for the offer attribute—Gold or Silver, or any other value that makes sense.

In certain rules in Unica Optimize, you can then search for these offer versions. For example, you could create a Customers In rule whose scope will include all items of type Gold (Card Type=Gold). You include an offer version in your rule by using the offer versions query builder, which allows you to choose the values for offer attributes to which the rule will apply.

- For more information on parameterized offer attributes, see the *Unica Campaign Administrator's Guide*.
- For more information on offer versions, see the *Unica Campaign User's Guide*.

About the offer versions query builder

The offer versions query builder, found in the Rule Definition section of some rule pages, is a set of fields that allows you to select specific offers versions.

The criteria you specify in the query builder, along with other constraints such as time period, customer segments, interaction channels, and so on, define the scope of the rule. The offer attributes used in the query builder specifies the exact offer versions to which a rule will apply.

The offer attributes listed in the query builder may be standard or custom offer attributes. Standard offer attributes are predefined attributes that are relevant for many implementations of Unica Optimize (Expiration Date, Cost per Offer, Contact Channel, and so on). Custom offer attributes are offer attributes that you define in Unica Campaign and that may be more specific to your industry (Interest Rate, Annual Fee, Department, Product SKU, and so on).

The offer attributes used to construct a query in the query builder may or may not be parameterized attributes. As such, the query builder may return offers (a marketing communication based on an offer template with no parameterized offer attributes) or offer versions (a marketing communication with one or more parameterized offer attributes which are customized by the user at the time the offer is assigned to a cell). The query builder, however, is the only means by which you can access offer versions to include in the scope of your rule. If all versions of an offer are essentially the same, there is no need to differentiate between versions of an offer for optimization. However, if parameterized offer versions are used for personalization where the “meaning” of an offer is substantively different based on the value of the parameterized offer attribute(s), then your optimization rules may need to query by offer attributes to scope your rule appropriately. An example of a parameterized offer attribute that changes the essence of the marketing communication would be “Product SKU” where the item could be a TV for one individual and a refrigerator for another.

When you run an optimization session, the constraints you set using the query builder (along with other criteria you specified in all rules) help to determine which customers will populate the optimized contacts table.

For more information on defining offer custom attributes, creating offers or offer templates, or on parameterizing offer attributes in Unica Campaign, see the *Unica Campaign Administrator's Guide*.

Conditions and groupings

Conditions

A condition consists of an offer attribute (which may or may not be parameterized), an operator, and a value.

In the following query,

```
Expiration Date = 12/31/08
```

Expiration Date is the custom attribute, “=” is the operator, and 12/31/08 is the value.

The offer attribute drop-down list in the Unica Optimize query builder contains custom offer attributes defined in Unica Campaign, as well as all standard attributes. The attributes listed may be in use in any offer template defined in Unica Campaign. If the offer attribute that you specify in the query builder is a parameterized value, then your query builder search can yield offer versions.

The following table lists the operators that you can use in the query builder.

Operator	Definition
=	Equal to
>	Greater than If used with a date, this operator signifies a date that falls after the date you specify. For example, Expiration date > 12/31/08, signifies a date after 12/31/08.
>=	Greater than or equal to If used with a date, this operator signifies a date that falls on or after the date you specify. For example, Expiration date >= 12/31/08, signifies a date on or after 12/31/08.
<	Less than If used with a date, this operator signifies a date that falls before the date you specify. For example, Expiration date < 12/31/08, signifies a date prior to 12/31/08.
<=	Less than or equal to If used with a date, this operator signifies a date that falls before or on the date you specify. For example, Expiration date <= 12/31/08, signifies a date on or prior to 12/31/08.
<>	Not equal to

Groupings

A grouping consists of one or more conditions preceded by an any or all statement. In a query, you select **all** or **any** (from the **Select items where** drop-down list) as follows:

- **all**—to specify that the offer must meet each of the conditions presented. For example, you might want to locate offers that cost less than \$5 and expire before or after 12/31/08.

The all operator is equivalent to the AND operator, and can be represented as follows:

```
(Grouping) AND (Grouping) ... AND (Grouping)
```

where

```
Grouping = (Condition) AND (Condition) ... AND (Condition)
```

- **any**—to specify that the offer might fall into any of the conditions presented. For example, you might want to locate offers that have an item category of electronics or computers.

The any operator is equivalent to the OR operator, and can be represented as follows:

```
(Grouping) OR (Grouping) ... OR (Grouping)
```

where

```
Grouping = (Condition) OR (Condition) ... OR (Condition)
```

Offer versions query builder example

The following example illustrates how the query builder helps you to target contacts according to custom offer attributes.

You want your contact list to exclude contacts that meet all of the following conditions:

- An offer expiration date on or before 12/31/08
- A cost per offer greater than \$10
- Channel is either Email or Phone.

The all operator in this example is used to specify that each of the conditions that follow—contacts that include offers with a certain expiration date, that cost more than a certain amount, and that have been sent using Email or Phone channels—must be met in order for the contact to be excluded from the proposed contacts table. The any operator is used to define the particular types of channels that should be considered—Email or Phone.

To use offer versions in your optimization rule

1. Click **Offer Versions** in the Rule Definition section of an optimization rules page.
A default grouping appears.
2. Select an **all** or **any** operator from the **Select items where** drop-down list.
3. Specify the condition.
 - a. Select an offer attribute from the drop-down list in the first field of the condition.
 - b. Select an operator from the drop-down list in the second field of the condition.
 - c. Enter a value in the third field of the condition.

If you selected a date-related offer attribute in the first field of the condition, you have the option of selecting a date from a pop-up calendar.

The following are examples of completed conditions:

```
Effective Date <= 1/1/07  
Item type = Clothing  
Cost per offer >= 10
```

4. (Optional) Add additional conditions or groupings to the query builder.
 - a. For every additional condition that you would like to add to a grouping, click **Insert a new condition**.
The new condition is added to the query builder.
 - b. Build any new conditions by selecting offer attributes, operators, and providing values.
 - c. For every additional grouping that you would like to add, click **Insert a new grouping**.
The new grouping is added to the query builder.
 - d. Select **all** or **any** for every new grouping.
This choice between all and any follows the same rules as the all or any choice for the entire Query Builder.
 5. If you would like to remove a condition or grouping from the query builder, click the checkbox beside the condition or grouping and click **Remove Selected**.
 6. If you would like to move a condition or grouping, click the number associated with it and drag the condition or grouping to the location where you would like to place it. Drop it in the location once you see the red highlighted bar.
- Unica Optimize applies the constraints you have set using the query builder once you run your optimization session.

Smart lists and the offer versions query builder

You can include offers that are defined at the offer attribute level in an optimization rule. You can do this in one of two ways: by using a smart offer list, or by using the offer versions query builder.

The results of your search for a particular offer attribute (with a particular value) may vary depending on whether you use a smart offer list or the offer versions query builder. Although both smart offer lists and the offer versions query builder allow you to query based on any offer attribute, smart offer lists look only at the *default* value for any parameterized offer attribute. Therefore, it does *not* apply to any offer versions, only offers.

Smart Lists

Smart lists are offer lists that are defined via queries at the offer attribute level. Static offer attributes use the value associated with the offer; parameterized offer attributes use the default value. Smart offer lists are best for querying against offer attributes that are not parameterized, that is, when you cannot provide a different value for that offer attribute when the offer is used. You create a smart offer list in Unica Campaign, by building a query that specifies the offer attribute(s) and attribute value(s) that you want to form the scope of the smart offer list.

For example, you might create a smart offer list to group all offers of a certain value, where offer value is a static custom attribute associated with each offer. In particular, your smart offer list query might specify all offers with a value less than \$1 (Offer Value < 1). You might call the smart offer list Low Value Offers.

You can then include the Low Value Offers smart offer list in an optimization rule. For example, you might create a Customers In rule that excludes all offers from the Low Value Offers offer list from an expensive channel such as the call center.

For more information on smart offer lists, see the *Unica Campaign User's Guide*.

Different results with the offer versions query builder

Alternately, you may use the offer versions query builder to query against an offer attribute that is parameterized—its value can be changed each time the offer is used, creating multiple offer versions. For example, to include offers with a cost per offer less than \$1, where cost per offer is a parameterized offer attribute.

If the Cost per Offer attribute is not a parameterized offer attribute, the smart offer list and the offer versions query builder return the same results. However, if Cost per Offer is a parameterized offer attribute (as defined in an offer template), the offers that Unica Optimize returns when you include offers less than \$1 using the Low Value Offers smart offer list may differ from the results Unica Optimize returns when you search for offers with a cost of less than \$1 using the offer versions query builder. This is because, when an offer attribute is parameterized, smart offer lists return results based on only the default offer attribute values. The offer versions query builder, however, is capable of returning results based on the actual parameterized values of offer attribute values that have been parameterized, or, offer versions.

-
-  You should use the offer versions query builder if you want to include a parameterized offer attribute in the scope of your optimization rule.
-

See the *Unica Campaign User's Guide* for more information on smart offer lists.

Examples

For each example, the following data applies:

Offer/Offer Version	Parameter	Parametrized Value	Default Value	Parameterized?
1	Cost per offer	\$12	\$7	Y
2	Cost per offer	---	\$5	N
3	Cost per offer	\$9	\$10	Y

Smart offer list - You create a smart offer list that includes all offers that cost under \$10. You include this smart list in an optimization rule. When you run the session, Unica Optimize returns offer version 1 and offer 2.

Offer versions query builder - You create a query in the Unica Optimize offer versions query builder that specifies all offers that cost under \$10. When you run the session, Unica Optimize returns Offer 2 and Offer 3.

This discrepancy is because the smart offer list does not search for parameterized values, or offer versions, while the query builder does. Therefore, the offer versions query builder is able to consider the parameterized value of \$9 for offer version 3, while the smart offer list considers only its default value of \$10.

Retired offers and offer lists

Offer or offer lists that are retired in Unica Campaign can no longer be used in Unica Optimize. Retired offers or offer lists appear grayed out in the user interface and are noted with "(retired)" next to the offer name. Specifically, they appear grayed out in the Select Offer(s) window when choosing an offer or offer list for use in an optimization rule.

Offers that are used in optimization rules can be subsequently retired. Note that optimization sessions are considered valid, even if they have rules that depend on retired offers; however, you cannot create new optimization rules using retired offers.

Unica Optimize prefacing rules that contain retired offers or offer lists with the word "Warning" on the Rules tab. You may want to edit these rules to eliminate the reference to retired offers or offer lists or delete this rules if they are no longer necessary.

For more information on retired offers and offer lists, see the *Unica Campaign User's Guide*.

Working with rules

This section explains how to add, edit, and delete rules in your optimization session.

You can add an unlimited number of rules to your session. The rules you create define the criteria by which the set of final (optimized) contacts are determined.

After performing a production run, if you find that a rule did not perform the way you expected, you can edit your rule.

You can delete a rule that you no longer use. Deleting a rule has no effect on other rules.

To create a rule

1. Click **Add** beside the rule type that you want to create from the Rules tab of your optimization session.

The Add New *rule type* page appears.

2. Complete the fields.

See the rule description for details on the fields for each rule.

3. Click **Save Changes**.

The rule is added to the list of rules of that type on the Rules tab.

To edit a rule

1. Click the rule you want to edit from the Rules tab of your optimization session.

The rule page opens.

2. Make your changes to the rule.

3. Click **Save Changes**.

The updated rule is added to the list of rules of that type on the Rules tab.

To delete a rule

1. Click **Remove** beside the rule that you would like to delete from the Rules tab of your optimization session.

Confirm permanent removal of this rule. There is no way to restore a rule once you have deleted it from an optimization session.

2. Click **OK**.

The rule is permanently removed from the list of rules and is no longer included in the optimization session. Deleting a rule has no effect on other rules within the session or on any rule in any other Unica Optimize session.

Optimization session rule general reference

Field	Description
Rule Name	<p>Enter a name for this rule, up to 64 characters in length. This name appears on the Rules tab.</p> <p>This name follows the same character restrictions as Unica Campaign objects. For more details on the restrictions, see the <i>Unica Campaign User's Guide</i>.</p> <p>Unica recommends keeping rule names unique within an optimization session.</p>
Comments	(Optional) Enter a description of this rule.
Rule Definition	The fields in this section vary according to rule type. Refer to the specific rule for a description of the fields associated with each rule type.

Optimization rule example

Now you need to understand how to apply these rules to actual optimization problems. Many business problems require several rules working together to achieve the desired behavior.

Maximizing customer value

Problem: To propose the best offers to your customers keeping within the budget and the limitations of your call center and email server capacities and without breaking any internal offer rules.

You know that you get the highest response when someone calls the customer personally, however, a phone call is the most expensive way to deliver an offer. Also, the call center can make only a maximum of 5,000 calls a week and the email servers can send 5 million outbound emails a day. Direct mail gets a better response than email, but the mailing is more than ten times as expensive as an email offer. You have quantified these return rates in a score field you have created by multiplying response rate by profitability. The cost of these offers are contained in the CostPerOffer attribute.

You also have to abide by your customer's wishes. You let your customers choose to opt-out of any or all of your contact channels.

You have multiple offers, but some offers cannot be sent in combination, for example, you do not want to send an offer for free online banking to the same person you send an offer for free checking. In addition, you should never send a worse offer for the same product or service after a better offer. And, you should not overload customers with the same offer.

This can be solved by a single optimization session. The following rules show one possible solution.

Ensure that you are not violating any of the customer's wishes by creating Exclude/Include rules that enforce opt-out (or opt-in) choices.

- Create Customer In rules for each channel to enforce customer's selections for opt-out programs.

This optimization session should Exclude customers in the segment Direct Mail Opt-Out List for offers from channel DirectMail concerning offer/offer list Any Offer.

This optimization session should Exclude customers in the segment eMail Opt-Out List for offers from channel email concerning offer/offer list Any Offer.

This optimization session should Exclude customers in the segment Call Opt-Out List for offers from channel CallCenter concerning offer/offer list Any Offer.

This optimization session should Exclude customers in the segment Global Opt-Out List for offers from channel Any Channel concerning offer/offer list Any Offer.

Define your limitations. You have a limit on the amount of money you can spend, the number of calls you make, and the number of emails you send. Use these capacity rules:

- Create a Min/Max # Offers Capacity rule limiting the number of telemarketing offers per week.

The number of offers from channel CallCenter over the time period 7 days concerning offer/offer list Any Offer should be between minimum 0 and maximum 5,000.

- Create a Min/Max # Offers Capacity rule limiting the number of emails sent per day.

The number of offers from channel email over the time period 1 days concerning offer/offer list Any Offer should be between minimum 0 and maximum 5,000,000.

- Create a Custom Capacity rule to ensure the campaigns are within budget.

The Sum of the CostPerOffer should be <= the value 1,500,000 for transactions from the offer/offer list Any Offer from channel Any Channel.

Define your offer guidelines. You can use the For Each Customer rules to ensure correct sequencing.

- Create a Never A with B rule ensuring free online banking and free checking offers are not sent to the same person.

For each customer in segment All Segments, that receives an offer from channel All Channels concerning offer/offer list FreeOnlineBanking cannot receive an offer from channel All Channels within the time period 90 days concerning offer/offer list FreeChecking.

- Create a Never A Followed by B rule ensuring that no one receives a worse credit card offer (Gold APR) after a better credit card offer (Platinum APR).

For each customer in segment All Segments, that first receives an offer from channel All Channels concerning offer/offer list Platinum Cards cannot later receive an offer from channel All Channels within the time period 90 days concerning offer/offer list Gold Cards.

Ensure that you are not creating contact fatigue. You can use For Each Customer rules to enforce your requirements.

- Create Min/Max # Offers For Each Customer rules limiting the number of contacts you send to a customer per channel. By creating two rules for each channel, you can ensure that contacts within the time period are spaced appropriately. If you only had one rule limiting the number of contacts to two per time period, the contacts could happen on the same day.

For each customer in segment Any Customer, the number of offers from the channel email over the time period 7 days concerning offer/offer list Any Offer should be between minimum 0 and maximum 2.

For each customer in segment Any Customer, the number of offers from the channel email over the time period 3 days concerning offer/offer list Any Offer should be between minimum 0 and maximum 1.

For each customer in segment Any Customer, the number of offers from the channel CallCenter over the time period 14 days concerning offer/offer list Any Offer should be between minimum 0 and maximum 2.

For each customer in segment Any Customer, the number of offers from the channel CallCenter over the time period 7 days concerning offer/offer list Any Offer should be between minimum 0 and maximum 1.

- Create a Max # Duplicate Offers rule to ensure each customer is given a different offer when contacted over a period of time.

For each customer in segment Any Customer, the number of duplicate offers from the channel Any Channel over the time period 30 days concerning offer/offer list Any Offer should not exceed 1.

Optimizing a set of offers

Another way to use Unica Optimize is to optimize the generation of a personalized set of coupons.

Problem: You want to send a personalized selection of coupons to your customers while staying within budget constraints and not violating any internal rules or agreements with your suppliers.

Once again, you need to work within a budget. You need to ensure that a coupon booklet mailed to a customer contains enough coupons to be worth mailing and you want to ensure that every customer receives the selection of coupons only once. You also have restrictions based on agreements with your suppliers with contractual minimums and maximums. In addition, certain suppliers do not want their offers given with competitor's offers.

Ensure that you are not violating any of the customer's wishes by creating Exclude/Include rules that enforce opt-out (or opt-in) choices.

- Create Customer In rules for each channel to enforce customer's selections for opt-out programs.

This optimization session should Exclude customers in the segment Direct Mail Opt-Out List for offers from channel DirectMail concerning offer/offer list Any Offer.

Define your limitations. You have a limit on the amount of money you can spend, and you also need to include any supplier limitations. These can be solved with capacity rules:

- Create Min/Max # Offers Capacity rules for any offers for which you have a limited number to give out. Only one rule example is shown here, where an actual situation may contain dozens.

Total number of offers from channel Any Channel over the time period 30 days concerning offer/offer list CompanyC should be between minimum 1000 and maximum 5000.

- Create a Custom Capacity rule to ensure the entire campaign is within budget.

The Sum of the CostPerOffer should be \leq the value 3,000,000 for transactions from the offer/offer list Any Offer from channel Any Channel.

Define your offer guidelines. You can use the For Each Customer rules to ensure no internal guidelines are broken. Only one rule example for each type of rule is shown here, where an actual situation may contain dozens.

- Create Never A with B rules to ensure conflicting offers are not sent to the same person.

For each customer in segment All Segments, that receives an offer from channel All Channels concerning offer version Brand = CompanyA cannot receive an offer from channel All Channels within the time period 30 days concerning offer version Brand = CompanyB.

- Create Max # Duplicate Offers rules to ensure each customer only receives one of each type of product.

For each customer in segment Any Customer, the number of duplicate offers from the channel Any Channel over the time period 30 days concerning offer version ProductType = ProductA should not exceed 1.

Ensure that you are not sending out more than one selection of coupons and that each set of coupons is worth sending. You can use a combination of For Each Customer rules to enforce your requirements.

- Create Min/Max # Offers For Each Customer rules ensuring defining the number of coupons that can be sent to each customer.

For each customer in segment Any Customer, the number of offers from the channel DirectMail over the time period 30 days concerning offer/offer list Any Offer should be between minimum 6 and maximum 12.

- Create a Max # Packages rule to ensure each customer only receives one set of coupons.

For each customer in segment Any Customer over the time period 30 days the number of packages from the channel Any Channel should not exceed 1.



4 Setting up scores

- Scores Overview
- Configuring an optimization session to use a score field from the PCT
- To configure Unica Optimize to use a score field from the PCT
- Manually entering scores using the score matrix

Scores Overview

Unica Optimize provides the ability to use scores to rank possible offers for each customer using a patent-pending optimization algorithm. Scores are numeric values that you provide. A higher score represents a more desirable contact. If Unica Optimize must choose one offer over another to use in a campaign, it can select the offer with the higher score.

Scoring defines your key marketing objectives. Virtually any marketing objective (potential value, revenue, profit, exposure, probability of response) can be used in the optimization.

During optimization, Unica Optimize maximizes the sum of scores of the surviving or optimized contacts, based on the optimization rules and constraints.

You can set up scores in Unica Optimize using one of the following methods:

- Pass scores into Unica Optimize using a score field. Use the score field when you want Unica Optimize to assign one score per contact automatically from a field in the database.
- Manually enter scores using the score matrix. Use the score matrix when you want to rank offers relative to each strategic segment.

Scores can be positive or negative, integer or decimal. If you use negative scores, a contact with a negative score will be used to fulfill minimum requirements only.

-
- ! Your range of scores must be within 100,000 of each other. For example, your scores can range from 0 to 99,999 or from -50,000 to 49,999. If your range of scores is greater than 100,000, Unica Optimize may violate capacity rules.
-

Configuring an optimization session to use a score field from the PCT

You can use a score field populated by each of the Optimize process boxes into the Proposed Contacts Table (PCT), rather than create scores manually in the score matrix. Using score fields is the best practice as you can get the most granular scores, personalized to each individual. Each flowchart that participates in the optimization session needs to populate the designated score field using a common, agreed-upon score metric representing the "value" of each offer for each contact.

The score field can be populated using the results of a predictive model or based on rules. The score field passes scores into Unica Optimize, one score per proposed contact.

The `ScorePerOffer` field is part of every PCT and is commonly populated by Optimize processes for the purpose of passing a score for each proposed contact to Unica Optimize. This field is always populated in the PCT if Unica Campaign users use the Scoring tab of the Optimize process. The values that populate the `ScorePerOffer` field are typically taken from a field in the database, or a derived field that calculates a value based on other database fields.

The `ScorePerOffer` field is the only score field available by default. To make other fields available as a score field to your PCT, you must add numeric fields to your optimization template table. Any numeric field added to your optimization template table can be used as a score field for an optimization session.

Using a score for each contact provides higher return on investment than the less granular constant score for all members of a segment receiving a specific offer (such as in the score matrix, or in some derived fields). The more granular scores provided by a score field are often generated through predictive models used to score each offer. Generating scores from a database allows you to implement scoring across any number of dimensions, such as the behavior of a customer with respect to a particular offer on a particular channel at a specific time.

You can generate model scores with Unica PredictiveInsight or any other predictive modeling software.

Scores may be positive or negative. If you use negative scores, contacts assigned a negative score will be used only when meeting minimum constraints. Whether the score can be an integer or a decimal is defined when you create the score field in your template table. The `ScorePerOffer` field is a float type. All numeric limits of the database containing your system tables apply.

To configure Unica Optimize to use a score field from the PCT

1. Navigate to the **Scoring** tab of your optimization session.
2. Click **Edit Scores**.
3. Click **Use score field**.
4. In the **Score Field** drop-down list, select the PCT field that contains scores for Unica Optimize.

You must use the ScorePerOffer field if you are using the Score tab of the Optimize Process to pass scores to Unica Optimize.

5. Click **Save Changes**.

The Scoring tab appears and displays the scoring method and the score field you have just chosen.

Manually entering scores using the score matrix

The score matrix allows you to manage centrally scores within an Unica Optimize session.

When predictive models are not available for generating scores for each contact, you can rank offers relative to each strategic segment by manually entering scores in the score matrix. You can enter scores for certain offers with certain strategic segments, or you can enter scores for all offers with all strategic segments. If you configure Unica Optimize to uses score from the score matrix, any scores from the score field or PCT are ignored.

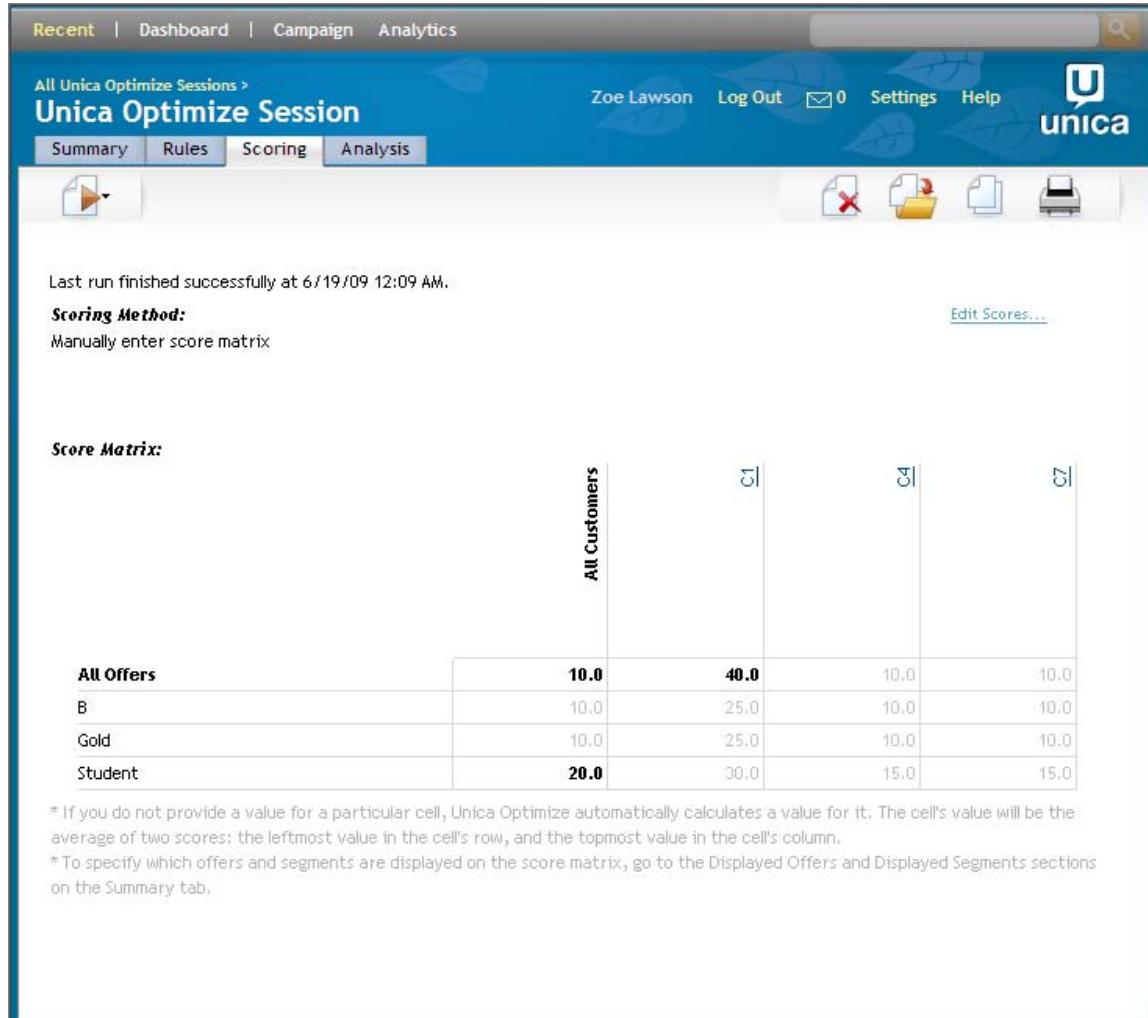
The score you enter can be any numeric value, and can represent any metric of interest to your organization: revenue, profit, net profit, probability of response, potential value, expected value, customer loyalty, brand loyalty, and so on. The higher the score you assign to a contact, the more desirable you are making that contact, since Unica Optimize maximizes the sum of scores in the OCT. The size of the score is limited by the float type of your database.

Offers and strategic segments are created and managed in Unica Campaign. For more information, see the *Unica Campaign User's Guide*.

You can specify which offers and strategic segments are displayed on the score matrix in your optimization session.

Empty cells

Unica Optimize automatically generates a score for a cell that you leave empty. Automatically generated scores do not appear in a cell when the score matrix is in edit mode. These scores appear as grayed-out values once you save the score matrix.



The screenshot shows the Unica Optimize Session interface. At the top, there's a navigation bar with 'Recent', 'Dashboard', 'Campaign', 'Analytics', 'Zoe Lawson', 'Log Out', 'Settings', and 'Help'. The title 'Unica Optimize Session' is displayed above a tab bar with 'Summary' (selected), 'Rules', 'Scoring' (highlighted in blue), and 'Analysis'. Below the tabs, there are several icons for file operations like New, Open, Save, Print, and Delete.

A message at the top states: 'Last run finished successfully at 6/19/09 12:09 AM.' To the right of this message is a link 'Edit Scores...'. Underneath, a section titled 'Scoring Method:' says 'Manually enter score matrix'.

The main area is labeled 'Score Matrix:' and contains a table:

	All Customers	C1	C2	C3
All Offers	10.0	40.0	10.0	10.0
B	10.0	25.0	10.0	10.0
Gold	10.0	25.0	10.0	10.0
Student	20.0	30.0	15.0	15.0

Below the table, two notes are present:

- * If you do not provide a value for a particular cell, Unica Optimize automatically calculates a value for it. The cell's value will be the average of two scores: the leftmost value in the cell's row, and the topmost value in the cell's column.
- * To specify which offers and segments are displayed on the score matrix, go to the Displayed Offers and Displayed Segments sections on the Summary tab.

Unica Optimize automatically populates a cell as follows:

- If a cell in the All Offers row or the All Customers column does not contain a value, Unica Optimize populates that cell with the value that appears at the All Offers/All Customers intersection. In the example above, the value at the All Offers/All Customers intersection is 10. No values are entered in the intersection of All Offers and strategic segments C4 and C7. As such, Unica Optimize populates these cells with the value 10. Similarly, no values were entered in the intersection of All Customers and the Gold offer or the B offer. These cells also inherit the value at the All Offers/All Customers intersection, or 10.
- For all other empty cells, the score is calculated as the average of the values in that cell's column and row headers. For example, as shown above, Unica Optimize computes the value for the intersection of the Gold offer and strategic segment C1 to be 25. This value is the average of the value in the row header for the Gold offer, or 10, and the value in the column header for strategic segment C1, or 40.

You can override any automatically generated cells by entering a new value for that cell.

Contacts that belong to more than one strategic segment

Unica Optimize determines the score for a contact that belongs to more than one strategic segment as follows:

- If none of the strategic segments are displayed on the score matrix, the score for the contact is the score in the All Offers/All Customers intersection. The default value for the All Customers/All Segments intersection is 0. (You can, however, enter another value for this cell.)
- If only one of the strategic segments is displayed on the score matrix, the contact's score is the score in the displayed strategic segment. Specifically, the score is found at the intersection of the offer associated with the contact, and the displayed strategic segment.
- If more than one of the strategic segments is displayed on the score matrix, the contact's score is that in the first (or, left-most) displayed strategic segment. For example, take the following score matrix:

All Customers	C4	C1	C7
All Offers	10.0	10.0	40.0
Gold	10.0	10.0	25.0

If a contact belongs to both strategic segment C4 and C1 and that contact is to receive the Gold offer, then the score assigned to that contact is 10, the score found at the intersection of the Gold offer and the first strategic segment the contact belongs to (C4).

To manually enter scores using the score matrix

1. Navigate to the Scoring tab of your Optimizations session.
2. Click **Edit Scores**.
The Scoring Method page appears.
3. Click **Manually enter score matrix**.
The score matrix appears.
4. Click the cell in which you want to enter a score and enter a value for the cell.
Unica Optimize automatically inserts or calculates a value for a cell that you leave empty.
5. Repeat the above step for every cell for which you want to add a score.

6. Click **Save Changes**.

The Scoring tab appears. This tab displays the scoring method and the score matrix with the values you entered, and values that Unica Optimize automatically computed.

Selecting offers and strategic segments for the score matrix

You can control which offers and strategic segments appear on the score matrix. You can choose to display only a subset of the offers and strategic segments that you have included in your optimization rules to make it easier to enter and review your scores. However, even if you display only a subset of the offers and strategic segments on the score matrix, all offers and strategic segments in your optimization session are included in the optimization process.

To see the updated score matrix, go to the Scoring tab and make sure that the **Manually enter score matrix** option is selected.

To select offers and strategic segments

1. Navigate to the Summary tab of your optimization session.
2. Click either of these options:
 - a. Displayed Offers
 - b. Displayed SegmentsThe Displayed Offers or Displayed Segments section expands.
3. Click either of these options:
 - a. Edit Displayed Offers
 - b. Edit Displayed SegmentsThe Displayed Offers or Displayed Segments page appears.
4. Select the offers or strategic segments that you want to include.
You can select multiple offers or segments using **Shift+Click** or **Ctrl+Click**.
5. Click the right-pointing double arrows to move the offers or strategic segments to the Included Offers or Included Segments section.
6. If you want to change the order of the offers or strategic segments, select the items you want to move and use the upward-pointing or downward-pointing arrows.
7. Click **Save Changes**.

The Summary tab appears.



5 Generating a list of proposed contacts for optimization

- Generating a list of proposed contacts
- Creating a flowchart with an Optimize process
- Configuring the Optimize process
- Run the flowchart
- Performing a production run of the optimization session

Generating a list of proposed contacts

The optimization process involves generating a list of proposed contacts in Unica Campaign and sending these contacts to Unica Optimize to produce optimized contacts. Those optimized contacts are then retrieved by Unica Campaign for use in a marketing campaign.

Generating a list of proposed contacts requires that you create a flowchart with one or more Optimize processes in Unica Campaign. (This flowchart is referred to as the pre-optimization flowchart.) When configuring this Optimize process, you must select an optimization session to associate with the flowchart. This optimization session receives the proposed contacts that are generated when you run the flowchart.

Once you run all flowcharts (in all campaigns) that are configured to generate contact and offer information for a particular optimization session, you can run that optimization session. The optimization session then applies the rules you created to produce a list of optimized contacts that are retrieved by a post-optimization flowchart in Unica Campaign. The post-optimization flowchart in Unica Campaign may sample out a hold-out control group, generate the contact list, and populate contact history.

Creating a flowchart with an Optimize process

When you create a flowchart to generate proposed contacts for optimization, you must include a data manipulation process such as the Select or Extract process, and an Optimize process. The data manipulation process passes the proposed contacts to the Optimize process. When you configure the Optimize process, you specify which optimization session will receive those contacts.

You can have more than one data manipulation process feeding contacts to an Optimize process. All contacts passed from a data manipulation process make up a cell. For example, if you have two Select processes in your flowchart connected to a single Optimize process, the contacts from Select1 form one cell, and those from Select2 form another.

In addition, each Optimize process forms a unique package. A package is an important concept for Unica Optimize, since it represents a single interruption. All offers presented to a recipient within a single "package" (Optimize process) are counted as a single interruption for contact fatigue purposes, that is, when specifying a Max # of Packages rule in Unica Optimize. By definition, all communications in a single package occur at the same time—on the same contact date—and via the same channel. If you need to send communications on different dates or using different channels, you must use more than one Optimize process. From the above example, contacts from both Select1 and Select2 form the same package since they are all within the same Optimize process.

You can have more than one Optimize process in your flowchart. With multiple Optimize processes you can send the same contacts to multiple optimization sessions—for example, if you have one optimization session per channel or offer type—or use one flowchart to generate multiple packages.

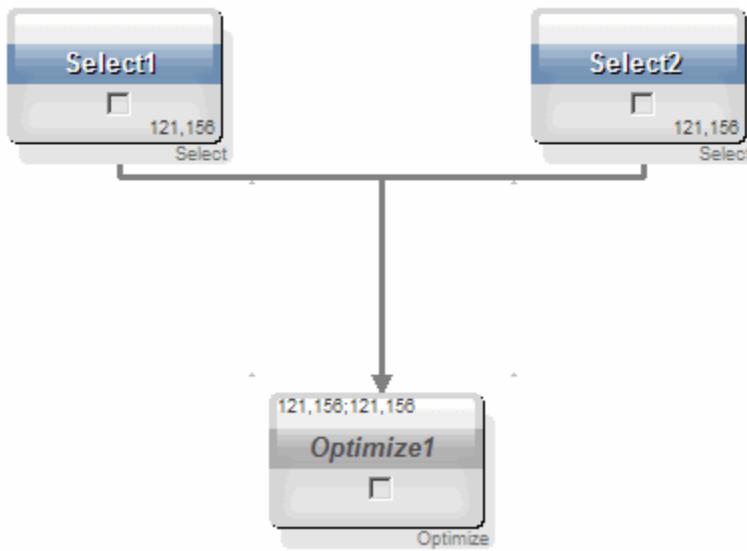
To create a flowchart with an Optimize process

1. Create a flowchart in Unica Campaign, using the logic you normally use, but instead of adding a contact process such as Mail List, Call List, or eMessage process, add an Optimize process.

For more information on creating a flowchart in a campaign, see the *Unica Campaign User's Guide*.

2. Connect the data manipulation process(es)—for example, the Select process—to the Optimize process.

A sample campaign flowchart with a connected Optimize process appears below.



Target control spreadsheet and pre-optimization flowcharts

You can use the target control spreadsheet (TCS) with Unica Optimize. If you assign offers to cells with the TCS and link the cells in your flowchart to the TCS, Unica Optimize uses the cell-offer assignments in the Optimize process.

For more information about using the TCS, see the *Unica Campaign User's Guide*.

If you are using the TCS in a Unica Marketing Operations campaign project, the Optimize process is enforced like any contact process box because it assigns offers. Therefore, all cells and offers used in an Optimize process must be pre-defined and approved in the TCS before they are allowed to run in production.

For more information about using the TCS with a Unica Marketing Operations campaign project and a post-optimization flowchart, see the *Unica Marketing Operations and Unica Campaign Integration Guide*.

Configuring the Optimize process

The Optimize process is where you define what information is sent to the optimization session—which cells, what offers, and what scores. To configure the Optimize process, you must configure the following.

1. Select the cells for input as described in [To select the cells for input](#).
2. Assign a contact date as described in [To assign a contact date to all contacts](#).
3. Assign offers to cells as described in [To assign offers or offer lists to a cell](#).

You can optionally define parameterized offer attributes as well.

4. Associate the process with an optimization session as described in [To specify an optimization session](#).

You can optionally map additional columns to the PCT.

5. Assign scores as described in [To assign score fields in the Optimize process](#).

The following sections describe these procedures and the Optimize process in detail.

The Optimize process Assignment tab

The Assignment tab allows you to perform the following tasks:

- Select the cells that are passed into the Optimize process.
- Set a date for when the contacts in the Optimize process will receive the marketing communication(s) (packages).
- Assign offers (or offer lists) to the cell(s) in the Optimize process.

 The contact date for all cells in the Optimize process is the same. Since all contacts associated with an Optimize process comprise a single package, the date for these contacts must be the same.

To select the cells for input

The Optimize process can use one or more input cells, selecting all or any subset of the cells connected to it. Selected cells can be assigned one or more offers, ultimately writing proposed contacts to the Proposed Contacts Table in the specified optimization session.

1. Click the Assignment tab in the Optimize process.
The Assignment tab appears.
2. If you want to select a single cell as input, select the cell from the drop-down list in the Input field.
The cell name appears in the Cell Name column on the Assignment tab.
3. If you want to select multiple input cells, do the following:
 - a. Select **Multiple cells** from the drop-down list in the Input field.
The Select Cells to Use window appears.
 - b. Click the check-box beside the cells you want to select as inputs into the Optimize process.
 - c. Click **OK**.
4. Click **OK** to save your process configurations.

To assign a contact date to all contacts

All communications made through a single Optimize process share the same contact date, since they represent a single package or interruption. You can choose a contact date in the future (when the communication is planned for delivery) or you can use the default contact date, which is the flowchart run date. To send different communications on multiple contact dates, you must use more than one Optimize process. Different contact dates, by default, mean different interruptions (packages).

1. Click the Assignment tab in the Optimize process.
- The Assignment tab appears.
2. Enter the date on which you want the contacts to be contacted in the Contact Date field.

You can also click the ellipses button  in this field to select the date from a calendar.

 If you leave the Contact Date field empty, the default contact date will be the date the flowchart is run.

To assign offers or offer lists to a cell

Similar to a contact process, you assign one or more offers to each selected input cell in the Optimize process. You choose the proposed offers to give to each cell, which will be written to the Proposed Contacts Table.

 If you have linked cells created in the flowchart to cells created top-down in the TCS and assigned offers to cells in the TCS, Unica Optimize assigns offers using the data in the TCS and populates the Assignment tab.

1. Click the Assignment tab in the Optimize process.
- The Assignment tab appears.
2. Click the cell name in the Cell Name column.
- The cell name is highlighted.
3. Click **Assign Offers**.
- The Assign Offer(s) window appears.
4. From the Available Offers section, select every offer or offer list that you want to add, and click **Add**.
You can select multiple offers using **Shift+Click** or **Ctrl+Click**. You can also click the downward pointing arrow in the Offer column to select offers from a drop-down list.
5. Click **OK** to save your process configurations.

The Assign Offer(s) window closes. If you selected one offer or offer list, the name of the offer or offer list appears in the Offer column. If you selected more than one offer or offer list, the words Multiple Offers appear in the Offer column, with the number of offers and/or offer lists you select appearing in parentheses after Multiple Offers.

Optimize process Assignment tab reference

Field	Description
Input	Allows you to select one or more input cells.
Cell Name	Lists the names of the input cells you selected.
Offer	<p>Lists the names of the offers and/or offer lists you associate with a cell.</p> <p>If you select one offer or offer list, the name of the offer or offer list appears in this column. If you select more than one offer or offer list, the words Multiple Offers appear here, with the number of offers and/or offer lists you have selected in parentheses.</p> <p> You cannot specify parameterized offer attribute values for any offers within an offer list.</p>
Assign Offers	Allows you to assign offers and/or offer lists to a cell.

The Optimize process Parameters tab

Use the Parameters tab to perform the following tasks:

- Select the cells for which you want to specify parameterized offer attribute values
- Assign values to parameterized offer attributes.

Static and hidden offer attributes do not appear on the Parameters tab. Only parameterized offer attributes of offers you selected for cells appear on the Parameters tab.

The following steps track the life cycle of parameterized offer attributes from creation to the Parameters tab.

1. A campaign administrator creates an offer template, and parameterizes certain offer attributes: for example, Logo, Cost per Offer, and APR. The administrator provides default values for the parameterized offer attributes, for example, Silver for Logo, \$5.00 for Cost per Offer, and 7.99 for APR.
2. A user creates PlatinumCard, GoldCard, and SilverCard offers based on this offer template. The user keeps the default values for parameterized offer attributes in each offer.
3. The campaign administrator configures the Optimize process as follows:

- a. On the Assignment tab, she assigns the PlatinumCard, GoldCard, and SilverCard offers to various cells.
- b. On the Parameters tab, for the Gold offer, she assigns the value Gold to the Logo offer attribute, \$9.00 to the Cost per Offer attribute, then maps the APR to a derived field which subtracts 1.00 from the customer's existing APR.
- c. On the Parameters tab, for the Platinum offer, she assigns the value Platinum to the Logo offer attribute, \$12.00 to the Cost per Offer, then maps the APR to a derived field which subtracts 1.55 from the customer's existing APR.
- d. On the Parameters tab, for the Silver offer, she maps the APR to a derived field which subtracts .50 from the customer's existing APR.

Now, when users assign any of the Gold, Platinum, or Silver offers to cells, the values for the parameterized offer attributes are defined as appropriate.

To select the cells for which you want to specify parameterized offer attribute values

After assigning offers to each input cell, you can specify the value to use for any parameterized attributes of those offers. Each offer is listed with its parameterized attributes (if any) on the Parameters tab. If there are multiple input cells, you can choose to assign parameterized attribute values for one cell at a time or for all cells simultaneously. For example, if you assign the same offer "Gold credit card" to two input cells, High-value customers and Low-value customers, you may want to use a different interest rate (parameterized offer attribute) for each cell. In this case, you would choose the High-value customer cell and set the Interest rate to 12.9% (a more attractive offer) and set the interest to 18.9% for Low-value customers. If you wanted to set the same interest rate for the Gold credit card offer for all cells, you can set the Interest rate value once for [All cells].

1. Click the Parameters tab in the Optimize process.
The Parameters tab appears.
2. Select the cell from the drop-down list in the **For Cell(s)** field, or select **[All Cells]**.
3. Click **OK** to save your process configurations.

The Parameters tab is populated with the default parameterized offer attribute values (which you entered when creating the offer).

To assign values to parameterized offer attributes

The parameterized offer attributes for each offer are listed on a separate line on the Parameters tab. You can specify a different value for each parameterized attribute. If you have selected a single cell, you will see the offers assigned to that cell. If you selected [All Cells], you will see offers assigned to any of the input cells. Any parameterized offer attributes associated with these offers will appear, each on its own line. If the same offer attribute is associated with two different offers, it will appear twice, once for the first offer and once for the second offer.

1. Click the Parameters tab in the Optimize process.

- The Parameters tab appears.
2. Click the cell in the Assigned Value column that corresponds to the parameterized offer attribute for which you want to specify a value.
 3. Assign a value:
 - a. If you want to specify a constant value, enter a value.
 - b. If you want to automatically generate a value from a database field, select the table field using the drop-down list in the cell.
- The value for the parameterized offer attribute will be automatically generated from this field when you run the optimization session.
4. Click **OK** to save your process configurations.

Optimize process Parameters tab reference

Field	Description
For Cell(s)	Allows you to select one or more input cells.
Offer	Lists the names of the offers that contain the parameterized offer attributes.
Parameter Name	Lists the names of the parameterized offer attributes.
Assigned Value	Allows you to enter values for the parameterized offer attributes, or to select a database field or derived field that will automatically generate a value when you run the Unica Optimize session.
Derived Field	<p>Allows you to create a new variable for querying, segmentation, sorting, calculations, or output to a table.</p> <p>Derived fields are new variables that do not exist in a data source and are created from one or more existing fields, even across different data sources.</p> <p>For more information on derived fields, see the <i>Unica Campaign User's Guide</i>.</p>

The Optimize process Optimize tab

The Optimize tab allows you to perform the following tasks:

- Specify which optimization session the proposed contacts will be sent to when you run the flowchart.
-
-  You are able to specify only one optimization session per Optimize process. To send the proposed contacts to multiple optimization sessions, you must include multiple Optimize processes.

- Map any unmapped PCT fields.

To specify an optimization session

You must specify the optimization session in which you are participating in each Optimize process. The optimization session you choose will apply its optimization rules to your proposed contacts, along with the proposed contacts from any other participating campaigns or flowcharts, and generate a single optimized contacts list.

1. Click the Optimize tab in the Optimize process.

The Optimize tab appears.

2. In the Participate in optimization session field, click the ellipses button .

The Select UO Session window appears.

3. Select the optimization session which will receive the proposed contacts.

The fields from the optimization template table—if the Unica Optimize coordinator selected one to append to the PCT when you created the optimization session—appear in the Table Field column of the Export Fields section.

4. Click **OK** to save your process configurations.

To map additional table fields required by the PCT

The Optimize process will automatically pass required data to the Proposed Contacts Table (PCT), including the audience key fields, the assigned offer(s), and the contact date. Additional fields may be required in the PCT, such as channel or cost per offer, which you must populate by mapping to an existing field. You may use any mapped table field or derived field. Derived fields are useful to pass a constant text string, for example, the channel "Call Center - Midwest".

1. Click the Optimize tab in the Optimize process.

The Optimize tab appears.

2. Click the field that you would like to map to the unmapped field from the Field Name column.

3. Click **Add**.

The field name appears in the same row as the unmapped field, in the Export Fields section.

4. Repeat the first two steps for each field that you would like to map.

5. Click **OK** to save your process configurations.

Optimize process Optimize tab reference

The following table describes the various fields and buttons on the Optimize tab.

Field	Description
Participate in UO session	Allows you to select an optimization session to link to this flowchart. This session will receive the proposed contacts that are generated when the flowchart is run.
Candidate Fields	<p>Field Name - Lists the database fields that you can map to the optimization template table fields. The field you select from this column will provide the data that populates the Unica Optimize template table field that you map it to.</p> <p>Type - Lists the type of data that is in this database field.</p>
Export Fields	<p>Field Name - Lists the name of the database field that you chose to map to the optimization template table field. The optimization template table field that is mapped to this field appears in the same row, under the Table Field column.</p> <p>Table Field - If you selected an optimization template table to append to the PCT when you created your optimization session, this column lists the fields that make up the optimization template table. The database field that you mapped to this field appears in the same row, under the Field Name column.</p>
Profile	<p>Allows you to preview a list of distinct values and their frequency of occurrence for a selected field. Only records in the current cell are included in the count, unless the counts have been precomputed.</p> <p>For more information on profiling data, see the <i>Unica Campaign User's Guide</i>.</p>
Derived Fields	<p>Allows you to create a new variable for querying, segmentation, sorting, calculations, or output to a table.</p> <p>Derived fields are new variables that do not exist in a data source and are created from one or more existing fields, even across different data sources.</p> <p>For more information on derived fields, see the <i>Unica Campaign User's Guide</i>.</p>

The Optimize process Score tab

The Score tab in the Optimize process allows you to populate the **ScorePerOffer** field in your Proposed Contacts Table (PCT) with different scores for offer and cell combinations. To have your settings on the Score tab of the Optimize process take effect, you must choose the Scoring Method **Use score field** on the Scoring tab of an optimization session and select the **ScorePerOffer** field for the Score Field. The Score tab of the Optimize process populates only the **ScorePerOffer** field of the PCT.

If you select **Use score field** on the Scoring tab of your optimization session, you must populate some field in the PCT with a score for optimization. One way to do this is to complete the Score tab of the Optimize process. Other ways might include using a Score field created by the Score process, such as a predictive model created in Unica PredictiveInsight, using a predictive model score field stored in your marketing database, or computing a score using a derived field. All flowcharts participating in the same optimization session must populate the same score field in the PCT field you specify on the Scoring tab of your optimization session. You can select only one column in your PCT to contain scores.

If you select **Manually enter score matrix** on the Scoring tab of your optimization session, while you must submit scores through the Optimize process, the scores will be ignored. The values in the score matrix will be used instead.

To assign score fields in the Optimize process

You can assign score fields to cell and offer combinations. You can assign the same score field or different score fields to each cell and offer combination. For example, if the same offer is given to each of three cells, the score field for all three cell-offer rows may be "MyOfferScore". Alternatively, if three different offers are given to the same cell, the score field for each cell-offer row may be different, such as "Offer1Score", "Offer2Score", and "Offer3Score".

1. Click the **Score** tab in the Optimize process.

The Score tab appears. The Cell Name and Offer columns are populated by the content of the Assignment tab.

2. Select the name of the field you want to use for the scores from the **Score Field** list for each cell and offer combination.

To assign the same field to multiple cell-offer rows, you can select multiple cell-offer rows using **Shift+Click** or **Ctrl+Click**.

3. Click **OK** to save your process configurations.

Optimize process Score tab reference

The following table describes the Score tab of the Optimize process.

Field	Description
Cell Name	The name of the input cells connected to the Optimize process. These input cells are selected on the Assignment tab of the Optimize process.
Offer	The name of the offer assigned to the cell. This assignment is defined on the Assignment tab of the Optimize process.
Score Field	The name of the field you want to map to the ScorePerOffer field in the PCT. You can use a derived field.

Field	Description
Derived Fields	You can use derived fields with Score Fields. For more information on derived fields, see the <i>Unica Campaign User's Guide</i> .

Run the flowchart

Once you have configured the Optimize process, you can run the flowchart to write to the PCT. When you run this flowchart, Unica Campaign populates the PCT. This gives Unica Optimize access to the list of contacts and offers in Unica Campaign.

For information on running an Unica Campaign flowchart, see the *Unica Campaign User's Guide*.

Performing a production run of the optimization session

Once the campaign managers run all the flowcharts that are configured to generate contact and offer information for a particular optimization session, you can run that optimization session.

Performing a production run writes a complete optimized contact list to the OCT, overwriting any previous results. A production run may take quite some time to complete, depending on the complexity of the session, the size of the proposed contact list, and the number of campaigns using the session.

To perform a production run of an optimization session

- From the Summary, Rules, Scoring, or Analysis tab of the session you want to run, click the **Execute** icon and select **Production run**.

The Confirm Session Run page appears.

- Click **Run Session Now**.

The Run Progress tab appears.

Unica Optimize optimizes the proposed contact list based on the rules and scoring in the optimization session. The optimized contacts table populates with the results of the run.

- ★ You can continue working in Unica Optimize during a session's production run. You cannot, however, delete or modify a running session.

Reviewing optimization results

When the optimization session finishes running, you can review the results of the production run.

1. Click either of the following:
 - a. **Go to Analysis tab** from the Run Progress tab.
 - b. The Analysis tab of the optimization session.

The Offer Filtering Summary report appears by default. The Offer Filtering Summary report displays the number of proposed contacts removed by each rule in the optimization session.

From the Analysis tab, you can view additional summary and analysis reports that help you to further profile offers, determine rule performance, customer distribution, offer distribution, and so on.



6 Using optimized contacts in a marketing campaign

- Using optimized contacts
- Selecting optimized contacts
- Link the optimized contacts to a contact process
- Running the post-optimization flowchart
- (Optional) Define a trigger to start the post-optimization flowchart
- Handling multiple packages
- Sampling for hold-out control groups
- Assigning final cell codes

Using optimized contacts

Once Unica Optimize optimizes the proposed contacts, you can use the final contact list in your marketing campaign. You must retrieve the optimized contacts from Unica Optimize before you can send marketing communication to these contacts. You must create a flowchart in Unica Campaign to perform both tasks.

This flowchart is referred to as the post-optimization flowchart, and is typically created as part of the campaign you created when you made the flowchart to generate your pre-optimized list of contacts.

This section describes how to create a basic flowchart for retrieving optimized contacts for use in a marketing campaign. It also describes how to perform several optional, more advanced tasks such as handling multiple packages and sampling for hold-out control groups in the post-optimization flowchart.

Selecting optimized contacts

To bring the optimized contacts into Unica Campaign, you must create a flowchart with an Extract process. An Extract process is the only way to retrieve optimized contact transactions back from an optimization session.

The Extract process allows you to do the following:

- Select the package or packages that contain the optimized contacts you want to include in your marketing campaign.
- Further filter the optimized contacts by any Proposed Contact Table (PCT) or Optimized Contact Table (OCT) field you created. For example, if you run a weekly campaign that is optimized only monthly, you can retrieve only those optimized transactions that need to be delivered that week by extracting using the ContactDate.
- You cannot substitute the Extract process with another data manipulation process—for example, the Select or Audience process. The Extract process allows you to retrieve only those optimized transactions that are needed from Unica Optimize that you submitted into the optimization session. These transactions are typically scoped by campaign, flowchart, and Optimize process, and possibly by other criteria such as channel or date. Another data manipulation process would retrieve by Audience IDs, incorrectly including optimized transactions that have nothing to do with a particular campaign (that is, surviving contact transactions to the same individuals submitted by another campaign).

For general information on configuring the Extract process, see the *Unica Campaign User's Guide*.

To select the package that contains the optimized contacts

You should retrieve the results from only a single package at a time using the Extract process, that is all offers sent on the same channel at the same time to recipients. You may only select more than one package at a time in a single Extract process if you are certain that the audience IDs targeted within each package are mutually exclusive (that is, each audience ID is treated only in one package or the other, but not both).

Otherwise, segmenting by audience ID results in duplicate offers being sent to the those individuals belong to multiple packages. If you select more than one package from one Extract process, the Unica Optimize template you are using must include a field for the Optimize process or package, so you can include a Segment process in the flowchart to separate each package into its own contact process. It may be easier to use multiple Extract processes, each one extracting optimized transactions for a particular package.

1. Create a batch flowchart in Unica Campaign.

For more information on creating a flowchart in a campaign, see the *Unica Campaign User's Guide*.

2. Add an Extract process to the flowchart.

3. Double-click the Extract process.

The Source tab appears.

4. From the drop-down list in the Input field, select **Optimized Lists**.

The Select UO Session window appears.

5. Expand the All Sessions list, and select the optimization session from which you want to select optimized contacts.

The Select UO Session window populates with information about the optimization session you selected. The Select Results by Participants section lists the various campaigns that participated in this optimization session. Each row represents a specific Optimize process, or package, as well as the flowcharts to which they belong.

6. From the Select Results by Participants section, select the package from which you want to retrieve optimized contacts.

7. Click **OK**.

The Select UO Session window closes.

8. On the Extract tab select at least the audience ID field as well as any other fields required for the contact process.

To retrieve optimized contacts by PCT/OCT field

In addition to the steps described in [To select the package that contains the optimized contacts](#) you can also follow these steps to filter the returned optimized transactions by enabling the **Select Records With** option.

1. On the Source tab of the Extract process, select **Select Records With**.

The query builder appears.

2. Select a field from the Available Fields section by double-clicking it.

The field populates the Field Name column of the query builder.

3. Select values for the Operator, Value, and And/Or columns in the same way.

4. Repeat the process to filter the optimized contacts by other fields.

Link the optimized contacts to a contact process

To send out marketing communications to your final contact list, you must add a contact process (for example, Mail List, Call List, eMessage) to your flowchart. Connect the Extract process to a contact process such as the Mail List or Call List process.

For information on configuring a contact process, refer to the *Unica Campaign User's Guide*.

1. Add a contact process to the flowchart.
2. Connect the Extract process to the contact process.
3. Double-click and configure the contact process as follows:
 - a. Confirm the Offer is **Assigned by Unica Optimize** on the Treatment tab.
 - b. Configure the Fulfillment, Personalization, and Logging tabs as described in the *Unica Campaign User's Guide*.
 - c. You must set the **Contact Date** on the Contact History Logging Options dialog box to the same contact date as originally proposed (the ContactDateTime field in the Extract process).

You open the Contact History Logging Options dialog box by clicking **More Options** on the Logging tab. If you chose a different Contact Date, you may violate optimization constraints.

There should be only a single contact date and time for all contacts within this contact process. If there are multiple contact dates in the retrieved optimized contacts, you must segment by ContactDateTime and channel (that is, package) before connecting to a contact process.

Running the post-optimization flowchart

Once you have configured the Extract and contact processes, you can run the flowchart to generate the final contact list for your campaign and optionally log to contact history.

For information on running an Unica Campaign flowchart, see the *Unica Campaign User's Guide*.

(Optional) Define a trigger to start the post-optimization flowchart

You can define a trigger to automatically run the post-optimization flowchart once the optimization session has completed running. The post-optimization flowchart retrieves these optimized contacts and uses them in your campaign.

A trigger is a message, sent by an external application, that tells the Schedule process to run. You can include a Schedule process in your post-optimization flowchart. By designing your post-optimization flowcharts this way, you can simplify the process of running all of these flowcharts after optimization has been completed by merely sending the predesignated trigger.

For more information on defining a trigger, see the *Unica Campaign Administrator's Guide*.

Handling multiple packages

If your post-optimization flowchart retrieves optimized contacts from more than one package, you must separate each package into distinct contact processes. This enables audience IDs to be placed into their various groups, for example, High-value and Low-value.

You can handle multiple packages in your flowchart by doing one of the following:

- Selecting more than one package from a single Extract process (works only when the audience IDs are guaranteed to be treated only in a single package.)
- Including one Extract process per package.

If the same audience ID may be treated in multiple packages, you must use this approach (otherwise, the same offers will be sent in duplicate to members of multiple packages). If you want to retrieve results from a small number of packages, it may also be easier to create a separate Extract process per Optimize process than to set up a segmentation field (like package) in the Unica Optimize template and then use the Segment process in the post-optimization flowchart.

Proposed packages must be preserved post-optimization, since the contact fatigue rules may have been based on the number of interruptions allowed to each individual. Rearranging the surviving offers into different packages (and therefore a different number of interruptions to the recipient) may violate your corporate contact fatigue strategy and should be avoided.

If you selected more than one package of optimized contacts when configuring the Extract process, you must include a Segment process in your flowchart. The Segment process lets you separate the various audience IDs from multiple packages back into individual packages, which can then be operated on individually.

 You can retrieve multiple packages in a single Extract process only if you are certain that the audience IDs are mutually exclusive across packages (that is, each audience ID is treated in only one package). Otherwise, the audience IDs belonging to multiple packages will receive duplicate offers.

To use the Segment process to divide customer IDs into their original packages, you must first include a field in the optimization template table that will act as an identifier for the Optimize process from which the package originated.

To include one Extract process per package

This section details the recommended way to retrieve optimized contacts from an optimization session and works regardless of whether audience IDs are mutually exclusive or overlapping. If you are not certain that audience IDs being retrieved together in the Extract process are mutually exclusive, use this approach.

1. In your flowchart, include one Extract process for every package from which you want to retrieve optimized contacts.
2. In each Extract process, select the package from which you want to retrieve optimized contacts.

Follow instructions in [To select the package that contains the optimized contacts](#).

3. Direct each package into its own contact process (for example, the Mail List or Call List process).

For information on configuring a contact process, refer to the *Unica Campaign User's Guide*.

To select more than one package from a single Extract process

1. Create a batch flowchart in Unica Campaign.

For more information on creating a flowchart in a campaign, see the *Unica Campaign User's Guide*.

2. Add an Extract process to the flowchart.

3. Follow instructions in [To select the package that contains the optimized contacts](#), but instead of selecting one package from which you want to retrieve optimized contacts, select all packages to be processed in the same post-optimization session. Remember that the audience IDs treated in each package must be mutually exclusive (that is, each audience ID must be treated only in a single package).

4. Select the field from which you want to extract optimized contacts.

 You will use this same field in the Segment process to segment audience IDs back into their original packages.

- a. From the Extract tab of the Extract process, select a field in the Candidate Fields section.

- b. Click **Add**.

The field populates the Fields to Extract section.

5. Click **OK**.

6. Add a Segment process to the flowchart and connect the Extract process to the Segment process.

7. Right click on the Extract process and select **Run > Test Run** (or **Save and Run Selected Process**).

The Extract process runs and communicates information to the Segment process.

8. Double-click the Segment process.

The Segment tab appears.

9. From the drop-down list in the Input field, select the Extract process.

10. Select **Segment by Field**.

11. Select the field by which you want to segment audience IDs back into their original packages from the Segment by Field drop-down list.

- The Segment by Field list is a list of fields from the Extract table.
- The Profile window appears.
12. Select the packages that you want to segment and click **Close**.
- The packages that will be segmented populate the Segment Name field.
13. Click **OK**.
14. Direct each package into its own contact process (for example, the Mail List or Call List process).
- For information on configuring a contact process, refer to the *Unica Campaign User's Guide*.

Sampling for hold-out control groups

To determine the effectiveness of your offer, you can create a hold-out control group for cells assigned that offer. Hold-out control groups are non-contact groups that would have received the offer, but you have chosen to deliberately withhold from the target cell compare the “lift” or difference in response from the target cell that received an offer.

Controls are applied at the cell level. When you assign offers to cells, either in a contact process in a flowchart or from a target cell spreadsheet, you can optionally specify one or more cells that will act as a control cell for each target cell.

For details about specifying a cell as a control for another cell or cells, see the *Unica Campaign User's Guide*.

Creating a hold-out control group requires you include to a Sample process in your flowchart.

This section describes two ways in which you can sample for hold-out control groups:

- Sample at the audience ID level.

This easier approach is the recommended way to sample for hold-out control groups and is consistent with how control cells are used in Unica Campaign. In this case, control cells are at the audience ID level rather than at the offer-audience ID level.

The following limitations apply:

- Contacts members of the control cell do not receive any offers. A contact's offers are suppressed for offers being processed in the flowchart. Across multiple flowcharts, the same contact will not always be chosen to be in the control cell; therefore, a particular contact may still receive offers from other flowcharts.

 This is not the same as a universal hold-out control group that is withheld from all company communications. If you use a universal hold-out control group, you must identify members of your surviving contacts in that group and remove them (for example, by matching against a universal control strategic segment and then excluding those audience IDs). For more information on control groups, see the *Unica Campaign User's Guide*.

- Sampling at the customer ID level does not guarantee equal representation across all offers. For example, by randomly choosing that 10% of all customer IDs be treated within a flowchart with multiple offers, it is possible that no one in the control cell is targeted to receive offer X. When analyzing offer X, in this case, the control cell is empty.
- Sample at the offer level.

An alternative way to randomly sample for hold-out control groups is to do this on a per-offer basis, rather than on a cell basis. While more work, this option guarantees that a particular percentage of a specific offer is being held out for measurement purposes; at the cell level, an offer that is infrequently given out may not have any representation in the control cell. This approach, therefore, may be preferred by marketers when the distribution of their offers is skewed.

When randomly sampling at the cell level, you must sample from groups that are statistically similar. For example, if you initially segment into high-value, medium-value, and low-value segments, you must re-create those segments before sampling for control groups. You must compare high-value customers not receiving any offers against high-value customers receiving offers, medium-value customers to medium-value customers, and so on. You should not randomly sample across all customers, regardless of their value, and compare them against your initial segments.

Prior to sampling, then, you must re-create the appropriate segments. This is not necessary if you created different randomly selected cells from the same population, purely for testing purposes (for example, for assigning different offers).

To sample at the audience ID level

This procedure assumes that each cell you initially created will be separately sampled.

1. Perform one of the following steps:
 - a. In the Extract process in your flowchart, retrieve optimized contacts from the CellCode field, following instructions in [To retrieve optimized contacts by PCT/OCT field](#).
 - b. Add a Segment process to the flowchart and segment by the CellCode field, instead of extracting from the CellCode field in the Extract process.
2. Randomly sample each cell into a target cell and a control cell:
 - a. Add a Sample process to the flowchart.
 - b. Connect the Extract process to the Sample process.
 - c. Double-click the Sample process.The Sample tab appears.
 - d. Select the input cell using the drop-down list in the Source Cell field.
 - e. Select **Random Sample** as the sampling method.
 - f. Create two output cells (a target cell and a control cell) based on random sampling.

Refer to the *Unica Campaign User's Guide* for additional instructions on configuring the Sample process.

3. Connect all of the target and control cells belonging to a single package into a single contact process.

Refer to [To include one Extract process per package](#) for additional information on channeling multiple cells into separate contact processes.

To sample at the offer level

1. In the Extract process in your flowchart:

- a. Retrieve optimized contacts according to package and offer code.

For example, if package A contains offers 1, 2, 3 and package B contains offers 1 and 4, this requires 5 Extract processes, one each for optimized transactions A1, A2, A3, and B1 and B4.

- b. (Optional) Retrieve optimized contacts from the CellCode field, if segmentation by cell is required for statistically valid hold-out control groups.

2. (Required only if you performed step 1-b) If you need to re-segment back into the original cells to create statistically relevant control groups, add a Segment process to the flowchart and segment by the CellCode field. This allows you to put customer IDs back into their initial groups—for example, High-value and Low-value.

Refer to the *Unica Campaign User's Guide* for additional instructions on configuring the Segment process.

3. Randomly sample each cell into a target cell and a control cell:

- a. Add a Sample process to the flowchart.
 - b. Connect the Extract process to the Sample process.
 - c. Double-click the Sample process.

The Sample tab appears.

- d. Select the input cell using the drop-down list in the Source Cell field.
 - e. Select **Random Sample** as the sampling method.
 - f. Create two output cells (a target cell and a control cell) based on random sampling.

Refer to the *Unica Campaign User's Guide* for additional instructions on configuring the Sample process.

4. Connect all of the target and control cells belonging to a single package into a single contact process.

Refer to [To include one Extract process per package](#) for additional information on channeling multiple cells into separate contact processes.

Assigning final cell codes

If you did not assign cell codes when configuring the Optimize process in the pre-optimization flowchart, you must, in the post-optimization flowchart, segment the cells back into their original cells, and then assign cell codes.

The cell codes generated from the pre-optimization flowchart are available to you in the PCT and OCT, and can be output into your contact list as an Unica Campaign Generated Field (UCFG). If the cell codes are needed only by your fulfillment vendor, this method may be sufficient. However, if you need the cell codes for analysis and reporting purposes, consider the following methods:

- Use the CellCode field in the PCT and OCT, and output it into the ContactHistory table as an additionally tracked field.

Do this in a flowchart using the contact process to output a field from the PCT to an additionally tracked field in contact process such as Mail List. See the *Unica Campaign User's Guide* for more information. You can then customize your Unica Campaign reports to use the field from contact history for grouping by cell.

 This is an expensive way to store cell codes. Since you must repeat this procedure, the cell code is stored once per contact in the Contact history system table.

- Re-segment by the cell codes in the OCT and PCT and then assign your final cell codes in the Segment process. This method allows you to use all the standard reporting by cell reports provided with Unica Campaign. This is the recommended method for managing cell codes.

Target control spreadsheet and post-optimization flowcharts

You can use the TCS to manage the cell codes for your optimized contacts.

If you linked cells created in your flowchart to cells defined top-down in the TCS in your pre-optimization flowchart, you cannot link to the same cells in your post-optimization flowchart. You can link to new cells in one of two ways:

- Bottom-up—Connect the Extract process to a process which generates bottom-up target cells in the TCS.
- Top-down—Copy the TCS rows and link them in a process in your post-optimization flowchart.

For more information about using the TCS, see the *Unica Campaign User's Guide*.

If you are using the TCS in a Unica Marketing Operations campaign project, the TCS must contain a row entry for each cell input into the contact process, such as the Mail List process. Each cell in the flowchart must be linked to a TCS and all linked rows must be approved before running the post-optimization flowchart in production.

- If you are using a single Extract process box (extracting optimized contacts for campaign X) connected to a contact process, you must create a top-down cell link from the TCS to run the flowchart in production.
- If you segment the extracted cell or use a Sample process to create hold-out control cells, then each of the input cells into contact processes will need to be linked from top-down cells. If you re-segment these cells into the same segments/offers as when you submitted the proposed contacts, you can copy the TCS rows used in the proposed contacts flowchart and associate them to the corresponding cells in the post-optimization flowchart. Each cell can have a different cell name and code.
- For the TCS rows linked to cells in the post-processing flowchart using optimized offers from Unica Optimize, no offers need to be assigned. Any assigned offers will be ignored.

For more information about using the TCS with a Unica Marketing Operations campaign project and a post-optimization flowchart, see the *Unica Marketing Operations and Unica Campaign Integration Guide*.

To assign final cell codes

1. In the Extract process in your flowchart, retrieve optimized contacts by the CellCode field, following instructions in [Select the optimized contacts](#).
2. Add a Segment process to the flowchart and connect the Extract process with the Segment process.
3. Right click the Extract process and select **Run > Test Run** (or **Save and Run Selected Process**).
The Extract process runs and communicates information to the Segment process.
4. Double-click the Segment process.
The Segment tab appears.
5. From the drop-down list in the Input field, select the Extract process.
6. Select **Segment by Field**, and in the drop-down list, select the CellCode field (the field by which you want to segment customer IDs back into their original packages).

 Do not check the **Mutually Exclusive Segments** option.

- The Profile window appears.
7. Select the packages that you want to segment and click **Close**.
The packages that will be segmented populate the **Segment Name** field.
 8. Click the General tab.
 9. Assign final cell codes to each cell.
For more information on assigning cell codes, see the *Unica Campaign User's Guide*.
 10. Click **OK** to close the Segment process.

11. Connect the cell(s) into different contact processes as appropriate.



7 Viewing Reports

- Viewing Reports
- To view reports
- To clear run history
- Offer Filtering Summary report
- Customer Redistribution by Campaign report
- Offers by Type and Segment report
- Campaign Optimization Summary report
- Channel Utilization Over Time report
- Customer Interaction Volume Report
- Capacity Rule Sensitivity report

Viewing Reports

For each production run, Unica Optimize generates a number of reports to help you understand what happened during the optimization process by providing analyses pre- and post-optimization. The included reports highlight rule performance, the migration of customers from one campaign or offer to another, and analysis across customers, channels, and offers.

Reviewing the rules and the optimization results proposed for each campaign optimization session is an iterative process. Unica Optimize reports provide insight into this process. Reviewing the reports may provide information to help you refine rules to address your corporate or each campaign manager's goals or to explain the optimization process to participating campaigns.

Each production run automatically generates reports. You can view the most recent set of reports for the current optimization session run, or you can access reports from previous runs (for example, for comparison purposes). The Report Run drop-down list on the Analysis tab allows you to choose the specific optimization session run you wish to view. Optimization runs are listed in reverse chronological order with date/time, the person that ran the session, and the run status.

All Unica Optimize reports are available on the Analysis tab of an optimization session. If the optimization session has not yet been run, the reports will display, "Report data does not exist."

To view reports

This section provides basic information about working with reports in Unica Optimize. A set of Unica Optimize reports are generated each time the optimization session is run. You can choose which set of reports to view based on the run date. You can view the Unica Optimize reports from the Analysis tab of an optimization session.

1. Click the Analysis tab in an optimization session.
The Analysis tab opens.
2. Select the optimization session you want to view reports for from the **Report Run** list.
3. Select the report you want to view from the **Report Type** list.
The report displays.

To clear run history

Unica Optimize keeps all the data from every production run of an optimization session on the machine hosting the Unica Optimize server. You can clear disk space by periodically removing all the production run data for an optimization session by clearing the run history. Clearing the run history also clears the UACO_SesnRunHist table.

 When you clear the run history, you are deleting all statistics kept for reporting purposes. All Unica Optimize reports for this optimization session will state "Report data does not exist."

1. Open the optimization session from which you want to delete the run history.
A confirmation dialog box appears.
2. Click the **Execute** icon and select **Clear run history**.
3. Click **OK** to delete the run history.

Unica Optimize deletes all the run history. This includes all data for the optimization session's Analysis tab.

Offer Filtering Summary report

The Offer Filtering Summary report displays the number of proposed contacts (and associated percentages) removed by each rule in the optimization session.

-
- ✳ The count for all Include/Exclude rules are reported as a single entry in this report (breakout of individual exclusion rules is not supported).
-

If the number of surviving contacts in the optimized contact list is too high or too low, you can use this report to understand the impact of each rule and modify the rules to be more or less restrictive as desired.

-
- ✳ Although rules are displayed in the same order as they appear on the Rules tab, rules are not applied serially during the optimization process. The order in which Unica Optimize applies the rules has no net effect on the optimization results.
-

Unica Optimize generally credits rules in the following order:

1. Exclude/Include rules
2. Capacity rules

-
- ✳ Credit given to Capacity rules may be only approximate. First, if multiple Capacity rules can be responsible for excluding an offer, each rule is given a percentage of the credit. For example, if an offer could have been excluded by three different Capacity rules, each rule is given 33% credit. Second, if a contact is excluded by both a Capacity rule and a For Each Customer rule, the For Each Customer rule may get credit.
-

3. For Each Customer rules

Within a rule type, the Offer Filtering Summary report credits the rules in the order they are listed in on the rules tab of the optimization session.

The information on the page is organized as follows:

Element	Description
Offer Count (Before Optimization)	The total number of proposed contacts
Rule Name	The name of the rule. "Exclude/Include" represents all Exclude/Include rules
Removed by This Rule	Number of proposed contacts removed by the rule (the percent of contacts removed by the rule is shown in parentheses)
Remaining After This Rule	Number of proposed contacts remaining after the rule ran (the percent of contacts remaining is shown in parentheses)
Total Removed	Total number of proposed contacts removed by the optimization (the percent of total contacts removed by the rule is shown in parentheses)
Total Remaining (After Optimization)	Total number of contacts remaining after the optimization ran (the percent of remaining contacts is shown in parentheses)

Customer Redistribution by Campaign report

The Customer Redistribution by Campaign report displays how targeted customers from one campaign may overlap with those targeted from another campaign prior to optimization and customer migration post optimization. Customer Migration is an analysis of the number of customers commonly targeted between two or more campaigns that have been lost from one to another. This report allows marketers to analyze how different campaigns may overlap in targeting recipients common to multiple campaigns and how campaigns may have cannibalized customers from other campaigns based on the optimization rules.

The information in this report appears in two tables and a three-dimensional bar chart.

The Before Optimization table displays the following information:

Column	Description
Campaign Name	The name of the campaign participating in this optimization session
Original Cust. Count	The number of unique customers targeted by a campaign after removal of opt-outs (that is, after the removal of customers by Exclude/Include rules)
# Shared	The total number of unique customers shared with any other campaign (the number of unique customers that are also being targeted by any other campaign in the same optimization session)
Customers Shared With	The number of unique customers commonly targeted (shared) by each campaign
Not Shared	The number of customers unique to the campaign (that is, the number of customers that are not targeted by any other campaign participating in the same optimization session)

The After Optimization table displays the following information:

Column	Description
Campaign Name	The name of the campaign participating in this optimization session
Optimized Cust. Count	The number of unique surviving customers targeted by the campaign after optimization
# Lost	The total number of unique customers removed from this campaign by the optimization session

Column	Description
Customers Lost To	The number of unique customers lost to each other campaign participating in the optimization session (that is, the number of customers not permitted a contact from this campaign, yet allowed contact from another campaign)
Not Shared	The number of customers in this campaign and not contacted in any other participating campaign

The bar chart displays the After Optimization data graphically.

Offers by Type and Segment report

The Offers by Type and Segment report shows the number of customers in each displayed segment receiving any of the offers before and after running the optimization. This report can help you understand the distribution of offers to strategic segments. Offers and strategic segments are defined in Unica Campaign.

- ✿ Unica Optimize controls the offers and customer segments displayed in this report. Only the specified offers and strategic segments appear in this report, with offers down the page and segments across the top of the report. See [To select offers and strategic segments](#) for information about selecting the offers and segments to display in the report.

In addition, any offers used in any rules within this optimization session are automatically included in this report, even if they are not specifically selected for display.

The following options are available as links under the After Optimization table:

- **Show Cost Sums** — Use this option to display the sum of the costs of all the proposed contacts of an offer to a customer segment. These values are available only if the Cost Per Offer field in the Proposed Contacts Table was populated by participating campaigns.
- **Show Score Sums** — Use this option to display the sum of the scores of all the proposed contacts of an offer to a customer's segment in the Before Optimization table and the sum of scores for optimized contacts in the After Optimization table. The score field is the field specified in the Scoring tab of the optimization session or the values entered in the offer/segment score matrix.

You can enable one or both of these options independently. Once the cost sums and/or score sums are displayed, you can remove them from the report by clicking the Hide Cost Sums or Hide Score Sum links, respectively. The information in this report appears in two tables and two bar charts.

The Before Optimization and After Optimization tables display the following information for each segment:

Element	Description
Offer Name	The names of each offer (the first row represents all offers)
Segment	Each column represents a strategic segment (the first column represents all customers)
Count	These columns display the number of contacts for the strategic segments and offers across all the participating campaigns in this optimization session. In the Before Optimization table, this is the number of contacts after removal of opt-outs (that is, after Exclude/Include rules have been applied).

The first bar chart displays the Before Optimization data graphically. The second bar chart displays the After Optimization data graphically.

To select offers and strategic segments

1. Navigate to the Summary tab of your optimization session.
 2. Click either of these options:
 - a. Displayed Offers
 - b. Displayed Segments

The Displayed Offers or Displayed Segments section expands.
 3. Click either of these options:
 - a. Edit Displayed Offers
 - b. Edit Displayed Segments

The Displayed Offers or Displayed Segments page appears.
 4. Select the offers or strategic segments that you want to include.

You can select multiple offers or segments using **Shift+Click** or **Ctrl+Click**.
 5. Click the right-pointing double arrows to move the offers or strategic segments to the Included Offers or Included Segments section.
 6. If you want to change the order of the offers or strategic segments, select the items you want to move and use the upward-pointing or downward-pointing arrows.
 7. Click **Save Changes**.
- The Summary tab appears.

Campaign Optimization Summary report

The Campaign Optimization Summary report displays the number of packages, transactions, offer presentations, unique offers, individual contact dates, and unique contact channels for each displayed strategic segment. It can optionally display the percent change in these value before and after running the optimization session. The Show Percentages link at the bottom the rule below the After Optimization table controls this display.

The Before Optimization and After Optimization tables display the following information:

Element	Description
Optimize Process Name	The process name for each Optimize process participating in this optimization session.
# Packages Sent	<p>The total number of packages sent to audience members of the specified campaign (a package is defined as all offers given to the same audience entity in a single Optimize process).</p> <p>For example, if a target cell of 500 high-value customers are treated in Optimize1 and 1000 medium-value customers are treated in Optimize2, the total number of packages sent by this campaign would be $500+1000=1500$ (regardless of the number of individual offers within each package).</p>
# Offer Presentations	<p>The number of separate offers given to audience members of the specified campaign.</p> <p>For example, if a target cell of 100 high-value customers each received two offers in a single mailing, the number of offers presented would be $2*100=200$.</p>
# Unique Offers Given	<p>The number of different offers used in the specified campaign.</p> <p>For example, if high-value customers were given offers A and B and low-value customers were given offers B and C, the number of unique offers given out by this campaign would be 3 (A, B, and C).</p>
# Unique Contact Dates	<p>The number of different contact dates given to anyone in the specified campaign.</p> <p>For example, if Optimize1 sent a letter on 1/1/07 and Optimize2 sent a package on 2/1/07, the total number of unique contacts would be two (the first of January and the first of February).</p>

Element	Description
# Unique Contact Channels	<p>The number of different contact channels used for communication with anyone in the specified campaign.</p> <p>For example, if offer A had a channel of "Direct Mail" and offer B had a channel of "Email" and both were given out in the specified campaign, the number of unique channels would be two (direct mail and email).</p> <p> This is computed based on the channel attribute of an offer.</p>

Channel Utilization Over Time report

The Channel Utilization Over Time report displays the number of contacts for each channel over the total period of contact dates for all campaigns participating in this optimization session.

-  All values for the channel offer attribute appear as rows in this report, regardless of whether that channel is used by any of the proposed offers in participating campaigns.

The report displays the following information:

Element	Description
Channel Name	The name of the channel (or All Channels).
Original # Offers	The number of offers given out on the specified channel across all campaigns, after removal of opt-outs (that is, after executing the Exclude/Include rules).
Optimized # Offers	The number of offers given out on the specified channel across all campaigns after the optimization session was run.
Dates	<p>The number of contacts on the specified communication channel that occurred over the specified time period.</p> <p>This column displays in increments of a day, week, month, or quarter according to the range of dates represented in the optimization period.</p>

Each column displays in date increments as follows:

- A day, if the optimization period is two weeks or less. For example, if the optimization period is 8 days, beginning on 4/1/07, you will have 8 columns with headers 4/1/07, 4/2/07, 4/3/07, and so on.

- A week if the optimization period is more than two weeks. For example, if the optimization period is three weeks, beginning on 4/1/07, you will have 3 columns with headers 4/1/07-4/7/07, 4/8/07-4/14/07, and 4/15/07-4/21/07.
 - A month if the optimization period is more than three months. For example, if the optimization period is four months, beginning on 4/1/07, you will have 4 columns with headers 4/1/07-4/30/07, 5/1/07-5/30/07, 5/31/07-6/29/07, and 6/30/07-7/28/07.
-
-  A month is defined as a 30-day period. If, for example, a certain month consists of 31 days, such as 5/07, the column header would reflect the 30 day period rather than the entire month, 5/1/07-5/30/07 rather than 5/1/07-5/31/07.
-
- A quarter if the optimization period is more than eight months. For example, if the optimization period is nine months, beginning on 4/1/07, you will have 3 columns with headers 4/1/07-6/29/07, 6/30/07-9/28/07, 9/29/07-12/28/07.
-
-  A quarter is defined as a 90-day period. If, for example, certain months in a quarter consist of 31 days, the column header would reflect a 90-day period rather than the entire 3 months that make up the quarter; 4/1/07-6/29/07 rather than 4/1/07-6/30/07.

A three-dimension bar chart below the table shows the channel over time data graphically.

Customer Interaction Volume Report

The Customer Interaction Volume report displays the minimum, maximum, and mean (average) number of contacts by strategic segment after optimization. This report provides insight into the range of the number of different communications (packages or interruptions) you will be making to each strategic segment.

The report displays the following information:

Element	Description
Segment Name	The name of the segment (or All Segments).
Mean # of Packages	The average number of packages sent to each member of the specified strategic segment. The value is computed by dividing the total number of contacts made in the segment by the number of members in the segment.
Min	The minimum number of packages per customer of the specified segment.
Max	The maximum number of packages sent to any member of the specified segment.

Capacity Rule Sensitivity report

The Capacity Rule Sensitivity report lists all of your capacity rules (that is, Min/Max # Offers Capacity rules and Custom Capacity rules) and their associated sensitivity.

The sensitivity value is the marginal benefit for adding an additional unit of resource, that is, the change in overall score you could expect by increasing the constrained resource by one unit. The unit of resource is defined for capacity rule you create and can be different for each. For example, say you have a Custom Capacity rule that states "The Sum of the CostPerOffer should be <= the value \$100,000 for transactions from the offer/offer list Any Offer from channel Any Channel." If the sensitivity is 67, increasing the budget value by one from \$100,000 to \$100,001 would increase the overall sum of optimized scores by 67. (The meaning of the score is whatever you set it to represent, for example, dollars of profit, dollars of revenue, response probability, and so on.) Similarly, if you create a Min/Max # Offers Capacity rule, the sensitivity would represent the additional score value obtained by increasing the maximum number of offers available by one.

If you create a Min/Max # Offers Capacity rule with a minimum, the sensitivity may be negative. The sensitivity is still determined by increasing the minimum by one, that is, from 100 to 101. Since increasing a minimum constrains the problem even more, increasing the minimum will most likely change the score in a negative way.

You can use this report to analyze the cost of implementing capacity constraints. In an ideal world, there would be no minimum or maximum capacity constraint and your business would use the optimization results, adapting inventory and other resources to maximize the score. The sensitivity value tells you the cost (the amount of score that is lost) by having the maximum capacity rule with its current threshold. With the example of the budget rule, if the sensitivity value were 1,000 where the score represents profitability in dollars, this would mean that spending one additional dollar should return an additional \$1,000 of profit. A high sensitivity value should suggest you consider removing or relaxing a maximum capacity constraint. Similarly, a low sensitivity value would indicate that there is low opportunity loss. For example, if the sensitivity value were \$0.25, spending an additional dollar to gain 25 cents of profit is likely tolerable.



A Administering Unica Optimize

- Administering Unica Optimize
- Using the Unica Optimize Utility
- Configuring Unica Optimize for a multi-locale environment
- Configure database load utility
- Increase virtual memory allocation for a process (UNIX only)
- Tuning the optimization algorithm

Administering Unica Optimize

Beyond configuring your optimization rules and pre- and post-optimization flowcharts, you can configure other aspects of Unica Optimize to improve performance, use the Unica Campaign multi-locale feature, and so on. This section describes many of the optional configuration steps you can take to enhance your Unica Optimize installation.

Using the Unica Optimize Utility

The Unica Optimize utility allows you to load, execute, and monitor a session using a command-line utility. You can set up unattended execution of optimization sessions using generic scheduling tools (not provided with Unica Marketing Platform) such as cron or the Microsoft Windows Task Scheduler. You can run the Unica Optimize utility on any supported platform.

Prerequisites for the Unica Optimize Utility

The following are prerequisites for using the Unica Optimize utility:

- The Unica Campaign web application and Unica Marketing Platform must be running.
- The Unica Optimize server must have access to the HTTP(S) port of the Unica Campaign web application.
- Java must be installed on the Unica Optimize server.
- The OPTIMIZE_HOME environment variable must be defined on the Unica Optimize server and point to your Unica Optimize installation directory.
- The JAVA_HOME environment variable must be defined on the Unica Optimize server and point to where Java has been installed.

Unica Optimize command-line utility

You run the Unica Optimize utility from the command-line. Open a command prompt and go to the /tools/bin directory of the directory where you installed Unica Optimize.

```
ACOOptAdmin -sn session -u username [-p password] [-async] [-locale  
localecode]
```

The ACOOptAdmin utility has the following parameters:

- **-sn session** - Specifies the optimization session name. This is a required parameter. For example, to specify a session called HolidayFundRaiser, you would enter:

```
ACOOptAdmin -sn HolidayFundRaiser
```

If the session is in a folder, include the folder names separated by forward slashes (/) or backward slashes (\). For example:

```
ACOOptAdmin -sn MktFolder/HolidayFundRaiser
```

To allow spaces in your text, place double quotation marks around the session name. For example:

```
ACOOptAdmin -sn "Holiday Mailing"
```

- **-u username** - Specifies the username used to log into Unica Optimize. This is a required parameter.
- **-p password** - Specifies a password for the username. This parameter may be omitted if the password is blank.
- **-async** - Executes the optimization session asynchronously, returning immediately. This is an optional parameter. The default is to run the Unica Optimize utility synchronously, which returns when the optimization session finishes running.

- `-locale localecode` - Specifies the language in which to print the messages generated by the Unica Optimize utility. This is an optional parameter. The default is `en_US`.

You can specify these parameters in any order on the command-line.

Configuring Unica Optimize for a multi-locale environment

Unica Optimize supports multiple languages and locales for a single installation. The multi-locale feature requires some specific settings in your databases. For more information about the multi-locale feature, see the *Unica Campaign Installation Guide*.

- If you are using an Oracle database, when configuring your Unica Optimize server settings, add the following to the Unica Optimize server file:

```
set NLS_LANG=AMERICAN_AMERICA.UTF8
```

- When configuring your database tables, run one of the following scripts from the `Campaign/ddl/unicode` directory to create system tables:
 - `aco_systab_sqsvr.sql` for SQL Server databases
 - `aco_systab_db2.sql` for DB2 databases
 - `aco_systab_ora.sql` for Oracle databases

Configure database load utility

Unica Optimize uses the same configuration settings as Unica Campaign for implementing a database load utility. If you have configured Unica Campaign to work with a database load utility, you have configured Unica Optimize to use the same commands. Similarly, if you configure Unica Optimize to work with a database load utility, you are configuring Unica Campaign to work with a database load utility. Each assumes a different root directory (`/Campaign` for Unica Campaign or `/Optimize` for Unica Optimize), so you can specify different commands in the loader command and template files.

A large component of an optimization session is reading data from the PCT and writing data to the OCT. Configuring a database load utility improves the performance of your optimization sessions and is highly recommended. A database load utility also improves performance when populating PCT tables with an Unica Campaign flowchart.

- Complete the database load utility configuration in the Unica Campaign partitions as described in the Unica Campaign documentation.
- Confirm that the Unica Optimize installation has the database load utility command in the same location as Unica Campaign.

You must create the same relative folder structure on both machines because Unica Campaign and Unica Optimize both reference the Campaign > Partitions > PartitionN > DataSources > DataSourceName > LoaderCommand property.

For example, if LoaderCommand is

/app/Unica/Campaign/partitions/partition1/scripts/load.sh, you must copy load.sh to

/app/Unica/Optimize/partitions/partition1/scripts on your Unica Optimize machine, creating the directories if necessary.

- Confirm that the Unica Optimize installation has the control file template for the database load utility in the same location as Unica Campaign.

The file defined by Campaign > Partitions > PartitionN > DataSources > DataSourceName > LoaderControlFileTemplate must exist on both the Unica Campaign and Unica Optimize machines. The control file template should be located in the same relative directory. On the Unica Campaign machine, the file should be relative to /Campaign, for example,

/Campaign/partitions/partition1/scripts. On the Unica Optimize machine, the files should be relative to /Optimize for example

/Optimize/partitions/partition1/scripts.

On UNIX systems, use softlinks to create the control file templates in the Unica Optimize directories. For example, from the

/Optimize/partitions/partition1/scripts directory, run the following command:

```
ln -s /Campaign/partitions/partition1/scripts/load.ctr load.ctr
```

Increase virtual memory allocation for a process (UNIX only)

If you are processing large amounts of data or are using multi-threaded optimization, you may need to allow Unica Optimize to use more virtual memory. You configure this by setting ulimit in /bin/ACOServer.sh. Unica Optimize sets the ulimit to 1 Gb (1048576) by default.

If the Unica Optimize server is running on a dedicated server, you should set ulimit to unlimited. Otherwise, set ulimit as high as practicable.

To change the value of ulimit, edit the following line of text in ACOServer.sh.

```
iDataMin=1048576
```

Replace the 1048576 with a valid amount of virtual memory. For more details about ulimit, including valid values, see the documentation for your operating system.

On Windows systems, there is no ulimit equivalent, and the effective value is unlimited.

Tuning the optimization algorithm

There are some settings you can configure to change the behavior of the optimization algorithm. You can change these settings to improve optimality or to improve performance. These settings are configuration parameters available on the Configurations page in the Campaign > partitions > partition[n] > Optimize > AlgorithmTuning category.

Fine tuning these sessions is an iterative process, and very dependent on your particular environment, including hardware type and configuration, your data set, and your optimization rules. The following sections provide guidelines to follow when tuning your Unica Optimize performance.

Multi-threaded optimization

You can enable multi-threaded optimization to improve the performance of Unica Optimize, that is, shorten the amount of time it takes to run an optimization session. To enable multi-threaded optimization, set the `EnableMultithreading` configuration property to true.

- ✿ If you have multiple CPU or cores, the number of CPU or cores, therefore the maximum number of threads you can use may be restricted by your Unica Optimize license. Contact your Unica representative for more details.

Enabling multi-threaded optimization may significantly improve Unica Optimize performance. The amount of performance improvement is dependent on many factors including the type of optimization rules you use, the interaction of those rules with your data, the speed of your database I/O, and your type and configuration of hardware. The maximum degree of parallelism achievable is governed by the non-parallel portions of processing and will differ from optimization session to optimization session.

In general, use the following guidelines.

- Enabling multi-threaded optimization can only improve the performance of the optimization stage.

A significant portion of an optimization session run includes reading data from the Proposed Contacts Table (PCT), representing the optimization rules, preparing and retrieving data from the database, randomizing and creating chunks, and writing to the Optimized Contacts Table (OCT). Multi-threaded optimization does not affect these processes, which run serially. To improve the performance of reading the PCT and writing the OCT, consider using a database load utility and optimizing your database configuration.

- If you do not use cross-customer rules in your optimization sessions, multi-threaded optimization has limited improvement.

Unica Optimize leverages multi-threaded optimization most when processing the algorithms which implement cross-customer rules.

- In general, the maximum number of threads available should be equal to or higher than the highest achievable degree of parallelism to maximize performance. However, you may find that other hardware limitations will reduce the performance leverage of multiple threads. For example, if insufficient RAM is available to support the number of threads in use, the optimization session may not be able to run. Or if your hardware has multiple cores (instead of CPUs) and multiple hardware threads use the same cache, your performance may be limited by the cache I/O.

You define the number of threads processing the cross-customer rules with the `MaxCustomerSampleProcessingThreads` configuration property. You may need to tune your system to find the optimal value of this setting based on your available RAM and hardware performance characteristics.

- You may be able to run more threads in parallel if you have a smaller `CustomerSampleSize` because the RAM utilization per thread goes down. However, decreasing this value also decreases the amount of time required to process a chunk, decreasing the ratio between chunk processing and preprocessing, causing the latter to become a bottleneck sooner.
- If you have optimized the number of threads processing the cross-customer rules, you may be able to further increase performance by increasing the number of threads used reading data from a sample of customers or the threads used to write the optimized contacts to a staging table.

You define the number of threads reading data from a sample of customers with the `ProcessingThreadQueueSize` configuration property. You define the number of threads writing data to a staging table with the `PostProcessingThreadQueueSize` configuration property.

For more details about tuning multi-threaded optimization for your specific Unica Optimize implementation, contact your Unica representative.

Setting CustomerSampleSize

Properly configuring `CustomerSampleSize` for best optimization session run time while preserving optimality takes some consideration.

CustomerSampleSize and "chunks"

Unica Optimize works by breaking up the proposed contacts into random sub-samples of customers called "chunks." All proposed contacts and contact history belonging to a single customer are processed with that customer in the chunk in which that customer belongs (a customer may belong only to a single chunk). The accuracy of the optimization algorithm depends on these chunks of customers being statistically similar to each other, and a larger chunk size makes this more likely. Cross-customer capacity constraints are evenly distributed across the chunks. For example, if your optimization session contains a constraint specifying there is a maximum of 1000 offer A's allowed, if the optimization session is run with 10 chunks, each chunk will have a capacity rule that allows a maximum of 100 offer A's.

The algorithm tuning variable `CustomerSampleSize` allows you to set the maximum chunk size. The larger the chunk, the more accurate the results, but the session runtime and memory resources required also increase. Unica does not recommend using chunk sizes significantly greater than 10,000 without careful planning because many systems do not have enough memory resources to process more than 10,000 customers at a time, which will result in a failed optimization session run (out of memory error). In many cases, a larger chunk size may not significantly increase the optimality of the solution (measured as the sum of scores of the surviving transactions in the Optimized Contacts Table) at all, but still takes more time and memory to run. You may need to tune the `CustomerSampleSize` based on your specific optimization problem and performance needs.

In a simple optimization scenario where there are no cross-customer capacity rules defined, there is no added benefit from using larger chunk sizes.

CustomerSampleSize and cross-customer capacity rules

To understand the cases where cross-customer capacity rules are used, you must understand how those rules are applied to multiple chunks. Consider the case where there is a single Min/Max # Offers Capacity rule with minimum set to 20 and maximum set to 1,000 for channel Email. If there are 100,000 customers and a maximum chunk size of 10,000, each chunk is processed using a modified rule where the maximum is 100 (the rule maximum value divided it by the number of chunks, in this example, 10).

A smaller maximum chunk size may cause more chunks to be created. This makes it more likely that a rule might depend on some element (such as Email channel) that is less numerous than the number of chunks. If the chunk size were reduced to 100 there would be 1,000 chunks. Now, the rule's minimum is actually less than the number of chunks, which makes the modified rule .02 (20 divided by 1,000). In this case, 2% of the chunks use a rule with a minimum of 1, and the other 98% of the chunks use a minimum of 0. As long as each chunk is statistically similar with regard to channel Email, Optimize processes the rule as expected. A problem occurs when there are fewer customers offered emails than there are chunks. If only 500 customers are offered emails, each chunk has only a 50% chance of containing a customer offered an email, and the odds that a particular chunk has both a customer offered an email and a minimum 1 rule is only 1%. Instead of meeting the specified minimum of 20, Unica Optimize would only return 5 on average.

The number of chunks depends on the chunk size and the total number of customers. Since the maximum recommended chunk size is 10,000, this means the minimum number of customers with a significant element (an item used in a rule) must be not less than the number of customers divided by 10,000 to achieve optimal results. It might seem that increasing the number of proposed contacts to maintain statistical similarity would lower performance, and it is true that more proposed contacts will add to the overhead. This could be more than offset if it allows a smaller chunk size to be used, since this smaller chunks can be processed more quickly.

Indexing Unica Optimize tables

For best performance, you should create indexes on several of your Unica Optimize tables. New installations of Unica Optimize create indexes on the proper columns. When creating per audience tables, for example the `UA_ContactHistory` tables, create these indexes on each table. If you are upgrading from a previous version of Unica Optimize, you must add these indexes manually to each of your existing tables.

See the documentation for your database for the exact command to create an index. For example:

```
CREATE INDEX IndexName ON TableName ( ColumnName )
```

The following table gives the table names and the columns you should index. All of these tables exist in the Unica Campaign system tables.

Table	Columns	Notes
<code>audience_segMembers</code> <code>hip</code>	<ul style="list-style-type: none"> • <i>Audience ID</i> • <i>SegmentID</i> 	<p>Using strategic segments is optional for Unica Optimize.</p> <p>If you are using strategic segments, you should have one segment membership table per audience level, and you should create indexes on all segment membership tables. The <i>Audience ID</i> columns must match the Audience ID defined in Unica Campaign.</p>
<code>UACO_PCTsessionID</code>	<ul style="list-style-type: none"> • <i>OptimizeID</i> • <i>ContactDateTime</i> • <i>Audience ID</i> • <i>ContactID</i> • <i>TempOfferHistID</i> • <i>OfferID</i> 	<p>This table is automatically indexed when created by Optimize 7.5.2 or later version. If you are upgrading from a previous version of Optimize, you must index these tables manually.</p> <p>There is a <code>UACO_PCTsessionID</code> table for each optimization session where <code>session</code> is the <code>ACOSessionID</code>. <code>ACOSessionID</code> is a unique identifier for each optimization session defined in the <code>UACO_OptSession</code> table.</p> <p>The <i>Audience ID</i> columns must match the Audience ID defined in Unica Campaign.</p>

Table	Columns	Notes
UACO_POAsessionID	<ul style="list-style-type: none"> • OptimizeID • TempOfferHistID 	<p>This table is automatically indexed when created by Optimize 7.5.2 or later version. If you are upgrading from a previous version of Optimize, you must index these tables manually.</p>
		<p>There is a UACO_POAsessionID table for each optimization session where <i>session</i> is the ACOSessionID. ACOSessionID is a unique identifier for each optimization session defined in the UACO_OptSession table.</p>
UACO_RCsessionID	<ul style="list-style-type: none"> • RandomIndex • <i>Audience ID</i> 	<p>This table is automatically indexed when created by Optimize 7.5.2 or later version. If you are upgrading from a previous version of Optimize, you must index these tables manually.</p>
		<p>There is a UACO_RCsessionID table for each optimization session where <i>session</i> is the ACOSessionID. ACOSessionID is a unique identifier for each optimization session defined in the UACO_OptSession table.</p>
		<p>The <i>Audience ID</i> columns must match the Audience ID defined in Unica Campaign.</p>
audience_ContactHistory	<ul style="list-style-type: none"> • PackageID • <i>Audience ID</i> • CellID • ContactDateTime 	<p>The PackageID and CellID columns are already indexed in the sample UA_ContactHistory table created when you install Unica Campaign.</p>
		<p>The <i>Audience ID</i> columns must match the Audience ID defined in Unica Campaign.</p>
audience_dtlContactHist	<ul style="list-style-type: none"> • <i>Audience ID</i> • ContactDateTime • TreatmentInstID 	<p>The <i>Audience ID</i> columns must match the Audience ID defined in Unica Campaign.</p>



B Unica Optimize configuration properties

- Unica Optimize configuration properties
- unicaACOListener category
- sessionRunMonitor category
- MemoryTuning category
- userTemplateTables category
- AlgorithmTuning category
- Debug category
- logging category
- unicaACOOptAdmin category

Unica Optimize configuration properties

This section describes the Unica Optimize configuration properties found on the Configuration page.

Campaign > unicaACOListener

These configuration properties Optimize listener settings.

serverHost

Set to the host machine name for the Unica Optimize installation.

Default Value

localhost

serverPort

Set this to the host machine port for the Unica Optimize installation.

Default Value

none

useSSL

Set to True to connect to the Unica Marketing Platform machine using SSL. Otherwise, set to False.

Valid Values

True | False

Default Value

False

keepalive

The number of seconds the Unica Campaign web application waits between sending messages to the ACOListener to keep the connection active. Using keepalive keeps connections open if your network is configured to close inactive connections.

If set to 0, the web application does not send any messages.

This keepalive property is separate from the JAVA socket keepAlive.

Valid Values

Positive integer

Default Value

0

logProcessId

Set to yes to log the ID of the Unica Optimize listener process in the Unica Optimize Listener log (*Optimize_installation_directory/logs/unica_acolsnr.log*). Otherwise set to no.

Valid Values

yes | no

Default Value

yes

loggingLevels

You can set the details for the Unica Optimize listener data you log.

This setting effects the
Optimize_installation_directory/logs/unica_acolsnr.log file.

Valid Values

LOW | MEDIUM | HIGH | ALL

Default Value

MEDIUM

logMaxFileSize

Set this integer to the maximum size for a log file, in bytes. Unica Optimize creates a new file once the log file reaches this size. This setting effects
Optimize_installation_directory/logs/unica_acolsnr.log.

Default Value

20485760

enableLogging

Set to True to enable logging. Otherwise set to False. This setting effects
Optimize_installation_directory/logs/unica_acolsnr.log.

Valid Values

True | False

Default Value

True

logMaxBackupIndex

Set this integer to the number of backup files to store. This setting effects
Optimize_installation_directory/logs/unica_acolsnr.log.

Default Value

5

loggingCategories

You can specify the categories of data you want to log in a comma separated list. This setting affects *Optimize_installation_directory/logs/unica_acolsnr.log*.

Valid Values

all | bad_order | cell_access | commands | config | data_errors |
dbload | file_access | general | memory | procrun | query | sort |
sysquery | table_access | table_io | table_mapping | webproc

Default Value

all

Campaign > partitions > partition[n] > Optimize > sessionRunMonitor

progressFetchDelay

Set this integer to the number of milliseconds that the web application waits before obtaining progress information from the listener.

Default Value

250

Campaign > partitions > partition[n] > Optimize > MemoryTuning

MaxRamUsage

Defines the maximum memory in MB used to cache the contact history. This value must be at least as large as one contact history record.

Default Value

128

Campaign > partitions > partition[n] > Optimize > userTemplateTables

This property defines the template tables used by the PCT and OCT.

tablenames

Enter a comma-separated list of table names for the tables that can be used to add user-specific fields to the proposed contacts table (PCT) or the optimized contacts table (OCT).

Default Value

UACO_UserTable

Campaign > partitions > partition[n] > Optimize > AlgorithmTuning

These configuration properties define settings you can use to tune your optimizations.

MaxAlternativesPerCustomerEvaluated

The maximum number of times Unica Optimize will test combinations of proposed transactions, or alternatives, to find the optimal alternative for a customer.

For example, if the following are true:

- the offers associated with a customer in the proposed contacts table (PCT) are A,B,C,D, where the scores for these offers are A=8, B=4, C=2, D=1
- the MaxAlternativesPerCustomerEvaluated property is 5
- a rule of MAX # Offers=3 exists

then the alternatives tried might be as follows:

- ABC score = 14
- ABD score = 13
- AB score = 12
- ACD score = 11
- AC score = 10

Since the number of alternatives to test may be very large, this value allows you to place a limit on how much effort the core algorithm spends on a customer before Unica Optimize moves to the next customer in the PCT.

Default Value

1000

CustomerSampleSize

If your number of customers being optimized is greater than CustomerSampleSize, Unica Optimize divides the customers into groups of no greater than CustomerSampleSize and optimizes each sample group separately. Rules which span across groups, such as a Custom Capacity rule, are still met. Increasing this number may increase optimality but hinder performance.

The most optimal CustomerSampleSize is equal to your number of customers. However, processing a large set of data may take a prohibitive amount of time. By dividing customers into smaller groups for Unica Optimize to process at a time, you can increase performance with minimal loss to optimality.

Valid Values

Positive integer

Default Value

1000

CustomerRandomSeed

The random seed represents the starting point that Unica Optimize uses to select records randomly before populating sample groups defined by the `CustomerSampleSize`. If you have fewer customers than `CustomerSampleSize`, this property has no effect on the optimization.

You may want to change the random seed if you think your current random sample produces highly skewed results.

Valid Values

Positive integer

Default Value

1928374656

MaxIterationsPerCustomerSample

The maximum number of iterations Unica Optimize will process a group of customers. Unica Optimize processes a group of customers until optimality is reached or the number of iterations equals `MaxIterationsPerCustomerSample`.

Valid Values

Positive integer

Default Value

1000

MaxCustomerSampleProcessingThreads

The maximum number of threads Unica Optimize uses to process the optimization algorithms. In general, the higher you set `MaxCustomerSampleProcessingThreads`, the more you may improve performance. However, the performance increase is limited by several factors including the type and number of optimization rules you use and your hardware. For detailed instructions on tuning your Unica Optimize implementation, contact your Unica representative.

Valid Values

Positive integer

Default Value

1

ProcessingThreadQueueSize

The number of threads available to Unica Optimize to use when reading a customer sample from the PCT. Increasing the number of threads may improve the performance of an optimization session. For detailed instructions on tuning your Unica Optimize implementation, contact your Unica representative.

Valid Values

Positive integer

Default Value

1

PostProcessingThreadQueueSize

The number of threads available to Unica Optimize to use when writing a customer sample to a staging table for the OCT. Increasing the number of threads may improve the performance of an optimization session. For detailed instructions on tuning your Unica Optimize implementation, contact your Unica representative.

Valid Values

Positive integer

Default Value

1

EnableMultithreading

If true, Unica Optimize attempts to use multiple threads when processing the optimization algorithms. You can configure the number of threads with the MaxCustomerSampleProcessingThreads, ProcessingThreadQueueSize, and PostProcessingThreadQueueSize configuration properties. If false, Unica Optimize uses a single thread when processing the optimization algorithms.

Valid Values

true | false

Default Value

true

EnableBufferingHistoryTransactions

If true, Unica Optimize writes contact history transactions to a file to read during an optimization session run. If false, Unica Optimize reads from the UA_ContactHistory table in the Unica Campaign system tables.

If false, Unica Optimize creates a read lock on the `UA_ContactHistory` table for the length of the optimization session. This may cause attempts to write to the table to fail if you are using a database load utility. If true, Unica Optimize creates a read lock on the table only for the time it takes to write the query to a file.

Valid Values

true | false

Default Value

false

Campaign > partitions > partition[n] > Optimize > Debug

This property defines debug level for processing the PCT.

ExtraVerbose

Set this value to `yes` to provide detailed logs on the rows processed in the proposed contacts table. By default, all rows are logged if you set this value to `yes`.

If you do not want processed rows of the proposed contacts table to be logged, set this value to `no`.

Valid Values

yes | no

Default Value

no

Campaign > partitions > partition[n] > Optimize > logging

This property defines logging setting for Unica Optimize.

enableBailoutLogging

If set to `True`, when Unica Optimize exceeds the limit set by `MaxAlternativesPerCustomerEvaluated`, and no legal alternatives are found for a customer, Unica Optimize generates a log for that customer (in addition to the usual log counting those customers who exceeded the limit).

Valid Values

True | False

Default Value

False

logProcessId

Set to True to log the ID of the Unica Optimize server process in the Unica Optimize Server log (*Optimize_installation_directory/partitions/partitionN/logs/unica_acosvr_SESSIONID.log*). Otherwise set to False.

Valid Values

True | False

Default Value

False

loggingLevels

You can set the details for the server data you log.

This affects the Unica Optimize Server log (*Optimize_installation_directory/partitions/partitionN/logs/unica_acosvr_SESSIONID.log*).

Valid Values

LOW | MEDIUM | HIGH | ALL

Default Value

MEDIUM

logMaxFileSize

Set this integer in bytes to the maximum size for a log file. Unica Optimize creates a new file once the log file reaches this size. This affects the Unica Optimize Server log (*Optimize_installation_directory/partitions/partitionN/logs/unica_acosvr_SESSIONID.log*).

Default Value

10485760

enableLogging

Set to True to enable logging. Otherwise set to False. This affects the Unica Optimize Server log (*Optimize_installation_directory/partitions/partitionN/logs/unica_acosvr_SESSIONID.log*).

Valid Values

True | False

Default Value

True

logMaxBackupIndex

Set this integer to the number of backup files to store. This effects the Unica Optimize Server log (

Optimize_installation_directory/partitions/partitionN/logs/unica_acosvr_SESSIONID.log).

Default Value

5

loggingCategories

You can specify the categories of data you want to log in a comma separated list. This affects the Unica Optimize Server log (

Optimize_installation_directory/partitions/partitionN/logs/unica_acosvr_SESSIONID.log).

Valid Values

all | bad_order | cell_access | commands | config | data_errors | dbload | file_access | general | memory | procrun | query | sort | sysquery | table_access | table_io | table_mapping | webproc

Default Value

all

Campaign > unicaACOptAdmin

These configuration properties define settings for the unicaACOptAdmin tool.

getProgressCmd

Specifies a value that is used internally and should not be changed.

Valid Values

optimize/ext_optimizeSessionProgress.do

Default Value

optimize/ext_optimizeSessionProgress.do

runSessionCmd

Specifies a value that is used internally and should not be changed.

Valid Values

optimize/ext_runOptimizeSession.do

Default Value

optimize/ext_runOptimizeSession.do

loggingLevels

The loggingLevels property controls the amount of detail written to the log file for the Unica Optimize command-line tool, based on severity. Available levels are LOW, MEDIUM, HIGH and ALL, with LOW providing the least detail (that is, only the most severe messages are written). The ALL level includes trace messages and is intended primarily for diagnostic purposes.

Valid Values

LOW | MEDIUM | HIGH | ALL

Default Value

HIGH

cancelSessionCmd

Specifies a value that is used internally and should not be changed.

Valid Values

optimize/ext_stopOptimizeSessionRun.do

Default Value

optimize/ext_stopOptimizeSessionRun.do

logoutCmd

Specifies a value that is used internally and should not be changed.

Valid Values

optimize/ext_doLogout.do

Default Value

optimize/ext_doLogout.do

getProgressWaitMS

Set this value to the number (integer) of milliseconds between two successive polls to the web application to get progress information. This value is not used if you do not set getProgressCmd.

Valid Values

An integer greater than zero

Default Value

1000