SAS® 360 Match: User's Guide

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PART 1

Introduction to SAS 360 Match

1

About SAS 360 Match

What Is SAS 360 Match?

SAS 360 Match is an online publishing solution that gives you control of the online advertising process and enables you to deliver advertising content that is more relevant to your customers. The product supports content on multiple platforms, including mobile and video output devices.

In addition, SAS 360 Match provides sales order management, simulation-based forecasting, ad serving, and business intelligence capabilities to help you make better-informed decisions faster across the entire business. You can use SAS 360 Match to manage sales orders, simulate and forecast inventory levels, optimize pricing and target ad delivery, provide billing and invoicing reports, and visualize and analyze ad delivery details.

Publishers and broadcasters can use SAS 360 Match to connect online content providers who sell ad space on their digital properties to advertisers who are interested in their website's visitors.

Brands such as banks, retailers, or direct marketers can use SAS 360 Match to personalize their websites or mobile applications with customized spots that show one customer a featured item that might not be of interest to another. They can also sell these spots to third parties, by allowing products or services of other organizations to purchase the right to promote their goods or services on the brand's websites or applications

SAS 360 Match maintains the privacy and identity of your users. For more information, see the SAS 360 Match Privacy Statement.

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Navigating the User Interface

Log In to SAS 360 Match

1 In the address bar of your web browser, enter the URL for SAS 360 Match (for example, *http://shrtnme.aimatch.com* where *shrtnme* is the name of your company) and press **Enter**. The Login page appears.

Note: Contact your system administrator if you need the URL for SAS 360 Match.

2 Enter a **Login** ID and **Password**.

3 Click **Login**. The Home screen appears.

After you log on, the home page for SAS 360 Match appears. The home page contains main navigational links that appear on every page. Any field that requires input is denoted by an asterisk. All other fields are optional.

Understanding the User Interface

Home

The **Home** section appears by default when you log on to SAS 360 Match. The following table lists and describes the tabs in the **Home** section:

Table 2.1 Overview of Home

Tab	Description
Navigation	Displays links to all the tabs in the application.
Knowledge Base	Provides access to the Knowledge Base. You can click **Open knowledge base in a separate window** to open the Knowledge Base in a separate window.
API Docs	Provides links to information about the XML REST API documentation for SAS 360 Match.

My Work

Use **My Work** to display your associated alerts and ongoing and completed tasks. Alerts can be created for price, inventory, change order, or credit rules. For more information, see Chapter 41, “Setting Alerts,” on page 231.

From **My Work**, you can filter to view particular alerts, view only your alerts, or view all team alerts. Select the check boxes beside multiple alerts and click the **Multi Edit** button to update or clear the selected alerts. You can also click  at the end of the row of an alert to clear an alert. You can either request approval for the proposal or line item change if you are the requester, or approve (or reject) the request if you are the approver. The approver is specified on the **Alert Settings** subtab under the **Sales** tab. Once approval is requested or approved, the button is no longer displayed. Alternatively, the alert can be cleared by clicking the **Just clear it** button. Notes that are saved with the alert can be added whether approval is requested or it is cleared.

Tasks can be viewed in the **Tasks** tab of the My Work section. Click **View My Background Tasks** to view the tasks that are being processed in the background.

Dashboard

The **Dashboard** tab displays performance charts and graphs that are automatically generated for each client. The **Flight Summary** tab displays an at-a-glance analysis of flight progress.

About Flight Summary

The **Flight Summary** dashboard is a data visualization tool that you an use for an at-a-glance analysis of flight progress. You can also drill into or edit a flight. The data is updated every 30 minutes.

The x-axis shows the flight's delivery status. A flight with a delivery status of 1 is on schedule. Flights that are behind schedule have a delivery status of less than 1 and flights that are ahead of schedule have a delivery status that is greater than 1.

The y-axis shows the percent of time complete that is calculated using the following formula

```
(elapsed time / date range) * 100
```

The `elapsed time` is the time that has elapsed since the flight started. The `date range` is the time between the start and end dates. New flights start at the bottom of the graph and move toward the top as they get closer to their end dates.

Only flights that have a specified end date and a status of Open or Paused are displayed in the chart. Two dashed, vertical red lines mark the on-schedule priority value, which is 1.0 by default, and 75 percent of that value. The solid, horizontal red line indicates when the flight is 80 percent complete. Flights that appear in the upper left quadrant of the chart are the first flights that you should examine because they are at or near completion and behind schedule.

Note: Flights with end dates that exceed the end date of the inventory projection forecasts can display inaccurate projection numbers.

To view the summary chart, click **Dashboard** ⇨ **Flight Summary**. You can perform the following actions on the chart:

- Zoom in on an area of the chart. Hold down the left mouse button and drag the cursor diagonally across the area that you want to magnify. To reset the view, click **Reset zoom** above the chart's legend.
- Click on a flight's bubble to open a new browser window that goes to the flight's Edit Flight screen. You can also get to the edit screen by clicking the flight name that displays when you mouse over a flight bubble.

- Add or remove a flight type from the chart by clicking the flight type in the chart legend. Hidden flight types are grayed out in the legend.
- Use the buttons for the following actions:
  - Click to view historical flight data on a daily basis.
  - Click to view a 10-day animation for the data.
  - Click to view future flight data on a daily basis.
  - Click to adjust the size of the flight bubbles.
  - Click to highlight the at-risk flights in red. A flight is considered at risk if the projected serve count is 3 percent greater or less than the goal or if the end date is beyond the forecast date range for example, if the forecast date range is in 60 days but the flight's end date is in 90 days.
  - Click to restrict the view to the flights that are associated with the user's login.
  - Click to remove the red highlights for the at-risk flights.
  - Click for more information about how to read and configure the flight summary graph.

Traffic

The **Traffic** section contains all traffic-related functions. The **Campaigns** tab is selected by default when **Traffic** is selected. The following table lists and describes the options for the **Traffic** section:

Table 2.2 Overview of the Traffic Section

Option	Description
Campaigns	Displays all the campaigns that are loaded in the system, including the inactive ones. Campaigns contain flights. The list can be filtered by Name, Status, and Advertiser. For more information, see Chapter 5, "Managing Campaigns," on page 29.
Flights	Displays all the flights that are loaded in the system. The list can be filtered by expanding the **Filtering** panel. Closed flights are not displayed by default, but can be displayed by selecting the Closed status as a filter. Flights contain delivery

Option	Description
	goals, options, and creatives. On this tab, you can edit, copy, view, and research flights. You can also view targeting for a flight. You can create flights only in a campaign. For more information, see Chapter 6, "Managing Flights," on page 55.
Tiers	Lists all tiers, both active and inactive, that are set up in the system. Tiers organize the ad queue into a hierarchy, enabling you to control which flights are more important and therefore are evaluated more often. For more information, see Chapter 7, "Managing Tiers," on page 61.
Custom Actions	Lists all custom actions that are set up in the system. Custom actions are typically visitor-triggered event markers. For more information, see Chapter 8, "Managing Custom Actions," on page 73.
Labels	Adds custom fields and values to a flight. These custom fields are available through the API and BI reporting. For more information, see Chapter 10, "Managing Labels," on page 81.
Debug Ad Request	Makes an ad call to the engine and receives debugging information. For more information, see Chapter 9, "Debugging Ads," on page 75.

Creative

The **Creative** section contains all creative-related functions. The following table lists and describes the options for the **Creative** section:

Table 2.3 Overview of the Creative Section

Option	Description
Creative	Lists all creatives that are loaded in the system. Creatives are the actual ad content delivered to the page. The list can be filtered by Name and Advertiser. For more information, see Chapter 11, “Managing Creatives,” on page 85.
Multiple Creative	Creates multiple creatives. For more information, see Chapter 12, “Managing Multiple Creatives,” on page 91.
Smart Upload	Parses third-party files and sets up multiple creatives. For more information, see Chapter 13, “Managing Smart Upload,” on page 93.
Name Patterns	Creates names that are associated with creatives that are uploaded from third-party vendors. For more information, see Chapter 14, “Managing Name Patterns,” on page 95.
Creative Formats	Lists all creative formats that are loaded in the system. Creative formats are based on two main elements: the format template (the code that is served to the visitor when a creative using this format is selected for delivery), and the accompanying format fields (which contain user-supplied data that is specific to each creative). Creative formats enable you to create your own standard creative templates. For example, if you have several types of text links that you use all the time, you can create a format for each link so that you do not have to re-create them each time. For more information, see Chapter 15, “Managing Creative Formats,” on page 97.
Format Templates	Lists the templates that enable a single creative format to support different representations of the same creative. For more information, see Chapter 16, “Managing Format Templates,” on page 105.
MIME Types	Lists custom MIME types that have been set up. This enables you to specify HTTP content types when a creative is delivered, which is useful for some browsers or applications. For more information, see Chapter 17, “Managing MIME Types,” on page 107.

Targeting

The **Targeting** section contains all targeting and demographic related items. When you select **Targeting**, the **Targets** option is selected by default. The following table lists and describes the options for the **Targeting** section:

Table 2.4 *Overview of the Targeting Section*

Option	Description
Targets	Lists all the targets that are loaded in the system. Targets are collections of demographic data and tags that can be connected using Boolean logic. Demographic data is implemented as tags in the system. Targets can be thought of as reusable rule sets that can represent audiences or parts of audiences. Targets are also an important building block for Products. The list can be filtered by entering a search query in the **Name like** field. For more information, see Chapter 19, “Managing Targets,” on page 135.
Tags	Lists all tags and their values in the system. Tags are key=value pairs that are used for targeting. This list does not include predefined geotargeting tags. For more information, see Chapter 20, “Managing Tags,” on page 153.
Tag Groups	Lists all tag groups and their associated tags. Tag groups enable you to group a set of individual tags. For more information, see Chapter 21, “Managing Tag Groups,” on page 157.
Tag Value Aliases	Lists the aliases for tag values. Reporting or forecasting on an alias is the same as reporting or forecasting on the tag value and the other aliases for the tag value. For more information, see “About Tag Value Alias” on page 159.
Sites	Lists all site values that are loaded in the system. Sites can function as a tag. For more information, see Chapter 23, “Managing Sites,” on page 161. Includes a quick link to **Create Multiple Sites**. For more information, see “Add Multiple Sites” on page 162.
Areas	Lists all area values that are loaded in the system. Areas can function as a tag. For more information, see Chapter 24, “Managing Areas,” on page 163. Includes a quick link to **Create Multiple Areas**. For more information, see “Add an Area” on page 163.
Sizes	Lists all creative sizes that are loaded in the system. For more information, see Chapter 25, “Managing Sizes,” on page 165.
Supertags	Lists special tags that can be included in an ad call and which is expanded into one of any number of arbitrary collections of other tags and values. Supertags can be used to ease a customer’s migration from other ad servers, and provides a level of tag management to ad operations. Essentially, supertags provide a way of mapping a value to an arbitrary pathinfo snippet. For more information, see Chapter 26, “Managing Supertags,” on page 167.

Option	Description
Exposure Policies	Set exposure levels across multiple items. For more information, see Chapter 27, "Managing Exposure Policies," on page 169.
Connectors	Lists connectors that enable SAS 360 Match to set up secure connections to an external application. For more information, see "About Connectors" on page 173.
Privacy Shields	Create rules that control the information that a third-party ad server can capture about your audience. For more information, see Chapter 29, "Managing Privacy Shields," on page 179.
Placements	Lists placements that partners can bid on. Placements can also be configured to use several partners. For more information, see Chapter 30, "Managing Placements," on page 183.
Events	Lists events that allow an event name to be associated with one or more timestamps that correspond to a visitor action (such as visiting a certain page). For more information, see Chapter 31, "Managing Events," on page 189.

Assets

The **Assets** section contains all creative media (such as images or rich media) and creative code (such as HTML or Javascript). When you click **Assets**, the **Media** option is selected by default. The following table lists and describes the options for the **Assets** section:

Table 2.5 Overview of the Assets Section

Option	Description
Media	Lists all creative media that are uploaded in the system. The list can be filtered by advertiser. Selecting a media entry enables you to download the asset and view the creatives that use the asset. For more information, see Chapter 32, "Managing Media," on page 193.
Advertiser Creative Templates	Lists all advertiser-specific creative templates that are uploaded in the system. Creative templates are typically third-party tags, and HTML and JavaScript code. These assets are used in the **HTML** field of a creative. The list can be filtered by name and advertiser. Selecting a creative template enables you to upload code, edit or enter code, and view the creatives or Name that use the asset. For more

Option	Description
	information, see Chapter 33, "Managing Advertiser Creative Templates," on page 195.
Snippets	Lists snippets that can be added to a creative. For more information, see Chapter 34, "Managing Snippets," on page 197.

Sales

The **Sales** section contains the sales workflow portion of SAS 360 Match. The following table lists and describes the options for the **Sales** section:

Table 2.6 Overview of the Sales Section

Option	Description
RFPs	Lists all request for proposals (RFPs) that are loaded in the system. For more information, see Chapter 35, "Managing RFPs," on page 201.
Proposals	Lists all proposals that are loaded in the system. For more information, see Chapter 36, "Managing Proposals," on page 205.
Products	Lists all products that are loaded in the system. Products are constructed from rate card data and targeting, and enable proposals, line items, and availability to be used. It is helpful to have a robust product catalog to enhance the process. A thorough set of key/values (taxonomy) results in effective targets and products. An efficient product list makes managing proposals and tracking availability easier. For more information, see Chapter 37, "Managing Products," on page 217.
Uplifts	Lists uplifts that can be added to a line item. Uplifts consist of a tag and a list rate that can be applied to line items. Products or specific values of the tag can be added to uplifts. For more information, see Chapter 38, "Managing Uplifts," on page 223.
Terms and Conditions	Lists all terms and conditions that are loaded in the system. For more information, see Chapter 39, "Managing Terms and Conditions," on page 225.
Check Avails	Queries simulation data and provides the number of impressions available to be booked or sold during the specified date range for a specified set of targeting or product criteria. For more information, see Chapter 40, "Checking the Availability of Inventory," on page 227.

Option	Description
Alert Settings	Displays workflow-related alert options. For more information, see Chapter 41, “Setting Alerts,” on page 231.
Settings	Sets options for the sales workflow. For more information, see Chapter 42, “Setting View Options,” on page 233.
Insertion Order Logos	Uploads insertion order logos. For more information, see Chapter 43, “Managing Insertion Order Logos,” on page 235.

Customers

Use the **Customers** section to set up customers such as advertisers or agencies in the system. User accounts are not set up in the **Customers** section. The following table lists and describes the options for the **Customers** section:

Table 2.7 Overview of the Customers Section

Option	Description
Advertisers	Lists all advertisers that are loaded in the system. For more information, see Chapter 44, “Managing Advertisers,” on page 239.
Agencies	Lists all agencies that are loaded in the system. For more information, see Chapter 45, “Managing Agencies,” on page 243.
Publishers	Lists all publishers that are loaded in the system. This tab is typically used for clients that have a network of different sites (publishers). For more information, see Chapter 46, “Managing Publishers,” on page 247.
Industries	Lists all industry classifications that are loaded in the system. For more information, see Chapter 47, “Managing Industries,” on page 249.
Regions	Lists all regions that are loaded in the system. Regions can be assigned to advertisers and agencies. For more information, see Chapter 48, “Managing Regions,” on page 251.

Partners

You use the **Partners** section to set up the third-party integration. For more information, see Chapter 49, “Managing Partners,” on page 255.

Reports

Access Business Intelligence (BI) reports and operational reports from the **Reports** section. For more information, see Chapter 50, “Managing BI Reports,” on page 261 or Chapter 51, “Managing Operational Reports,” on page 269.

Administration Tab

You perform administrative tasks on the **Administration** tab. The following table lists and describes the tabs on the **Administration** tab:

Table 2.8 Overview of the Administration Tab

Tab	Description
Settings	Specify targets in the **No Log Targets** field to prevent requests that match from being logged. For more information, see Chapter 52, “Settings,” on page 279.
Peak Capacities	Increase the maximum number of ad requests to support sporadic and significant traffic spikes. For more information, see Chapter 53, “Peak Capacities,” on page 281. **Note:** Peak capacity is an optional add-on to SAS 360 Match. For more information, contact your SAS representative.
Users	Enables administrators to create individual accounts for users so that actions performed by the user are identifiable and logged. Individual accounts also enable administrators to easily remove users from the system (for example, when they leave the company) without having to modify the password for all users. For more information, see Chapter 54, “Users,” on page 283.
SSOs	Enables administrators to create a Single sign-on (SSO) to provide a way of authenticating users in SAS 360 Match through a third-party

Tab	Description
	identity provider (IDP). For more information, see Chapter 55, “Single Sign-On,” on page 287.
Roles	Enables administrators to assign roles to users. These roles enable administrators to limit or grant access to the user interface and to report for groups of user accounts. Every user in the system must be assigned at least one role, but each user can be assigned up to five roles in combination with teams. Each role has a set of configurable permissions. For more information, see Chapter 57, “Roles,” on page 295.
Teams	Enables administrators to group user interface users and to associate these groups with specific Products. These user groupings might then be restricted to interact with only Products to which they are assigned and Products that are unassigned. For more information, see Chapter 58, “Teams,” on page 301.
Currency	Enables administrators to modify conversion rates for predefined currencies that are specified in flights and line items. For more information, see Chapter 59, “Currency,” on page 303.
Logs	Enables administrators to view activity history logs for users. For more information, see Chapter 60, “Logs,” on page 305.
OpenRTB	Specify OpenRTB parameters in the targeting path information using the key=value format. For more information, see Chapter 61, “OpenRTB,” on page 307.
Redirect Allowlist	Specify the URLs that an ad server can safely redirect in an ad request. For more information, see Chapter 62, “Redirect Allowlist,” on page 309.

PART 2

Working with SAS 360 Match

3

Managing Identities

SAS 360 Match uses primary and secondary state vector identifiers to store visitor data. You can configure mappings between the identifiers so that SAS 360 Match is able to access data from the primary state vector identifier when it receives the secondary state vector identifier.

Understanding Identity Management

Establishing an identity for each ad request to deliver personalized content or to modify data is central to the behavior of SAS 360 Match. By default, SAS 360 Match assigns a random identifier to any request so that it can identify a visitor and provide limits to advertisement impressions and other features. This identity, referred to as the Match ID (MID), is stored by the web client as a cookie, which is used when accessing the service.

A visitor is identified by their primary ID. The visitor can also be assigned a secondary ID, which can be mapped to the primary ID. Data that is related to the identity of the visitor is stored in a state vector. Therefore, the identifiers are known as the primary state vector ID and the secondary state vector ID. Data that is collected by SAS 360 Match or uploaded to SAS 360 Match for a visitor is collected in the visitor's state vector. Use the primary or secondary state vector IDs to associate data with a visitor. The MID is effectively a default secondary state vector ID.

The identity mapping feature in SAS 360 Match maximizes the amount of visitor data that is available when making ad decisions by tracking how secondary IDs relate to the visitor's known primary ID. For example, when SAS 360 Match knows the visitor's secondary identifier but not the primary identifier, the secondary identifier is used to look up the primary identifier. This enables SAS 360 Match to use the full context of the visitor's data and history when selecting ads or updating data for the visitor.

When no primary state vector ID is provided, but a value is provided for one of the defined secondary state vector IDs, SAS 360 Match uses the secondary ID as the ID for the state vector. If a later call includes the secondary ID and the primary ID, SAS 360 Match uses the primary state vector and includes the data that was collected using the secondary ID-based state vector.

Typically, SAS 360 Match handles a request for a visitor in a context where all data about the visitor is available, such as user registration data, ad serving history, and third-party data. Using this information, SAS 360 Match can maximize its targeting ability and enforce business rules that depend on ads that have previously been served to the visitor.

SAS 360 Match attempts to collect state vector data under the highest-level ID for the visitor. In the hierarchy of state vectors, the primary state vector ID is preferred, secondary state vector IDs are second, and MID is last. SAS 360 Match determines the highest priority ID to use for a visitor, which is stored in the TOPID cookie.

SAS 360 Match does not need identity mapping or cookies if a customer includes a value for a primary identifier in each request. When a request includes a consistent explicit value for a visitor identifier, SAS 360 Match can easily collect and use all information for the visitor, even across devices. Customers can disable cookies that SAS 360 Match provides and use their own identity solution. A customer can provide a default visitor identifier with each request that is used if state vector IDs have been configured.

Identifiers for non-visitor data are not considered state vector data. For more information, see "Data Management" on page 25.

Third-party data that is used for targeting is stored separately and assigned a third-party ID. A third-party ID can also be used as a secondary state vector ID by adding it to the configured secondary state vector ID list. With that ID, SAS 360 Match can look up the corresponding state vector ID with an active session and make that data available immediately in the current session. Therefore, a third-party ID can supply third-party data that is uniquely associated with that ID, as well as state vector data that is collected for the visitor.

Contact SAS Technical Support to configure the values for any state vector ID.

About Identifiers

The Match ID (MID) is the default state vector identifier for SAS 360 Match. The MID is stored in a cookie. If you do not use cookies, SAS 360 Match uses a pseudo-random identifier referred to as the phantom MID. You can use primary and secondary state vector identifiers to configure your own ID tags.

Match ID

When no state vector ID is provided, SAS 360 Match falls back on using the MID (Match ID) value as the state vector ID. If a later call explicitly provides a value for any primary or secondary state vector ID, SAS 360 Match uses that state vector and merges data that had been collected earlier under the MID-based state vector.

The MID is a random identifier that is stored in a cookie. It is best used when SAS 360 Match is part of a customer's set of services using CNAMEs that are defined in a customer's DNS. Typically, the MID is a random identifier that the ad server generates. It becomes persistent with a client through a cookie. It is also possible to embed the ad server in a customer's web presence using a reverse proxy, which eliminates the use of CNAMEs for the ad server. Using a reverse proxy places more responsibility on the customer since every request must pass through customer provided and maintained infrastructure.

The ad server performs a check when it receives a request without a visitor identifier by using a redirect to an LSERVER request that attempts to set a MID cookie. If the ad server receives the MID, then the MID is used for the identity of the request if no higher priority identifier exists in the request. If the ad server does not receive the MID or a higher priority identifier, then it uses the phantom MID.

Phantom MID

If the client does not return a cookie, the ad server proceeds with the request using a phantom MID instead. The phantom MID is generated automatically based on information that is gathered from the client through the request, such as the visitor's IP address and device information. Based on this information, an identifier is generated. When no other identity is provided, this generated identity is used instead.

Visitors who use VPNs, NAT gateways, Apple Private Relay, and so on, exhibit less variation in the data that can be used to generate the phantom MID. As a result, it is possible for more than one client to generate the same identifier, which decreases the phantom MID's usefulness as an identifier over time.

Primary State Vector Identifier

The primary state vector ID is a customer-specified tag that provides a value that represents the identity for a visitor. This identity is used to store information such as exposure histories and ad tracking data, as well as fetch previously stored metadata about the visitor. This data is collectively referred to as the state vector.

The implementation of a state vector within SAS 360 Match enables batch and real-time changes to an identity's data. Real-time updates can be made through Data API requests using SETSV.

Secondary State Vector Identifier

Secondary state vector identifiers can be used to load additional data that is associated with the secondary state vector ID. These identifiers can be alternative identifiers for a visitor.

SAS 360 Match defines a visitor's state vector with data from the secondary state vector identifier and stores all state vector data using the secondary identifier when the following conditions apply:

- The request includes a secondary state vector identifier.
- The request does not include a primary state vector identifier.
- SAS 360 Match does not find a value for the primary state vector identifier or MID when conducting a data lookup from the secondary state vector identifier.

When a request includes a secondary state vector identifier, and the data lookup for that tag produces a value for the primary state vector identifier, the tag value for the primary identifier is used to define the visitor session and to store history. A secondary state vector retains ownership of the data that it retrieves through a batch upload.

Event data that is provided through SETSV requests are associated with a primary state vector identifier if the mapping to the primary identifier is known. However, tag data that is provided through a SETSV request is set on the highest-level ID that is explicitly included in the SETSV call. This could be a secondary or a primary state vector ID.

The identity mapping feature enables a client who knows only a secondary state vector ID to make ad calls. The client can engage with all data that is known for a visitor through the primary tag value if SAS 360 Match has been previously provided with this information. Different clients can use and contribute to a centralized data store for the visitor without knowing the primary identifier for the visitor. For more information, see "Mapping Identities" on page 23.

Third-Party Identifiers

Third-party identities can be provided with an ad request. They are stored temporarily within the current session or stored permanently within the state vector. Typically, third-party identities are passed to third parties for server-to-server programmatic bidding.

Rotating Identifiers

SAS 360 Match includes support for generating a UUID that is based on the state vector ID and the current year and month. This value provides third parties with a semi-stable identity that changes once a month.

Mapping Identities

You can configure identities to map in one direction or in two directions.

One-Way Mapping

SAS 360 Match can be configured to treat an identifier as a one-way mapping, where the mapping is permitted in one direction but not the reverse.

For example, a customer can establish a set of secondary state vector identifiers that map to a primary state vector identifier. In this case, if SAS 360 Match knows the secondary identifier, it can map to the primary identifier and load the data that is associated with the primary state vector. To prevent the data that is associated with the secondary identifier from loading if the request does not contain the secondary identifier, the customer can configure a one-way mapping. Such a configuration prevents SAS 360 Match from mapping from the primary state vector to the secondary state vector.

Two-Way Mapping

SAS 360 Match establishes mappings from secondary identifiers to the primary identifier and vice versa. Two-way mapping allows requests to express whatever identity is available. If SAS 360 Match has already established a two-way mapping between secondary identifiers and the primary identifier, it uses the primary identifier even when the primary identifier is not expressed in the request itself.

For example, on a third-party landing page, a request could provide an identity from a third-party identity provider that the third-party site is aware of and can substitute visitor details into the request to return to SAS 360 Match for conversion tracking. If the customer is also using the same third-party identity provider as a secondary identifier, the conversion can be recorded.

4

Managing Data

Data Management

About Data Management

Data in SAS 360 Match is referred to as tag data. This is the set of all tags and their values that are active at the time of a request. This data also might be referred to as key-value data.

SAS 360 Match evaluates the set of tags that are provided in a request. If a known identifier is found, the identifier is used to retrieve the key-value data that is associated with the identifier. The process repeats until no additional unresolved identifiers are found. This section describes how to retrieve data through data activation from a key-value data storage service or from a resident, in-memory data cache.

In addition, data can be retrieved using connectors and network creatives that enable you to temporarily cache data that is retrieved from any web service. Connectors and network creatives can be used to send data to or retrieve data from a third-party web service. You can use a connector to augment the available data for ad decisioning prior to choosing a creative to serve, whereas a network creative functions only when chosen as the creative to serve. For more information, see "About Connectors" on page 173 and "Add a Creative" on page 85.

Key-Value Store

SAS 360 Match supports the retrieval of data from an underlying data storage service. The service allows the storage of several kilobytes of data per visitor. Typically, the retrieval of this data is very fast, but it is possible for the retrieval to fail.

If the information to be retrieved is vital, a recommended practice is to store a Boolean flag with the data that informs you whether your data retrieval was successful. The flag is easily targeted to ensure that only appropriate content is delivered in the unlikely event that data retrieval temporarily fails. The primary and secondary identifiers, as well as catalog data, are usually stored within the key-value store. Sometimes supertags are saved in the key-value store as well.

In-Memory Data

SAS 360 Match also supports the retrieval of data that is held in memory. This data is referred to as supertag data. With supertags, an identifier is expanded into additional data, usually configured like an HTTP request PATHINFO, as if it had been provided in the original HTTP request.

For example, a request for /SUPERTAG=p123 can be expanded to /favorite_color=red/segments=sports,news,travel. You can include the tag expansion definitions in a name space, such that /prefs=p123 can be used and configured instead. You can also use a shorthand notation within the request, such as /prefs=p123.

For more information, see the section on Supertags in the SAS 360 Match Advanced Features Guide

Catalog Data

Customers can have other data that is useful to load when a request expresses an identifier. For example, additional product data can be loaded when a product ID or SKU is identified. There are several ways to bring this information into SAS 360 Match.

The information could be in the data that is retrieved from storage each time the ID of a tag changes for a visitor. This data persists for the visitor session and is available for subsequent requests even when the ID is no longer included in requests. Data that is retrieved through supertags can alter the data that is considered when the request is evaluated and for every flight or creative as well. However, supertag data is used only for the request that expresses the supertag value.

PART 3

Traffic

5

Managing Campaigns

About Campaigns

The hierarchy of a campaign in SAS 360 Match reflects the elements that usually make up an order from one of your customers. The *campaign* is the overall order or the container that holds *flights*, which are line items that represent the detailed delivery information. Flights, in turn, hold creatives such as text, images, and video, that are served. You can copy and send tag information for campaigns and flights.

Add a Campaign

1 On the top navigation bar, click the **Traffic** tab. The **Campaigns** subtab appears by default and lists campaigns currently in your system. If you are returning to the **Campaigns** subtab after a search filter has been applied, only the filtered list of campaigns is displayed.

> **TIP** In the **Sales** tab, a salesperson works with proposals and line items. When these are converted into an order, you can automatically transfer proposals into campaigns and line items into flights.

2 Click **Add New Campaign**.

3 In the **Name** field, enter a name for the campaign.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"=']), spaces, underscores, and punctuation marks (!.,?;:).

4 In the **Advertiser** field, enter the first few letters of the advertiser's name and then select the advertiser from the autosearch results. The advertiser that you select is the one that you use when creating the campaign.

To create a new advertiser for the campaign, click **Add a new advertiser**. For more information, see "Add an Advertiser" on page 239.

Note: Use wildcard characters to refine the possible values. Use the percent symbol (%) to specify a wildcard of any length, underscore (_) to specify a wildcard of a single character, or caret (^) followed by a keyword to search for the keyword at the beginning of the string.

5 Select **Disable Authentic Click/Count URL Generation** to disable the generation of authentic click and count requests.

6 To add an agency, enter the name in the **Agency** field. The agency must already have been defined on the **Customers** tab.

To create a new agency for the campaign, click **Add a new agency**. For more information, see "Add an Agency" on page 243.

Note: To display the full list of agencies, enter %.

7 From the **Type** list, select one of the following campaign types. Although the names are fixed in the solution, you might use them to define campaigns to meet your business needs. You can report on these campaign types, so you should ensure consistency across the system. Selecting a campaign type does not make it more important in the ad queue; it is just a label for reporting.

- Select **Guaranteed** for campaign flights that have impression goals and a required end date.
- Select **Pre-emptible** for campaign flights that redirect to third-party networks or remnant inventory.
- Select **Sponsorship** for campaign flights that consume all the impressions for a product or target for a specific amount of time.

- Select **House** for campaign flights that create no direct revenue. For example, you might apply the House type to ads for another site you also own or to a house-filler campaign.
- Select **Barter** for ads that create no direct revenue. For example, you might run ads for a charitable organization.
- Select **Make good** for campaign flights that attempt to complete a contracted volume of impressions that they did not complete in the allotted time.
- Select **Beacon** for campaign flights that are not held in the regular flight queue and do not respond to ad request directives.

  Flight status, start and end dates, and so on are still relevant and control whether such a flight is active. A beacon flight should have creatives that use network creative formats. The creatives using these formats would typically request a third-party beacon. When a COUNT request that includes a FLIGHTID or a flight creative ID (FCID) tag referencing the beacon flight is received, the network creative is requested and an impression is incremented for the relevant FCID.

  Note: Beacon flights are not used for reporting and inventory forecasting.

- Select **PMP** for campaign flights that can use the guaranteed private marketplace capabilities of third-party vendors. For more information, see the section on "PMP Integration" in the Platform Integration Guide.

8. Select a **Salesperson** or **Trafficker** or both from the lists. You can select more than one trafficker.

   Defining a salesperson and a trafficker helps with reporting. They are the named users that have access to view these campaigns. If you are not entering a campaign as a trafficker user, then you should select a name here. Only the named trafficker or users with AdOps Manager or Administrator permissions can adjust or view a campaign.

   To add a new salesperson, click **Add a new Salesperson**.

9. (Optional) Select a **Trafficker 2** from the list.

10. Select a start date. When you click the **Start date** field, a calendar appears. Select the date on which the campaign should start.

11. Select an end date. When you click the **End date** field, a calendar appears. Select the date on which the campaign should end.

    An end date is optional but the advertiser usually provides one. You should define an end date to ensure proper scheduling.

12. Specify the names for the **Exposure policies**. An exposure policy is a policy that restricts how often an item is allowed to serve to a visitor, based on specified metrics during a specific time period. For more information, see "About Exposure Policies" on page 169.

13. Enter information in the **External ID**, **Description**, and **Notes** fields. These fields are used for reporting purposes and integrations in the XML API.

14 Expand the Send Reports panel and then do the following:

a To send a campaign report to selected users at the end of the campaign, select **Reports on end**.

b To send a campaign report to selected users at the end of the week, select **Reports at week end**.

c To send a campaign report to selected users at the end of the month, select **Reports at month end**.

d To mail campaign reports to a salesperson, select **Salesperson**.

e To mail campaign reports to a trafficker, select **Trafficker**.

Note: The email addresses for the salesperson and trafficker are stored with their login details.

f To mail campaign reports to other users, enter the users' email addresses in the **Other** field.

Note: Use a semicolon (;) to separate multiple addresses.

g To define the file type for the campaign report attachment that is emailed, select **CSV** or **EXCEL** from the **Attach as** list.

15 To apply a frequency cap (sometimes referred to as *controlled exposure*), enter the information in the Frequency Caps panel. Frequency caps apply to individual visitors. The capping rules affect all flights, creatives, and creative formats that are included in this campaign.

Note: You can also apply capping rules at the flight, creative, or creative format level. It is recommended that you do not apply caps to house-filler campaigns.

In the Frequency Caps panel, do the following:

- Enter a value in the **Quantity** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor.
- Enter a value in the **Period** field to specify the period of time that must elapse after the quantity is reached for impressions, views, clicks, or conversions before a visitor is eligible to receive the flight again. For example, if you enter `3` in the **Quantity** field and `1 week` in the **Period** field, once a flight is shown three times to a visitor, the flight is not shown again to the visitor until after a one-week waiting period.

Note: You must enter an integer value in the **Period** field. For example, enter `1 hour` instead of `hour`. A `per day` period indicates a calendar day that runs from midnight of one day to midnight of the next day instead of a 24-hour time span. A month indicates 30 days instead of the actual number of days of a specific month.

- Enter a value in the **Over Lifetime** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the lifetime of the flight.
- Enter a value in the **Per Session** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the course of a visitor session. A visitor session is initiated whenever an ad request is made, and then, by default, persists for 30 minutes after the visitor's last request.

16 Expand the Labels panel. Labels provide a way to add custom fields and values.

- To create a new label, click **+ Add New Label**. Enter a **Name** for the label and enter a **Display Name** to use in the SAS 360 Match user interface. Then click **Add Label**.

  Note: You can configure a maximum of five labels. Contact SAS Technical Support to change the limit.

- To add a value to an existing label, click **+ Add Label Value**. Select the **Label** from the drop-down list and specify the **Value** for the label.

17 Click **Add New Flight** to add a flight to the campaign. You can add the flight now or add it later. For more information, see "Add a Flight to a Campaign" on page 35.

18 Click **Save Campaign**. A message indicating that a campaign has been successfully created is displayed in the All Campaign window. By default, the new campaign appears at the top of the list.

View a Campaign

1 On the top navigation bar, click the **Traffic** tab. The **Campaigns** subtab appears by default and lists all the campaigns currently in your system. If you are returning to the **Campaigns** subtab after a search filter has been applied, only the filtered list of campaigns is displayed.

- Select **View My Campaigns** to list the campaigns where you have been assigned as a salesperson, a trafficker, an advertiser, or an agency.
- Select **View Team Campaigns** to list the campaigns that are created by members of your teams or the campaigns that are converted from proposals that were created by members of your teams.

  Note: This option appears only if you belong to a team.

2 (Optional) Use the Filtering panel to refine the list of campaigns displayed.

- Enter a portion of the campaign name in the **Name like** field.

- Set the **Status** of the campaign.
- Search for an **Advertiser**.

  Note: Enter the first few characters in the name to see the list of advertisers.

- Select the **Salesperson**.
- Select the **Trafficker**.
- Click **Filter**.

3 Select the campaign to view the campaign dashboard. The dashboard shows the **Start date** and **End date** for the campaign, the **Forecast Ends On** date for the end of the forecasting period, as well as the total number of impressions, views, and clicks. Progress information also appears when the campaign starts delivering.

In the bar chart, data for projected impressions are shown until the end of the campaign or until the end of the forecasting period, whichever comes first. By default, the forecasting period is 90 days. Contact SAS Technical Support at support@sas.com to change the forecasting period. For information about traffic simulation in SAS 360 Match , see Simulation Process Overview.

To view unique user data, check the **Show Unique User Data** check box. You can set the bar chart to display data for views or clicks from the start of the campaign as well as projected impressions and impressions together. Place your pointer over the chart to see the data for each bar.

- Data is displayed in daily increments for campaigns that are less than three weeks long. The horizontal axis is labeled by month and date, using two digits for the month and two digits for the date. For example, August 19 is labeled as 08-19.
- Data is displayed in weekly increments for campaigns that are between three weeks long and two months long. The horizontal axis is labeled by week of the year. For example, the 15th week of the year is labeled as Week 15.
- Data is displayed in monthly increments for campaigns that are more than two months long. The horizontal axis is labeled by year and month, using the last two digits of the year and the two digits that represent the month. For example, August 2018 is labeled as 18-08.

The doughnut chart displays the categories of devices that have been served during the campaign. The devices are grouped into the following categories:

- Desktop (browsers and media players)
- Mobile (mobile phones, tablets, and e-book readers)
- TV (set-top boxes, televisions, and game consoles)

4 To copy and send tag information for the campaign, click **Export Tags**. A pop-up window displays the HSERVER and JSERVER tags that you can use to enable trafficking of campaigns or flights in other ad-serving systems.

5 To view the list of changes that have been made to a campaign, click **View History**.

A pop-up window lists the history of activities, when the change was made, and who made the change. You can expand the activities to display specific changes. Place your cursor over each change to see details for the change.

6 To copy a campaign, click in the row for the campaign. Specify if you want to copy only the campaign, the campaign and its associated flights, or the campaign, associated flights, and the shift remainders.

Add a Flight to a Campaign

A *flight* contains the detailed instructions, such as targeting options, and the creative that a campaign should deliver. A campaign must contain at least one flight, but it can contain many flights, depending on the advertiser's instructions. Flights can serve only within the date ranges applied at the campaign. You can copy and send tag information for campaigns and flights.

Configure a Flight

To create a flight:

1 On the top navigation bar, click the **Traffic** tab.

2 Click the **Campaigns** subtab to display the existing campaigns. If you are returning to the **Campaigns** tab after a search filter has been applied, only the filtered list of campaigns is displayed.

3 Click on the name of the campaign to which you want to add a flight.

4 Click **Add New Flight**. The Edit New Flight page appears. The campaign name and the advertiser are listed at the top of the page.

5 In the **Name** field, enter a name for the flight.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"='), spaces, underscores, and punctuation marks (!.,?;:).

6 From the **Status** list, select one of the following:

- **Open**: The flight can be served through the ad server.
- **Pending**: The flight automatically starts being served as soon as the start date or start time is reached, or when the status is changed to **Open**.
- **Closed**: The flight is not served.

- **Missing creative**: No creatives are assigned to the flight, so the flight is not eligible to be served.
- **Paused**: The flight is not in the delivery rotation but resumes being served after the status is changed to **Open**.
- **Alerted**: The **Reports on end** option is selected in the Send Reports panel of the Edit Flight window. When the flight has completed, its status is set to **Alerted** to indicate that the end-of-flight email alerts have been sent.

7 Select a size from the **Reservation Size** list. Reservation sizes enable flights that might be missing a creative to still be included in the forecasting simulation and removed from the available inventory.

8 Select a label from the **Flight Type** list. All flight types except **Beacon** are applicable only in reporting and inventory forecasting.

- Select **Guaranteed** for campaign flights that have impression goals and a required end date.
- Select **Pre-emptible** for campaign flights that redirect to third-party networks or remnant inventory.
- Select **Sponsorship** for campaign flights that consume all the impressions for a product or target for a specific amount of time.
- Select **House** for campaign flights that create no direct revenue. For example, you might apply the House type to ads for another site you also own or to a house-filler campaign.
- Select **Barter** for ads that create no direct revenue. For example, you might run ads for a charitable organization.
- Select **Make good** for campaign flights that attempt to complete a contracted volume of impressions that they did not complete in the allotted time.
- Select **Beacon** for campaign flights that are not held in the regular flight queue and do not respond to ad request directives.

  Flight status, start and end dates, and so on are still relevant and control whether such a flight is active. A beacon flight should have creatives that use network creative formats. The creatives using these formats would typically request a third-party beacon. When a COUNT request that includes a FLIGHTID or a flight creative ID (FCID) tag referencing the beacon flight is received, the network creative is requested and an impression is incremented for the relevant FCID.

  Note: Beacon flights are not used for reporting and inventory forecasting.

- Select **PMP** for campaign flights that can use the guaranteed private marketplace capabilities of third-party vendors. For more information, see the section on "PMP Integration" in the Platform Integration Guide.

  Use this option to specify the PMP information that you want to include in a flight request. Specify the **PMP Deal ID** and select the **PMP Vendor** from the drop-down list. Use the deal ID to specify multiple creative sizes that already are mapped for your selected third-party vendor.

Note: Before the flight can go live, you must choose a creative with the desired size for the PMP flight type. This action creates a flight creative ID (FCID) that is used for logging. Multiple creatives can be attached to the flight so that multiple sizes can be logged.

If the advertiser's demand-side platform (DSP) that is reached through the selected supply-side platform (SSP) does not respond within the bid threshold set, SAS 360 Match chooses another internal candidate and makes another bid for the spot.

9 To set the flight's general position in the ad queue, select from the **Tier** list. For more information, see "About Tiers" on page 61.

Note: If the flight is assigned to one tier but is serving from another tier, the name of the effective tier appears in next to this field. The changes to the effective tier are not logged in audit logs in SAS 360 Match because these changes are business rules that are implemented by the ad server. The effective tier is logged in sampling data and can be examined by sampling data exports.

10 Select the time zone for the flight from the **Time Zone** list.

Note: By default, the time zone is based on your user setting or on the system time zone if your user setting does not have a time zone set. Time-related elements of the flight, such as the start and end dates and the daily window, use this time zone.

11 Set a **Start date** and start **Time** for when the flight starts serving.

12 Set an **End date** and end **Time** for when the flight stops serving.

13 To configure the flight to serve during a specific time window each day, select **Daily Window** and then select a **Start Hour** and an **End Hour** to specify a range of time during which the flight delivers each day. If this option is not selected, flights can deliver at any time.

14 Select a **Currency** from the list. This is the currency the flight is billed in, which can be different from the system base currency. For example, this might be a flight built by your team in London and billed out in pounds instead of dollars. The associated **Conversion rate** is displayed.

15 (Optional) Set a price adjustment for the flat rate or the CPM rate.

Note: This field is disabled by default. Contact SAS Technical Support at support@sas.com to enable this option.

When a price adjustment is configured for a flight that is assigned to a tier that uses CPM or eCPM prioritization, the flight is prioritized using the adjusted CPM or eCPM value.

a Select an **Adjustment Type** to change the rate.

- If the adjustment type is **Currency ($ CPM)**, an absolute adjustment is made to the rate. This option works if only one CPM rate is defined.
- If the adjustment type is **Percent**, the adjustment is applied to all the costs that have been defined.

b In **Adjustment Amount**, use + to increase the cost and – for a discount.

c Add an **Adjustment description**.

Note: When specified, discounts for the advertiser and product, as well as the agency year-end discount, are always applied. The agency standard discount and commission are applied if the product is configured to enable those values to be applied. Adjustments and discounts are included in eCPM calculations for tier prioritization and bidding.

Multiple discounts are applied individually not cumulatively. For example, a 10% advertiser discount and a 10% product discount are applied one at a time. The final discount does not add up to a 20% discount.

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16 To assign a product that contains targeting demographics tied with revenue data to the flight, enter information in the **Product** field.

Note:

A well-defined set of products can keep you from having to select other targeting modifiers in the rules section. You can require that a flight must have at least one assigned product before it can be saved. To enable this setting, go to **Administration** ⇨ **Settings**.

When this option is enabled, the following items are applied to a flight:

- The product's rates and pricing are applied to a new flight only. This is reflected in the flight's Goals & Revenue on page 44 panel, where either flat rate or cost per pricing is applied based on the product's option.
- If the product line option is enabled in your system, the product line for the product is applied to the flight.
- The targets for the product are used in addition to the targets for the flight to determine whether a flight is served. When a target for the product and a target for the flight both match, the flight serves.

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17 The **Product Line** is populated based on the category selected. The product line enables you to define a genre of products for reporting purposes. Choose a product line from the drop-down list to override the selection.

Note:

Contact SAS Technical Support at support@sas.com to enable the product line option and to specify the categories for product lines.

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18 Specify the names for the **Exposure policies**. An exposure policy is a policy that restricts how often an item is allowed to serve to a visitor, based on specified

metrics during a specific time period. For more information, see "About Exposure Policies" on page 169.

19 A **Conversion Rate** appears if the currency for the line item is not the base currency and has a conversion rate set. For each line item, the conversion rate specifies how many units of the currency are equivalent to one unit of the base currency.

Note: The default conversion rate is `1.0`. Specify conversion rates in **Administration** ⇨ **Currency**.

20 The **Published** status is displayed that shows whether the current version of the flight is published. The value is set to `no` when a creative, a flight creative, or a flight is updated but has not been published.

21 Set up reports to be emailed at specified intervals in the Send Reports panel.

a Select when to send flight reports to users.

- Choose **Reports on end** to send a flight report at the end of the flight.
- Choose **Reports at week end** to send a flight report every Monday at midnight.
- Choose **Reports at month end** to send a flight report at midnight on the first day of every month.

Note: The date and time are determined by the time zone used by the application.

b In the **Mail to** option, select whether the **Salesperson** or the **Trafficker** assigned to the campaign should receive reports.

Note: The email addresses for the Salesperson and Trafficker are stored with their login details.

c To send campaign reports to additional users, enter their email addresses in the **Other** field.

Note: Use a semicolon (;) to separate multiple addresses.

d To define the file type for the campaign report attachment that is emailed, select **CSV** or **EXCEL** from the **Attached as** list.

22 To include additional information about a flight in reports, navigate to the Description panel and enter information in the **Description**, **Notes**, **User Info**, and **External ID** fields.

Note: The **User Info** field is limited to 2048 unicode characters (8192 bytes).

23 Expand the Goals & Revenue panel to configure the costs and goals for the flight. For more information, see "Specify Goals and Revenue" on page 44.

24 In the Inventory panel,

- To include contending flights in the inventory projection, click **Contending Flights**.

  In the availability report:

  - Results are limited to 100 entries from flights in tiers that are not pre-emptible.
  - Flights that are targeted for different sites do not contend with each other.
  - If you choose the contending flights option, inventory changes during the day are not included in the calculation.
  - The Reserved column in the availability report is the number of impressions that are consumed by a flight from the product for the future date range that is specified by the user.

- To perform an ad hoc projection of all pre-emptible inventory using the product specified on the flight, click **Available**.

  The search examines all pre-emptible inventory in the forecast that matches the targeting and date range for flights that are in a tier with the **Pre-emptible** option selected.

  Note: This calculation incorporates any default ads that appear in the forecast and match the flight's criteria. Results are split into values for available, reserved, projected, and served. Contending flights can be used when ad inventory is not available.

- To set a goal for the inventory, click **Set Goal** and then enter a value.

25 Use the Frequency Caps panel to set options that affect the frequency limits for impressions, views, clicks, or conversions for each visitor.

- Enter a value in the **Quantity** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor.
- Enter a value in the **Period** field to specify the period of time that must elapse after the quantity is reached for impressions, views, clicks, or conversions before a visitor is eligible to receive the flight again. For example, if you enter `3` in the **Quantity** field and `1 week` in the **Period** field, once a flight is shown three times to a visitor, the flight is not shown again to the visitor until after a one-week waiting period.

  Note: You must enter an integer value in the **Period** field. For example, enter `1 hour` instead of `hour`. A `per day` period indicates a calendar day that runs from midnight of one day to midnight of the next day instead of a 24-hour time span. A month indicates 30 days instead of the actual number of days of a specific month.

- Enter a value in the **Over Lifetime** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the lifetime of the flight.
- Enter a value in the **Per Session** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the course of a visitor session. A visitor session is initiated whenever an ad request is made, and then, by default, persists for 30 minutes after the visitor's last request.

For more information, see "About Frequency Capping" on page 99.

26 To set options that affect delivery of the flight, expand the Delivery Configuration panel. For more information, see "Specify Flight Delivery Settings" on page 46.

27 To place flights in a shared category so that they do not serve at the same time to the same page, expand the Categories panel, and then select an item in the **Categories** list. Advertisers cannot display ads at the same time when they belong to the same category. However, an advertiser does not compete with itself and, therefore, can serve more than once to a given page. Add categories when you are creating or editing the advertiser in **Customers** ⇨ **Advertisers**.For more information, see "Edit an Advertiser" on page 242.

28 To define where or to whom a flight can serve and cannot serve, expand the Targets panel.

- From the **Targets group logic** list, select **Match All** or **Match Any**.
  - **Match All** is the equivalent of using the Boolean AND operator. All statements must be true for the target to match and the flight to serve.
  - **Match Any** is the equivalent of using the Boolean OR operator. If any of the statements are true, the target matches and the flight is served.
- In the **Targets** field, search for and select a target. Define targets in **Targeting** ⇨ **Targets**. For more information, see "About Targets" on page 135.

29 In the Rules panel, do the following:

a Select **Match All**, **Match Any**, **Don't Match All**, or **Don't Match Any**. This global operator applies to all the target types that are specified in this section. For more information, see "Defining Targets" on page 136.

b Define your key-value pairs .

Note: The target definition string is limited to 32,731 bytes. The string is the concatenation of the rules from the target_rules table, which is stored in the definition field of the targets table.

- Specify the target type in the text field on the left. As you type, a drop-down list of matching key names and target types is displayed. Select an existing entry or create a new target type. All target type names are converted to uppercase. Names for target types that you create cannot contain spaces or Unicode. For more information about available target types, see "About Targetable Values" on page 140.

- Select an operator to define the relationship between the target type on the left and the value on the right.

  Note: The operators that are available depend on the target type that is selected on the left.

  You can use the **`Regex`** operator with a regular expression pattern in the right-hand side to create rules for the following targets:

  - All user-defined tags, including string, integer, decimal, and date types
  - Literal string value from the ad call or from the state vector for non-string types
  - All ad hoc tags, as strings
  - User agent
  - Referrer
  - Domain
  - Keyword
  - Geo IP
  - Time, as a string in HH:MM:SS format

- In the text field on the right, enter the value that is related to the target type on the left. This field is limited to 32,680 bytes.
- To add more target types, click .
- To create groupings of the key-value pairs , click on an empty row.

  The operator in the group applies to the key-value pairs in the group and overrides the global operator.

30. Expand the Sites & Areas panel. By default, all sites and areas are selected to be served by the flight.

    Note: The number of sites and areas determines how the selections are displayed. If there are fewer than 800 site or area values, you can select your options from a drop-down menu. If there are more than 800 site or area values, you can enter a search value in a text box to display matching options.

    - To specify sites that the flight can serve to, select **Selected Sites**, and search for and select **Sites**. To add a site that the flight can serve to, click **Add a new site**, enter information in the required **Name** field, and in the optional **Description** and **Revenue cut** fields, and then click **Add Site**.
    - To specify areas that the flight can serve to, select **Selected Areas**, and search for and select **Areas**. To add an area that the flight can serve to, click **Add a new area**, enter information in the required **Name** field and the optional **Sites** field, and then click **Add Area**.

31. Expand the Tags panel.

    - Click the **Custom**, **Geo**, or **Device** tab.

- Select a tag name from the list and existing tag values. Click **Add new tag values** to create new tag values.
- Click **Add Tag**.

Note: If you select multiple tag values for one tag, the flight is served if any of the tag values match. If you select multiple tags, every tag and at least one value from each tag has to match in order for the flight to serve.

32 Expand the Action Policies panel.

Action policies are used as event markers. They are typically used to determine whether a visitor goes to a certain page after seeing or clicking on an ad.

Custom action tracking enables you to create and track custom actions (for example, tracking whether a website visitor has viewed half of a video) and requires you to complete the Action Policies section. However, standard action tracking requires only a value for **Cost Per Action** in the **Goals & Revenue** section of the Edit Flight page.

To add an action policy, do the following:

- In the **Action** list, select a custom action that you want to be tracked.
- In the **Track Post Impressions Period** field, enter a time value such as *6 hours* to specify how long to wait for a visitor to trigger the action after receiving this flight. The action will not be counted for a visitor who triggers the action beacon after the specified time period has elapsed.
- In the **Track Post Clicks Period** field, enter a time value such as *6 hours* to specify how long a visitor has to trigger the action after having clicked a creative from this flight. The action will not be counted for a visitor who triggers the action beacon after the specified time period has elapsed.
- In the **Revenue $** field, specify the amount charged for each custom action.
- If you want a click action to supersede an impression, select **Allow Click to Trump Impression**.
- Click **+ Add Policy**.

33 Expand the Labels panel. Labels provide a way to add custom fields and values to a flight. These custom fields are available through the API.

- To create a new label, click **+ Add New Label**. Enter a **Name** to use in the API and enter a **Display Name** to use in the SAS 360 Match user interface. Then click **Add Label**.

  Note: You can configure a maximum of five labels. Contact SAS Technical Support to change the limit.

- To add a value to an existing label, click **+ Add Label Value**, begin entering the label name, and select it from the drop-down list. Enter a value.

  Note: Use wildcard characters to refine the possible values. Use the percent symbol (%) to specify a wildcard of any length, underscore (_) to specify a wildcard of a single character, or caret (^) followed by a keyword to search for the keyword at the beginning of the string.

34 Expand the Creative panel to display the creatives that belong to the advertiser set for the flight are listed. For more information, see "Specify Settings for Creatives" on page 52.

Creatives are the actual media and content objects that are delivered to the page. After a creative is added to a flight, that relationship is called a *flight creative*. The same creative can be added only once to the same flight.

35 To save the flight, click either **Save Flight**, click the down arrow and select **Update Flight & Check Inventory**, **Update Flight & Add Another**, **Update Flight & Copy**, or **Update Flight & Make Many Copies**.

36 You can copy and send tag information for the flight by clicking **Export Tags**. A pop-up window appears with both HSERVER and JSERVER tags to enable the trafficking of campaigns or flights for SAS 360 Match in other ad-serving systems. Click **Copy** to select and copy the tags.

Specify Goals and Revenue

Use the Goals & Revenue panel to configure the costs and goals for the flight.

1 To apply a flat rate revenue to the flight, select **Flat Rate** and do the following:

- Enter a value in the **Flat Rate** field. The revenue is calculated by the amount entered not per impression.
- Enter a value in the **Goal** field for impressions, views, clicks, and actions. The flight attempts to serve enough to meet the goals specified in the fields in the time specified and as evenly as possible. When the goals are reached, the flight stops serving. A views goal can be set on flights when the viewability feature is enabled for the page where the flight is serving.
- Enter a value in the **Bonus** field for impressions, views, clicks, and actions. Revenue is not applied to bonus amounts. The amounts are treated as part of the overall goal by the ad server.

2 To apply a cost to every thousandth instance of an impression, click, or action, select **Cost Per** and do the following:

- Enter a value in the **Cost Per** field for the clicks per thousand for impressions, and cost per single views, clicks, and actions.

  Enter a value in the **Cost Per** field for the **Daily Revenue Cap**. The flight serves normally each day until reaching the revenue amount that is specified in this field.

  The **Daily Revenue Cap** limits a flight's impressions when a specified revenue cap is reached each day. Revenue is calculated using the **Cost Per** values for impressions, clicks, and actions, along with the current day's impressions, clicks, and actions. A flight serves impressions regularly according to its priority and serving rate until the revenue cap is reached for the 24-hour period that begins at midnight. When the daily revenue limit is reached, the flight is not eligible to serve again until the flight's revenue is reset to zero at midnight for a new 24-hour period.

For example, setting **Cost Per** for impressions to 1.0 means that the revenue for 1,000 impressions is $1. If **Daily Revenue Cap** is 10.0, the flight can serve up to 10,000 impressions per day.

The **Daily Revenue Cap** overrides engine priority. Even if a flight is behind schedule, the revenue cap is maintained. If the cap is set too strictly, the flight might not meet its goal. However, the revenue cap cannot force a flight to over serve, so a flight cannot get ahead of schedule because of the cap.

Note: The revenues that are shown in reports reflect the values that you use. You do not have to specify real-world values for the flight to be capped daily, but the report revenues are not accurate if you do not use real-world values. In many cases, the flights cannot match the daily revenue cap exactly, so flights might be slightly over or under served.

- Enter a value in the **Goal** field for impressions, views, clicks, and actions. The flight attempts to serve enough to meet the goals specified in the fields. When the goals are reached, the flight stops serving. A views goal can be set on flights when the viewability feature is enabled for the page where the flight is serving.
- Enter a value in the **Bonus** field for impressions, views, clicks, and actions. Revenue is not applied to bonus amounts. The amounts are treated as part of the overall goal by the ad server.

3. The effective cost per thousand, or **ECP**, is automatically calculated and displayed in the table.
4. To specify a total amount to spend on a combination of events, select **Value** and do the following:
   - Specify an amount for **Value** for the total amount to spend on the flight.
   - Specify an amount for **Bonus Value**. The sum of **Value** and **Bonus Value** is used as the goal for the flight.
   - Enter a value in the **Cost Per** columns for **Impressions**, **Views**, **Clicks**, and **Actions** to specify the amount that is credited toward the goal when the corresponding event occurs. If an amount is not specified for an event, the event does not contribute toward the goal when it occurs. The flight is considered to have met its goal when the total amount of all events meets the goal.

   Note: The **Cost Per** values for impressions and views are calculated for every 1,000 of the events and the **Cost Per** values for clicks and actions are calculated for individual events.

   - Specify an amount for the **Daily Value Cap** for the flight. The flight serves normally each day until it reaches the amount that is specified in this field.

The daily value is total of the **Cost Per** amounts for the current day's impressions, views, clicks, and actions. A flight serves impressions regularly according to its priority and serving rate until the daily value cap is reached for the 24-hour period that begins at midnight. When the daily limit is reached, the flight is not eligible to serve again until the flight's daily value cap is reset to zero at midnight for a new 24-hour period.

Specify Flight Delivery Settings

Use the Delivery Configuration panel to specify how the flights are delivered.

1 To force the flight to serve as quickly as possible by making it the highest priority flight in the tier and bypassing any type of pacing, select **Top priority**. This option also prevents the flight from being skipped over if it has been seen recently by the visitor.

   A flight's priority indicates the flight's progress based on its goals and run time. The priority value is dynamically calculated as the proportion of the flight's goal that has been met divided by the proportion of the flight's run time that has elapsed.

   For example, consider a flight with an impression goal of 10,000 and a run time of five days.

   - After four days, the flight has served 8,000 impressions, or 0.8 of its goal (=8000/10000) in 0.8 of its time (=4/5). Its calculated priority is 1.0 (=0.8/0.8). The flight is serving as expected.
   - After four days, the flight has served 6,000 impressions or 0.6 of its goal (=6000/10000) in 0.8 of its time (=4/5). Its calculated priority is 0.75 (=0.6/0.8) and is considered underserved. A flight is considered as underserved when its calculated priority is less than 1.0.
   - After four days, the flight has served 9,000 impressions or 0.9 of its goal (=9000/10000) in 0.8 of its time (=4/5). Its calculated priority is 1.13 (=0.9/0.8) and is considered overserved. A flight is considered as overserved when its calculated priority is greater than 1.0.

   A flight without any goal or without a start or end date is always assigned a priority of 1.0. Setting a value for **Top priority** or changing the prioritization method used by the flight's tier can alter how the flight is served, regardless of the current priority.

   CAUTION
   Enabling this option can cause the flight to deliver its impression goal before the end date.

   Selecting the **Top priority** option in a flight does not affect how the flight is delivered in a weighted tier. For example, flights A and B are in a weighted tier, each with a weight of 1 so that their share of delivery in the tier is each 50 percent. The **Top priority** option is selected for Flight A but not for Flight B. SAS

360 Match does not give preference to Flight A when selecting an ad from the tier.

2 To append HTML code for a 1x1 image in the server response when a creative is served from the flight, select **Beacon count** or deselect **Disable beacon count**.

Note: The check box that you see is dependent on your global beacon count setting. If your global beacon count setting is turned off, the **Beacon count** check box is visible. If your global beacon count setting is enabled, the **Disable beacon count** check box is visible. By default, this global setting is turned off. Contact SAS Technical Support to turn on the global beacon count setting.

An impression is not counted until the 1x1 image is rendered by the browser. This ensures that the creative code is completely processed first by the browser. This option is useful when serving third-party creatives because it can minimize impression discrepancies between third-party ad servers and SAS 360 Match.

Note: Do not select beacon count for a flight that delivers ads to emails because the email reader does not allow the beacon count URL to be written into the page. Therefore, the delivery to the ad would not be counted. If beacon count is enabled across all flights, you should disable it.

If the beacon count option is not selected for a flight, an impression is logged when SAS 360 Match selects a valid creative and returns the creative data to the server to transmit to the browser.

If the beacon count option is selected, SAS 360 Match selects a valid creative and notifies the server that the flight contains the creative with the beacon enabled. The server appends the beacon (vericount) URL to the creative code if the URL is not already in the creative code and returns the code to the browser. The browser parses the creative code, which might be code to redirect to a third-party ad server, and eventually include-common the beacon URL. SAS 360 Match logs the impression when it receives the beacon URL.

Proper counting by SAS 360 Match relies on valid cache busting in the ad call URL using random or pseudo-random numbers. This is true of other ad servers as well.

3 If the beacon count is enabled, choose one of the following options for the **Frequency cap based on** field to calculate the frequency cap:

- Select **Served** to count the flight as soon as it is selected to serve. The flight's selection is sufficient to drive the capping behavior. If no beacon arrives later, there is no attempt to remove the count for the flight for capping purposes. This option can limit the inventory available to flights with very restrictive frequency caps.
- Select **Beacon** to count the flight only when the beacon arrives. If the beacon is delayed or the flight was prefetched, the delay could allow the flight to be selected multiple times for the visitor. This action can violate the frequency capping parameters when the beacon arrives.
- Select **Expected Beacon** to count the beacons that you expect to receive. However, if no beacon arrives within a specific period of time, the beacon

count is decreased. When this happens, this option mimics the behavior of the **Beacon** option.

SAS 360 Match calculates how long to wait for the expected beacon based on the sum of the following events:

- The difference between the current time and the prefetch time. For more information, see the Prefetch topic in the SAS 360 Match Advanced Features Guide.
- The total duration of all the video ads that are selected by the call. The duration of ads that are not video ads is 0.
- The number of seconds expressed in a BEACONDELAY tag sent in the ad request or produced by a supertag lookup.
- If no BEACONDELAY tag is provided, the number of seconds in a tenant-level configuration setting for the default beacon delay. The delay is 5 seconds by default.
- If the total calculated time to wait for a beacon exceeds a configured maximum wait time, the maximum time is used. The maximum time to wait for a beacon is 300 seconds by default.

4 From the **Creative selection method** list, select one of the following methods:

- The **Weighted** method is the default. When there are multiple creatives in a flight, the weight (or ratio) is used to determine how often to serve each creative. By default, every creative has a weight of 1, so each creative is served equally.

  Weighting can be ineffective in some situations, such as for a flight that has a set of differently sized creatives with weights that do not match the weight ratios for each size for the ad requests received. For example, if 20 percent of the ad requests are for a 728 x 90 creative but the creative of that size has a weight (or ratio) of 40 percent, the flight cannot meet the weight requirements. This also applies to creative-level targeting.

- The **Sequential** method enables the weights to be used as a number sequence, so that it is possible to display multiple creatives in a specified order when the flight is served. The sequence restarts with each new user session.

  Note: The sequential method does not always start with the first ad in the sequence if the number of sequential ad requests is less than the number of sequential ads. For example, if there are two sequential ad requests on the page and three sequential ads in the flight, the first page view might deliver ads 1 and 2, but a refresh of the page might show ad 3 followed by ad 1.

- The **CTR Optimized** method delivers the creative with the best click-through rate (CTR) over creatives with lower CTRs.

  A flight that uses the CTR creative selection assigns weights to its creatives based on their relative performance. Higher-performing creatives get a higher weight and are served more often. Lower-performing creatives get lower weights and are served less often. The performance of the creatives is reevaluated every few minutes to produce new weights for the creatives. No grace period is needed because all creatives always have a chance to serve.

- The **Prioritized** method orders the creatives in a particular sequence similar to the Sequential method. With this option, the creatives are always evaluated in the specified order, every time, starting with the first. If the first cannot serve, the second is evaluated, then the third, and so on. The flight is skipped only if all of the creatives have been checked and none can serve.

5 You can create a companion (or roadblock) flight that simultaneously delivers multiple creatives within a flight to a page. The companion feature can be used only within a flight, and not across flights. Multiple flights cannot be created as companions of each other. Having only one creative in a flight that uses a companion type does not prevent that creative from being delivered, despite not having a companion creative. In the **Companion type** list, select one of the following types:

- **None** to disable the companion feature. This is the default value.
- **Strict** to enable the companion or roadblock feature to serve multiple creatives from the same flight to the same page at the same time. The strict type requires two or more creatives in the flight that satisfy the sequential requests on a page. A flight with the strict companion type serves only if you select it as the first ad request on the page and if the flight has not reached the limit of an existing frequency cap. Ad requests are grouped by a view ID and a cookie ID.

  When a flight with a strict companion type is served, the following can occur:

  - If there is a creative that is available in this flight for the first ad request from the page, then the engine delivers the flight.
  - If the creatives in the flight meet the criteria for the subsequent group of sequential ad calls on the page, then the engine delivers the flight for those requests, as long as the frequency cap is not met.
  - If the creatives in the flight do not meet the criteria of the subsequent ad calls on the page, then the engine cancels the flight with the strict companion type for the remainder of the page.
  - If there are multiple ad requests on the page and the flight with the strict companion type cannot deliver to all of them, other matching flights with a strict companion type cannot deliver the remaining unfulfilled ad requests. Flights with a loose companion type can be served.
  - The URLs for the ad call must contain a view ID string for a companion ad to deliver. A set of URLs for ad calls with the same view ID is considered a page.

  The first ad request that is received by the ad server might not be displayed in the top ad position on the page because the second, or subsequent, ad request on the page might arrive at the ad server first. If the ad call is eligible for a strict flight creative, it can receive the ad request. However, if the top ad call (received by the ad server later) does not meet the criteria for this flight or if the frequency cap has been met, the strict flight is canceled for the remainder of the ad requests on the page.

Use the bserver ad call method to order the sequence of ad calls that are received. The method enables the ad requests to be sequenced in any order. Therefore, the first ad slot on the page might not be the first ad request in the bserver ad call method, which can cause companion flights to be canceled.

- **Loose** for creatives that satisfy only some of the ad calls on the page. If the first ad is served from the companion flight but the second is not, the application still tries to serve the ad from the companion flight on sequential ad requests. A loose companion type is the recommended option.

  When a flight with a loose companion type is served, the following can occur:

  - The flight is not required to deliver first to the page. It can deliver to any number of ad calls on a page.
  - Other flights can be delivered between the delivery of creatives from a flight with a loose companion type on the page.
  - The URLs for the ad call must contain a view ID string for a companion ad to deliver. A set of URLs for ad calls with the same view ID is considered a page.
  - Once a flight with a loose companion type begins delivering to the page, no other companion flights can serve to the page.

- **Loose Tier** where subsequent ad requests to the same page give priority to the same flight once its tier is evaluated. Higher tiers are evaluated first and are allowed to serve. If no flight in a higher tier can serve and the activated companion flight can serve, the flight does so without evaluating any other flights in its tier.

  This behavior is similar to the loose companion flight, except that a loose tier companion flight does not get a priority until its tier is reached.

  When a flight with a loose tier companion type is served, the following can occur:

  - The loose tier companion flight does not need to serve every ad on the page.
  - The flight can be interrupted by other flights from higher tiers or because the loose tier flight cannot serve because of targeting. The flight can resume serving on the same page after other flights have served.
  - When a loose tier companion flight is activated on a page, no other companion flights are allowed to serve, even from higher tiers.

The frequency cap takes precedence over the companion policy for a flight. This means that the flight with a companion policy can be canceled after serving some ads if its frequency cap is reached. This allows other flights to deliver to the subsequent ad calls on the page. Flights with strict, loose, or loose tier companion policies deliver together consistently when there is no frequency capping.

A companion policy overrides the **Eliminate Duplicate Flights**, **Eliminate Duplicate Advertisers**, and **Eliminate Duplicate Categories** settings for the tier.

6 (Optional) In the **Sticky Duration** field, enter a value to denote the amount of time that you want the creative to persist. For more information, see the section on multivariant testing in the SAS 360 Match Advanced Features Guide.

7 (Optional) In the **On schedule priority** field, enter a value to denote the prioritization level. Double-click the field name to enable and set the value.

On-schedule priority (OSP) is the priority above which a flight is regarded as ahead of schedule. When this setting is greater than 1.0, the flight can get ahead of its ideal schedule. If the priority value is less than 1.0, the flight delivery can fall behind schedule. In both cases, the flight can still eventually achieve its goal. This setting establishes the maximum priority that is permitted at the start of the flight. The priority is gradually diminished to 1.0 by the end of the flight in an attempt to prevent the flight from expiring early. However, there is a possibility that the flight might expire early.

When on-schedule priority is greater than 1.0, delivery patience should be less than 1.0. If delivery patience is 1.0, the flight projects a straight line from its current position to its goal and does not attempt to get ahead of schedule.

Note: The settings for on-schedule priority and delivery patience are enabled together. Contact SAS Technical Support at support@sas.com to enable these options. The following are on-schedule priority and delivery patience settings:

- default global settings. All flights use 1.0 for both settings.
- user-defined global settings. Specify on-schedule priority and delivery patience values for all flights. Contact SAS Technical Support to configure the values.
- individual settings for each flight. Each flight has its own values for on-schedule priority and delivery patience. Contact SAS Technical Support to enable the fields so that you can configure individual settings for each flight.

8 (Optional) Select the **Dynamic Delivery Patience** check box to automatically adjust how flights are paced so that they have the opportunity to catch up. Double-click the field name to enable it.

Note: When **Delivery Patience** has a value, this setting is not used.

Delivery patience can increase the pacing of flights to take advantage of narrow targeting. It affects the allowed serve rate for the flight when the flight is behind schedule and when inventory is available. With this option, the value of delivery patience ranges between 0.0 and 1.0 when the flight's priority is calculated.

When the delivery patience is 0.0, the flight attempts to get back on schedule as soon as possible. Lower delivery patience values result in a higher desired serve rate for the flight. The lower the value of delivery patience, the more aggressively the flight attempts to get back on schedule.

When the delivery patience is 1.0, the flight is the least aggressive in trying to get back on schedule. The flight calculates a serve rate that, if met, gets it back on schedule by the end of the flight.

Values between 0.0 and 1.0 affect the pace of the flight so that it catches up to its schedule between the current time and the end of the flight. For example, a delivery patience of 0.25 attempts to pace the flight to catch up in a quarter of the flight's remaining time, whereas a delivery patience of 0.50 attempts to pace the flight to catch up in half of the flight's remaining time.

The dynamic delivery patience is equal to the current calculated priority. For example, when the flight is on schedule with a priority of 1.0, the delivery patience is also 1.0. If the flight falls behind slightly with a priority of 0.9, then the delivery patience is also 0.9, and the serve rate is not aggressive in returning the flight to schedule. But if the flight falls far behind with a priority of 0.4, then the delivery patience is also 0.4 and the serve rate is much more aggressive.

The serve rate is in effect only if inventory becomes available. Then the flight takes advantage of available inventory to get back on schedule, at which point the delivery patience increases again.

9 (Optional) Use the **Delivery Patience** slide control to set a value for delivery patience between 0.0 and 1.0 to account for changes in the schedule. Double-click the field name to enable this setting.

Note: Contact SAS Technical Support at support@sas.com to enable this option. When **Dynamic Delivery Patience** is selected, this setting is not used. This setting and the on-schedule priority setting are enabled together.

Specify Settings for Creatives

In the Creative panel,

1 To select existing creatives for the flight, select the creatives from the Available Creative panel and then click **+ Add Selected Creative**.

(Optional) You can filter the creatives using the following fields: **Name like** with a portion of the creative name, **Creative Format**, **Size**, or **Date added after** for creatives that were created after the specified date.

2 To add a new creative to the flight, click **+ Add New Creative** from the Available Creative panel, and then enter the required information in the fields and make the required selections. For more information, see "Add a Creative" on page 85. The creatives that you add to the flight are listed in the Flight Creative table and are assigned a flight creative ID (FCID) that is unique to the flight.

3 You can preview a creative as soon as you add it. In addition, you can preview a flight for two weeks after it expires. To preview an added creative, do the following:

- Select the check box for the flight creative and click **Preview**. The Live Preview Flight Creative window appears.

- Enter a URL to evaluate any ad calls on the page to see which ones this flight could serve to. If an ad call matches, the page is rendered with this flight creative showing where the matching ad call is.
- Click **Live Preview**. Advertisers can use the preview to provide screenshots of the ad “live” on the page to their clients. Click **Close** when the preview is finished.

  Note: By default, the live preview uses the creative’s size as the only targeting parameter from the ad calls on the page. If the ad calls on a page do not contain a size value, then the creative is displayed in each of the ad call positions on the page. Contact SAS Technical Support to configure the PreviewHonorsTargeting option that instructs SAS 360 Match to use all the targeting parameters in the ad call on the page.

4 To edit an added flight creative, click for the creative.

- The **Tag qualifier** field determines the tags that are used to evaluate the creative to be served.
- Specify the names for the **Exposure policies**. An exposure policy is a policy that restricts how often an item is allowed to serve to a visitor, based on specified metrics during a specific time period. For more information, see “About Exposure Policies” on page 169.
- Click **+ Add Label Value** to add a value to an existing label. Select the **Label** from the drop-down list and the **Value** for the label.

  Note:

  - Use wildcard characters to refine the possible values. Use the percent symbol (%) to specify a wildcard of any length, underscore (_) to specify a wildcard of a single character, or caret (^) followed by a keyword to search for the keyword at the beginning of the string.
  - You can configure a maximum of five labels. Contact SAS Technical Support to change the limit.

- To edit multiple creatives, select the creatives and click the **Edit** button. Fill in the fields that you want to change for the creatives that are selected. Empty fields are not affected. Check **Clear Start Date** or **Clear End Date** to delete the start or end dates for the creatives that are selected.

  Note:

  You cannot use multiple edit to update labels and label values. You can change labels and label values for one flight creative at a time.

Click **Save Changes** after you have made your changes.

5 To view the passback URL for an added creative, click for the creative. For more information, see “About Passback URLs” on page 54.

Note: The displayed URL includes the targeting for only the ad server domain, the HSERVER tag, and the `/saspb/fcid={fcid value}` string. The URL does not include the targeting for the flight.

About Passback URLs

Passback behavior is triggered by a network redirecting to SAS 360 Match with a tag that includes SASPB and the flight creative ID, or FCID, of the original ad served (for example, `.../hserver/SASPB/FCID=1234`). If the FCID is absent, invalid, or exists for an ad that is not in the visitor's recent queue, then a default ad is served, and no true passback is possible.

The SASPB/FCID passback tags that are sent by the network are ideally supplied by a format template that forms them in response to the original ad served (if the network is "cooperative"). Otherwise, the tags must be hardcoded in the trafficking of SAS 360 Match passbacks in the network itself, usually by size.

Assuming that the passback FCID is for a valid ad recently served to the visitor, its associated path information, query string, and blacklisted advertisers are resurrected for the passback ad selection. The ad's advertiser is added to the blacklisted advertisers for this ad selection only. Ad selection starts at the top of the queue and blocks selecting any flight associated with the blacklisted advertisers. Passback requests can express additional or even overriding values for tags.

If the same FCID is passed back multiple times in a short time span, each passback is likely to resurrect the same set of tags for the passback ad because only the most recent pathinfo and other information is retained. This is expected to occur infrequently, and only when a page has multiple ads of the same size. In such cases, the ad tags are not likely to be very different. If this becomes an issue, prudent use of frequency capping at the creative level can mitigate its effect.

When serving an ad in response to a passback, the impression count for the original ad selection is decremented (that is, uncounted), using its timestamp, tags and other information, unless it was not in the visitor's queue. Frequency capping is ignored. No attempt is made to credit a capped creative-flight pair when this creative is uncounted. The ad served in response to a passback is counted normally, using its timestamp and the original ad's tags. The passback itself is not counted. That is, there is currently no separate counting of passbacks that easily enables the reporting of fill rate. During unique visitor (UV) analysis of sample data, no attempt is made to reconcile passbacks with their original flights. Therefore, UV results for a flight includes all visitors who were served that flight, regardless whether all serves of that flight were passed back.

6

Managing Flights

About Flights

A *flight* contains the detailed instructions, such as targeting options, and the creative that a campaign should deliver. A campaign must contain at least one flight, but it can contain many flights, depending on the advertiser’s instructions. Flights can serve only within the date ranges applied at the campaign. You can copy and send tag information for flights.

Note: You can create an original flight only from a campaign. For more information, see “Add a Flight to a Campaign” on page 35.

View a Flight

1 On the top navigation bar, click the **Traffic** tab.

2 Click the **Flights** subtab. All flights currently in your system are listed.

3 Edit the flight by clicking beside the flight name.

4 View the flight history by clicking **View History** on the *flight name* page.

A pop-up window lists the history of activities, when the change was made, and who made the change. You can expand the activities to display specific changes. Place your cursor over each change to see details for the change.

5 (Optional) Expand the **Filtering** panel to refine your search criteria for flights.

Note:

By default, the filters apply to flights that are not saved as drafts. To filter only the flights that are saved as drafts, select **Only Flights With Drafts**.

6 You can view the following details for a flight:

- To view the targeting details for a flight, click  in the row for a flight.
- To view a read-only version for a flight, click  in the row for a flight.
- To view the on-schedule percentage for a flight, click the **OSP** column for the flight. This displays statistics about the flight, including goals, revenue, and click-through rate (CTR) for impressions, views, clicks, and actions. Values that are less than or equal to 79.0% are red, less than or equal to 89.0% are yellow, less than or equal to 100.0% are green, and greater than 100.0% are blue.

  OSP is calculated using the following formula: `(Number of flights delivered / Goal for number of flights delivered) / (Flight time elapsed / Total flight time)`

  For example, your goal is to serve 26,250 flights over 32 days. After 24 days and 7 hours, the flight has served 14,080 times. The ratio of the number of flights delivered to the goal for flights delivered is 14,080 / 26,250 = 0.536. The ratio of flight time that has elapsed in hours to the total flight time in hours, is 583 / 768 = 0.759. The OSP is (0.536 / 0.759) * 100 = 70.6%

Edit a Flight

1 On the top navigation bar, click the **Traffic** tab.

2 Click the **Flights** subtab to display the flights that are currently in your system.

Note: If you are returning to the **Flights** tab after a search filter has been applied, only the filtered flights are displayed.

3 There are several ways to edit flights.

a To edit a specific flight:

- Click on the name of a flight or click . For more information about the fields for a flight, see “Add a Flight to a Campaign” on page 35.

  Note:

- Click **View History** to display an annotated history of changes to a flight.
- Use the drop-down menu above the **Save Flight** to view the other flights that are in the same campaign.
- If no creatives are associated with a flight, the **Reservation Size** drop-down list appears. Select a size value from the list to enable inventory projections. This ensures that the flight is taken into account when calculating the forecast.

- Click **Save Flight** or select **Update Flight & Check Inventory**, **Update Flight & Add Another**, **Update Flight & Copy**, or **Update Flight & Make Many Copies**.
- You can copy and send tag information for the flight by clicking **Export Tags**. A pop-up window appears with both HSERVER and JSERVER tags to enable the trafficking of SAS 360 Match campaigns or flights in other ad-serving systems. Click **Copy** to select and copy the tags.

b To edit a flight directly from the Flights table:

- Click the start date, end date, status, and tier name in the row for the flight in order to change these values.

  Note: You cannot change the start date for flights that have started serving (that is, flights that have OSP values that are greater than 0%).

- You can change the weights for weighted tiers.
  - To change the weight of a tier for a single flight, hover over the tier name. In the pop-up window, edit **Tier Weight**. Click **Update Weight** to save your change.
  - To change for the weight for multiple flights in a tier, place your mouse pointer on the tier name. In the pop-up window, click **Edit All *tier name* Weights** to list the flights in the tier. Edit the weight of the flights in the tier. Select **Change Flight Weight** to save your changes.

c To edit the parameters for multiple flights simultaneously:

- Select the flights and click **Multi Edit**.
- Double-click the label for each field that you want to edit. For more information about the fields for a flight, see “Add a Flight to a Campaign” on page 35.
- You can modify the beacon count setting for multiple flights with the **Beacon count** or **Disable beacon count** check boxes. If your global beacon count setting is turned off, the **Beacon count** check box is displayed in the Delivery Configuration panel in the **Flights** tab. If your

global beacon count setting is on, the **Disable beacon count** check box is displayed.

Note: By default, this global setting is turned off. Contact SAS Technical Support to turn on the global beacon count setting.

CAUTION
Be extremely careful when selecting multiple flights to edit because there can be serious negative consequences for flights that are selected and edited unintentionally. Your changes cannot be undone.

d Some flights require approval from a second user before the changes can go live. For more information, see "Approval Workflow for Flights" on page 58.

4 If you copy a flight with a start date that has already occurred, specify a new date in the Save & Copy window.

Approval Workflow for Flights

When a flight is assigned to a tier that requires approval, any changes to the flight must be approved before the changes can go live. Any user who can edit flights can approve changes to a flight. However, the user who approves changes to a flight must be different from the user who made the edit.

Working with Flights That Require Approval

Flights that require approval appear in the **Flights** listing with the following differences:

- When you make changes to a flight that requires approval, a draft of the flight is created when you save the flight. The edits are not applied to the live flight until another user reviews and approves the changes to the draft flight.
- A draft flight is listed under the original flight with an orange box beside the flight name.
- When you edit a draft flight, the following message appears: "You are editing a draft version of this flight."
- In a flight that contains a draft flight, click **View Draft** to view a list of the changes. The original settings are in red and the new settings are in green.

  Select **Edit Draft** or **Discard Draft** to make or discard any changes. If you are the user who made the most recent change to the flight, you cannot approve the draft flight. If you did not make the changes, you have an additional **Approve** option to approve the changes to the flight.

- Click **View History** to display the most recent editor and approver in the audit log for the flight.
- You cannot perform inline edits and multiedits for flights that are assigned to a tier that requires approval.

To view only draft flights that require approval, expand the Filtering panel and select **Only Flights With Drafts**.

7

Managing Tiers

About Tiers

Tiers are important elements of SAS 360 Match system's optimization features. You can use tiers to specify how to deliver ads to meet your business goals and to ensure that campaigns are delivered in the way you want. Multiple tiers can ensure that different types of inventory are evaluated appropriately. In addition, you can use some tier settings to define available future inventory.

Prioritizing Tiers

Tiers enable you to designate a hierarchy of flights. The prioritization method of a tier enables you to select what criteria should be used when the engine calculates the priority of flights in a tier. The priority is used to order the flights in a tier so that the engine evaluates them in a certain order. Tiers can be prioritized by Schedule, Click Rate, Action Rate, CPM, eCPM, Weighted, Cost Per Second, Share Of Voice, or Broad Share of Voice. You might consider naming tiers such that your top tiers are easily recognizable. Note that when tiers are created they do not have flights in them. You design the tier structure around the type of flights that you want to put in them. Top tiers are usually schedule-based and more lucrative. You can also have tiers with no flights in them.

Schedule Prioritization Method

Schedule-based tiers are the most common. Scheduling attempts to meet the goals of a flight on the end date specified. If a flight is not on track to achieve this, it is behind schedule and the engine automatically adjusts the priority so that it has a chance to receive more impressions. Conversely, if the flight is serving (or has served) more than it needs to, it is considered ahead of schedule. If a flight does not have a goal, or does not have an end date, a schedule priority cannot be calculated. In this case, the flight is treated as being on schedule, and any flights that are even slightly behind schedule are evaluated first.

Click Rate Prioritization Method

The Click Rate prioritization method orders flights by their calculated click-through rate (CTR). Click-through rate is determined by comparing the number of impressions versus the number of clicks recorded. A higher ratio of clicks to impressions is considered better performing. Flights with a higher CTR are higher priority and are evaluated to serve before flights with a lower CTR. No clicks are recorded for newly created flights, so the CTR and where it is placed in the tier relative to other flights cannot be calculated. To compensate for this, a grace period and priority are set to enable the flight to serve so that the performance of the flight can be established. The grace period priority is used to determine the position of newly created flights in the ad queue relative to established, non-grace period flights. These are set on the Edit Tier window when the Click Rate prioritization method is selected. In the diagram below, new flights are placed above 80% (0.8) of other flights in the tier for seven days. After this time period has elapsed, the CTR and tier position is calculated as normal. It is recommended to set the grace period length long enough so that a baseline CTR performance can be calculated. The grace period priority is typically set around 0.8 or 0.9 to ensure that the flight receives some traffic, but not too high so that it does not "steal" too many impressions from established flights.

Figure 7.1 *Grace Period Diagram*

Action Rate Prioritization Method

The Action Rate prioritization method orders flights by their calculated action rate. Action rate is determined by comparing the number of actions versus the number of impressions recorded. Action rate prioritization follows the same principles as click rate prioritization regarding grace period and priority calculation.

CPM Prioritization Method

The Cost Per Thousand (CPM) rate is the monetary rate charged per *x* number of impressions, clicks, or actions. These rates are specified in the Edit Flight window. For more information, see "Edit a Flight" on page 56. The Cost Per column sets the CPM rate for every 1,000 impressions and for every single click or action. When the CPM prioritization rate is set for a tier, the higher the total CPM rate (impressions, clicks, and actions), the higher priority the flight is considered. This calculation does not depend on the performance of the flight. CPM rate is a static calculation that is determined entirely from the value in the **Cost Per** field for the flight.

eCPM Prioritization Method

The effective Cost Per Thousand (eCPM) is a prioritization method that is used to determine the best performing flights based on the current number of impressions, clicks, actions, and the respective CPM rates for each. A flight that generates the same overall revenue as another using only half the impressions is going to be considered a better performing flight and thus is given higher priority. CPM rates are set in the Edit Flight window. Because this prioritization method depends on the performance of flights, a grace period must be set for new flights.

Weighted Prioritization Method

The Weighted prioritization method enables you to weight flights by specifying a ratio to determine the order of evaluation. Once this method is selected, all flights in the tier are assigned an equal weight, which then can be altered. The weight can be edited for a flight in the Edit Flight window. For more information, see "Edit a Flight" on page 56. All flight weights can be viewed and edited by first navigating to the **Flights** tab in the **Traffic** tab, and then by placing the mouse pointer over a tier name that uses the Weighted prioritization method. Click **Edit All Weights**. Here, flight weights can be set, and a calculated percentage is shown next to the weight. Note that targeting can affect the performance of weights. For example, if a flight is weighted at 10% in the tier, but is the only flight targeted to a specific site in that tier, then it effectively serves 100% of the time there. A Weighted tier disregards the Recent Ad Queue (RAQ) for visitors so that the **Serve Soft Match at Tier End** option is effectively enabled even if not selected as a tier option. A flight in the tier can continue to serve repeatedly to a visitor (as long as any frequency caps have not been reached). Delivery pacing for a flight with an end date and impression goal is ignored when placed in a Weighted tier.

Cost per Second Prioritization Method

The Cost Per Second (CPS) prioritization method commonly applies to video ad serving where the revenue and rate associated with a creative can be calculated by the system to a CPS. Flights assigned to a tier that is using the CPS prioritization method then compete and are prioritized based on their CPS value, highest to lowest.

Share of Voice Prioritization Method

When the Share Of Voice (SOV) prioritization method is used, the percentage assigned to each flight indicates the percentage of overall matching traffic that the flight should serve. When a flight is in an SOV tier, the flight setup or edit screen displays a field in which you must assign the percentage. For example, if the highest tier in the system was using SOV and a flight was set to 20% (and the flight had a 728 x 90 creative and no targeting), then it would receive 20% of all 728 x 90 traffic. If the tier was at the bottom, then that flight would receive 20% of the 728 x 90 traffic that made it down to that tier. In a Weighted tier, the tier receives 100% of the traffic regardless and the percentages control how often the flights serve within that tier. With SOV, the percentages control how much overall matching traffic is served by that flight. Overall matching traffic indicates the traffic that matches the targeting for the flight. In an SOV tier, the flight is selected based on its SOV percentage, but if its targeting does not match the ad request's targeting, the ad server moves down to the next tier. This is unlike a Weighted tier, in which the ad server remains in the tier in order to find another matching flight. An SOV tier disregards the RAQ for visitors so that the **Serve Soft Match at Tier End** option is effectively enabled even if not selected as a tier option. A flight in the tier can continue to serve repeatedly to a visitor (as long as any frequency caps have not been reached).

Broad Share of Voice Prioritization Method

The Broad Share Of Voice (BSOV) prioritization method is similar to the SOV prioritization method. However, when the BSOV prioritization method is used, flights within the tier are grouped and percentages are set according to their targeting signatures.

For example, Flights A and B would have the same targeting signature and the percentages set for these flights would apply to that targeting group in the following situation:

- Flight A is targeted to a Site called *Home*
- Flight B is targeted to a Site called*Home*
- Flight C is targeted to a Site called Sports

Consequently, Flight A might be weighted 50% and Flight B might be weighted 50%. Because Flight C is targeted differently, it might be weighted 100%. The same setup in a regular SOV tier would require multiple tiers, whereas BSOV allows one tier with many groupings, eliminating the need for additional tiers. To see the division of targeting signatures and the flights that belong to each, edit the BSOV tier and click **Flights**. The Voice column displays the specific targeting signature, and the Voice Total column displays the total SOV that the flights occupy.

Broad Weighted Prioritization Method

Broad Weighted is a combination of the Weighted and Broad Share Of Voice methods. It works like a weighted tier in that the flight weights stipulate what ratio a flight serves in relation to other flights, and in this case, flights with the same targeting signature. This is in contrast to Share Of Voice that specifies the percentage of all ad traffic that is evaluated for that tier. Note that a Broad Weighted tier disregards the Recent Ad Queue (RAQ) for visitors, so the **Serve Soft Match at Tier End** option is effectively enabled even if not selected as a tier option. A flight in the tier can continue to serve repeatedly to a visitor, as long as any frequency caps have not been reached. Delivery pacing for a flight with an end date and impression goal is ignored when placed in a Weighted tier.

Add a Tier

1 On the top navigation bar, click the **Traffic** tab.

2 Click the **Tiers** subtab. All tiers currently in your system are listed.

3 Click **+ Add New Tier**. The Add New Tier page appears.

4 Enter information in the **Name** field.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"=']), spaces, underscores, and punctuation marks (!.,?;:).

5 Select **Active**, **Require Approval**, **Pre-emptible**, **Biddable**, or **Private Marketplace**. For more information, see "Prioritizing Tiers" on page 62.

- Select **Active** to enable the tier and make flights eligible for ad serving.
- Select **Require Approval** to require that any changes to flights in the tier must be approved by a second user before the changes can be made active. For more information, see "Approval Workflow for Flights" on page 58.

  Note:

- Contact SAS Technical Support to enable the feature and make the check box visible.
- Do not enable this feature if you are using the sales workflow with proposals and line items. The proposal conversion process is incompatible with use of approval workflow tiers.

- Select **Pre-emptible** to allow the inventory allocated for this tier to be available when calculating the available inventory for a sales proposal. The flights in this tier are not to consume inventory when calculating the inventory. Tiers whose flights are catch-all flights such as House flights are typically marked **Pre-emptible**.
- Select **Biddable** to allow bidding if the winning flight is in that tier.
  - Set a value for **Bid floor**. The behavior of floor prices that are sent to SSPs are controlled by the following options:
    - Select **Flight CPM** to send the CPM of the flight that is selected to compete against the placement as the floor price.
    - Select **Flight eCPM** to send the eCPM of the flight that is selected to compete against the placement as the floor price.

- Select **Placement default** to send the floor price that is specified for the placement.
- Select **Higher of** to send the higher value of either the flight eCPM or the placement.
- Select **Lower of** to send the lower value of either the flight eCPM or the placement.

The default behaviors for floor prices are detailed in the “Bidding” section in the Platform Integration Guide.

- Set a value between 0 and 1 for the **Bid threshold priority** for the tier. This value determines whether bidding happens for an impression.

  This is the minimum priority that a competing flight from the tier must have for bidding to occur. When a competing flight has a priority equal to or greater than this threshold, bidding occurs. When the flight's priority is below the threshold, bidding does not happen and the flight serves. The default value is 0, which allows bidding with no consideration of the flight's priority. If the threshold is 1.0, bidding does not happen.

- Select **Private Marketplace** for Magnite integrations. Use the **Magnite Deal Prioritization** options to fine-tune how each type of private marketplace deal competes. Private marketplace deals from Magnite offer the following controls: **Private Auction Deals**, **Preferred Deals**, **Private Deals**, and **Guaranteed Deals**.

  Assign one of these behaviors to each deal type:

  - Select **Compete w/all demand** if the deal is not considered any differently and competes normally with real-time bids (RTBs). This is the default behavior.
  - Select **Trump RTB demand** if the deal supersedes non-PMP (RTB) bids.
  - Select **Trump all demand** if the deal supersedes all other bid types and flight eCPMs.

  Note:

  Use this feature to specify how to manage deal IDs in a bid response. The option depends on the presence of a PMP tier in the response and is for Magnite only. You must enable **Biddable** before you can configure the **Private Marketplace** options.

  For more information about configuring the deal types in **Magnite Deal Prioritization** for **Private Marketplace**, see the section on “Configuring Floor Prices and Tiers” in the Platform Integration Guide.

  For more information about private marketplace, see the section on "PMP Integration" in the Platform Integration Guide.

6 In the **Target** field, enter the first few letters of the target's name and then select the target from the list.

Note: Enter `%` if you want to display the full list of targets.

7 In the **Prioritization method** list, select one of the following options: **Schedule**, **Click Rate**, **Action Rate**, **CPM**, **eCPM**, **Weighted**, **Cost Per Second**, **Share of Voice**, **Broad Share of Voice**, or **Broad Weighted**.

If you select a tier prioritization method that depends on flight performance, such as **Click Rate**, **Action Rate**, or **eCPM**, then you must enter a value for the number of days in the **Grace period** field and use the slider to select a value for the **Grace period priority**.

The value for the **Grace period** applies to the initial placement of a flight in a tier. The period determines how many days each flight is allowed to run in the tier without competing. During that time, the flight's performance does not matter and it is placed in a fixed position in the tier. Flights that have been in the tier longer than the grace period are served according to the ad serving algorithm selected for the tier. The schedule and weighted ad serving algorithms do not require a grace period. Flights can be added to the tier on-the-fly so that flights using the grace period can co-exist with flights using the tier's selected prioritization method.

The **Grace period priority** determines the position where flights that are still in their grace period are placed in the tier. Selecting `1` for the **Grace period priority** places a flight that is still in its grace period ahead of all others that are not in their grace period. This value yields the greatest opportunity. Selecting `0` places the flight that is still in its grace period after all other flights in the tier. When the grace period priority is `0.5`, a flight that is still in its grace period is positioned in the middle of the flights in the tier. The order of the grace period flights relative to each other is randomized every few minutes so that each flight gets an equal chance to serve over time.

The performance of a flight that is not in its grace period or whose grace period has expired is reevaluated every few minutes. The flight is put into the tier in the order of higher to lower performance. A flight that is placed lower in the tier does not serve unless flights that are placed higher in the tier cannot serve.

8 (Optional) In the **Teams** field, list the teams that can assign the tier to flights.

Note: This option is available only when team restrictions are enabled for users. In **Administration** ⇨ **Users**, select **Team restricted** for each user that you want to restrict to only the tiers that are assigned to their team. Users with this option enabled can select only the tiers that are assigned to their teams when creating a flight.

9 Select one or more of the following options:

- **Serve Soft Match at Tier End**

  This flag is a list of recently seen ads for each visitor. When this option is selected, SAS 360 Match stays in the tier to serve previously served ads if there are no previously unserved ads that match the targeting. When this option is set, the ad server engine stays in the tier until the ad request targeting does not match or flights in the tier are ahead of schedule and cannot serve again. This option works well for tiers with the top-value flights because it gives them more opportunities to serve before SAS 360 Match drops to the next tier.

Note: This option changes how flights in a visitor's recently seen queue are evaluated so that the flights have more opportunities to serve.

- Over the life of the flight, the ad server looks at progressively fewer recently seen ads in the visitor's queue if the flight is getting further behind schedule. This allows more opportunities for the flight to serve because it is not in the visitor's recently seen queue.
- Select **Top priority** in a flight to ignore a visitor's queue of recently seen ads when the flight is evaluated. This option provides more opportunities for the flight to serve.

- You can configure settings to eliminate duplicate elements within a tier.
  - **Eliminate Duplicate Flights**: When this option is selected, it prevents an advertiser from delivering the same flight more than once to the same view ID.
  - **Eliminate Duplicate Advertisers**: When this option is selected, it prevents an advertiser from showing its ads more than once to the same view ID.
  - **Eliminate Duplicate Categories**: When this option is selected, it prevents an advertiser from serving a flight from the same category more than once to the same view ID.

  The presence of a duplicate flight, advertiser, or category is based on ad calls with the same view ID. Changing the view ID in the ad calls on the page would override these duplicate settings because a different view ID indicates a new page. Therefore, SAS 360 Match could serve the flight, advertiser, or category again.

  The settings apply globally to the tier. You cannot disable the settings for specific flights, advertisers, or categories in the tier. However, a companion ad policy that is enabled on a flight overrides the duplicate settings in a tier.

10 Use the following fields to define the rules that can change a flight's effective tier based on time or priority. When you configure these rules, a flight serves from its assigned tier until it meets the criterion for either the time-based or the priority-based rule that manages how a campaign ends. Then the flight serves from whichever tier is higher priority between its assigned tier and the effective tier it is assigned to when it matches a time or priority rule. The flight returns to its assigned tier when the criterion is false.

- Use the **Time before flight ends** field to configure a time-based rule. The value in the field determines how close to the end of a flight's lifetime that a flight can be moved to a higher tier. For example, a value of 1 week means that a flight behaves as if it is effectively assigned to the **Time before flight ends** tier when the flight is within a week of ending.
- Use the **Behind schedule priority** field to configure a priority-based rule. The value in the field is a threshold below which a flight behaves as if it is effectively assigned to the **Behind schedule priority** tier. This priority value is a percentage that is expressed as a fraction that represents how close the flight is to its schedule based on overall pacing. A value of 0.25 would match

a flight that has served less than 25% of its goal based on pacing. For more information, see "Prioritizing Tiers" on page 62.

Note:

- If a tier defines the rules for the priority-based alternate tier and time-based alternate tier and a flight meets both criteria, then the effective tier is the higher ranked of the assigned tier and the two effective tiers.
- If a flight shifts to an effective tier because it satisfies one of the rules but later no longer satisfies the rule, the flight resumes serving from its assigned tier. For example, for a time-based rule, if the end date for a flight is extended, the flight returns to its assigned tier until the new end date meets the **Time before flight ends** setting. For a priority-based rule, when the flight exceeds the priority threshold that is defined for its assigned tier, the flight resumes serving from its assigned tier.
- An effective tier can also define time-based and priority-based rules. When a flight satisfies the rules in an effective tier, the effective tier for the flight changes again. In other words, there can be a cascade of effective tier selections.

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11. Click **Add Tier**.

View a Tier

1. On the top navigation bar, click the **Traffic** tab.
2. Click the **Tiers** subtab. All tiers currently in your system are listed.
3. In the row for a tier, click . The Tier *tier -name* page appears.

Edit a Tier

1. On the top navigation bar, click the **Traffic** tab.
2. Click the **Tiers** subtab. All tiers currently in your system are listed.
3. In the row for a tier, click the tier name or click . The Edit *tier-name* tier page appears. For more information about the fields in a tier, see "Add a Tier" on page 66.

4 To update the tier weight when there are multiple flights associated with a weighted tier, click **Flights**, change the values in the Tier Weights column, and then click **Change Flight Weight**.

5 Click **Update**.

Note: A tier containing flights cannot be deleted.

Rank Tiers

When selecting an advertisement, tiers are evaluated in the order in which they are ranked. You can arrange the tiers in the order in which you want them to be evaluated.

1 On the top navigation bar, click the **Traffic** tab.

2 Click the **Tiers** subtab. All tiers currently in your system are listed.

3 Click **Rank Tiers**.

4 To change the rank of a tier, select it and then move it up or down in the list.

5 Click **Save Changes**.

8

Managing Custom Actions

About Custom Actions

Custom Actions are events other than the standard metrics of impressions, clicks, and actions that you want to track. Usually, actions are used to attribute an impression or click to an event. For example, if a visitor clicks on an ad, and then purchases the product that was being advertised, this sequence of events can be counted as an action. All advertisers start with a default set of custom actions.

The following columns in the Custom Actions table lists details for available actions:

- The Advertiser column lists the advertisers that are associated with an action.
- The Linked System Action column lists the default action that is associated with a custom action.
- The System Record column specifies whether an action is a default action that is provided by SAS 360 Match. Default actions have a `yes` in the column.

Add a Custom Action

1 On the top navigation bar, click the **Traffic** tab.

2 Click the **Custom Actions** subtab.

3 Click **+ Add New Action**.

4 Enter information in the **Name** field.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), periods, underscores, and hyphens.

5 By default, the **For all advertisers** check box is selected and the action is applied to all advertisers. To apply the action to specific advertisers, deselect **For all advertisers** and then list individual advertisers in the **Advertisers** field.

6 (Optional) Specify a **System action** if you want to associate a default action with your custom action.

7 Click **Add Action**.

Edit a Custom Action

Note: You can edit only custom actions. You cannot change the default actions that are provided by SAS 360 Match.

1 On the top navigation bar, click the **Traffic** tab.

2 Click the **Custom Actions** subtab.

3 Click the custom action name or click in the row for the custom action. The Edit *custom action name* Custom Action page appears. For more information about the fields in a custom action, see “Add a Custom Action” on page 73.

4 Click **Update**.

9

Debugging Ads

About Debugging Ads

Requesting an ad debug enables you to troubleshoot flight delivery issues that might be the result of targeting or flight policies such as frequency capping. The placement ID and name are displayed when evaluating network integration placements.

Debugging an Ad Request

Note: By default, the user interface for the **Debug Ad Request** provides access to Personally Identifiable Information, or PII. To restrict access to PII, contact SAS Technical Support.

1. On the top navigation bar, click the **Traffic** tab.
2. Click the **Debug Ad Request** subtab.

3 Enter the targeting parameters in the **Path Info** field. Separate key=values pairs with a forward slash (/) or an ampersand (&).

Note: Here are some useful tips when you are building the targeting string:

- To find geotargeting tags that must to be included, edit the flight, click **View Targeting**, and look for any geo tags and values in the targeting. To troubleshoot geotargeting issues, you need to explicitly declare the geotargeting values. For more information about valid geotargeting tag names, see "Predefined Tokens" on page 110.
- The available ad server methods are iserver, hserver, jserver, or bserver. The bserver method allows multiple ad requests with global targeting for all requests and per-request targeting.
- The view ID is required in debug ad request for flights with a companion or roadblock policy enabled. This policy provides a method of serving multiple creatives from the same flight to the same page at the same time. For more information, see the **Companion type** option in "Add a Flight to a Campaign" on page 35.

4 You can customize the **Cookie**, **User Agent**, and **Referrer** values if needed. If you do not enter a `mid=` cookie value, select **Run** twice because the first execution of the request is to get a `mid=` cookie. For debugging purposes, you can enter any alphanumeric string as a valid mid cookie value (for example, **`0001245678A`**).

5 From the **Trace** list, select the debugging option:

- **Normal Ad Selection** returns session information as well as the reasons a flight or creative is selected or not selected.
- **All Ad Selection** returns information and all flights or creatives that match the targeting.

6 Click **Run**.

The information in the **Cookie** field might be updated and a return code and results appear at the bottom of the page. Each placement is listed as it is evaluated.

Understanding Debug Messages

For **Normal Ad Selection**, the actual selection is shown at the bottom of the evaluation, preceded by **`>>>>:`**. For **All Ad Selection**, all matching flights are prefaced with **`>>>>:`**.

Here are some common ad debug messages and steps to troubleshoot the problems. If you need additional assistance to fix the issues, contact SAS Technical Support.

General Messages

`Creative filter doesn't match`. The creative filter does not match the creative filter in the ad call. In the flight, select **View Targeting**. Compare the targeting values listed against the ad call to find the mismatch. Resolve the mismatch by changing either the ad call or the creative.

`Creative size doesn't match`. The size that is specified for the creative does not match the size that is specified in the ad call. View the creative confirm that its size matches what is in the ad call.

`Creative violates its exposure policy`. A creative-level frequency cap is preventing the ad from displaying. Clear your cookies or adjust your frequency cap settings to determine whether the ad can deliver.

`Flight cannot serve sequential creatives to an anonymous visitor`. The flight contains sequential creatives that must be seen in a specific sequence, which requires the browser to accept cookies. Confirm that your browser accepts cookies.

`Flight has already been shown on this page`. View the tier for the flight and determine whether **Eliminate Duplicate Advertisers** is enabled. If selected, notify client this is causing the issue. When this option is selected, it prevents an advertiser from showing its ads more than once on a page. You can clear the option is you want an advertiser to show ads multiple times on a page.

`Flight has expired`. The flight cannot serve because it has reached its end date or goal.

`Flight has not yet started`. The flight cannot serve because it has not reached its start date or time.

`Flight has met today's daily revenue cap`. The flight cannot serve any more impressions. Flights with a daily revenue cap serve impressions until the calculated revenue cap is reached. Edit the flight and check the **Goal** and **CPM** fields. For more information, see the **Daily Revenue Cap** option in "Add a Flight to a Campaign" on page 35.

`Flight has served too recently`. The Recent Ad Queue (RAQ) prevents flights from serving ads that have been served too recently in order to encourage rotation. Enable **Serve Soft Match At Tier End** in the tier for the flight to disable the RAQ. For more information about the RAQ, see:

- The **Serve Soft Match at Tier End** option in "Add a Tier" on page 66.
- Tier prioritization methods in "About Tiers" on page 61
- SAS Note 53325 Ad Selection Logic

`Flight is a companion flight, but "no companion" is specifically requested`. If you are trying to serve flights with the **Companion type** option enabled, the ad call cannot contain */nocompanion*.

`Flight is a companion flight, but no pageview id is present`. Flights with **Companion type** enabled require a `/viewid`=*some-value* in the ad call. Check the ad call to ensure that it is present. You can incorporate this key=value pair into the ad call. For more information, see the SAS 360 Match Request Application Programming Interface guide.

`Flight is a companion flight, but the visitor is anonymous`. Flights with **Companion type** enabled require the browser to accept cookies. Confirm that your browser accepts cookies. For more information, see the **Companion type** option in “Add a Flight to a Campaign” on page 35.

`Flight is a loose companion flight, but companion flight is already engaged on this page`. Another companion flight has served to other ad calls using the same view ID. Different companion flights cannot be served to the same page at the same time.

`Flight is a loose companion flight, but companion flight X is already engaged on this page`. Multiple flights with a specified companion type are attempting to be delivered to the ad call. However, only one companion-based flight can deliver to a page.

`Flight is a strict companion flight, but this is not the first ad on the page`. Flights with the **Companion type** option set to **Strict** require certain conditions to be met in order to serve. For more information, see the **Companion type** option in “Add a Flight to a Campaign” on page 35.

`Flight is ahead of schedule`. The flight is not serving any impressions because it is ahead of schedule. When a flight is ahead of schedule, it has served too many impressions too quickly. If the flight continues to serve impressions at the same rate, it would meet the impression goal before the end date and time. Check the Flight Status report. Flights are eligible to serve again once their priority drops below 1.0.

`Flight is exceeding its serve rate for this interval`. The serve rate evens out how impressions are delivered to prevent spikes in the delivery rate. Wait a few minutes and try again.

`Flight is for advertiser and has category, but that category has already been shown on this page by advertiser`. Categories are assigned on the advertiser and flight levels. Once a flight with a given category has served to a page, no other ad calls on that page can serve flights that are assigned to the same category.

`Flight is for advertiser, which has already been shown on this page`. View the tier for the flight and determine whether **Eliminate Duplicate Advertisers** is enabled. When selected, this option prevents an advertiser from showing its ads more than once on a page. You can clear the option if you want an advertiser to show ads multiple times on a page.

`Flight is not serving for an unknown reason`. Contact SAS Technical Support to assist with troubleshooting this issue.

`Flight's product tag restrictions don't match`. Edit the flight and select **View Targeting**. Compare the targeting values listed against the ad call to find the mismatch. Resolve the mismatch by changing either the ad call or the product tags.

`Flight's product targets don't match`. Edit the flight and select **View Targeting**. Compare the targeting values listed against the ad call to find the mismatch. Resolve the mismatch by changing either the ad call or the product target.

`Flight's tag restrictions don't match`. Edit the flight and check the **Tags** section. Compare the specified tags in the flight against the ad call to find the mismatch. Resolve the mismatch by changing either the ad call or the flight tags.

`Flight's targets don't match`. Edit the flight, and select **View Targeting**. Compare the targeting values listed against the ad call to find the mismatch. Resolve the mismatch by changing either the ad call or the flight target.

`Flight violates its campaign exposure policy`. A campaign-level frequency cap is preventing the ad from displaying. Clear your cookies or adjust your frequency cap settings to determine whether the ad can deliver.

`Flight violates its exposure policy`. A flight-level frequency cap is preventing the ad from displaying. Clear your cookies or adjust your frequency cap settings to determine whether the ad can deliver.

`Schedule is segmented on: SIZE AREA SITE. Some tiers and flights may not be shown`. This is a status message and does not indicate any problems. Add / `nosegment` to your ad call to suppress this message.

`Strict companion flight could not serve and is now cancelled on this page`. The **Companion Type** for the flight is set to **Strict** and requires specific conditions to be met before it can serve. For more information, see the **Companion type** option in “Add a Flight to a Campaign” on page 35.

`The current time is outside the flight's daily serving window`. The flight is set to run only during a specified portion of the day. Edit the flight and check the **Daily Window** settings.

`This is a passback, but the FCID is either invalid or not recently served to the visitor`. Either the flight creative ID (FCID) that is passed in on the ad call is invalid or the passback ad call was not received within five seconds of the original ad call.

`Tier filter doesn't match`. The target that is applied to the tier does not match the targeting on the ad call. Compare the ad call targeting to the tier target to find the mismatch. Edit the tier, get the target name, and then edit the target. Resolve the mismatch by changing either the ad call or the tier target.

`Visitor is restricted to session-only exposure policies, and flight's exposure policy X is not session-only`. Contact SAS Technical Support if you encounter this message. Access to the visitor’s history is restricted so only flights with a session-based frequency capping policy or flights with no frequency capping can serve to the ad request. The trace also includes a visitor session message that states the value of Persists history is FALSE.

SSP Messages

`No placement selected`. None of the settings in the placement matched the settings in the ad call. Edit the placement settings to match the ad call.

`No valid bid met the floor and private market requirements`. The floor price or the private market requirements in the ad call did not match any of the values in the placement.

`Placement's size doesn't match`. The size settings in the placement do not match the size setting in the ad call. Edit the placement and change the size mapping to include one that is accepted by the ad call.

`Targeting doesn't match on: bidder, site, or placement`. The ad call's site is not mapped in the placement. Edit the placement and change the site mapping to include one that is accepted by the ad call.

`Unsupported size`. The ad call includes a size that is not supported by the placement. Edit the placement and change the size settings to one that is accepted by the ad call.

Using Trace to Debug Ads

> **IMPORTANT** The trace tag is for diagnostic purposes only. In addition, the format for the output might change without notice.

You can use a trace tag in an ad request in an internet browser to display debugging messages about the creative that is selected. Use trace=1 to display information for all the creatives that are considered until the first creative that matches the ad request. For more information, contact SAS technical support.

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Managing Labels

About Labels

Labels provide a way of adding custom fields and values to a flight. These custom fields are available through the API.

Add a Label

1 On the top navigation bar, click the **Traffic** tab.

   Labels provide a way of adding custom fields and values to a flight. These custom fields are available through the API.

2 Click the **Labels** subtab.

3 Enter a **Name** for the label. This is attribute name that is used in the API.

4 Enter a **Display Name**. This is the name that is used in the SAS 360 Match user interface.

5 Click **Add Label**.

PART 4

Creative

11

Managing Creatives

About Creatives

A *creative* is displayed to a customer as an advertisement. A creative must be assigned to a flight in order to be served by the ad server.

Add a Creative

1 On the top navigation bar, click the **Creative** tab.

2 Click **+ Add New Creative**.

3 Enter information in the **Name** field.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), underscores, and hyphens. You cannot use spaces in a creative name.

TIP You do not have to enter the file name for the creative. Adding more description to the name might make it easier to find. For example, you might want to enter `My_Creative_1`.

4 In the **Advertiser** field, enter the first few letters of the advertiser's name and then select the advertiser from the list. The advertiser that you select is the one that you use when creating the campaign.

Note: Enter `%` if you want to display the full list of advertisers.

5 Enter information in the **Description**, **Notes**, and **User Info** fields. If you are adding a video creative, enter a value for the number of seconds the ad runs in the **Duration** field.

6 Select one or more **Categories**. Category values can be added when editing an advertiser. If a creative with a category is served, no other flight or creative with the same category can serve to the same page view (or view ID) for that visitor.

7 Specify the names for the **Exposure policies**. An exposure policy is a policy that restricts how often an item is allowed to serve to a visitor, based on specified metrics during a specific time period. For more information, see "About Exposure Policies" on page 169.

8 In the **Media** panel, select a format based on the type of creative that you are delivering from the **Creative Format** list. For more information, see "About Creative Formats" on page 97. Enter information in the fields that are specific to the selected creative format.

9 Expand the Labels panel. Labels provide a way to add custom fields and values.

- To create a new label, click **+ Add New Label**. Enter a **Name** for the label and enter a **Display Name** to use in the SAS 360 Match user interface. Then click **Add Label**.

  Note: You can configure a maximum of five labels. Contact SAS Technical Support to change the limit.

- To add a value to an existing label, click **+ Add Label Value**. Select the **Label** from the drop-down list and specify the **Value** for the label.

10 Click **Add Creative**. If the upload is successful, a green success bar appears. To view the creative, scroll down the page and then select  in the row for the creative.

Preview a Creative

1 On the top navigation bar, click the **Creative** tab.

2 (Optional) Expand the **Filtering** panel to refine the search criteria for the creatives:

- Enter a portion of the creative name in the **Name like** field.
- Search for an **Advertiser** for the creative.

Note: Use wildcard characters to refine the possible values. Use the percent symbol (%) to specify a wildcard of any length, underscore (_) to specify a wildcard of a single character, or caret (^) followed by a keyword to search for the keyword at the beginning of the string.

- Select a **Creative Format** from the drop-down list.
- Specify a **Size** for the creative.
- Specify **Flights** for the creative.
- Specify **Campaigns** for the creative.
- Set a **Date added after** to find creatives that were created after your specified date.

Click **Filter**.

3 Click  in the row for the creative to preview the creative. Click **Close**.

Note: If you are assigned the advertiser role and an advertiser is specified in your user profile, click **View My Creative** to display the creatives that are assigned to the specified advertiser. If you are not assigned to the advertiser role or an advertiser is not specified in your profile, this action does not return any creatives.

Edit a Creative

1 On the top navigation bar, click the **Creative** tab.

2 (Optional) Expand the **Filtering** panel to refine the search criteria for the creatives.

3. Click the creative name or click [edit icon] in the row for the creative. The Edit Creative — *creative name* page appears.

4. Modify the information in the **Name** field.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), underscores, and hyphens. You cannot use spaces in a creative name.

> **TIP** You do not have to enter the file name for the creative. Adding more description to the name might make it easier to find. For example, you might want to enter `My_Creative_1`.

5. In the **Advertiser** field, enter the first few letters of the advertiser's name and then select the advertiser from the autosearch results. The advertiser that you select is the one that you use when creating the campaign. Enter `%` if you want to display the full list of advertisers.

Note: Do not change the advertiser if it has already been assigned to a flight.

6. Enter information in the **Description**, **Notes**, and **User Info** fields. If you are adding a video creative, enter a value for the number of seconds the ad runs in the **Duration** field.

7. In the **Media** panel, select a format from the **Creative Format** list based on the type of creative that you are delivering. For more information, see "About Creative Formats" on page 97

8. Enter information in the fields that are specific to the selected creative format.

Note: When editing a custom creative format, use **New Asset** to replace the asset that is specified in the HTML field. Use **View Code** to view or edit the asset.

9. (Optional) In the **Preview** panel, click **Preview Creative** to display the creative.

10. (Optional) In the **Flights** panel, add the creative to an existing flight. For more information, see "Add a Creative to an Existing Flight" on page 89.

11. (Optional) In the **Flight Creative** panel, remove the creative from a flight, or edit a flight. For more information, see "Manage Flight Creatives" on page 89.

12. Click **Update Creative** or click the down arrow and select **Update Creative & Copy** or **Update Creative & Make Many Copies**.

Add a Creative to an Existing Flight

1. On the top navigation bar, click the **Creative** tab.
2. Click the creative name or click in the row for the creative.
3. In the **Flights** panel, click on the next to **Available Flights** to update the list of flights.
4. Refine the list of flights by filtering flights using **Flight Name like**, **Campaign Name like**, or **Status** fields.
5. Select a flight from the list.
6. Click **Add Selected Flights**. The flight appears in the Flight Creative table. For more information, see "Manage Flight Creatives" on page 89.
7. If you want to apply date restrictions or special targeting options to the creative, click the in the row for the flight, enter information in the fields, and then click **Save Changes**.
8. Click **Update Creative**. A green success bar appears.
9. To indicate that the flight is now eligible for service, do the following:
   a. On the top navigation bar, click the **Traffic** tab.
   b. Click the **Flights** subtab.
   c. In the row for the flight to which you have added a creative, click on the arrow next to **Missing Creative** in the Status column.
   d. Select **Pending**. Within a few moments, the solution identifies the change and moves the campaign into service if it is within the date range that you have specified.

Manage Flight Creatives

1. Expand the **Creative** panel in the **Edit** *flight name* window.
2. To add a new flight creative, click **+ Add New Creative** from the **Available Creative** panel. For more information, see "Add a Creative" on page 85.

3 To add an existing flight creative, select a flight creative from the **Available Creative** table and click **+ Add Selected Creative**. (Optional) You can filter the creatives using the following fields: **Name like** with a portion of the creative name, **Creative Format**, **Size**, or **Date added after** for creatives that were created after the specified date.

4 To edit a flight creative, select a flight creative from the **Flight Creative** table and click . The **Edit Flight Creative** window appears.

Note: To edit multiple flight creatives, click the check box for each flight creative that you want to edit, and then click **Edit**.

5 Make any desired edits, and then click **Save Changes**.

Note: The **Tag qualifier** field determines the tags that are used to evaluate the creative to serve. You can use token references, such as *%%TOKENNAME%%*, in the tag qualifier. When the ad is selected to serve, the qualifier string is dynamically expanded to include any token references to generate a complete qualifier.

The tag qualifier value is a key that is used to look up a set of tags to apply while the creative is evaluated. The tag qualifier value can be a literal, such as MYQUALIFIER, or the value can contain token references that expand to produce the final value. For example, if the qualifier is ABC_%%HOTEL%% and there is a HOTEL tag that is set to MYHOTEL, then ABC_MYHOTEL is the qualifier value that is used to look up the tag set to apply.

6 To view the passback URL for a flight creative from the **Flight Creative** table, click in the row for the creative. For more information, see "About Passback URLs" on page 54.

Note: The displayed URL includes the targeting for only the ad server domain, the HSERVER tag, and the `/saspb/fcid={fcid value}` string. The URL does not include the targeting for the flight.

7 To remove a flight creative from the **Flight Creative** table, click in the row for the creative, and then click **OK**.

Note:

By default, users can remove flight creatives that are active or that have impressions associated with them. To prevent a user from accidentally deleting the creatives, go to the user's role in **Administration** ⇨ **Roles**, scroll to the Functional Areas panel, and select the **None** check box for the **Can delete served Flight Creatives** option.

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Managing Multiple Creatives

About Multiple Creatives

Using the multiple creatives tool, you can create and upload many creatives at once. These creatives can be assets that are already saved, new files that will be uploaded, or media files from a specific URL.

Create Multiple Creatives

1. On the top navigation bar, click the **Creative** tab.
2. Click the **Multiple Creative** subtab.
3. In the **Advertiser** field, enter the first few letters of the advertiser's name and then select the advertiser from the list. The advertiser that you select is the one that you use when creating the campaign.

   Note: Enter `%` to display the full list of advertisers.

4. In the **Click URL** field, enter the URL that you want users to be redirected to when they click on the creatives.
5. Select a **Creative Format**, and then specify the source of the media file using one of the following options from **Image File**:

- Select **URL** to specify a URL where the media file is located. Select an ad size from the **Size** list and specify the URL in the **File** field.
- Select **Asset** to use an existing asset. Select an ad size from the **Size** list, and then enter the file name for the asset in the **File** field.

  Note: Enter `%` to display the list of existing assets.

- Select **Upload** to upload a file. Select an ad size from the **Size** list. Then click **Choose File**, navigate to the creative file, and then click **Open**

6 Click **Add Media** to upload the media file from the specified source.

7 Click **Add Creative**. If the upload is successful, a green success bar appears.

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Managing Smart Upload

About Smart Upload

The **Smart Upload** tool provides an automatic and easy way of setting up third-party creatives. With this tool, third-party tags are uploaded to the application, the third party is identified, each creative is detected and parsed, and any formatting or URL tokens that are needed for the creatives to function correctly are automatically inserted.

Note: You can upload only creatives from DoubleClick (iframe/javascript), Atlas (iframe/javascript), Sizmek (iframe/javascript), Facilitate Digital (javascript), or HTML5 creatives in a ZIP file. Files encoded in UTF-8 with a byte-order mark (BOM) are also supported.

Add a Smart Upload

1. On the top navigation bar, click the **Creative** tab.
2. Click the **Smart Upload** subtab.
3. To keep the original file name for the creative, select **Preserve names**.

4 Enter a name in the **Preserved Creative Name** field. The name can be a regular expression or a string, and is used to generate the name of each creative from the uploaded file.

Note: To use stored regular expressions or strings for the preserved creative name that you created, click **Choose Pattern**. Patterns are created and saved on the **Name Patterns** subtab on the **Creative** tab. For more information, see Chapter 14, "Managing Name Patterns," on page 95.

5 Enter information in the **Constant Creative Name** field, and then select **Pre-pend** or **Append**.

Note: You can enter only letters, numbers, hyphens, and underscores for the creative name.

You use the **Constant Creative Name** field to control a naming scheme for the creatives identified in the uploaded tag. For each creative, an underscore and a sequence number is added either before or after the constant creative name, depending on whether you select **Pre-pend** or **Append**. For example, if you entered `Demo_Creative` in the **Constant Creative Name** field, the constant creative name would become `0_Demo_Creative` if you selected **Pre-pend** or `Demo_Creative_0` if you selected **Append**.

6 In the **Advertiser** field, assign an advertiser to the creative. Enter the first few letters of the advertiser's name and then select the advertiser from the search results.

Note: Enter `%` if you want to display the full list of advertisers.

7 Click **Choose File**, navigate to the third-party creative file, and then select **Open**.

Note: Only files encoded in UTF-8 are supported.

8 Click **Upload** to identify and view the creative content in the uploaded file. The creative format and its size are automatically selected. If you adjust the size of the creative, be aware that your change might conflict with the configuration in the uploaded file. Enter a **Click URL** if applicable, and then click **Add Creative** to complete the process.

Note: If the tag that you uploaded is not recognized, an error message is displayed indicating either that the third party or the tag formatting is not recognized. In these cases, you must use the **Creative** tab to upload the creatives. For more information, see "Add a Creative" on page 85.

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Managing Name Patterns

About Name Patterns

Name patterns are common regular expressions or strings that are used to generate the name of each uploaded creative. They can be saved, edited, or reused. The **Smart Upload** tool can use name patterns when it uploads creatives from third-party vendors. For more information, see Chapter 13, “Managing Smart Upload,” on page 93.

Add a Name Pattern

To create a name pattern for a creative:

1. On the top navigation bar, click the **Creative** tab.
2. Click the **Name Patterns** subtab.
3. Click **+ Add New Creative Name Pattern**.
4. Enter information in the **Name** field.

Note: You can enter only letters, numbers, hyphens, dots, and underscores.

5. In the **Pattern** field, enter a regular expression or a string that will be used to generate the name of each creative from the file that is uploaded from third-party vendors.

6. Click **Add Creative Name Pattern**.

Edit a Name Pattern

To edit a name pattern for a creative:

1. On the top navigation bar, click the **Creative** tab.

2. Click the **Name Patterns** subtab.

3. Click the name pattern name or click in the row for the creative. The Edit Name Pattern page appears. For more information about the fields in a name pattern, see “Add a Name Pattern” on page 95.

4. Click **Update**.

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Managing Creative Formats

About Creative Formats

Creative formats provide a convenient way of formatting the look and function of creatives that are delivered through SAS 360 Match. The creative formats are versatile because everything from a text link to a custom XML file for a video player can be set up in a format. Creative formats also help set up third-party creatives. Creative formats are based on two main elements:

1. the format template, which is the code that is served to the visitor when a creative using this format is selected for delivery

2. the accompanying format fields, which contain user-supplied data that is specific to each creative

Animated GIF
: This format is used with animated GIFs. There are no custom format fields required. When visitors click on the image, the link is opened in the same window.

Animated GIF Opening In New Window
: This format is used with animated GIFs. There are no custom format fields required. When visitors click on the image, the link is opened in a new window.

Flash
: This format should be used with all Flash creatives (SWF files). The minimum version required to view the file must be entered in the **Minimum version** field. For example, if Flash 9.0 is required to view the file, you must enter *9* or *9.0*.

Generic HTML
: This format is used when you specify that your own HTML file is to be used for the creative instead of an existing template.

Note: This template can be used for both third-party and non-third-party creatives.

HTML5
: This format is used when you specify the format that you want to use when uploading HTML5 ads.

Note: The default format is an HTML5_iframe system format.

Standard-Atlas_iframe
: You use the Atlas Iframe format with third-party Atlas Rich Media tags. Use this template if the Atlas tags contain iframes or use the iview call. This template requires the **Atlas unique identifier** and **Atlas unique code** fields. The unique identifier is the three-character code before `/iview/`, and the unique code is the string after `/iview/`.

Standard-Atlas_javascript
: You use the Atlas JavaScript format with third-party Atlas Rich Media tags. Use this template if the Atlas tags contain JavaScript or use the jview call. This template requires the **Atlas unique identifier** and **Atlas unique code** fields. The unique identifier is the three-character code before `/iview/`, and the unique code is the string after `/iview/`.

Standard-Doubleclick_iframe
: You use this format with DoubleClick tags that use an iframe or `/adi/` call. Do not use this format if publisher or placement IDs are used in the tag. This template requires the **Dfa flight tags** and **Dfa size** custom format fields. The flight tag is the string after `/adi/`. The size is the string that contains `width=` and `height=`.

Standard-Doubleclick_iframe_2
: You use this format with DoubleClick tags that use an iframe or adi call, and tags that contain publisher and placement IDs. This template requires the **Dfa advertiser**, **Publisher id** , and **Placement** custom format fields. Dfa advertiser is the string after `/adi/`. The publisher ID follows `publisher=` and the placement ID follows `placement=`.

Standard-Doubleclick_javascript
: You use this format with DoubleClick tags that use JavaScript or adj call. Do not use this format if publisher or placement IDs are used in the tag. This template requires the **Dfa flight tags** and **Dfa size** custom format fields. The flight tag is the string after `/adj/`. The size is the string that contains `width=` and `height=`.

Standard-Doubleclick_javascript_2
: You use this format with DoubleClick tags that use JavaScript or adj call, and tags that contain publisher and placement IDs. This template requires the **Dfa advertiser**, **Publisher id**, and **Placement** custom format fields. The publisher ID follows `publisher=` and the placement ID follows `placement=`.

Standard-Eyeblaster_javascript
: You use this format with Sizmek (formerly known as Eyeblaster) tags. This format does not include support for the Sizmek iframe buster. The template requires only the **Script src url** custom field. Include the entire URL after script `src=`, but should exclude the parameters `&ord=` and `&ncu=` and the values that precede them. Enter the entire URL into this field from the tag, excluding `&ncu=`.

Sticky _Format
: You use this format to enable a set of creatives to persist, rather than just one being served. This enables any of the creatives in the set to serve each time, rather than always favoring the first creative that served.

All system creative formats have a viewability feature that counts how many times a creative has been viewed on a visitor's browser or device. To start logging viewability counts, contact SAS Technical Support.

About Frequency Capping

Frequency capping, the ability to limit the exposure of creatives over a specified time span, can be applied to a creative format and at the campaign, flight, and creative levels. Capping can also be applied to impressions, clicks, and conversions. Frequency capping is strictly evaluated. That is, if the value is reached at any level (creative format, campaign, flight, or creative levels), SAS 360 Match does not consider the object, and any hierarchical dependents, for delivery. For example, if the cap has been met at the campaign level, any flights in that campaign are not considered for delivery. Frequency capping for clicks or actions results in SAS 360 Match not serving the creative associated with the click or action until the visitor is qualified to see it again under the frequency capping policy.

Add a Creative Format

1 On the top navigation bar, click the **Creative** tab.

2 Click the **Creative Formats** subtab.

3 Select the type of creative format to create.

- Click **+ Add New Creative Format** to add one or more format templates to a creative format.

  When you create a creative format with multiple templates. SAS 360 Match selects the representation to use, based on the client's needs. For example, you can use multiple templates in a single creative format that supports multiple versions of VAST. Each target can specify a different version of VAST. SAS 360 Match selects the version of VAST to use based on the client's needs.

- Click **+ Add a New Network Creative Format** to add a creative format that references an external URL and contains no template data.

4 Enter information in the **Name** field.

Note:

You can enter only alphanumeric characters (a–z, A–Z, 0–9) and underscores.

5 Enter information in the **Description** field.

6 In the **Target** field, enter the first few letters of the target's name and then select the target from the list. Adding the creative to a flight automatically applies the target to the flight creative.

7 Specify the names for the **Exposure policies**. An exposure policy is a policy that restricts how often an item is allowed to serve to a visitor, based on specified metrics during a specific time period. For more information, see "About Exposure Policies" on page 169.

8 If you do not want snippets added to the creative format, select **Skip snippets**. For more information about snippets, go to Chapter 34, "Managing Snippets," on page 197.

9 Use the Frequency Caps panel to set options that affect the frequency limits for impressions, views, clicks, or conversions for each visitor.

- Enter a value in the **Quantity** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor.

- Enter a value in the **Period** field to specify the period of time that must elapse after the quantity is reached for impressions, views, clicks, or conversions before a visitor is eligible to receive the flight again. For example, if you enter `3` in the **Quantity** field and `1 week` in the **Period** field, once a flight is shown three times to a visitor, the flight is not shown again to the visitor until after a one-week waiting period.

  Note: You must enter an integer value in the **Period** field. For example, enter `1 hour` instead of `hour`. A `per day` period indicates a calendar day that runs from midnight of one day to midnight of the next day instead of a 24-hour time span. A month indicates 30 days instead of the actual number of days of a specific month.

- Enter a value in the **Over Lifetime** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the lifetime of the flight.

- Enter a value in the **Per Session** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the course of a visitor session. A visitor session is initiated whenever an ad request is made, and then, by default, persists for 30 minutes after the visitor's last request.

For more information, see "About Frequency Capping" on page 99.

10 Expand the Labels panel. Labels provide a way to add custom fields and values.

- To create a new label, click **+ Add New Label**. Enter a **Name** for the label and enter a **Display Name** to use in the SAS 360 Match user interface. Then click **Add Label**.

  Note: You can configure a maximum of five labels. Contact SAS Technical Support to change the limit.

- To add a value to an existing label, click **+ Add Label Value**. Select the **Label** from the drop-down list and specify the **Value** for the label.

11 In the Format Fields section, to add a field, enter information in the **Name** field and the optional **Description** field. Select **Media** or **Required** and then click **+ Add Field**. Drag and drop the items to reorder them.

12 Select and create a source for the template, depending on the creative format that you selected.

- To add one or more creative formats:

  1 In the Format Template panel, select **Add Format Templates**.

  Note: You must create your format templates before you add a creative format. For more information, see "About Format Templates" on page 105.

  2 In the pop-up window, select up to 10 templates for the creative format and click **Add Selected Templates**.

- To add a network creative format:

  1 In the Network Attributes panel:

  - From the **Request Method** list, select **GET** or **POST**.
  - Enter the network URL in the **Request URL** field.
  - Enter information in the **Request Headers** field.
  - From the **Response Type** list, select **HTML**, **JSON**, or **XML**. The selection determines what is produced for the creative that is sent back to the visitor's browser (in response to the network request). When the network directly produces HTML or JavaScript content for the creative, the response template should be left empty. In this case, no processing is done on the network's response, and it is sent as is to the visitor's browser. When the network produces an XML or JSON response from metadata about the creative, the response template must be defined to construct the final creative content from the data provided by the network.
  - Enter information in the **Response Template** field. The response template is similar to a standard creative template because it contains text that defines the HTML or JavaScript content of the resulting ad. Tokens can be referenced in the same way. All of the tokens that are

available to standard creative templates can be used here as well. In addition, a special %%NC%% token is used to reference selected content from the network's XML or JSON response. For more information, see "NC" on page 132.

2 In the Token Patterns panel:

- To add a token pattern, click **+ Add Token Pattern**, select a tag from the list, and enter information in the **Token** field. Repeat this step for each token pattern that you want to add.

  Tokens that reference tags that specify multiple values (for example, /`SITE=A,B,C`) can reference a specific value. The syntax for these tokens is %%TOKEN:+1%% or %%TOKEN:-1%% (the plus and minus signs are required). Starting from 0, the specified number determines which value in the comma-separated list is returned. Negative numbers reference the values that are relative to the end of the list. For example, +1 returns the second value (or B in this example), and -1 returns the last value (or C).

  Note: To specify a default value in the token that is used when no other value is provided, enter `%%TOKEN:?"`*`default value`*`"%%`. You can also set default values (for example, enter `%%TOKEN:?"%%OTHER:?"`*`default for the default`*`"%%"%%`).

13 Click **Add Creative Format**.

View a Creative Format

1 On the top navigation bar, click the **Traffic** tab.

2 Click the **Creative Formats** subtab.

3 Click in the row for the creative.

4 The preview displays the description, target, format fields, and template that are configured for the creative format. Click to edit the creative format. For more information about the fields in a creative format, see "Add a Creative Format" on page 99.

Edit a Creative Format

1 On the top navigation bar, click the **Creative** tab.

2 Click the **Creative Formats** subtab.

3 Click the creative format name or click in the row for the creative. The Edit *creative format name* Creative Format page appears. For more information about the fields in a creative format, see "Add a Creative Format" on page 99.

4 Click **Update**.

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Managing Format Templates

About Format Templates

A creative format is a way to standardize a particular type of creative, such as the variables that are used within a format's templates. However, you can associate multiple format templates with a single creative format to support different representations of the same creative. The format template that is used to render the creative is chosen based on the targeting that is applied to the creative format.

For example, you can associate multiple format templates with a creative format when following a standard like VAST that requires support for different versions of VAST for the same creative. The creative format could support VAST 4.0 by default when a format template with no target is applied. However, the creative format could also support VAST 2.0 when it is associated with a target that requires that VAST=2.0 when an ad request is processed. Multiple format templates can also support responsive creatives that use HTML and device attribute targeting.

Add a Format Template

1. On the top navigation bar, click the **Creative** tab.
2. Click the **Format Template** subtab.
3. Click **+ Template** to create a format template.
4. Specify a unique **Name** for the format template.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), underscores, and hyphens.

5 (Optional) Specify a **Target** for the format template. If you specify a target, the template is used only when the given target matches

Note: Enter the first few letters of the target's name in the **Target** field and then select the target from the list.

6 In the **Template type** field, specify and configure one of the following options for the source data for the format template:

- Select **Upload** to upload a file. In the **Template** field, click **Choose File**, navigate to the file that you want to upload, and then click **Open**.
- Select **Text** to enter the contents of the template manually.

  From the **MIME Type** list, select **application_javascript (application/javascript)**, **application_xml (application/xml)**, **JS (application/javascript)**, **text_html (text/html)**, **text_javascript (text/javascript)**, or **xml (application/xml)**.

  Note: You can create your own MIME types. For more information, see "Add a MIME Type" on page 107.

  Enter information in the **Template Text** field. The text is the actual source code for the template and specifies how the creative is going to be displayed and how it functions.

7 Click **Add Format Template**.

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Managing MIME Types

About MIME Types

MIME types enable you to specify HTTP content types when a creative is delivered.

Add a MIME Type

1. On the top navigation bar, click the **Traffic** tab.
2. Click the **MIME Types** subtab.
3. Click **+ Add New MIME Type**.
4. Enter information in the **Name** field and the **Content type** fields.
5. Click **Add MIME Type**.

Edit a MIME Type

1. On the top navigation bar, click the **Traffic** tab.
2. Click the **MIME Types** subtab.
3. Click the MIME type name or click in the row for the MIME type. The Edit *MIME type name* MIME Type page appears.
4. Enter information in the **Name** field and the **Content type** fields.
5. Click **Update**.

18

Using Tokens

About Tokens

Tokens are placeholders for data or content that are used in creatives and creative formats. For example, because creatives vary in size, the code needs to reflect the size of each creative. Tokens for width and height represent the values of width and height for a creative. These tokens enable multiple creatives to use a single creative format that always includes the correct width and height.

Token names are in uppercase and start and end with double percent signs (%%). This formatting enables the server to identify tokens and to determine what values to replace them with. For example, if a creative has a width of 728 and a height of 90, a creative format might have the following code:

```
<img src="%%MEDIA%%" width="%%WIDTH%%" height="%%HEIGHT%%">
```

You can have %% appear in your output if the original template contains %%%%. A series of four % characters (%%%%) results in a single pair of % characters (%%) in the resulting token expansion. For example, `Email address%%%%addr%%%%` becomes `Email address %%addr%%` after the substitution.

Tokens can be nested inside other tokens. The nested token is replaced with the appropriate value for the token and this value replaces the token that contains the nested token. Nesting can go three levels deep.

Dynamic Tokens

In SAS 360 Match, you can use dynamic tokens to replace a string in creative code content. Dynamic tokens enable you to retrieve tag values from the ad request URL and insert them into creative content. For example, you can use the following ad call to pass in a key and value pair such as `/toys=nerfgun`:

```
http://crtl.aimatch.com/customername/hserver/site=toycatalog/
size=728x90/toys=nerfgun
```

The creative content can use the %%TOYS%% token to build the following click URL, where %%TOYS%% is replaced with the `nerfgun` tag value in the following query string:

```
<a href="%%CLICKURL%%?%%TOYS%%"><img src="%%MEDIA%%" width=728
height=90>
```

The string in the dynamic token does not have to be a targeting tag in SAS 360 Match for this feature to work. Appending :URLENCODED to the token string (for example, %%DATETIME:URLENCODED%%) applies URL encoding to the token value. Similarly, appending :URLDECODED decodes a URL-encoded string. You can use user registration tags as tokens.

Predefined Tokens

SAS 360 Match provides predefined tokens, which can be placed in both file-based and URL-based creatives. The following table lists and describes the data sources that are used to replace the tokens.

Note: Appending :URLENCODED (for example, %%DATETIME:URLENCODED%%) URL-encodes the token value. Appending :URLDECODED decodes a URL-encoded string.

Token	Description
%%ACCEPT_LANGUAGE%%	The language that the browser uses.
%%ADVERTISER%%	Use with dot notation to display specific attributes about the advertiser for the ad that a user is viewing. The following options are available ■ %%ADVERTISER.NAME%%: The name for the advertiser ■ %%ADVERTISER.LEGAL_ENTITY_NAME%%: The legal entity name for the advertiser ■ %%ADVERTISER.BUSINESS_ID1%%: The value of ID1 for the business for the advertiser ■ %%ADVERTISER.BUSINESS_ID2%%: The value of ID2 for the business for the advertiser ■ %%ADVERTISER.CLICK_URL%%: The advertiser's default click URL
%%ADVID%%	The advertiser ID.
%%ALTIMAGE%%	The string that is entered in the **Alt Image** field for a creative.
%%ALTTEXT%%	The string that is entered in the **Alt Text** field for a creative.
%%BASEURL%%	The URL that points to the client's ad server (for example,`http://crtl.aimatch.com/`{*client-shortname*}.
%%BEACONURL%%	The URL that is added to the creative code returned to the page and that instructs SAS 360 Match to increment the impression count. **Note:** This token requires an `img src=` HTML tag to be prepended to the URL. This token returns only the URL that counts beacons and would be used in contexts that call it appropriately, such as in an image tag.
%%BOTFRAUD%%	Indicates whether fraud or bot is detected and the type of fraud or bot, if available.

<table>
<tr><th>Token</th><th>Description</th></tr>
<tr><td></td><td>The token returns one of the following values:
0 = No fraud or bot detected
1 = Fraud detected based on impressions
2 = Fraud detected based on click activity
3 = Bot detected based on User Agent value that is not in the allow list
4 = Bot detected based on User Agent value that is in the deny list
5 = Fraud detected based on the user's IP address changing location too quickly
6 = Fraud detected based on actions
Contact SAS technical support to disable bot checks while keeping fraud detection enabled. You can request one of the following options:
Disable the bot allowlist check so that any user agent is accepted.
Disable the bot denylist check so that known bots can make requests.</td></tr>
<tr><td>%%CAMPID%%</td><td>The campaign ID.</td></tr>
<tr><td>%%CLICKDESTINATIONURL%%</td><td>The destination URL that is specified in a creative's Click URL field.</td></tr>
<tr><td>%%CLICKURL%%</td><td>The click URL that points to the SAS 360 Match ad server for counting clicks and returns the click URL that you entered for the creative to the browser for relocation.

The relocate argument references a token name that is associated with a creative format field (for example, <code>X_fieldname</code>), rather than a URL. You can restrict usage to only URLs that you control when you use a creative format field. SAS 360 Match matches the value that is associated with the creative format field from the creative that is indicated by the FCID value in the call.</td></tr>
</table>

Token	Description
	When an ad click API request is sent, the 302 redirect response returns one of the following values: - The URL that is in the format field that is named in the relocate clause. - The default creative click URL when there is no relocate clause or the format field that it names is empty. - The tenant's default click URL. When a creative has multiple click URLs, a best practice is to add an optional parameter to the %%CLICKURL%% token that represents the token name that is associated with a creative format field. When the optional parameter is present, /relocate=<fieldname> is appended to the URL that is produced. For example, if %%CLICKURL%% produces the following URL: https://ads.customer.com/customer/adclick/FCID=1234 then %%CLICKURL,X_CLICKURL1%% produces the following URL: https://ads.customer.com/customer/adclick/FCID=1234/relocate=X_CLICKURL1
%%CREATIVE.SIZE.HEIGHT%%	The height of the creative size for the creative.
%%CREATIVE.SIZE.ID%%	The ID of the creative size for the creative.
%%CREATIVE.SIZE.NAME%%	The name of the creative size for the creative.
%%CREATIVE.SIZE.WIDTH%%	The width of the creative size for the creative.
%%CRTUINFO%%	The information that was entered in the **User info** field in the Edit Creative window.
%%CUSTOMER%%	The client's short name, which is the subdomain name for the client's user interface.

Token	Description
%%DATE%%	The date value from the `/date=` tag in an ad call.
%%DATETIME%%	The current date and timestamp value in the `YYYY-MM-DD HH:MM:SS` format.
%%DEV_BROWSER_NAME%%	The browser type.
%%DEV_DISPLAY_HEIGHT%%	The height, in pixels, of the device display when it is in its default orientation.
%%DEV_DISPLAY_WIDTH%%	The width, in pixels, of the device display when it is in its default orientation.
%%DEV_FLASH_CAPABLE%%	Specifies whether the device is capable of running Flash.
%%DEV_HTML_AUDIO%%	Specifies whether the device supports HTML5 audio.
%%DEV_HTML_VIDEO%%	Specifies whether the device supports HTML5 video.
%%DEV_OS%%	The device's operating system, such as Android or iOS.
%%DEV_TYPE%%	The device type being used, for example, a browser, tablet, or television.
%%DURATIONHMS%%	The display duration for the ad in `HH:MM:SS` format (for example, `01:30:00` indicates 1 hour and 30 minutes).
%%DURATIONS%%	The display duration for the ad in seconds (for example, `60`).
%%EXTRAHTML%%	When the token is present in a creative template, the string is replaced with network beacons and snippets that would otherwise have been appended to the end of the creative. When the token is not present, the beacons and snippets are appended to the end of the creative.
%%FCID%%	The unique flight creative ID, or FCID, value that links the creative to a flight.

Token	Description
%%FLIGHT.END_DATE%%	The flight end date to include in a creative response. The value is formatted as a datetime value that uses the flight's time zone, which is set to the tenant's time zone by default.
%%FLIGHTID%%	The unique integer value that identifies a flight.
%%FLTUINFO%%	The information that was entered in the **User info** field in the **Description** panel of the Edit Flight window.
%%FLIGHT_NAME%%	The name of the flight. This token is available if the FlightTokensEnabled setting is enabled. Contact SAS technical support to configure the setting.
%%GENERIC%%	The string that is passed in on an ad call between the `/generic=` string and the next forward slash (/).
%%GEO_CITY%%	The visitor's city.
%%GEO_CONN_SPEED%%	The visitor's connection speed.
%%GEO_COUNTRY%%	The visitor's country.
%%GEO_IP%%	The visitor's IP address.
%%GEO_METRO_CODE%%	The visitor's metro area.
%%GEO_REGION%%	The visitor's region (state or province).
%%GEO_ZIP_CODE_TEXT%%	The visitor's ZIP code.
%%HEADER.<headername>%%	SAS 360 Match automatically generates a token for every request header. If the value for `headername` matches any header from the request, then the header's value is returned. If the `headername` is not in the request, an empty string is returned. The check for the `headername` value is not case sensitive.
%%HEIGHT%%	The height of the creative when it is assigned a size.

Token	Description
%%HTTP%%	The protocol that is used for the request. Valid values are http or https, as appropriate.
%%IPADDRESS%%	The visitor's IP address.
%%MEDIA%%	The string that is entered in the **Media** field for a creative.
%%MID%%	The visitor's SAS 360 Match cookie value.
%%ORIGIN%%	The value of the Origin header. It is used for CORS (Cross-Origin-Resource-Sharing) requests.
%%PATH%%	The path information string that is passed in on an ad call between `http://` and question mark (?) in the URL.
%%PRECLICKURL%%	The click URL that points to the SAS 360 Match ad server for click counting followed by the string `relocate=`. This string enables a click URL to be appended so that SAS 360 Match can issue a relocate URL. It is useful for third-party ad servers who want to append a click destination while enabling SAS 360 Match to count the click. **IMPORTANT** The ad server does not redirect unless the URL that is provided in the `relocate=` string is specified in an allowlist. For more information, see "About the Redirect Allowlist" on page 309. The recommended practice is to change the use of %%PRECLICKURL%% to %%CLICKURL%% in your creatives. For more information, see %%CLICKURL%%.
%%PRODUCT_ID%%	The product ID. **Note:** This value is not available by default. Contact SAS technical support to enable it.
%%PRODUCT_NAME%%	The product name.

Token	Description
	Note: This value is not available by default. Contact SAS technical support to enable it.
%%QUERY%%	The query string that is passed in on an ad call after the question mark (?) in the URL.
%%RANDOM%%	The random number that is passed in on an ad call after the `/random=` string.
%%REFERER%%	The URL of the page that contains the ad call URL.
%%SIZE%%	The size value that is sent in an ad request such as `"300x250"`.
%%SUPERTAG%%	The supertag value that is passed in on an ad call.
%%TIER.ID%%	The ID of the tier.
%%TIER.NAME%%	The name of the tier for renderend creatives.
%%TIERNAME%%	The name of the tier the partner is competing on. **Note:** The %%TIERNAME%% token is supported in network creative templates, bid request templates, and data connectors. It is not supported in creative templates.
%%TIME%%	The time value that is passed in after the `/time=` tag in an ad call.
% %TOKENNAME:JSONEX,path.to.element %%	A format that can extract data from a value with a JSON structure. In this token: ■ TOKENNAME is the name of the token. The token might be followed by additional formatting options. If the token value is not a valid JSON structure, the format returns an empty string. ■ JSONEX is the name of the formatting option to use to extract JSON data.

<table>
<tr><th>Token</th><th>Description</th></tr>
<tr><td></td><td>

path.to.element is the path to the element to extract from the JSON structure. This path is case-sensitive.

If the element does not exist at the specified path, the format produces an empty string.
If the element exists but it is not a terminal node in the JSON structure, a JSON representation of that node is returned.

For a token named EMP with the following values:
<pre>
{ "name": "Smith",
   "employer": {
     "name": "SAS",
     "city": "Cary"
     },
   "children": [
     "Sally",
     "Roger"
     ]
}
</pre>

%%EMP%% returns the entire JSON string.
%%EMP:JSONEX,name%% returns <code>"Smith"</code>.
%%EMP:JSONEX,employer.name%% returns <code>"SAS"</code>.
%%EMP:JSONEX,employer.city%% returns <code>"Cary"</code>.
%%EMP:JSONEX,employer.state%% returns an empty string because the element does not exist.
%%EMP:JSONEX.employer%% returns <code>{"name":"SAS","city":"Cary"}</code>.
%%EMP.JSONEX.children%% returns <code>{"":"Sally","":"Roger"}</code>.

</td></tr>
<tr><td>%%USERAGENT%%</td><td>The user agent string that is passed via the HTTP request header for an ad call.</td></tr>
<tr><td>%%VERICOUNTURL%%</td><td>The URL that is added to the creative code returned to the page that instructs SAS 360 Match to increment the impression count.</td></tr>
</table>

Token	Description
	Note: This token includes the `img src=` HTML tag prepended to the URL.
%%VIEWABILITYPERCENT%%	The percent of the ad that the viewer must see in order for the view to be counted. The default value is 50%. You can configure this value.
%%VIEWABILITYTIME%%	The amount of time required to view an ad for the view to be counted. The default value is 1,000 milliseconds (1 second). You can configure this value.
%%VIEWABILITYURL%%	The beacon URL that is automatically created by SAS 360 Match to increment the viewed count.
%%WIDTH%%	The width of the creative when it is assigned a size.

If you create a field for a creative template, a corresponding custom token is also created. Custom tokens are prepended with `X_` unless you selected the **Media** check box. If you selected the **Media** check box, the token name matches the name of the field that you created. For more information, see "Add a Creative Format" on page 99.

You can create a dynamic token to replace a string in the creative code content. For example, an ad call can pass in a key=value pair such as `/toys=boardgame` in the `http://crtl.aimatch.com/customername/hserver/site=toycatalog/size=728x90/toys=boardgame` URL. The creative content can then use the token %%TOYS%% to get the associated value `boardgame`:

```
<a href="%%CLICKURL%%?%%TOYS%%"><img src="%%MEDIA%%" width=728
height=90></a>
```

where %%TOYS%% is replaced by `boardgame` in the query string of the click URL.

Tokens that reference tags that specify multiple values (for example, `/SITE=A,B,C`) can reference a specific value. The syntax for these tokens is %%TOKEN:+1%% or %%TOKEN:-1%% (the plus and minus signs are required). Starting from 0, the specified number determines which value in the comma-separated list is returned. Negative numbers reference the values that are relative to the end of the list. For example, +1 returns the second value (or B in this example), and -1 returns the last value (or C).

Note: To specify a default value in the token that is used when no other value is provided, enter `%%TOKEN:?"`*`default value`*`"%%`. You can also set default values (for example, enter `%%TOKEN:?"%%OTHER:?"`*`default for the default`*`"%%"%%`).

Use the %%MATCH.tagname%% token to identify the tag value from the list of comma-separated values that was used to find a match for the creative delivered. For the %%MATCH.tagname%% token, tagname is the name of the tag to use. For example, if an ad request contains /SITE=A,B,C, and the flight creative that delivered was targeted to SITE=B, %%MATCH.site%% would return a value of B. Individual values in a multivalue tag match can be referenced using the :+index suffix.

Note: Tracking matched tag values must be enabled on for each tag through a customer configuration setting.

Use `%%`*token*`:`*regularExpression, matchString, replacementString*`%%` to change the value of any token, such as network creative URLs, network creative responses, and creative templates. The match and replacement strings are comma-delimited after the *regularExpression*. If percent signs (%), colons (:), or commas (,) are needed within the match or replacement strings, they must be URL encoded as `%25`, `%3A`, and `%2C`, respectively.

Formatting Tokens

You can use formatting tokens to format data that can be interpreted as having multiple values, such as tags and BSERVER or DSERVER ad responses.

JOIN

JOIN combines the multiple values of the token that it is formatting in a custom way. Use the following syntax for a JOIN:

```
%%<token>:JOIN,<separator token string>,<for each token string>%%
```

The `separator token string` separator string can contain any string of characters and is applied between multiple values. If there is only one value (or no values), the separator string is not applied. The separator token string can contain other token references, using the normal %%token%% syntax. If the argument is not expressed, a comma is used. If the separator string is null, no separator is applied and the values are concatenated.

The `for each token string` token string can contain any string of characters and is applied for each value in the token that is being formatted. If the token that is being formatted has no values, this string is not applied. To be useful, the string should include at least a reference to the %%#VALUE%% token. If the token is null or absent, %%#VALUE%% is assumed.

Either of the token strings can contain references to other tokens using the % %token%% syntax. They can also include embedded newline characters. For example, %%TAG:JOIN,",<newline>"%% requests a separator consisting of a comma followed by a newline character.

If either of the token strings contains a comma, colon, or other token reference, the entire string must be enclosed in double quotation marks. Embedded double quotation marks must be escaped with a backslash.

Within the context of a JOIN, you can reference additional tokens in the for each token string argument using a # prefix for the names.

- %%#SIZE%% produces the number of values in the token that is being formatted. If the token has no values, #SIZE produces 0.
- %%#INDEX%% produces the zero-based index of the value that is being handled during this interpretation of for each token string. For example, if the token that is being formatted has three values, the #INDEX value varies from 0 to 2.
- %%#CINDEX%% produces the cardinal index of the value that is being handled. For example, if the token that is being formatted has three values, the #CINDEX value varies from 1 to 3.
- %%#VALUE%% produces the value of the item that is being handled during this interpretation of the for each token string.

For example, the table displays the results for token strings using JOIN for the following ad call:

```
.../TAGA=blue,green,yellow/TAGB=/TAGC=purple/...
```

Table 18.1 *Results for Token Strings Using JOIN*

Token String	Results	Explanation
%%TAGA:JOIN%%	blue,green,yellow	No arguments were given, so a comma is used as the separator and %%#VALUE%% for each value.
%%TAGA:JOIN,,"%%#VALUE%%"%%	bluegreenyellow	The separator is the null string, so the values are concatenated.
%%TAGA:JOIN,".%%TAGC%%.","%%#VALUE%%"%%	blue.purple.green.purple.yellow	The separator contains another token reference surrounded by periods.
%%TAGA:JOIN,-,"(%%#INDEX%%)%%#VALUE%%"%%	(0)blue-(1)green-(2)yellow	Hyphen is the delimiter, and for each token string references INDEX and VALUE with other literal characters surrounding them.

Token String	Results	Explanation
`%%TAGB:JOIN,-,"(%%#VALUE%%)"%%`	<empty>	TAGB has no values. Therefore, no string is produced.
`%%TAGC:JOIN,-,"(%%#VALUE%%)"%%`	(purple)	TAGC has only one value. Therefore, the separator is not used.
`%%TAGA:#SIZE%%`	3	With no JOIN used, #SIZE produces the number of values in the tag.
`%%TAGA:JOIN,<newline>,"%%#CINDEX%% of %%#SIZE%%: %%#VALUE%%"%%`	1 of 3: blue 2 of 3: green 3 of 3: yellow	The separator is a newline character, and `for each token string` references the cardinal index and size. Three lines are produced.

SPLIT

SPLIT processes the token's value, using a regular expression, or regex, string to separate the token into multiple values. The use of SPLIT is typically followed by JOIN to recombine the resulting values in some useful way.

Use the following syntax for a SPLIT:

```
%%<token>:SPLIT,<regex>%%
```

The match regex string is expressed using the ECMAScript regular expression pattern syntax, summarized in the ECMAScript syntax. The grammar is similar to other common regex grammars, such as sed.

For example, the table displays the results for token strings when a visitor with an ADDRESS tag that is set to `100 SAS Campus Drive,  Cary,  NC 27513`, with two spaces after each comma in the value.

Table 18.2 *Results for Token Strings Using SPLIT*

Token String	Results	Explanation
`%%ADDRESS:SPLIT:JOIN,"|"%%`	100 SAS Campus | Cary| NC 27513	The value is split on commas, by default, and produces three values. The second and third values each have two leading

<table>
<tr><th>Token String</th><th>Results</th><th>Explanation</th></tr>
<tr><td></td><td></td><td>spaces. The output uses the vertical bar (|) as a separator.</td></tr>
<tr><td>%%ADDRESS:SPLIT,", ":JOIN,"|"%%</td><td>100 SAS Campus Drive|
Cary| NC 27513</td><td>The value is split on a comma and space combination and produces three values. The second and third values each have a single leading space because one space was part of the split string. The output uses the vertical bar (|) as a separator.</td></tr>
<tr><td>%
%ADDRESS:SPLIT, :JOIN,"|"%%</td><td>100|SAS|Campus|Drive,||
Cary,||NC|27513</td><td>The value is split on a single space, producing nine values, including two empty values where two spaces were encountered together. The output uses the vertical bar (|) as a separator.</td></tr>
<tr><td>i%%ADDRESS:SPLIT,"
" :JOIN,"|"%%</td><td>100 SAS Campus Drive,
Cary, NC 27513</td><td>The value is split on three spaces, producing one value equal to the original value because there is no occurrence of three spaces together. The vertical bar (|) separator is not used because there are no values to separate.</td></tr>
<tr><td>%%ADDRESS:SPLIT,",
[ ]*":JOIN,"|"%%</td><td>100 SAS Campus Drive|
Cary|NC 27513</td><td>The value is split on a comma followed by zero or more spaces, producing three values. The output uses the vertical bar (|) as a separator.</td></tr>
</table>

HTMLENCODED and XMLENCODED

HTMLENCODED encodes the token value into an HTML-friendly value, such as changing a literal ampersand (&) to the `&` encoded value.

XMLENCODED encodes the token value into an XML-friendly value. HTMLENCODED and XMLENCODED can be used when the resulting string is in an HTML or XML context, respectively, and special characters must be encoded.

Use the following syntax for HTMLENCODED:

```
%%<token>:HTMLENCODED%%
```

For example, if TAG has the value `<123>`, then `%%TAG:HTMLENCODED%%` produces `>123<`.

JSENCODED

JSENCODED encodes the token value into a JavaScript-friendly string value. This can be used in cases where the resulting string is referenced inside a JavaScript-quoted string.

Use the following syntax for JSENCODED:

```
%%<token>:JSENCODED%%
```

For example, if TAG has the value `\ab/c"def"`, then `%%TAG:JSENCODED%%` produces `\\ab\/c\"def\"`.

JSONENCODED

JSONENCODED encodes the token value into a JSON-friendly string value. This can be used in cases where the resulting string is referenced inside a JSON-quoted string.

Use the following syntax for JSONENCODED:

```
%%<token>:JSONENCODED%%
```

JSONEX

JSONEX is a format that can extract data from a value with a JSON structure.

Use the following format for JSONEX:

```
%%<token>:JSONEX,path.to.element%%
```

In this token:

- <token> is the name of the token. The token might be followed by additional formatting options. If the token value is not a valid JSON structure, the format returns an empty string.
- JSONEX is the name of the formatting option to use to extract JSON data.
- path.to.element is the path to the element to extract from the JSON structure. This path is case-sensitive.
  - If the element does not exist at the specified path, the format produces an empty string.
  - If the element exists but is a nonterminal node in the JSON structure, a JSON representation of that node is returned.

For example, a token named EMP has the following values:

```
{ "name": "Smith",
   "employer": {
     "name": "SAS",
     "city": "Cary"
     },
   "children": [
     "Sally",
     "Roger"
     ]
}
```

In this case:

- %%EMP%% returns the entire JSON string
- %%EMP:JSONEX,name%% returns `"Smith"`
- %%EMP:JSONEX,employer.name%% returns `"SAS"`
- %%EMP:JSONEX,employer.city%% returns `"Cary"`
- %%EMP:JSONEX,employer.state%% returns an empty string because the element does not exist
- %%EMP:JSONEX.employer%% returns `{"name":"SAS","city":"Cary"}`
- %%EMP.JSONEX.children%% returns `{"":"Sally","":"Roger"}`

Response

RESPONSE is used in custom formats referenced by TSERVER, BSERVER, and DSERVER calls.

For a TSERVER call, RESPONSE has a single value that is the payload of the ad served. For BSERVER and DSERVER calls, RESPONSE has one value for each ad. Each value is the payload for the respective ad.

Custom Response Formatting

You can create custom default formats for TSERVER, BSERVER, and DSERVER calls to package how the ads appear in the responses. With appropriate formatting, it is possible to return ad packages that are formatted to suit the context of the client.

This ability does not override the formats that are associated with the individual creatives. The custom format refers to formatting of the outermost ad response, after all the content for the creatives have been produced in the conventional way.

To define the default custom format:

- Go to **Creative** ⇨ **Creative Formats** in the UI and create a new creative format.
- In the **Name** field, set the format name to tserver, bserver, or dserver The format names are case sensitive.
- In the **Format Template** section, define the MIME Type for the format. A bserver creative format affects only BSERVER ad calls and not BSERVERJ calls. A BSERVERJ call returns the built-in JSON format.

To override a default format and call a specific custom format, ad calls can include FORMAT=<format_name>. If a format with the specified name exists, the format is used instead of the default. If no format is specified or if the format is not found, the ad call uses the existing standard format. Use FORMATMT=<MIME_type> to specify a MIME type. Without a FORMATMT tag, the MIME type returned depends on the MIME type of the first ad in the response, which is generally not correct.

The values for the FORMAT and FORMATMT tags can be provided explicitly in the ad call or can be synthesized with supertags. For more information, see "About Supertags" on page 167. For bundled requests such as BSERVER or DSERVER requests, only the synthesized data for the first ad is searched for the FORMAT or FORMATMT value.

A custom format template generally needs to reference the RESPONSE token, possibly combined with JOIN to properly contextualize each ad in the response. The template might also need other literal data to be included before or after the ads themselves.

For example, to format a TSERVER response for a client expecting JSON, a custom template named tserver_json could be defined using the following format:

```
{ "ad": "%%RESPONSE:JSONENCODED%%" }
```

Because a TSERVER call knows that only one ad is produced, the RESPONSE token produces the content for that one ad. The JSONENCODED format token is needed in order for the ad content to be encoded properly inside the JSON string argument.

The ad call would be as follows:

```
.../tserver/format=tserver_json/formatmt=application%2Fjson/other/ad/
call/parameters/here
```

The MIME type in the FORMATMT tag is URL encoded. To format a DSERVER or BSERVER response, a custom template named bundle_json can be defined using the following format:

```
{
%%RESPONSE:JOIN,",<newline>","    \"ad%%#CINDEX%%\": \"%
%#VALUE:JSONENCODED%%\""%%
}
```

In this case, RESPONSE has multiple values, each with the content for one ad. The JOIN request specifies using a comma and newline between the ads. The second JOIN argument expresses how each ad should be formatted. For each ad, there are four spaces followed by the word ad and the cardinal index for this ad in the bundle, resulting in ad1, ad2, etc. A colon separates the ad and index from the quoted ad content, which is referenced by the #VALUE token and encoded for inclusion in the JSON string.

The DSERVER ad call would be as follows:

```
.../dserver/format=bundle_json/formatmt=application%2Fjson/duration=60/
other/ad/call/parameters/here
```

You can also use this format template for a TSERVER ad call, always producing a single JSON element named ad1. The format template might then be more generically named json.

For the following BSERVER call,

```
.../bserver/format=json/formatmt=application%2Fjson/b1/arguments/b2/
arguments/b3/arguments/b4/arguments/
```

the JSON format would yield the following results:

```
{
  "ad1": "first ad content here",
  "ad2": "second ad content here",
  "ad3": "third ad content here",
  "ad4": "fourth ad content here"
}
```

Regular Expressions

You can use a regular expression to change the value of any token, such as network creative URLs, network creative responses, and creative templates.

Use the following syntax for a regular expression REGEX:

```
%%<token>:REGEX,<matchString>,<replacementString>%%
```

The match and replacement strings are comma delimited after the regular expression. Percent signs (%), colons (:), or commas (,) within the match or replacement strings must be URL encoded as `%25`, `%3A`, and `%2C`, respectively.

For example, consider the token EXAMPLE:

```
%%EXAMPLE%% ==> http://domain.com/pathinfo
```

Add a match string to replace `pathinfo` in the URL with `hereissomethingdifferent`:

```
%%EXAMPLE:REGEX,pathinfo,hereissomethingdifferent%% ==> http://
domain.com/hereissomethingdifferent
```

In this example, you want to replace .com with .org:

```
%%EXAMPLE:REGEX,(https?)%3A//(.*)\.com/,\1%3A//\2.org/%% ==> http://
domain.org/pathinfo
```

The example above includes `%3A`, which represents a URL-encoded colon (:), and `\1` and `\2` back references that refer to previously matched text in the match string that are also in the replacement string. You can perform multiple cascading regular expression substitutions using tokens. In the following example, you replace `m` with `p`, and then `p` with `X` in the token value:

```
%%EXAMPLE:REGEX,m,p:REGEX,p,X%% ==> httX://doXain.coX/Xathinfo
```

When the token value contains multiple lines, which are represented by embedded newline characters, the match and replacement action for the regular expression is performed on the entire value, not per line. Therefore, the caret (^) and dollar sign ($) assertion characters for the beginning and the end of a line apply to the entire string.

The regular expression formatter can be used to modify the response from network creatives. For example, to provide a modified version of the response to the client, specify the %%NC%% token to contain the entire text of the network creative response and define the creative format’s **Response Template** field to the following:

```
%%NC:REGEX,<matchString>,<replacementString>%%
```

Token Indexing

Token indexing, such as %%TOKEN:+1%%, enables you to address specific values of a multivalued tag. You can also use token indexing with any token that has multiple values in creative formats and network creatives. In addition to multivalued tags, you can use token indexing for values created by the SPLIT token and for ad content in the RESPONSE token.

Arguments for tokens can be enclosed in double quotation marks or URL encoded.

Custom Tokens

You can define your own tokens in a creative format using format fields. Precede custom tokens with an uppercase X and an underscore (X_). For example, the format field name tracking_url in the creative format becomes %%X_TRACKING_URL%% in the template.

For format fields of the media type, the custom token must match the token name. For example, when you define a field name layout_1 for a media type in the creative format, the corresponding token in the template is %%LAYOUT_1%%.

Here is as example of a creative template:

```
<html>
<img style="display: none;" src="%%X_TRACKING_URL%%" alt="" />
<a href="%%CLICKURL%%" target="_blank">
<img src="%%MEDIA%%" border="0" alt="%%ALTTEXT%%" />
</a>
</html>
```

In this example,

- the corresponding token for the tracking_url format field is %%X_TRACKING_URL%%, which is replaced with the URL for a third party in the creative. The custom field can also be used to track the URL.
- the predefined token %%CLICKURL%% represents the click URL associated with the creative.
- the predefined token %%MEDIA%% represents the URL for the image source. The token is replaced with the media field entry for the creative, which might be a link to upload a file or represent a URL that points to where the file resides.
- the predefined token %%ALTTEXT%% represents the alternative text field entry for the creative.

In this example, the tokens have been replaced with actual values and converted into a creative format based on the template example above:

```
<html>
<img style="display: none;" src="http://urltopixel.com" alt="" />
<a href="http://urltoclick.com" target="_blank">
<img src="http://urltoimage.com/image.jpg" border="0" alt="" />
</a>
</html>
```

Here is a section of a template that uses predefined tokens to build an action URL. The snippet represents a tracking event section of a VAST ad tag:

```
<xml>
<TrackingEvents>
<Tracking event="start">%%BASEURL%%/count/actname=AdStart/fcid=%%FCID%
%</Tracking>
```

```
<Tracking event="midpoint">%%BASEURL%%/count/actname=AdMidPoint/fcid=%
%FCID%%</Tracking>
<Tracking event="firstQuartile">%%BASEURL%%/count/
actname=AdFirstQuartile/fcid=%%FCID%%</Tracking>
<Tracking event="thirdQuartile">%%BASEURL%%/count/
actname=AdThirdQuartile/fcid=%%FCID%%</Tracking>
<Tracking event="complete">%%BASEURL%%/count/actname=AdComplete/fcid=%
%FCID%%</Tracking>
</TrackingEvents>
</xml>
```

This template constructs a URL after it runs the following custom actions:

- Replaces %%BASEURL%% with the base URL to SAS® 360 Match
- Uses the value for `custom action name` in `/count/actname={custom action name}` for logging purposes
- Replaces %%FCID%% with the FCID of the served creative

Structured Tokens

In some cases, a JSON or XML token is represented by a structured token that provides special syntax to access elements within the token value.

BIDRESPONSE

Use the BIDRESPONSE token to retrieve the bid response JSON. When this token is available, SAS 360 Match renders the entire bid response JSON for the placement. The information in this token overrides the SAS 360 Match default behavior of rendering the bid response creative only.

Using BIDRESPONSE

The BIDRESPONSE token:

- Returns an empty string if the element exists but the call refers to a non-terminal node in the JSON structure.
- Supports arrays and lists in JSON when parsing and retrieving data.
- Extracts data using path information.

For example, a BIDRESPONSE token contains the following values:

```
{ "name": "Smith",
```

```
    "employer": {
      "name": "SAS",
      "city": "Cary"
      },
    "children": [
      "Sally",
      "Roger"
      ]
}
```

In this case:

- %%BIDRESPONSE.employer.name%% returns `"SAS"`
- %%BIDRESPONSE.name%% returns `"Smith"`
- %%BIDRESPONSE.children.0%% returns `"Sally"`
- %%BIDRESPONSE.children.1%% returns `"Roger"`
- %%BIDRESPONSE.children%% returns an empty string.

Example of BIDRESPONSE

For example, a token contains the following values:

```
{
  "id": "796e",
 "snippets": "Xya"
  "seatbid": [
    {
      "bid": [
        {
    "price": 10.50
          "adm": "DATA",
          "ext": {
            "rp": {
              "mime": "text/html"
            }
          }
        },
        {
          "adm": "DATA1"
        }
      ]
    }
  ]
}
```

The format template:

```
{
  “creative”: %%BIDRESPONSE.seatbid.0.bid.0.adm%%,
  “mimetype”: %%BIDRESPONSE.seatbid.0.bid.0.ext.rp.mime%%,
  “bid”: %%BIDRESPONSE.seatbid.0.bid.0.price%%
}
```

returns the following values:

```
{
  "creative": "DATA",
  "mimetype": "text/html",
  "bid": "10.50"
}
```

NC

The NC token refers to the entire response from the network creative. If the response type is HTML, use %%NC%% in the response template. If the response type is XML or JSON, refer to individual parts of the response to build a custom response in the response template. The %%NC.a%% token refers to a top-level XML or JSON element named "a", whereas the %%NC.a.b%% token refers to a second-level element named "b" inside a top-level element named "a".

An XML network creative contains the following values:

```
<root>
  <id>796e</id>
  <adm>main data</adm>
  <price>10.50</price>
  <bid>
    <adm>DATA</adm>
  </bid>
  <bid>
    <adm>DATA1</adm>
  </bid>
</root>
```

In this case:

```
{
  "creative": %%NC.root.adm%%,
  "bidcreative": %%NC.root.bid.adm%%,
 "bid": %%NC.root.price%,
}
```

returns the following values:

```
{
  "creative": "main data",
  "bidcreative": "DATA"
  "bid": "10.50"
}
```

Note: The NC token does not support arrays or lists in XML. The token retrieves only the first item in XML arrays or lists. In the example above, SAS 360 Match cannot retrieve DATA1.

PART 5

Targeting

19

Managing Targets

About Targets

Targets provide a powerful and convenient way of identifying a specific demographic using sites, areas, custom tags, geotargeting, keywords, and visitor browser information. Targets can be applied to flights, tiers, products, and creatives. Targeting is one way to control who gets to see what ad, and where. Targeting enables you to deliver ads to specific demographics and page locations. You can group key=value pairs to create targets that represent audience and content segments.

You can specify a target rule (targeting operators "Is empty" and "Is not empty") for either the presence or lack of a tag in an ad request. The operator is selectable only for tags (any type, including integer and decimal), user agent, referrer, and keyword.

Understanding Targets

Targets enable you to control which ads your visitors see when they are on your site. Use targets to deliver ads to specific groups of visitors when they go to specific page. For example, you can create a target to deliver an ad from a local bank that offers automobile loans when visitors from Detroit are on a car dealership page.

Build key=value pairs when you create your targets. For predefined tags such as SITE and AREA, select the values in the flight edit screen. A targeting string of key=value pairs is inserted in an ad call on a web page. The key=value pairs are assigned to flights to deliver to that ad call.

The key=value pairs are designed to segment and organize your site or sites and visitors in a hierarchical fashion. Keys are referred to as tags in SAS 360 Match. An example of a tag would be SITE, with possible values that include ABC, MSNBC, CNN, and FOX. On the CNN web page, the ad call would contain SITE=CNN in the targeting string. You can target flights to deliver to the page by selecting the CNN value for SITE in the flight's targeting setup.

SAS 360 Match provides you with flexibility in how you target pages and visitors. You can use predefined tags such as SITE, AREA, and SIZE, as well as geotargeting tags. You can specify the values for the predefined tags except for geotargeting tags. For more information, see "Predefined Tokens" on page 110. You can also create custom tags, usually called tags.

Use tags in a hierarchical manner so that your targeting parameters are easy to understand and reporting is easier. Here are examples of tag hierarchy:

- SITE= NEWS {and} AREA= LOCAL {or} WORLD {or} USA {and} AD_POSITION= TOP {or} BOTTOM
- SITE= AUTOS {and} AREA= NEW {or} USED

With the tags defined above, you can target a flight to SITE=NEWS/AREA=WORLD/AD_POSITION=TOP/SIZE=300x250. The flight serves to only ad calls that contain the specified key=value pairs. If the flight is not explicitly targeted to a specific key=value pair, then it can serve to all values of that tag. For example, if the flight is targeted to SITE=NEWS/AREA=WORLD only, it can serve to ad calls that contain AD_POSITION=TOP or AD_POSITION=BOTTOM.

Defining Targets

When multiple targeting elements are included in a target, you can specify how they are grouped. The options are **Match Any**, **Match All**, **Don't Match All**, and **Don't Match Any**.

- **Match All** is the equivalent of using the Boolean AND operator. If all the statements on an incoming ad request match all the target rules, the ad is served.

  For example, if the flight target is defined as Match All for SITE=ThisSite and AREA=Sports, only an ad call with a target that contains SITE=ThisSite/AREA=Sports matches.

- **Match Any** is the equivalent of using the Boolean OR operator. If any statement on an incoming ad request matches any target rule, the ad is served.

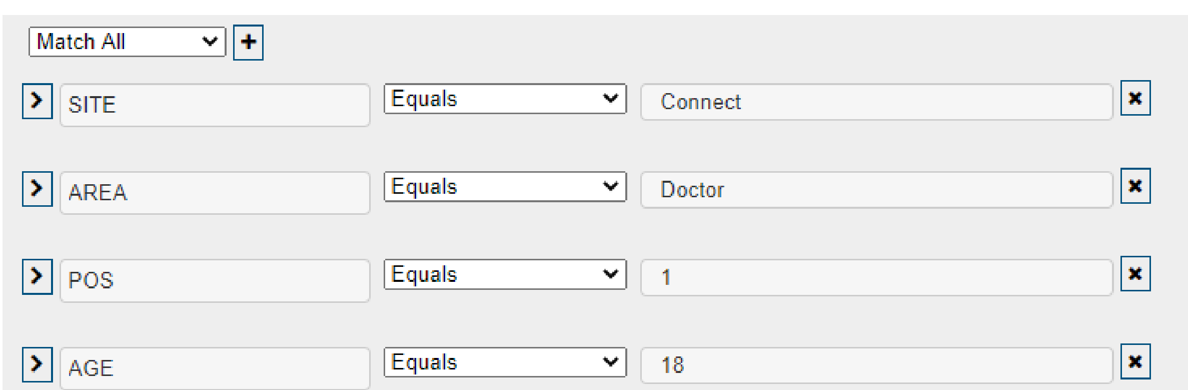
  For example, if the flight target is defined as Match Any for SITE=ThisSite and AREA=Sports, the following ad call targets match: SITE=ThisSite/AREA=Sports, SITE=ThatSite/AREA=Sports, and SITE=ThisSite/AREA=Chess. However, this ad call target does not match SITE=ThatSite/AREA=Chess.

- **Don't Match All** is the equivalent of using the Boolean AND and NOT operators. If all the statements on an incoming ad request match all the target rules, the ad is not served. The operator is the negation of the **Match All** operator.

- **Don't Match Any** is the equivalent of using the Boolean OR and NOT operators. If any statement on an incoming ad request matches any target rule, the ad is not served. The operator is the negation of the **Match Any** operator.

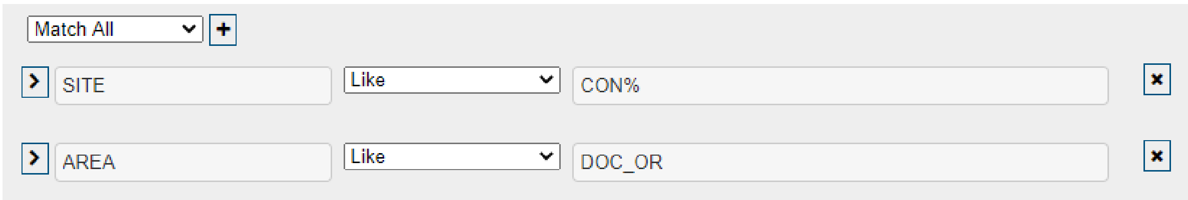
Note: **Don't Match Any** and **Don't Match All** are targeting operators that exclude groups of targeting statements. These operators can be used when creating new targets or creating rules for a flight or line item. For example, if you want to include any of several target site values but also want to exclude a specific target, select **Don't Match All** with those targets specified. The target can be excluded without creating a new negative target or statement.

For example, consider the interaction of the ad request with /SITE=CONNECT/AREA=HEALTH/POS=1/AGE=23 and a target with SITE=Connect, AREA=Doctor, POS=1, and AGE=18.



The flight cannot serve because AREA and AGE values in the target do not match the values in the ad request, even though the SITE and POS values match. The **Match All** operator requires that all the values match. If the group target option is set to the **Match Any** operator, the target matches the ad request and the flight is served.

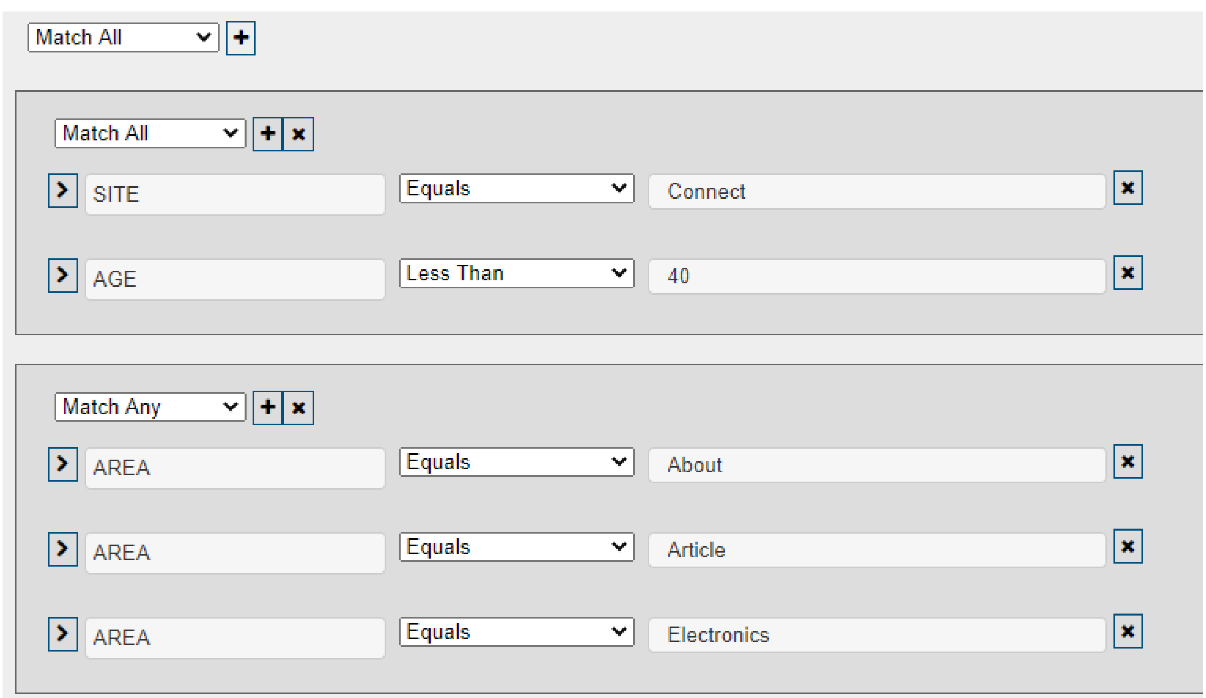
You can use wildcards to target multiple values without specifying each one individually. The percent sign (%) specifies a wildcard of any length, including no characters. An underscore (_) specifies a wildcard of a single character. In the example below, the target uses both wildcard characters.



In the target, SITE must have a value like CON%, using the percent sign wildcard to represent multiple characters. The target and ad request match if the SITE value passed in is CONNECT, but do not match if the value is 123CONNECT because the value must start with CON.

The target also specifies that the AREA value must be like DOC_OR, using the underscore wildcard to represent one character. The target and ad request match if the AREA value passed in is DOCTOR but not if it is DOC123TOR because the wildcard represents only one character.

You can also create groups of elements. For example, you can separate your elements so that there is a group where a single element has to match and another group where all the elements have to match. For example, here is a target with two groups:



The first group requires that the SITE and AGE values match. The second group requires that any of the three AREA values match. The main grouping option at the top is set to **Match All**. This means that both sets of groups must match. In other words, the SITE, AGE, and one of the AREA values must match. If the main grouping option is **Match Any**, only one of these groups needs to match.

How Targets Are Evaluated

Here are various scenarios that demonstrate how SAS 360 Match evaluates flight targeting against an ad call URL's targeting.

Table 19.1 *Evaluating Ad Call and Flight Targets by Area*

Ad Call Targeting	Flight Targeting	Result
Area is specified	Area value matches ad call	Flight matches
Area is specified	Area value differs from ad call	Flight does not match
Area is specified	**All Areas** selected	Flight matches
No area is specified	Specific area value used	Flight does not match

Table 19.2 *Evaluating Ad Call and Flight Targets by Site*

Ad Call Targeting	Flight Targeting	Result
Site is specified	Site value matches ad call	Flight matches
Site is specified	Site value differs from ad call	Flight does not match
Site is specified	**All Areas** selected	Flight matches
No site is specified	Specific site values used	Flight does not match

Table 19.3 *Evaluating Ad Call and Flight Targets by Size*

Ad Call Targeting	Flight Targeting	Result
Size is specified	Size value matches ad call	Flight matches
Size is specified	Size value differs from ad call	Flight does not match
Size is specified	Ad has no size	Flight does not match
No size is specified	Ad has a size value	Flight matches
No size is specified	Ad has no size	Flight matches

Ad Call Targeting	Flight Targeting	Result
Unknown size is specified	Ad has a size value	Flight matches
Unknown size is specified	Ad has no size	Flight matches

Table 19.4 Evaluating Ad Call and Flight Targets by Custom Tag

Ad Call Targeting	Flight Targeting	Result
Custom tag is specified	Custom tag value matches ad call	Flight matches
Custom tag is specified	Custom tag value differs from ad call	Flight does not match
Custom tag is specified	No custom tag is selected	Flight matches
No custom tag is specified	Custom tag value is selected	Flight does not match

About Targetable Values

Targets consist of left values, operators, and right values. Left values are the elements being targeted, like sites, areas, tags, and so on. The operator specifies how it is being targeted (for example, equals, not equal to, like, and so on).

Note: Contact SAS Technical Support to configure the tag validation setting. When the tag validation check is turned off, you can target any tag in the left value, even if it does not exist in SAS 360 Match. When the check is turned on, you can validate the left-value target name so that only known values are allowed.

The right value is the actual value of the element selected (for example, New York City would be a right value if City was the left value). Every tag that is defined in the system can be targeted. When creating a target, you can also use the following predefined left values:

Accepts Cookies
: This value can be used to identify visitors that do or do not accept cookies. This is useful when a particular type of creative might require cookie support. It is also part of a set of tools for click fraud bot detection.

Area
All areas that are set up in the system can be targeted.

Date
For keys that represent dates, such as occurrence or expiration date, you can set the value to a specific date, a range of dates, or to a relative number of days before or after a specific date. For example, you can send reminders to customers to renew their subscriptions when their memberships are within 60 days of the expiration date.

To use Date to specify an offset from a fixed date, the right-hand side value for Date can be TODAY+X or TODAY-X, where X represents a number of days.

When the target rule is evaluated, TODAY is the current date in the flight's time zone (or customer's time zone if the flight time zone is not set). The Date value is compared to that. When +X or -X are used, the Date is compared to TODAY plus or minus X days. For example:

- For a target rule `Date Equals TODAY`, the rule evaluates as true when the Date is today.
- For a target rule `Date Less Than TODAY+30`, the rule evaluates as true when the Date is before 30 days from now.
- For a target rule `Date Greater Than Equal To TODAY-1`, the rule evaluates as true when the Date is on or after yesterday.

> **TIP** To specify a range of dates, define one target for the start of the date range and another target for the end of the date range.

Day of Week
Use the day of week options to target a specific day or multiple days in a week. The day of week is based on the time zone of the server, not the visitor. For example, if it is a Tuesday according to the system's time zone, the rules for Tuesday apply to the target even though it is Wednesday in the visitor's time zone. Select multiple days in the day-of-week drop-down list by using the Ctrl or Shift buttons with the mouse. You can create a target that combines time range and day of the week, such as a target that specifies that the target is active from 18:00 to 21:00 on Mondays, Wednesdays, and Fridays.

Device Values
SAS 360 Match supports device detection. Details for device tags are gathered from User-Agent or other HTTP request headers. The device values are commonly referred to by the prefix dev_ in SAS 360 Match.

In some instances, SAS 360 Match requests client hints when necessary to fill in any missing information that is required to identify the devices that are being used.

The following tags are based on device values found for the visitor:

- dev_type
- dev_os
- dev_browser_name

- dev_display_width
- dev_display_height
- dev_flash_capable
- dev_html_audio
- dev_html_video

Distance
: Use the Geo_Distance_Miles and Geo_Distance_Km tags to target visitors from a fixed geographic location using latitude and longitude. Create the target with three comma-separated values: the maximum distance, latitude, and longitude.

For example, `Geo_Distance_Miles Less Than 2.0,35.82526,-78.75886` defines a rule that matches if the visitor is less than 2 miles from geographic coordinates (35.82526, -78.75886). The values for latitude and longitude in the target are limited to five places after the decimal point.

By default, the values for latitude and longitude are based on the visitor's IP address. However, they can also be passed in the ad request URL. To match the targeting rule, the ad call might contain the following information: `http://.../hserver/site=a/size=b/latitude=35.82526/longitude=-78.75886`. Both values for latitude and longitude must be included for the target containing geographic distance to match. The latitude and longitude values are not logged.

Domain
: The host name value of the visitor requesting the ad. For example, a target containing `Domain Like %.edu` would target all visitors with a host name ending with `.edu`.

Event
: A specific event with a count, a duration, and a relative time window. For information about creating an event, see "Add an Event" on page 189.

In the following examples of key and value configurations for events, LVal is EVENT.MYEVENTNAME and the operator is less than. The comma-separated values in RVal represent the number of event occurrences, when the event starts, and when the event ends.

RVal="3,0,300"
: match if the visitor has experienced fewer than three occurrences of the event MYEVENTNAME between 0 and 300 seconds ago (that is, in the last 300 seconds)

Rval="3,86400,172800"
: between 86,400 and 172,800 seconds ago (that is between 24 and 48 hours ago)

Rval="3,2015-09-01,2015-09-30"
: between 00:00:00 on 2015-09-01 and 23:59:59 on 2015-09-30

Rval="3,2015-09-01" (missing third parameter)
: on or after 00:00:00 on 2015-09-01

Rval="3,,2015-09-30" (missing second parameter)
: on or before 23:59:59 on 2015-09-30

Rval="3" (missing second and third parameter)
the visitor has fewer than three events ever

To configure an event in a target:

- Add an event to the target, select the operator, and click **click to edit**. The Event Occurrences and Time Periods window appears.
- Enter a number in the **Occurrences** field.
- Select **Relative Dates**, **Absolute Dates**, **Any Dates**, or **Session** to set the duration or time window for the event.
  - If you selected **Relative Dates**, enter values in **This event start** and **This event end** fields. The values represent seconds.
  - If you selected **Absolute Dates**, click to select the **Start Date** and **End Date**. Absolute dates use the time zone for the flight.
- To compare events, click **Select another event** and specify another event in the **Events** field. By default, the second event uses the same schedule as the first event. To set a different time period for the second event, click **Use different times per event**. Specify the schedule for the second event.
- Click **Save & Close**.

Geotargeting Values

Geotargeting is based on the evaluation of the request IP. The application compares the IP to a data file obtained from a vendor. The vendor is responsible for updating the file. The application receives an updated file from vendors every week. There is an error rate of around 3%. Device values are also based on data received from vendors. The application has a specialized device detection module that a vendor keeps up-to-date.

The following tags are based on geotargeting values found for the visitor:

- City

  For a list of city names (cross-referenced with country) and region (state or province) names that are available for targeting in SAS 360 Match, download the City Codes for Geotargeting ZIP file. Because many city names are not unique, pair a city target with a region or country target to make sure that the correct city is targeted.

- Conn Speed

  These are the available bandwidth values:

  - **broadband**: high-speed connection, but the specific type is unknown.
  - **cable**: high-speed connection over cable infrastructure.
  - **dialup**: modem used to connect at speeds up to 56 Kbps.
  - **mobile**: cellular network connection (for example, 3G, 4G, or 4G LTE).
  - **oc12**: high-speed connection at speeds up to 622 Mbps.
  - **oc3**: high-speed connection at speeds up to 156 Mbps.
  - **t1**: high-speed connection limited to approximately 1.5 Mbps.
  - **t3**: high-speed connection at speeds up to 45 Mbps.

  - **satellite**: connection is via satellite. The speed varies but generally is similar to the speed of a broadband connection.
  - **ultrabb**: high-speed connection at speeds greater than 45 Mbps
  - **wireless**: connection is via a wireless local area network (WLAN). The speed varies but generally is similar to the speed of a broadband connection.
  - **xdsl**: high-speed connection over a DSL infrastructure.

- Country

  For a list of country names and their three-letter country codes that are available for targeting in SAS 360 Match, download the Country Codes for Geotargeting CSV file.

- ISP name

  For a list of ISP and business names that are available for targeting in SAS 360 Match, download the ISP Names for Geotargeting CSV file.

- Metro Code

  For a list of metro code areas with their numeric designations that are available for targeting inSAS 360 Match, download the Metro Codes for Geotargeting CSV file. Codes are for the US, Great Britain, and France.

- NAICS code
- Proxy description
- Proxy type
- Region

  For a list of region names and their region values that are available for targeting inSAS 360 Match, download theRegion Codes for Geotargeting CSV file. Region is equivalent to state or province.

- ZIP code text

IP Address
: The IP address of the visitor can be targeted using this value.

Keyword
: Multiple keywords can be specified in an ad call, and these keywords can be targeted.

Priority
: The priority rule compares the flight's current priority to the value that is specified in the priority rule. Use a priority rule in combination with other targeting rules to alter the inventory that is available to the flight.

  For example, to make additional inventory available to a flight that has fallen behind schedule, you can create the following parent target rule to Match Any of two child targets:

  - A rule to Match All where AREA includes business or sports
  - A rule to Match All with two child rules:
    - PRIORITY is less than 0.7

    - AREA includes business, sports, electronics. or games

The target matches in the following cases:

- The restrictive set of rules matches (AREA is business or sports).
- The flight's priority drops below 0.7 and the less restrictive set of rules matches (AREA is business, sports, electronics. or games). As long as the flight's priority remains above 0.7, the flight can serve only if the restrictive rules match. But if the flight's priority drops below 0.7, then it can serve more often because the target rules are less restrictive.

Recurrence
: Specify a start and end time, or duration for this target. Also, set a weekly or monthly frequency for the target, as well as the specific pattern for that recurrence.

Referrer URL
: This targets the referring URL value that is returned by the visitor's browser. For example, if the ad call resides on http://www.aimatch.com, the browser reports this URL as the referrer URL. Not all browsers report this value correctly, and ad calls in IFRAMEs might not report correctly either.

Use `%` to represent zero or more characters when you create a target. For example, **`Referrer URL Like %.bestproducts.com/%`** targets any subdomain of the bestproducts.com domain, such as jewelry.bestproducts.com, or pages in the main domain, such as www.bestproducts.com/jewelry.

Site
: All sites that are set up in the system can be targeted

Target
: A target can reference other targets.

Time
: You can create a target that is active during a specific time or range of times. When the target is applied to a flight, the target is delivered only during the specified hours each day, from midnight of one day to midnight of the following day. The target uses the time zone for the server, not the visitor.

The available operators for a time target are Before, After, and Between. The Before operator delivers the target from the previous midnight to the stated end time. For example, a target that is configured with Before 02:00 is active from midnight until 2 a.m. The After option enables the target to deliver from the start time until midnight. For example, a target that is configured with After 11:30 a.m. is active from the start time until midnight. Specify an hourly range for the Between operator.

The time values do not roll over to the next day. To configure a target to deliver between 23:00 and 01:00, set up the target to match two statements, one for After 23:00 and another for Before 02:00.

You can create a target that combines time range and day of the week, such as a target that specifies delivery from 18:00 to 21:00 on Mondays, Wednesdays, and Fridays.

User Agent

This is the user agent value returned by the visitor's browser. Use this tag to target to specific browsers, operating systems, or a combination of browsers and operating systems.

For example, you can create a target with the Match All operator and a combination of user agent statements to target Apple devices.

- To target all Apple devices, create a target using the Match All operator with the following statements: User_Agent Like %APPLEWEBKIT% and User_Agent Not Like %WINDOWS%. The second statement excludes the Safari browser on Windows operating systems.
- To target Apple computers but not Apple mobile devices, create a target using the Match All operator with the following statements: UserAgent Like %APPLEWEBKIT%, UserAgent Not Like %WINDOWS%, and UserAgent Not Like %MOBILE%.
- To target Apple mobile devices but not Apple computers, create a target using the Match All operator with the following statements: UserAgent Like %APPLEWEBKIT%, UserAgent Not Like %WINDOWS%, and UserAgent Like %MOBILE%.

Targeting Multiple Values

You can specify multiple values for most tags used in targeting, including site, area, all custom tags, geo tags, geo IP, size, and keyword. However, latitude and longitude cannot have multiple values.

About Multiple Values

Separate multiple values in a tag with commas or the URL-encoding for commas (%2d). For example, in /SITE=ALASKA.COM,YUKON.COM/AREA=NEWS,POLITICS,ELECTION, the SITE tag has two values and the AREA tag has three values.

You can use only one instance of the tag phrase. When a tag appears more than once in an ad call, typically only the last tag is evaluated while the preceding tags are ignored. For example, AREA=NEWS/AREA=POLITICS/AREA=ELECTION is an incorrect way to express multiple values. In this example, only AREA=ELECTION is evaluated.

The ad debug output lists the multiple values supplied for the tag in alphabetical order, followed by the corresponding tag value IDs that are shown in parentheses. An invalid tag value is assigned a value ID of 0.

The behavioral targeting analysis considers multiple values for a tag when looking for matches to qualify a visitor for behavioral targeting traits.

Evaluating Targets

When SAS 360 Match evaluates a target rule or a tag restriction for a tier, flight, or creative, it considers all the values that are passed in for the tag. If any of the tag's values matches the rule or restriction, then the rule is considered to match. Consider an ad call of /SITE=ALASKA.COM,YUKON.COM/ AREA=NEWS,POLITICS,ELECTION. If a flight has a target of AREA=POLITICS, then the ad call matches. If the target is AREA=SPORTS, the ad call does not match.

For negative operations such as Not Equals, Not In, and Not Like, all the values for the tag must not match. For example, if the target is AREA!=SPORTS, the ad call is a match because none of the values passed in was SPORTS.

However, the following targets do not match the ad call:

- AREA!=POLITICS because POLITICS is one of the values for AREA.
- SITE Not In (YUKON.COM,CANADA.COM) because YUKON.COM is one of the values for SITE.

Note:

As a best practice, use the negative operators with the Match All criteria to ensure that the operators are evaluated as expected. For example, consider a flight target with the Match Any operator for SITE Not Equal to ThisSite and AREA=Sports. The target matches the SITE=OtherSite/AREA=Sports target call. However, this target call also matches SITE=ThisSite/AREA=Sports. This is not the intended behavior according to the original target that specifies that the SITE should not be ThisSite. As long as one statement is true, the Match Any operator causes the target to match.

If the target uses Match All operator instead, the ad call targeting SITE=ThisSite/ AREA=Sports does not match because both statements must be true for a match.

Logging

By default, only one value ID is logged for each tag. The value with the lowest nonzero ID is logged. If none of the values are valid, a 0 is logged.

CAUTION

If you use multiple tag values with the default setting where only one value ID is logged per tag, some flights might show that they appeared against targets for which they were not eligible. This is a reporting limitation and flights are delivered correctly.

You can configure SAS 360 Match to log a value that was matched while targeting flights or creatives that are served. If multiple values were matched in targeting, the value with the lowest ID is logged. If no values were matched in targeting, then logging occurs as for the default. Contact SAS Client Services to discuss the specific requirements because SAS 360 Match supports a limited number of tags in logging.

Simulation Forecasting

For simulation forecasting, a sampling of multiple values is recorded. These values are processed and used in targeting during a simulation, just as they would be during live ad serving. Invalid tag values are not sampled and are excluded from the simulation.

All ad sizes are included in sampling and are processed during the forecast simulation.

Add a Target

1 On the top navigation bar, click the **Targeting** tab.

2 Click the **Targets** subtab.

3 Click **+ Add New Target**.

4 Enter information in the **Name** field.

> **Note:** You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"=']), spaces, underscores, and punctuation marks (!.?;:). You cannot enter double quotation marks or commas.

5 Enter information in the **Description** field.

6 Check the **Segment** box to evaluate the target when requesting data via the getsv API for a particular visitor.

> **Note:** Future enhancements will build on the use of the segment designation.

7 Select **Match All**, **Match Any**, **Don't Match All**, or **Don't Match Any**. This global operator applies to all the target types that are specified in this section. For more information, see "Defining Targets" on page 136.

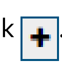
8 Define your key-value pairs .

Note: The target definition string is limited to 32,731 bytes. The string is the concatenation of the rules from the target_rules table, which is stored in the definition field of the targets table.

- Specify the target type in the text field on the left. As you type, a drop-down list of matching key names and target types is displayed. Select an existing entry or create a new target type. All target type names are converted to uppercase. Names for target types that you create cannot contain spaces or Unicode. For more information about available target types, see "About Targetable Values" on page 140.
- Select an operator to define the relationship between the target type on the left and the value on the right.

  Note: The operators that are available depend on the target type that is selected on the left.

  You can use the `Regex` operator with a regular expression pattern in the right-hand side to create rules for the following targets:

  - All user-defined tags, including string, integer, decimal, and date types
  - Literal string value from the ad call or from the state vector for non-string types
  - All ad hoc tags, as strings
  - User agent
  - Referrer
  - Domain
  - Keyword
  - Geo IP
  - Time, as a string in HH:MM:SS format
- In the text field on the right, enter the value that is related to the target type on the left. This field is limited to 32,680 bytes.
- To add more target types, click .
- To create groupings of the key-value pairs , click  on an empty row. The operator in the group applies to the key-value pairs in the group and overrides the global operator.

9 Click **Add Target**.

View a Target

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Targets** subtab.
3. Click in the row for the target. The target name page appears.
4. To view the history of edits to the target, select **View History**.

   A pop-up window lists the history of activities, when the change was made, and who made the change. You can expand the activities to display specific changes. Place your cursor over each change to see details for the change.
5. The Associations section lists the items, such as events and flights, that are linked with the target. Click on the item name to edit. To remove an item associated with the target, click in the row for the association and then click **OK**.

Edit a Target

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Targets** subtab.
3. Click the target name or click in the row for the target. The Update Target page appears.
4. Make edits in the **Name** and **Description** fields.
5. Modify the targeting values.
6. Click **Update** to save the changes.

Copy a Target

Note: You can create an original flight only in a campaign. For more information, see “Add a Flight to a Campaign” on page 35.

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Targets** subtab.
3. In the row for a target, click . The Update Target page appears.
4. To make edits to the target, follow the instructions in “Edit a Target” on page 150.

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Managing Tags

About Tags

You can create a custom set of tags to precisely target advertisement positions or to pass additional data into SAS 360 Match that is made available for targeting. Tags are key-value pairs that are used for targeting and to map audience and content segments. Taxonomies are the basic building blocks of your audience, product, and data scheme. Key-value pairs represent the data that is passed to SAS 360 Match. This data influences real-time ad selection, can help refine your concept of audience, and improve product definitions.

Tags can be strings, integers, decimals, or dates.

Integer tags contain only whole numbers as tag values. These tags enable you to easily implement comparison operators such as greater than and less than to targeting. All possible tag values (integers) are automatically populated when an integer tag is created.

Add a Tag

1 On the top navigation bar, click the **Targeting** tab.

2 Click the **Tags** subtab.

3 Click **+ Add New Tag**.

4 Enter information in the **Name** field.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9) and underscores. Tag names must begin with a letter. Do not use SAS 360 Match reserved words for the name of the custom tag.

5 Select a **Type** (String, Integer, Decimal, or Date). Integer and Decimal tags do not use explicitly defined values. Instead, any numeric value with a decimal can be specified in an ad request and can be defined in targeting. Integer and Decimal tags should not be used with dynamic inventory adjustments. The Date tag enables you to target any date. You do not need to manually create the date values.

6 (Optional) Select a **Tag group**. For information about tag groups, see Chapter 21, “Managing Tag Groups,” on page 157.

7 To enable logging for the tag in the Tags Report, select **Tagsum logging**. For more information, see “About Operational Reports” on page 269.

8 Click **Add Tag**.

9 Enter values for the tag in the **Values** field, and then click **Add Values**.

Note: Values can contain letters, numbers, and all special characters except for commas and the pipe character (|). You can use commas to separate multiple values. Use the pipe character to specify a display name for the tag value with *tag_value|display_name*. You can enter up to 100 values. For a larger set of values, use the XML API.

Edit a Tag

1 On the top navigation bar, click the **Targeting** subtab.

2 Click the **Tags** tab.

3 Click the tag name or click in the row for the tag. The Edit Tag page appears.

For more information about the fields in a name pattern, see “Add a Tag” on page 153.

Note: To filter the list, expand the **Filtering** panel and enter information in the **Name like** or **Tag group name contains** fields.

4 Click **Update**.

5 Enter values for the tag in the **Values** field, and then click **Add Values**.

Note: Values can contain letters, numbers, and all special characters except for commas and the pipe character (|). You can use commas to separate multiple values. Use the pipe character to specify a display name for the tag value with *tag_value|display_name*. You can enter up to 100 values. For a larger set of values, use the XML API.

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Managing Tag Groups

About Tag Groups

Tag groups offer a way to group a set of individual tags. For example, the cars tag group can include the tags for "make," "model," and "color."

Note: Each tag can be part of only one tag group.

For information about tags, go to "About Tags" on page 153.

Add a Tag Group

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Tag Groups** subtab.
3. Click **+ Add New Tag Group**.
4. Enter information in the **Name** field.

   Note: You can enter only letters, numbers, hyphens, dots, and underscores. The tag group name must start with a letter.

5. (Optional) Enter information in the **Tags** field.
6. (Optional) Enter information in the **Description** field.
7. Click **Add Tag Group**.

Edit a Tag Group

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Tag Groups** subtab.
3. Click the tag group name or click  in the row for the tag. The Edit Tag Group page appears. For more information about the fields in a tag group, see “Add a Tag Group” on page 157.
4. Click **Update**.

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Managing Tag Value Aliases

About Tag Value Alias

When you map several aliases to a tag value, you enable ad requests or targeting rules to reference the aliases and the tag value. Reporting or forecasting on an alias is the same as reporting or forecasting on the tag value and the other aliases for the tag value.

For example, if you map the aliases *NC*, *SC*, *GA*, and *FL* to the tag value *southeast*, reporting or forecasting on *NC* references the tag value *southeast* and any of the other aliases mapped to it. A query for the alias *SC* would return the same results as a query for *NC*.

Add an Alias

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Tab Value Aliases** subtab.
3. Select an existing **Tag** from the drop-down menu.
4. Select a **Tag Value** for this mapping.

Note: Use wildcard characters to refine the possible values. Use the percent symbol (%) to specify a wildcard of any length, underscore (_) to specify a wildcard of a single character, or caret (^) followed by a keyword to search for the keyword at the beginning of the string.

5 Enter the **Alias** and click **Save Tag Value Alias**. If you have multiple aliases for a tag value, you must add each one individually. You cannot enter multiple aliases at once.

Note: Special characters in the alias should be replaced with the encoded URL format in when you create an ad request. For example, the @ symbol should be represented by *%40* in an ad request.

6 To filter the list of mappings, enter a portion of the tag value into the **Tag Value like** field or a portion of the alias into the **Alias like** field in the **Filtering** section.

23

Managing Sites

About Sites

Sites are part of the building blocks of targets. Targets offer a powerful and convenient way of targeting a specific demographic consisting of sites, areas, custom tags, geotargeting, keywords, and visitor browser information. All sites set up in the system can be targeted.

Add a Site

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Sites** subtab.
3. Click **+ Add New Site**.
4. Enter information in the **Name** field.

   Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), periods, underscores, and hyphens.

5. Enter information in the **Description** field.
6. To record and report on a revenue share for the campaigns that you have entered, enter a value in the **Revenue cut** field. A revenue cut is usually used when you represent sites that you do not own.
7. Click **Add Site**.

Add Multiple Sites

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Sites** subtab.
3. Click **+ Add Multiple Sites**.
4. Enter information in the **Revenue cut** and **Names** fields. Separate the name of each site with a comma.

   Note: You cannot add a description when you create multiple sites. However, you can add a description to each site after it is created.

5. Click **Add Sites**.

Edit a Site

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Sites** subtab.
3. Click the site name or click in the row for the site. The Edit *site name* Site page appears. For more information about the fields in a site, see "Add a Site" on page 161.
4. Click **Update**.

24

Managing Areas

About Areas

Areas are part of the building blocks of targets. Targets offer a powerful and convenient way of targeting a specific demographic consisting of sites, areas, custom tags, geotargeting, keywords, and visitor browser information. All areas set up in the system can be targeted.

Add an Area

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Areas** subtab.
3. To add one area:
   a. Click **+ Add New Area**.
   b. Enter information in the **Name** field.

   Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), periods, underscores, and hyphens.

c. Enter information in the **Sites** field.

> **Note:** To display a list of existing sites, enter %.

d. Click **Add Area**.

4. To add multiple areas:

   a. Click **+ Add Multiple Areas**.

   b. Enter information in the **Names** fields. Use a comma to separate the names of your areas.

   c. Click **Add Areas**.

   d. To specify a site, edit each area individually.

Edit an Area

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Areas** subtab.
3. Click the area name or click in the row for the area. The Edit *area name* Area page appears. For more information about the files for an area, see "Add an Area" on page 163.

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Managing Sizes

About Sizes

Sizes are part of the building blocks of targets. Targets offer a powerful and convenient way of targeting a specific demographic consisting of sites, areas, sizes, custom tags, geotargeting, keywords, and visitor browser information. There are many default sizes included in the system, but you can define more sizes using the Targeting and Sizes tabs.

Add a Size

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Sizes** subtab.
3. Click to add a new size.
4. Enter information in the **Name** field.

   Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), periods, underscores, and hyphens.

5. Enter values in the **Width** and **Height** fields.

6 Click **Create**.

Edit a Size

1 On the top navigation bar, click the **Targeting** tab.

2 Click the **Sizes** subtab.

3 Click the size name. For more information about the fields in a size, see “Add a Size” on page 165.

4 Click **Save** to save the changes.

To view the history of changes to the size, click the **History** tab.

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Managing Supertags

About Supertags

Supertags are special tags that can be included in an ad call and expanded into one of any number of arbitrary collections of other tags and values. Supertags can be used to ease a customer's migration from other ad servers, and provides a level of tag management to ad operations. Supertags provide a way of mapping a value to an arbitrary path information snippet. You can filter existing supertags by value and path information.

Any number of supertag values can be created to predefine multiple sets of tags and values. When an ad call includes "SUPERTAG=supertagvalue", the tags in the corresponding pathinfo are added to the ad request internally. The "SUPERTAG" tag name itself is not configurable. Multiple values can be supplied for SUPERTAG if they are separated by commas, which is similar to other tags. The resulting substitution yields the union of all the values' definitions, and later definitions take precedence. An ad call that includes SUPERTAG can freely include other tags as well, and the complete set of tags implied by that mix determines what ad is served. When a SUPERTAG value maps to a path that includes a tag that is also explicitly included in the ad call, the explicit value from the ad call takes precedence. Like other tag values, supertag values are case insensitive. Unlike other tag values, there are no restrictions on use of punctuation, and special characters need only to be URL-encoded appropriately. These relaxed restrictions maximize compatibility when supertags are used to help with migration from other ad servers.

When a supertag value has an embedded dot (period, "."), the string in front of the dot defines a namespace for the value. Different namespaces can define the same value.

Add a Supertag

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Supertags** subtab.
3. Enter the name for the supertag in the **Value** field.
4. Enter tag and value pairs in the **Path Info** field. These values are used in conjunction with the path info from an ad request during flight evaluation.
5. (Optional) In **Target**, enter a target that, when matched, automatically adds the supertag path info to a visitor's ad request path info for flight evaluation.

   Note: To display the full list of targets, enter %.

6. Click **Save Supertag**.

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Managing Exposure Policies

About Exposure Policies

Use an exposure policy to set exposure levels across multiple items. By using exposure policies, it is possible to limit how often SAS 360 Match serves a specific response. A policy can be used by a range of items including Campaigns, Flights, Flight Creatives, Creatives, Products, and Formats. A change to a policy affects all the items that use the policy.

Named exposure policies enable you to manage your frequency caps more easily and efficiently. You can use an exposure policy to accomplish the following tasks:

- Update the related parameters for all the items that use similar trafficking patterns in one location. For example, you can use an exposure policy for items that are trafficked in a similar way and use the same parameters. If you use frequency caps, you must adjust the parameters in the frequency caps for all the items involved. An exposure policy enables you to make your changes in one place.
- Share a policy across multiple items. By default, exposure policies accrue counts against each object to which an exposure policy is associated separately. However, if you indicate that the exposure policy is shared, the counts accrue against the exposure policy only, meaning an exposure for any associated item counts against the same exposure policy for all associated items.
- Apply a common exposure policy to groups of items based on a label and label value that the items have in common. You can do this by associating an exposure policy with a label. When used with a label value, the policy applies separately to each group of items that uses the same label and label value.

For example, if the same underlying creative asset is used across multiple distinct creatives, a common identifier can be associated with those creatives by using a label value. All the exposures that are under a policy of this type would accumulate under this policy and label value, thus limiting exposures to the same underlying asset.

- Target an exposure policy so that the exposure applies only if the target matches. This option is useful for applying a different exposure policy for a value that can be targeted.

Exposure Policies and Frequency Caps

You can define frequency caps to restrict how often an item is allowed to serve to a visitor. The frequency cap is based on past impressions, views, clicks, or conversions involving that item during the visitor's lifetime, session, or an arbitrary period.

It is common for similarly trafficked entities to use the same parameters. However, when you want to adjust the parameters across the board, such as change the inventory that is available to that type of item, you must edit each item individually because the parameters are stored by each item that the frequency cap controls.

Exposure policies are similar to a collection of individual frequency caps that are applied to multiple items. However, an exposure policy enables you to configure one policy that is shared across multiple items rather than setting a frequency cap in each item. When you want to make a change to a parameter, you need only make one change in the exposure policy rather than multiple changes in each item that uses the frequency cap.

Use Cases for Exposure Policies

In addition to providing one policy to govern multiple items, you can use exposure policies to implement the following scenarios.

- Traffic identical creative assets in multiple creatives that are spread across multiple campaigns. An exposure policy enables you to limit the exposure of an asset across the board, rather than within each individual campaign.

  If the limit is one exposure per hour, an asset should serve to a visitor only once per hour across all campaigns that reference the asset. You can achieve this limit using an exposure policy that is configured for all the campaigns that are bound by this limit.

The limited exposure cannot be achieved using frequency caps. Each campaign can be given the one exposure per hour policy, but each campaign applies the cap individually.

- Vary an entity's frequency cap parameters according to the context of the request. For example, you could use an exposure policy for a campaign that restricts serving an ad to once per hour during a live TV broadcast and twice per hour when the same program is viewed on-demand on mobile devices.

  Without an exposure policy, you would have to break the campaign into multiple campaigns, each targeted to the specific inventory that it relates to and with its own frequency cap parameters and its own set of flights. You must also break up and pre-allocate the overall impression goal among the different flights that are involved.

Add an Exposure Policy

To create an exposure policy:

1. On the top navigation bar, click **Targeting** ⇨ **Exposure Policies**.
2. Click **Add New Exposure Policy**.
3. Specify a **Name** for the exposure policy.
4. Configure the **Shared** check box and the **Label** field to determine how the policy is applied to the items that refer to the exposure policy.
   - When the **Shared** check box is not selected, the policy applies individually to each item that selects the policy.
   - When the **Shared** check box is selected and no **Label** is specified, the policy applies to all items that refer to the policy as a group.

     For example, three creatives refer to the same exposure policy. The policy is shared, has no label, and has a limit of one exposure per session. A user sees only one of the three the creatives once for the session. After one exposure, the shared limit is reached. No additional creatives from that group are selected to deliver to the user for the session.
   - When the **Shared** check box is selected and a **Label** is specified, the policy applies separately to each group of items that uses the same label and label value.

     For example, the shared exposure policy MyPolicy uses the label Color. The following creatives refer to the MyPolicy exposure policy, with the following labels and label values:

     ```
     Creative1, Color, 'green'
     Creative2, Color, 'green'
     Creative3, Color, 'green'
     Creative4, Color, 'blue'
     ```

```
Creative5, Color, 'blue'
Creative6, Color, 'blue'
```

The MyPolicy exposure policy rules are applied in shared contexts to two groups. The limits for the creatives with the `green` label value are tracked separately from the limits for the creatives with the `blue` label value.

5 Click **Add Rule** to add rules to the policy. A rule consists of the maximum number of occurrences for a metric over a set time period, such as 10 impressions per session.

   Specify the following values for the rule:

   - Specify a value as the **Limit** for the maximum number of occurrences for the selected metric type.

     If the time frame is configured to **Session** or **Period**, the maximum number of times that a metric can occur is 10. If the time frame is configured to **Lifetime**, there is no limit on the number of times that a metric can occur.

     Use the **Metric type** drop-down menu to set the metric to measure. The options are **Impressions**, **Clicks**, **Actions**, or **Views**.

   - Define a **Timeframe** for the rule. Select one of the following options:

     - **Lifetime** to enable the exposure policy for the duration of the user record

     - **Session** to enable the policy for the amount of time that a user is active. The session ends after a given time period or when the user becomes inactive for a given time period.

     - **Period** to specify the duration of the period that the exposure policy is active, such as 6 days or 1 week.

6 Click **Add Exposure policy** to save the policy.

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Managing Connectors

About Connectors

Create a connector to set up a secure connection to an external application when your customer initiates a session. You can use connectors to retrieve or transfer data between SAS 360 Match and external applications.

A connector provides a way to integrate analytic, real-time information into SAS 360 Match that can be substituted in a creative template or used for targeting during a session. The data that you retrieve from the third-party, external source can be used to influence the decision for ad delivery. You can also use connectors to gather third-party service responses and cache them to use in creative responses later.

For example, you can create a connector to retrieve current weather conditions, such as if conditions are sunny, rainy, or neither, to determine which creative to display for the ad. If the weather is sunny, you show an ad for sunglasses but you show an ad for umbrellas if it is rainy. If the weather is neither sunny nor rainy, you serve an ad for shoes.

SAS 360 Match performs geographic and device lookups, and also loads available user registration or state vector data. It then evaluates targets for connectors and makes any requests to a connector endpoint. The data and any request parameters are available to pass to an endpoint.

A connector uses an endpoint to submit requests and receive responses from an external application. A single connector can have multiple endpoints. When multiple connector endpoints are defined, all endpoints where connector targets evaluate as true are processed in parallel. You cannot use the response from one connector endpoint as input to another on the same request.

A visitor request might trigger a connector. When no refresh interval is provided, the connector is queried only when the session starts. When a refresh interval is specified, the connector is queried at the start of session and again after the refresh interval has elapsed. For more information, see "Add an Endpoint" on page 175.

If at least half the requests to a connector fail, SAS 360 Match stops sending requests to the connector for a specific period of time. The waiting period starts at two seconds and increases to a maximum of 60 seconds if the failures continue. Contact SAS Technical Support if you want to change the default values for the initial back-off period, the maximum back-off period, or the failure threshold.

Configure an Allowlist

Some services are secured behind firewalls. In this case, you must add the addresses that SAS 360 Match uses to connect to external services to an allowlist. To enable your connectors to reach these private services, create an allowlist for the IP addresses that match the region for your specific deployment:

- US West (us-west-2)
  - 52.40.183.159
  - 52.37.250.159
  - 52.37.7.61
- Europe West (eu-west-1)
  - 52.51.203.168
  - 52.31.87.107
  - 52.51.200.137
- Asia Pacific South (ap-south-1)
  - 65.0.13.192
  - 65.0.236.154
  - 65.1.77.111
- Asia Pacific Southeast (ap-southeast-2)
  - 52.64.153.80
  - 52.62.147.240
  - 52.64.153.57
- Asia Pacific Northeast (ap-northeast-1)
  - 18.179.96.189
  - 54.92.28.37

- 54.199.138.197

Add a Connector

Use the **Connector** subtab to register your connector, configure the endpoints, and modify and update the settings. To add and configure a connector, you must provide basic information about the connector and add one or more endpoints for processing requests to each external application's server.

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Connectors** subtab.
3. Click to create a new connector.
4. Select a connector type to specify how SAS 360 Match handles the values that are returned and click **Next**. The available options are **Generic** and **SAS Intelligent Decisioning** (an OAUTH version 2 connector).
5. Enter a unique name **Name** to identify the connector.
6. Add details or notes about the connector in the **Description** field.
7. The **Type** field shows the type of connector.
8. Enable the **Active** option for the connector to send requests and receive responses.
9. Click **Create connector**.
10. After you have saved the connector, you can create and configure endpoints. For more information, see "Add an Endpoint" on page 175.

    To view the history of changes to a connector and its endpoints, click the **History** tab.

Add an Endpoint

To configure an endpoint, you must specify the URL, basic and authorization information, and add headers and parameters as required. To add an endpoint to a connector:

1. Click the **Endpoint** tab.

2 In the Details section for the endpoint:

a Enter a unique name in the **Name** field to identify the endpoint.

b Add details or notes about the endpoint in the **Description** field.

c Select the **MIME type** from the drop-down menu to specify the format of the information that is transmitted through the endpoint. These are the available options:

- **application/json**
- **application_javascript**
- **application_xml**
- **JS**
- **text/plain**
- **text_html**
- **text_javascript**
- **xml**

d Specify the **Request URL** for the server or service that represents the external application that you want to send a request to.

e Select **Active** to enable the endpoint to set up the connection to the external application.

f Select a **Target** to associate with the endpoint so that the endpoint is run only when that target is part of the ad request. If you do not specify a target, the endpoint is queried for every request.

g Select the **Request method** to specify the type of request that the endpoint sends to the external application's server. These are the available requests:

- **DELETE**
- **GET**
- **HEAD**
- **OPTIONS**
- **PATCH**
- **POST**
- **PUT**

h Specify the **Refresh interval**, in seconds, to set the refresh rate for the connector framework. You can use the interval to configure how often the connector is refreshed in the current session. The minimum refresh rate that you can specify is 120 seconds.

Note: By default, the connector is set once per session and is not refreshed. To return to the default behavior after specifying a refresh rate, delete the value in the **Refresh interval** field.

3 Expand the Authorization section and select the **Authorization type** to specify the authorization option. Select the appropriate authorization method that the endpoint must use in order to process the request for a specific external data resource through an API call.

- **Basic authorization**: enter the user name and password for access to the URL.
- **Bearer Token**: enter the bearer token for access to the URL.
- **No authorization**: no authorization parameter is required for access to the URL.
- **OAuth 2.0**: specify the authorization location for access to the URL.

  Note:

  Currently, SAS 360 Match supports connectors for SAS Intelligent Decisioning (password grant type authorization). You must provide the user name, user password, client ID, and client secret.

- **JWT**: enter the JSON Web Token (JWT) required to access to the URL.

4 Expand the Headers section and define headers to add to the request. Enter a **Key**, a **Value**, and an optional **Description** for the header. Headers represent the metadata that is associated with the API request and response.

5 Expand the Response Handling section and set the value for the **Tag**, evaluated **Token** string for the tokens that come from the API response, and an optional **Description** for the tag and token pair.

Note: Your tag must be predefined. For more information, see "About Tags" on page 153.

6 Select **Save** to save the endpoint.

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Managing Privacy Shields

About Privacy Shield

Use the privacy shield feature to create rules that control the information that a third-party ad server can capture about your audience. A privacy shield rule generates a proxy request to send to a third-party ad server. The rule limits the information that you give to the external party from the original client request.

A privacy shield rule enables you to control the headers and other data that are sent to and returned from the external parties. In the rule, you can configure the request header, request body, response header, and response body.

This is how a privacy shield rule works:

- A client makes an ad request that includes the URL of the third-party ad server.
- The privacy shield rule confirms that SAS 360 Match can generate a proxy request to the URL that is specified for the third-party server.
- SAS 360 Match generates a request to the third-party ad server that includes the restricted headers and body that are configured for the rule. SAS 360 Match returns a response that is defined by the privacy shield rule.
- If SAS 360 Match detects a redirect request from the third-party ad server, the privacy shield rule is reevaluated before another request is made. Each redirect request is evaluated using the rule for the original matching target domain, not the domain for the location header of the redirect request.

Note: SAS 360 Match evaluates a maximum of three redirect requests.

Add a Privacy Shield Rule

To add a privacy shield rule:

1 On the top navigation bar, click the **Targeting** tab.

2 Click the **Privacy Shield** subtab.

3 Click to create a new privacy shield rule.

4 Enter a unique **Name** for the privacy shield rule.

5 In the **URL** field, specify a URL for the third-party ad server. The URL serves as an allowlist. Therefore, ensure that the URL is only as general as necessary. For example, use http://testURL.com/tracker. The URL http://testURL.com is too general and http://testURL.com/tracker=bob is too specific.

   You can use the percent and underscore wildcard characters in the URL. The percent sign matches any number of characters and the underscore matches a single character.

6 Specify a **Request Method** for the rule.

   Note: GET is the only option that is available.

7 Enable the **Active** option to turn on the privacy shield rule.

8 Click **Create** to create the privacy shield rule.

9 Add details or notes about the privacy shield rule in the **Description** field.

10 Specify a value for the **Request Headers** to configure the headers that are received by the third-party service in the request. Headers are referenced using tokens with a header name that is prefixed by HEADER.

   For example, the `X-Forwarded-For` header can be referenced within a creative template, connector, or proxy configuration by `%%HEADER.X-FORWARDED-FOR%%`.

11 There is no **Request Body** for HTTP GET requests.

12 Specify a value for the **Response Headers** that you expect to receive from the third-party service in the response.

   When you use a three-digit number in the first line of the response header configuration, the header is assumed to represent the HTTP response code that the proxy returns in the request to the client. If a three-digit number is not specified, the proxy request returns the HTTP response code from the original server.

13 Specify a value for the **Response Body**. You must include a token, such as %%NC%%, in the response body field to prevent an empty response from being returned.

14 Click **Save** to save the privacy shield rule.

To view the history of changes to the privacy shield rule, click the **History** tab.

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Managing Placements

About Placements

Placements are an extension of the Partners component. Previously, one target applied by a partner could affect the entire integration with that partner. Placements extend this functionality by enabling not only multiple placement entities to be created (which enable many different targeting combinations to be used), but a placement can be configured to use several partners. All placement bidding is made in parallel. Different floor prices can be set for each partner by each biddable tier. Once an ad request is received and a flight creative is selected, placements are considered for serving. If there are no bids meeting the configured floor price, the previously selected creative is used instead. If a flight creative cannot be found to match the ad request in the tier being evaluated, then placements do not serve even if they are eligible for the request.

Before placements can be created and configured, partners that are bidding to serve the placements need to be configured by SAS Technical Support. Contact Technical Support for more information about the requirements to set up a partner. Once a partner is enabled, site and size mappings should be configured under the **Partners** tab. Any targets specified for the partner are also applied at the placement level. For more information, see “About Partners” on page 255.

Add a Placement

Specified site values are applied as targeting to the placement, and concatenated with any targets specified as well. It is important to ensure that there are no conflicting statements. For example, if an included target has a rule "Site Equals A" and site "B" that is specified in the **Sites** field, the placement would not serve. It is best practice to exclude any site targeting in targets used for placements. For each unique combination of targeting, a separate placement is needed. For example, if different floor prices are needed for Site=A versus Site=B, then two placements would be necessary.

Any sites or sizes specified need to have a corresponding mapping value setup for the partner in question (if the partner requires it) under the **Partners** tab.

Each partner that bids to the placement should have a placement key that is configured. The placement keys, if required by the partner, are distinct from the site and size mappings under the **Partners** tab. If the partner needed for the placement is not in the list, contact Technical Support.

To add a placement:

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Placements** subtab.
3. Click **+ Add New Placement**.
4. Enter information in the **Name** field.
5. Enter a **Target**.
6. Configure the primary size for the placement in the **Size** field. The placement matches if the primary size matches any request size. For an ad request that specifies sizes A, B, and C and a placement with a **Size** of B, all the sizes specified by the ad request (A, B, and C) might be sent to each network for which they are mapped.
7. Configure additional sizes in the **Other sizes** field.

   Note:

   The option to specify other sizes has no effect by default. Contact SAS technical support to enable use of this field.

   Bid requests use sizes from the intersection of the sizes in the ad request and from the combined set of sizes from **Size** and **Other sizes** fields from the chosen placement. For example, an ad request that specifies sizes A, B, and C and a placement with **Size** set to B and **Other sizes** set to C, D, and E uses only sizes B and C in bid requests and only if those sizes are mapped for the network.

8 Select a **Channel** to specify whether the bid requests a site or application as its distribution channel.

9 Select an **Impression Format** to specify whether the bid requests a banner, native, or video ad.

The **Device** field has been replaced with the **Channel** and **Impression Format** fields. The following table shows how the new fields are configured to represent an existing device setting.

Table 30.1 Device to Channel and Impression Format Mappings

Device	Channel	Impression Format
Web	Site	Banner
Video	Site	Video
App	App	Banner
Native	Site	Native

10 Enter a **Default floor price**. Before floor prices can be configured, a tier must be set as biddable in order to be eligible to serve a placement. Once a tier is biddable, placements are considered for serving when that tier is evaluated for an ad request. Floor prices can then be configured for each tier by partner on the **Floor Prices** tab on the Placements page. The floor price specifies the lowest acceptable bid price from the configured partners. For more information, see "About Tiers" on page 61.

Note:

After you create a placement, edit the placement, navigate to the **Floor Prices** tab, and click **Update** to save the default floor price values. Floor prices that are not saved are highlighted.

11 (Optional) In the **Parent Placement** field, enter the first few letters of a name for a placement and then select a placement from the autosearch results. If you specify a parent placement, it is sent as a bid request in parallel with the current placement.

You typically specify parent placements when a placement needs to include different channels (display, video, or app), targets, or floor prices.

12 Define the **Sites** for the placement. The sites must already be mapped.

13 Enter the name for the creative format to associate with the placement in the **Format** field.

14 When you specify a native placement, you can use JSON for the asset text. Add an existing **JSON Asset** to the placement.

Click **Add a new JSON Asset** to create an asset. The text can include tokens in keys or values and must use valid JSON structure.

15. Select the **Treat bid response as a creative** check box to include fields other than ad markup in the response from the ad server. By default, only the ad markup field is returned in the response.

16. Click **Add Placement**.

Edit a Placement

To edit a placement:

1. On the top navigation bar, click the **Targeting** tab.

2. Click the **Placements** subtab.

3. Click a placement name or click in the row for the placement. The Edit Placement page appears.

4. On the **Properties** tab, specify the information for the placement. For more information, see "Add a Placement" on page 184.

5. The **Network Participation** tab lists partners that are configured with sites.

   Note: Any sites that are configured for this partner must also configure **Site Mappings** on the partner edit page or they will not have active placements. Click **Edit partner network settings** to go to that partner site and edit the necessary items.

   Configure a **Placement Key** for a network to be used with a placement. You can specify a key for each site that is added to the placement. For more information, see the section titled Supported SSPs in the Platform Integration Guide.

   Use the **Site Override** field to set a custom site parameter value to be used in bid requests to the networks. Without a site override value specified, the mapping that is defined in the **Partners** tab is used in the bid request.

6. On the **Floor Prices** tab, specify the default floor prices for each network and each tier.

   Note:

   Floor prices that are not saved are highlighted. Click **Update** to save the values for the floor prices.

   If a bid from a partner is lower than what is specified in the placement, the bid is rejected. The default floor price on the **Properties** tab is used initially to populate the floor prices for each partner and tier. If the default is later changed, it does not affect the floor prices specified on the **Floor Prices** tab even if they have not been changed from the default value. For more information, see "About Tiers" on page 61.

7 (Optional) Click **View History** to see the list of edits to the placement, including when the change happened, who made the change, and the specific changes to the placement, its floor prices, and network participation.

8 (Optional) Click **Test Placement** to debug your placements.

Enter the targeting parameters in the **Path Info** field. Click **Run** to test the placement.

Note: You can customize the **Cookie**, **User Agent**, and **Referrer** values if needed. If you do not enter a `mid=` cookie value, select **Run** twice because the first execution of the request is to get a `mid=` cookie. For debugging purposes, you can enter any alphanumeric string as a valid mid cookie value (for example, **`0001245678A`**).

The information in the **Cookie** field might be updated and a return code and results might appear at the bottom of the page.

The **Results** section displays the bid request and response using the requested placement. The results show you if any of the following required information is missing from your bid request:

- the mapped site
- the mapped size
- a visitor ID for the network
- a placement key, which is an association between the network and the placement

9 Click **Update**.

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Managing Events

About Events

Events allow an event name to be associated with one or more timestamps that correspond to a visitor action (such as visiting a certain page). Event occurrences are logged using state vector requests, and can be used to target visitors that have a certain number of event occurrences.

Add an Event

1. On the top navigation bar, click the **Targeting** tab.
2. Click the **Events** subtab.
3. Click **+ Add New Event**.
4. Enter information in the **Name** field. Do not include spaces in the event name.
5. Enter a **Max Count**. This is the maximum number of event occurrences that should be tracked per visitor. For example, a flight could be targeted to visitors that have registered five or more occurrences of the event “homeowner”. The Max Count in this case would need to be set to at least five or higher. If a visitor registers more event occurrences than the Max Count setting, their count for the event stays at the maximum number. The default maximum setting is ten.

6 Enter a **Max Age**. This is the maximum age of event occurrences that should be kept. Each event occurrence has a timestamp, and if the timestamp is older than what is specified for this setting, that occurrence is discarded. For example, if a visitor has registered the event “homeowner” five or more times in the past seven days, the event would have a Max Age setting of seven days. The default maximum setting is 365 days.

Note: Spell out the time units: seconds, minutes, hours, days, months, or years. If you do not include a time unit, the default is seconds.

7 (Optional) In the **Target** field, enter a target. A target is a set of rules that, when matched, logs an occurrence of the event for the visitor.

Note: To display the full list of targets, enter %.

8 When you click **Add Event**, the event appears as **EVENT.<event name>** in the target type for a target.

Edit an Event

1 On the top navigation bar, click the **Targeting** tab.

2 Click the **Events** subtab.

3 Click an event name or click in the row for the event. The Edit Event page appears. For more information about the fields in an event, see “Add an Event” on page 189.

4 Click **Update**.

PART 6

Assets

32

Managing Media

About Media

The **Media** tab enables you to upload an asset to the solution.

Add New Media

1. On the top navigation bar, click the **Assets** tab.
2. Click the **Media** tab.
3. Click **+ Add New Media**.
4. In the **Advertiser** field, enter the first few letters of the advertiser's name and then select the advertiser from the list.

   Note: Enter `%` if you want to display the full list of advertisers.

5. Click **Choose File** to select an asset.
6. Navigate to the file that you want to upload, and then click **Open**.
7. Click **Add Media**.

Edit Media

1. On the top navigation bar, click the **Assets** tab.
2. Click the **Media** tab.
3. In the row for a medium, select a filename or click . The Edit Media page appears.
4. If you want to change the advertiser, enter the first few letters of the advertiser's name in the **Advertiser** field and then select the advertiser from the list.

   Note: Enter `%` if you want to display the full list of advertisers.

5. If you want to use another file, click **Choose File**, navigate to the file that you want to upload, and then click **Open**. To view the existing asset, click the asset link.
6. To edit a creative for the media, click the creative filename in the Name column, and then make desired changes. For more information, see "Edit a Creative" on page 87.
7. Click **Update**.

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Managing Advertiser Creative Templates

About Advertiser Creative Templates

The Advertiser Creative Templates tab enables you to upload a file or add text to create a template.

Add an Advertiser Creative Template

1. On the top navigation bar, click the **Assets** tab.
2. Click the **Advertiser Creative Template** subtab.
3. Click **+ Template**.
4. In the **Advertiser** field, enter the first few letters of an advertiser's name and then select the advertiser from the list.

   Note: Enter `%` if you want to display the full list of advertisers.

5 In the **Template type** field, specify and configure one of the following options for the source data for the template:

- Select **Upload** to upload an existing file. In the **Asset** field, select **Choose File**, navigate to the file that you want to upload, and then click **Open**.
- Select **Text** to enter the contents of the template manually.

  1 Enter information in the **File Name** field.

  Note: You can enter only letters, numbers, hyphens, and underscores

  2 From the **MIME Type** list, select **application_xml (application/xml)**, **JS (application/javascript)**, or **xml (application/xml)**.

  To create a MIME type, follow the instructions in "Add a MIME Type" on page 107.

  3 Enter information in the **Template Text** box.

6 Click **Add Advertiser Creative Template**.

Edit an Advertiser Creative Template

1 On the top navigation bar, click the **Assets** tab.

2 Click the **Advertiser Creative Template** subtab.

3 In the row for the advertiser creative template, select the file name or click .

The Edit Advertiser Creative Template page appears. For more information about the fields in an advertiser creative template, see "Add an Advertiser Creative Template" on page 195.

4 Click **Update**.

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Managing Snippets

About Snippets

Snippets are user-defined sections of code that are appended to ad responses. Typically, these snippets would be third-party beacons but can consist of any text or code. By default, a code snippet delivers with all ad responses, except for TSERVER requests. Snippets can be targeted so that they serve only to responses that match the applied targeting. Code snippets are accessed on the **Snippets** subtab.

The subtab lists all the snippets that are available, including those that are managed by SAS 360 Match. System snippets are identified by the **System Record** column in the table that lists all the snippets. System snippets can be viewed and enabled or disabled, but they cannot be edited or deleted.

Add a Snippet

1. On the top navigation bar, click the **Assets** tab.
2. Click the **Snippets** subtab.
3. Click **+ Snippet**.
4. To activate the snippet, select **Active**.

5. In the **Template type** field, select **Upload** or **Text**.

6. If you selected the **Upload** template type, click **Choose File**, navigate to the file that you want to upload, and then click **Open**.

7. If you selected the **Text** template type, follow these steps:

   a. Enter information in the **File Name** field.

      Note: You can enter only letters, numbers, hyphens, and underscores

   b. From the **MIME Type** list, select **application_javascript (application/javascript)**, **text_html (text/html)**, or **text_javascript (text/javascript)**.

      To create a MIME type, follow the instructions in "Add a MIME Type" on page 107.

   c. Enter the snippet text in the **Template Text** box.

8. Select a **Target** so that the snippet serves to only responses that match the target.

9. Click **Add Snippet**.

Edit a Snippet

1. On the top navigation bar, click the **Assets** tab.

2. Click the **Snippets** subtab.

3. In the row for the snippet, select the file name or click . The Edit Snippet page appears. For more information about the fields in a snippet, see "Add a Snippet" on page 197.

4. Click **Update**.

Note: You can click to duplicate and modify an existing snippet, including system snippets. Copied snippets are inactive by default.

PART 7

Sales

35

Managing RFPs

About RFPs

Request for proposals (RFPs) are entered in the system with data from the Advertiser. After an RFP is entered into the system, multiple proposals can be generated for the RFP.

Add an RFP

1 On the top navigation bar, click the **Sales** tab.

2 Click the **RFPs** subtab.

3 Click **+ Add New RFP**.

4 Enter information in the **Name** field.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"='']), spaces, underscores, and punctuation marks (!.,?;:).

5. In the **RFP Details** field, select **Upload** or **Text**.
   - If you selected **Upload**, click **Choose File**, navigate to the file that you want to upload, and then click **Open**.
   - If you selected **Text**, enter information in the box.
6. In the **Advertiser** field, enter the first few letters of the advertiser's name and then select the advertiser from the list. If you want to send the RFP to a new advertiser, click **Add a new advertiser**.

   Note: Enter `%` if you want to display the full list of advertisers.

7. If you want the selected advertiser to be billed, click **Bill to Advertiser**.
8. In the **Agency** field, enter the first few letters of an agency's name and then select the agency from the list. If you want to send the RFP to a new agency, click **Add a new agency**.

   Note: Enter `%` if you want to display the full list of agencies.

9. If you want the selected advertiser to be billed, click **Bill to Agency**.
10. In the **Billing Contact** field, enter the first few letters of a billing contact's name and then select the billing contact from the list. If you want to create a new billing contact, click **Add a billing contact**.

    Note: Enter `%` if you want to display the full list of billing contacts.

11. Enter a value in the **Budget $** field.
12. Select a **Salesperson** from the list.
13. Enter information in the **Notes** field.
14. Click **Save and Create Proposal** or **Add RFP** if you want to create more RFPs and build the proposal later.

View an RFP

1. On the top navigation bar, click the **Sales** tab.
2. Click the **RFPs** subtab.
3. You can view different groupings of your RFPs:
   - To view a specific RFP, click in the row for the RFP.

To add a proposal, click **Add New Proposal** and then follow the instructions in “Add an RFP” on page 201.

- To view the RFPs for your team, click **View Team RFPs**.
- To view the RFPs that belong to you, click **View My RFPs**.

Edit an RFP

1. On the top navigation bar, click the **Sales** tab.
2. Click the **RFPs** subtab.
3. Click the RFP name or click in the row for the RFP. For more information about how to update the fields in the RFP, see “Add an RFP” on page 201.
4. Click **Update** to save your changes.

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Managing Proposals

About Proposals

Proposals are responses to RFPs, although proposals can be created without being associated with an RFP. If proposals are accepted, they are used to generate campaigns. Every time a proposal is edited, the previous version is saved, and can be accessed by clicking the number in the Version column on the **Proposals** tab.

Before a proposal can be converted into a campaign and flights, both the proposal and line items go through a set of checks to ensure they are set up correctly and are not violating any rules. This is referred to as compliance, and a proposal cannot be converted unless both the proposal and line items are found to be compliant.

Proposal compliance is based on the following:

- An advertiser credit check. If the advertiser has specified a credit limit, the proposal is not considered compliant unless the total cost of the proposal and total costs of the current flights for the advertiser are below this limit.
- Total proposal cost. The total proposal cost must not exceed the Proposal high value threshold, which is set under the **Settings** tab in the Sales section.
- An advertiser must be selected in a proposal or its RFP.

Line item compliance is based on the following:

- A price check and inventory check. The specified floor rate of the product is checked against the total revenue based on the specified flat rate or CPM of the line item. If the revenue is lower than the floor rate, then the line item is not considered compliant.

- A check is performed if a line item uses a restricted product.
- Any changes to an already-converted line item results in a check.
- Line item start date is not before today.
- Line item start date or end date is not outside the proposal's date range.

Add a Proposal

1 On the top navigation bar, click the **Sales** tab.

2 Click the **Proposals** subtab.

3 Click **+ Add New Proposal**.

4 To associate the proposal with an RFP, enter the first few letters of an RFP in the RFP field and then select the RFP from the list.

Note: Enter `%` if you want to display the full list of RFPs.

5 Enter information in the **Name** field.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"=']), spaces, underscores, and punctuation marks (!.,?;:).

6 Select an **Insertion Order Logo** from the list.

7 In the **Insertion Order Template** list, select **Default** or **Custom**.

8 Select an **Insertion Order Locale** from the list.

Note: Not all templates support the locale setting. The selected locale might have no effect on the template.

9 In the **Terms and conditions** field, enter the first few letters for terms and conditions and then select terms and conditions from the list.

Note: Enter `%` if you want to display the full list of terms and conditions.

10 Click the **Expiration date** field and select a date in the calendar that appears.

11 Click the **Start date** field and select a date in the calendar that appears.

12 Click the **End date** field and select a date in the calendar that appears.

13 Select a **Currency** from the list.

14 In the **Advertiser** field, enter the first few letters of the advertiser's name and then select the advertiser from the list. If you want to associate the proposal with a new advertiser, click **Add a new advertiser** or **Add a new contact**. Repeat this step for every advertiser that you would like to add.

Note: Enter `%` if you want to display the full list of advertisers.

15 If you want the selected advertiser to be billed, select **Bill to Advertiser**.

16 Enter information in the **Advertiser Contact** field. The billing contact is chosen automatically by using the first billing contact found for the advertiser depending on which is selected for Bill To. If there is none, then the advertiser contact specified on the proposal is used. If not specified, then the first primary contact found for the advertiser is used. This field allows a contact to be specified for billing details in the proposal export instead of being chosen automatically.

17 Enter information in the **Advertiser Billing Contact** field.

18 In the **Agency** field, enter the first few letters of an agency's name and then select the agency from the list. If you want to associate the proposal with a new agency, click **Add a new agency**.

Note: Enter `%` if you want to display the full list of agencies.

19 If you want the selected advertiser to be billed, select **Bill to Agency**.

20 Enter information in the **Agency Contact** field.

21 Enter information in the **Agency Billing Contact** field. The billing contact is chosen automatically by using the first billing contact found for the agency depending on which is selected for Bill To. If there is none, then the Agency Contact specified on the proposal is used. If not specified, then the first primary contact found for the agency is used. This field allows a contact to be specified for billing details in the proposal export instead of being chosen automatically.

22 Select a **Salesperson** from the list.

23 Select a **Trafficker** from the list. You can also select a second trafficker.

24 Enter a percentage value in the **Discount** field.

25 Enter information in the **External ID** field.

26 Enter information in the **PO Number** field.

27 Select a value from the **Probability to Campaign** list.

This option sets a percentage indicating the likelihood that the proposal is accepted and generated into a campaign. If the value is set at 90 percent or higher, the proposal and line items are included as reserved impressions in forecasts. The default value is 90 percent and can be configured by contacting SAS Technical Support at support@sas.com.

28. (Optional) Enter information in the **Advertiser Notes** field. The notes are also viewable in the campaign, line item, and flight associated with this proposal.

    Note: By default, this setting is disabled and the field is hidden. To use this field, contact SAS Technical Support.

29. Enter information in the **Notes** field.
30. Enter information in the **Internal Notes** field.
31. Select an **Asset** to associate with the proposal.
32. Click **Create Proposal**, or select **Create Proposal & Edit** or **Create Proposal & Copy** from the list.

View a Proposal

1. On the top navigation bar, click the **Sales** tab.
2. Click the **Proposals** subtab.
3. Click in the row for the proposal.
4. (Optional) You can choose to see only the proposals for your team or your own proposals.
   - To view the proposals for your team, click **View Team Proposals**.
   - To view the proposals that belong to you, click **View My Proposals**.
5. Click **View History** to view the history of the proposal.

   A pop-up window lists the history of activities, when the change was made, and who made the change. You can expand the activities to display specific changes. Place your cursor over each change to see details for the change.
6. Click **Convert to Campaign** to convert the proposal into a campaign (for more information, see “Convert a Proposal” on page 214), **Edit Proposal** to edit the proposal, **Export Proposal** to export the raw, unformatted proposal data into an XLSX file, or **Export PDF** to export the proposal into a PDF file.
7. To add a line item, click **+ Add New Line Item** and then follow the instructions in “Add a Line Item” on page 209.

Add a Line Item

1. Enter information in the **Name** field.
2. Enter the insertion order information in the **IO Id** field.
3. Select the **Time Zone**.
4. Select a **Start date** and **Time** for the line item .
5. Select an **End date** and **Time** for when the line item should end.
6. Select a **Currency** from the list.
7. To assign a product that contains targeting demographics tied with revenue data to the line item, enter information in the **Product** field. To filter the list of products, click and then do the following:

   a. Select **Match All** or **Match Any**.

   b. In the **Sites** field, enter the first few letters of a site's name and then select the site from the list.

      Note: Enter `%` if you want to display the full list of sites.

   c. In the **Areas** field, enter the first few letters of a site's name and then select the site from the list.

      Note: Enter `%` if you want to display the full list of areas.

   d. Click **Apply Filter**.

8. Select a **Product Line** category from the list. This value is used for reporting purposes.

   Note:

   Contact SAS Technical Support at support@sas.com to enable the product line option and to specify the categories for product lines.

9. From the **Size** list, select an ad size.
10. Enter a value in the **Additional fees $** field and add a **Fee description**.
11. (Optional) Set a price adjustment for the flat rate or the CPM rate.

Note: This field is disabled by default. Contact SAS Technical Support at support@sas.com to enable this option.

a Select an **Adjustment Type** to change the rate.

- If the adjustment type is **Currency ($ CPM)**, an absolute adjustment is made to the rate. This option works if only one CPM rate is defined.
- If the adjustment type is **Percent**, the adjustment is applied to all the costs that have been defined.

b In **Adjustment Amount**, use + to increase the cost and – for a discount.

c Add an **Adjustment description**.

Note: When specified, discounts for the advertiser and product, as well as the agency year-end discount, are always applied. The agency standard discount and commission are applied if the product is configured to enable those values to be applied. Adjustments and discounts are included in eCPM calculations for tier prioritization and bidding.

Multiple discounts are applied individually not cumulatively. For example, a 10% advertiser discount and a 10% product discount are applied one at a time. The final discount does not add up to a 20% discount.

12 A **Conversion Rate** appears if the currency for the line item is not the base currency and has a conversion rate set. For each line item, the conversion rate specifies how many units of the currency are equivalent to one unit of the base currency.

Note: The default conversion rate is `1.0`. Specify conversion rates in **Administration** ⇨ **Currency**.

13 The value for **Conversion Status** is `Converted` if the line item has been converted to a flight and `Not Converted` if the line item has not been converted to a flight.

14 Click on **View** to display **Projected Impressions**.

Note: Projected impressions are available only when the line item is above the threshold for conversion to a campaign.

15 Expand the Goals & Revenue panel to configure the costs and goals for the flight. For more information, see “Specify Goals and Revenue” on page 44.

16 In the **Inventory** panel, click **Available** to perform an ad hoc inventory projection using the product specified on the flight. To include contending flights in the inventory projection, click **Contending Flights**. To set a goal for the inventory, click **Set Goal** and then enter a value.

17 The **Uplifts** panel displays the list rate associated with the line item. The uplift is applied whenever the tag is added to a line item. For more information, see "About Uplifts" on page 223.

18 Use the Frequency Caps panel to set options that affect the frequency limits for impressions, views, clicks, or conversions for each visitor.

- Enter a value in the **Quantity** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor.
- Enter a value in the **Period** field to specify the period of time that must elapse after the quantity is reached for impressions, views, clicks, or conversions before a visitor is eligible to receive the flight again. For example, if you enter `3` in the **Quantity** field and `1 week` in the **Period** field, once a flight is shown three times to a visitor, the flight is not shown again to the visitor until after a one-week waiting period.

  Note: You must enter an integer value in the **Period** field. For example, enter `1 hour` instead of `hour`. A `per day` period indicates a calendar day that runs from midnight of one day to midnight of the next day instead of a 24-hour time span. A month indicates 30 days instead of the actual number of days of a specific month.

- Enter a value in the **Over Lifetime** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the lifetime of the flight.
- Enter a value in the **Per Session** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the course of a visitor session. A visitor session is initiated whenever an ad request is made, and then, by default, persists for 30 minutes after the visitor's last request.

For more information, see "About Frequency Capping" on page 99.

19 To make changes to targets, rules, tags, sites and areas, and categories, click **Show** in the **Advanced** panel, and then do the following:

a In the **Targets** panel, do the following

1 Select **Match All** or **Match Any**.

- **Match All** is the equivalent of using the Boolean AND operator. All statements must be true for the target to match and the flight to serve.
- **Match Any** is the equivalent of using the Boolean OR operator. If any of the statements are true, the target matches and the flight is served.

2 In the **Targets** field, search for and select a target. Define targets in **Targeting** ⇨ **Targets**. For more information, see "About Targets" on page 135.

b In the Rules panel, do the following:

1 Select **Match All**, **Match Any**, **Don't Match All**, or **Don't Match Any**. This global operator applies to all the target types that are specified in this section. For more information, see "Defining Targets" on page 136.

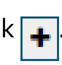
2 Define your key-value pairs .

Note: The target definition string is limited to 32,731 bytes. The string is the concatenation of the rules from the target_rules table, which is stored in the definition field of the targets table.

- Specify the target type in the text field on the left. As you type, a drop-down list of matching key names and target types is displayed. Select an existing entry or create a new target type. All target type names are converted to uppercase. Names for target types that you create cannot contain spaces or Unicode. For more information about available target types, see “About Targetable Values” on page 140.
- Select an operator to define the relationship between the target type on the left and the value on the right.

  Note: The operators that are available depend on the target type that is selected on the left.

  You can use the `Regex` operator with a regular expression pattern in the right-hand side to create rules for the following targets:

  - All user-defined tags, including string, integer, decimal, and date types
  - Literal string value from the ad call or from the state vector for non-string types
  - All ad hoc tags, as strings
  - User agent
  - Referrer
  - Domain
  - Keyword
  - Geo IP
  - Time, as a string in HH:MM:SS format
- In the text field on the right, enter the value that is related to the target type on the left. This field is limited to 32,680 bytes.
- To add more target types, click .
- To create groupings of the key-value pairs , click  on an empty row.

  The operator in the group applies to the key-value pairs in the group and overrides the global operator.

c In the **Tags** panel, do the following:

1 Click the **Custom**, **Geo**, or **Device** tab.

2 Select a tag name from the list and existing tag values. Click **Add new tag values** to create new tag values.

3 Click **Add Tag**.

Note: If you select multiple tag values for one tag, the flight is served if any of the tag values match. If you select multiple tags, every tag and at least one value from each tag has to match in order for the flight to serve.

d In the **Sites & Areas** panel, do the following:

1. To specify sites that the flight can serve to, select **Selected Sites**, place your mouse pointer in the **Sites** field, search for sites, and then select them. To add a site that the flight can serve to, click **Add a new site**, enter information in the required **Name** field, and in the optional **Description** and **Revenue cut** fields, and then click **Add Site**.

2. To specify areas that the flight can serve to, select **Selected Areas**, place your mouse pointer in the **Areas** field, search for areas, and then select them. To add an area that the flight can serve to, click **Add a new area**, enter information in the required **Name** field and the optional **Sites** field, and then click **Add Area**.

e In the **Categories** panel, enter the first few letters of a category's name and then select the site from the list.

Note: Enter `%` if you want to display the full list of categories.

f In the **Exposure Policy** panel, specify the names for the **Exposure policies**. An exposure policy is a policy that restricts how often an item is allowed to serve to a visitor, based on specified metrics during a specific time period. For more information, see "About Exposure Policies" on page 169.

g In the **Labels** panel, specify labels to add custom fields and values.

- To create a new label, click **+ Add New Label**. Enter a **Name** for the label and enter a **Display Name** to use in the SAS 360 Match user interface. Then click **Add Label**.

  Note: You can configure a maximum of five labels. Contact SAS Technical Support to change the limit.

- To add a value to an existing label, click **+ Add Label Value**. Select the **Label** from the drop-down list and specify the **Value** for the label.

20 In the **Billable amount by month** section, choose a **Billable Distribution** for the monthly billing amount.

Note: By default, the cost per month is calculated using the weighted distribution.

The options for **Billable Distribution** are as follows:

- **As Is or Edit**: Manually set the billable amount for each month. If this option is checked, the total cost per month is not updated when CPM and goals change.

Note: After updating a line item, this value is checked.

- **Weighted**: Each month's costs is based on the number of days in that month.
- **Even by Month**: Each month is billed the same amount.
- **All at End**: The last month is assigned the total cost.
- **All at Front**: The first month is assigned the total cost.

21 In the **Other** panel, enter information in the **Notes** and **External ID** fields.

22 Click **Create Line Item** or click the down arrow next to **Create Line Item** and click **Create Line Item & Split By Month**, **Create Line Item & Add Another**, **Create Line Item & Add Go To Next**, **Create Line Item & Copy**, or **Create Line Item & Make Many Copies**.

Convert a Proposal

Before a proposal can be converted into a campaign and flights, both the proposal and line items go through a set of checks to ensure they are set up correctly and are not violating any rules. This is referred to as compliance, and a proposal cannot be converted unless both the proposal and line items are found to be compliant. Any outstanding triggered alerts that require acknowledgment or approval prevent a proposal from being converted.

If the proposal and line items are compliant, a **Convert to Campaign** button appears on the View Proposal page. Click this button to create a campaign and flights with the information from the proposal and line items. Once converted, a link to the converted campaign is shown on the View Proposal page.

If the proposal or line item fields are edited, it might be necessary to reconvert the proposal. You can select the line items to reconvert. If the edits require reconversion, the **Convert to Campaign** button reappears on the View Proposal page.

After converting a proposal that contains line items, you can make additional changes to the proposal and line items. To keep parity with the associated campaign and flights, you must reconvert the proposal. If any separate changes were made to the associated campaign or flights, those changes might be overwritten during reconversion. When you reconvert a proposal, the following fields are updated in the associated campaign:

- Name
- Notes
- External ID
- Start Date

- End Date
- Advertiser
- Agency
- Salesperson
- Trafficker
- Product
- Campaign Type, which is changed to **Guaranteed**

If the associated flights have no creatives, the following fields are updated:

- Name
- Start Date
- End Date
- Reservation Size
- Notes
- Tier
- Product Line
- External ID
- Currency
- Flight Type, which is changed to **Guaranteed**
- All goals and bonus goals
- CPM, CPC, and CPA rates
- Daily Revenue Cap
- Flat Rate
- Top Priority and Companion Type
- Creative Selection Method, which is changed to **Weighted**
- All specified targeting
- Categories

Edit a Proposal

1. On the top navigation bar, click the **Sales** tab.
2. Click the **Proposals** subtab.
3. Click in the row for the proposal. Refer to "Add a Proposal" on page 206 for information about the fields in a proposal.

4 To add a line item in an existing proposal, click **+ Add New Line Item**. To edit multiple line items at a time, select the line items, click **Multi Edit**, and double-click the label for each field that you want to edit. For more information, see “Add a Line Item” on page 209.

5 Click **Update Proposal**, or select the arrow and click **Update Proposal & Edit** or **Update Proposal & Copy** .

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Managing Products

About Products

Products are a combination of rate-card data tied to targets. That rate-card data consists of the list rate, goal rate, and floor rate. Tags and targets are built on key=value pairs that represent the data that is passed to SAS Intelligent Advertising for Publishers. A thorough set of keys and values (taxonomy) results in effective targets and products. This data influences real-time ad selection, can help refine your concept of audience, and improve product definitions. Products are later specified in proposals, and are assigned to flights after they are booked. Products can be reported on through the BI reporting tool, and they provide an easy way of viewing revenue against rate-card and traffic data for a target or groups of targets.

Add a Product

1. On the top navigation bar, click the **Sales** tab.
2. Click the **Products** subtab.
3. Click **+ Add New Product**.
4. Enter information in the **Name** field.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"='']), spaces, underscores, and punctuation marks (!.,?;:).

5. Enter information in the **Description** field.

6. Select a **Tier** from the list. This specifies what tier the product can be assigned to. A lower revenue or lower priority product might need to be limited to lower tiers to not interfere with flights in higher tiers.

7. If you want to restrict the product, select **Yes** next to **Restricted**.

   If you selected **Yes**, the Alerts panel appears. In the **Alerts users** field, type the first few letters of the contact to whom you would like to receive alerts and then select the contact from the list. Repeat this step for each contact that you would like to add. Do the same for the **Alerts teams** that you want to add.

   Note: Enter `%` if you want to display the full list of contacts.

   To specify the level of alerts, select **Notifications** or **Require Approval**.

8. If you want to package the product with other products, select **Yes** next to **Package**.

   Note: A package that is added to a flight does not by itself apply any targeting. Each product from the package must first be associated with a creative, and then the targeting from that product is applied to the creative.

   If you selected **Yes**, the Products panel appears. In the **Products** field, enter the first few letters of a product that you would like to package with the new product and then select the product from the list. Repeat this step for each product that you would like to add.

   Note: Enter `%` if you want to display the full list of products.

9. In the **Sizes** field, enter a value and then select a value from the list. Enter `%` if you want to display the full list of values.

   Note: If you are packaging the product with existing products, the **Sizes** field is not available.

10. In the **Target group logic** list, select **Match All** or **Match Any**.

    Note: If you are packaging the product with existing products, the **Target group logic** list is not available.

11. Enter information in the **Targets** field. Multiple targets can be assigned to a single product. Once a product is assigned to a flight, the targeting associated with that product determines where the flight serves.

Note: If you are packaging the product with existing products, the **Targets** field is not available.

12 If you want to profile the product in a summary report, select **Profile in product sum report**. When this option is disabled, this product is not included in data for the product report, which can speed up data processing time.

13 If you want the product to be the top priority, select **Top Priority**. When enabled, this option carries over to any flights that are converted from line items that use this product.

14 In the **Companion type** list, select **None**, **Strict**, or **Loose**. When the setting is either strict or Loose, this option carries over to any flights that are converted from line items that use this product.

15 Specify the names for the **Exposure policies**. An exposure policy is a policy that restricts how often an item is allowed to serve to a visitor, based on specified metrics during a specific time period. For more information, see "About Exposure Policies" on page 169.

16 In the **Terms and conditions** field, enter the first few letters for terms and conditions and then select terms and conditions from the list.

Note: Enter `%` if you want to display the full list of terms and conditions.

17 Select a **Product Line** category from the list. This value is used for reporting purposes.

Note:

Contact SAS Technical Support at support@sas.com to enable the product line option and to specify the categories for product lines.

18 In the **Additional Targeting** field, select **Dynamic**, **Ad-hoc** , or **None**.

- If you select **Dynamic**, then you must select a target from the list and then click **Add Dynamic Target**. Repeat this step for all the dynamic targets that you would like to add.

  Note: Use dynamic targeting for instances where targeting is complex or granular (for example, the product is intended to target ZIP codes). No values are selected. Only the tag itself is selected for the product.

- If you select **Ad-hoc**, follow these steps:
  - To specify sites for the product, select **Selected Sites**, place your mouse pointer in the **Sites** field, search for sites, and then select them. To add a site for the product, click **Add a new site**, enter information in the required **Name** field and in the optional **Description** and **Revenue cut** fields, and then click **Add Site**.
  - To specify areas for the area, select **Selected Areas**, place your mouse pointer in the **Areas** field, search for areas, and then select them. To add

an area for the product, click **Add a new area**, enter information in the required **Name** field and the optional **Sites** field, and then click **Add Area**.

- Click the **Custom**, **Geo**, or **Device** tab. Select the tag name and then the values desired. If multiple values are selected, any of the values can match.
- Select a tag name from the list and then the desired values. If you select multiple values, any of the values match.
- Click **Add Tag**.
- To add more tags, repeat these steps.

19 Enter a value in the **List Rate $** field. This is the rate card price of the product from a media kit.

20 From the **List Rate** list, select **CPM**, **CPC**, **CPA**, or **Flat Rate**.

21 In the **Additional Pricing** field, select **Additional rates**, **Discounted rates**, or **No additional rates**.

- If you selected **Additional rates**, enter values in the **Floor Rate $** and **Goal rate $** fields. The goal rate is the ideal price at which the product is expected to be sold, assuming discounting from the list rate. The floor rate specifies the lowest price acceptable for the product and triggers notifications or required pricing approvals if a proposal uses an eCPM below the floor rate.
- If you selected **Discounted rates**, enter a value in the **Discount %** field to apply to the list rate.

22 Select the **Apply Agency Discount** check box for the agency discount to be applied along with the product discount when this product is added to a flight or a line item.

23 Select the **Apply Agency Commission** check box for the agency commission to be applied along with the product discount when this product is added to a flight or a line item.

24 Use the Frequency Caps panel to set options that affect the frequency limits for impressions, views, clicks, or conversions for each visitor.

- Enter a value in the **Quantity** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor.
- Enter a value in the **Period** field to specify the period of time that must elapse after the quantity is reached for impressions, views, clicks, or conversions before a visitor is eligible to receive the flight again. For example, if you enter `3` in the **Quantity** field and `1 week` in the **Period** field, once a flight is shown three times to a visitor, the flight is not shown again to the visitor until after a one-week waiting period.

  Note: You must enter an integer value in the **Period** field. For example, enter `1 hour` instead of `hour`. A `per day` period indicates a calendar day that runs from midnight of one day to midnight of the next day instead of a 24-hour time span. A month indicates 30 days instead of the actual number of days of a specific month.

- Enter a value in the **Over Lifetime** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the lifetime of the flight.
- Enter a value in the **Per Session** field to specify the number of impressions, views, clicks, or conversions to serve to a visitor over the course of a visitor session. A visitor session is initiated whenever an ad request is made, and then, by default, persists for 30 minutes after the visitor's last request.

For more information, see "About Frequency Capping" on page 99.

25 Expand the Labels panel. Labels provide a way to add custom fields and values.

- To create a new label, click **+ Add New Label**. Enter a **Name** for the label and enter a **Display Name** to use in the SAS 360 Match user interface. Then click **Add Label**.

  Note: You can configure a maximum of five labels. Contact SAS Technical Support to change the limit.

- To add a value to an existing label, click **+ Add Label Value**. Select the **Label** from the drop-down list and specify the **Value** for the label.

26 Configure the options in the Delivery Configuration panel to control how flights catch up if they fall behind schedule.

- Select the **Dynamic delivery patience** check box to automatically adjust how flights are paced so that they have the opportunity to catch up.
- Specify a value for **Delivery patience** between 0 and 1, with increments of 0.05. The lower the value of delivery patience, the more aggressively the flight attempts to get back on schedule.

When a product that is configured with delivery patience is assigned to a flight without delivery patience, the product's delivery patience settings are assigned to the flight. When both the product and the flight are configured with delivery patience, the flight's own delivery patience setting takes precedence.

Note: Delivery patience is set for any new flights that this product is assigned to only if no delivery patience is configured for the flight. It is not added to existing flights that the product already is assigned to nor can it override a flight's own delivery patience.

27 In the Teams panel, select the teams to whom you would like to assign the product.

28 Click **Add Product**.

View a Product

1 On the top navigation bar, click the **Sales** tab.

2 Click the **Products** subtab.

3 (Optional) Expand the **Filtering** panel to filter the list by the product name. Click **Filter** to apply the filter.

4 To view the targeting details for a product, click in the row for a product. A window appears where you can view the targeting details for the selected product.

5 To view the uplifts that are associated with a product, click the product name and then click **Uplifts**. For more information, see "About Uplifts" on page 223.

Edit a Product

1 On the top navigation bar, click the **Sales** tab.

2 Click the **Products** subtab.

3 Click the product name or click in the row for the product. For more information about the fields in a product, see "Add a Product" on page 217.

4 Click **Update Product** to make the changes to the original product. To save the changes to the original product and make one copy of the product, click the arrow next to **Update Product** and select **Update Product & Copy**. To save the changes to the original product and make multiple copies of the product, click **Update Product & Make Many Copies** and specify the number of copies to create.

Note: You have the same options when you copy a product.

38 Managing Uplifts

About Uplifts

Uplifts consist of a tag and a list rate that can be applied to line items. Uplifts can be thought of as options that can be added to a line item that increase the value of the line item. Products or specific tag values can also be added to an uplift.

When a general uplift is created, it is applied whenever that tag is added to a line item. For example, if an uplift is created for the Age tag with a list rate of $1.00, that rate is effectively added to the floor rate of the line item when the Age tag is specified in the Tags targeting section. The tag must be applied in the **Tags** or **Sites & Areas** section in the Line Item page. The Line Item page appears after you click **Show** in the **Advanced targeting** section in the Edit Line Item window.

Add an Uplift

1. On the top navigation bar, click the **Sales** tab.
2. Click the **Uplifts** subtab.
3. Click **+ Add New Uplift**.
4. Enter information in the **Tag** field.

5 Enter a value in the **List Rate $** field.

6 Click **Add Uplift** or click the arrow next to **Add Uplift** and select **Add Product Uplift** or **Add Tag Value Uplift**.

7 If you selected **Add Product Uplift**, do the following:

   a Enter information in the **Product** field.

   b Enter a value in the **List Rate $** field.

   c Click **Add Product Uplift**.

8 If you selected **Add Tag Value Uplift**, do the following:

   a Enter information in the **Tag value** field.

   b Enter a value in the **List Rate $** field.

   c Click **Add Tag Value Uplift**.

Edit an Uplift

1 On the top navigation bar, click the **Sales** tab.

2 Click the **Uplifts** subtab.

3 Click the uplift name or click  in the row for the uplift. For more information about the fields in an uplift, see “Add an Uplift” on page 223.

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Managing Terms and Conditions

About Terms and Conditions

Terms and conditions represent the details of a contract accompanying an insertion order. Terms and conditions can be uploaded as a PDF or text and then appended to the end of a proposal during export.

Add Terms and Conditions

1. On the top navigation bar, click the **Sales** tab.
2. Click the **Terms and Conditions** subtab.
3. Click **+ Add New Terms and Conditions**.
4. Enter information in the **Name** field.

   Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"='), spaces, underscores, and punctuation marks (!.,?;:).

5 In the **Advertisers** field, enter the first few letters of an advertiser's name and then select an advertiser from the autosearch results. Repeat this step for every advertiser that would like to add.

Note: Enter `%` if you want to display the full list of advertisers.

6 In the **Agencies** field, enter the first few letters of an agency's name and then select the agency from the autosearch results. Repeat this step for every advertiser that you would like to add.

Note: Enter `%` if you want to display the full list of agencies.

7 In the **Template type** field, select **Upload** or **Text**.

- If you selected the Upload template type, click **Choose File**, navigate to the file that you want to upload, and then click **Open**.
- If you selected the Text template type, enter information in the **Terms and conditions text** box.

8 Click **Add Terms and Conditions**.

Edit Terms and Conditions

1 On the top navigation bar, click the **Sales** tab.

2 Click the **Term and Conditions** subtab.

3 Click the terms and conditions name or click in the row for the terms and conditions.

Note: If you click the name for the terms and conditions of a contract, you see a preview of the text that you added or receive a link to the file that you uploaded.

4 Click **Edit Terms & Conditions** to make your changes. For more information about the fields for the terms and conditions of a contract, see "Add Terms and Conditions" on page 225.

5 Click **Update** to save your changes.

40

Checking the Availability of Inventory

About Checking Inventory Availability

SAS 360 Match enables you to search for all pre-emptible inventory in the forecast that matches the targeting and date range for flights that are in a tier with the **Pre-emptible** option selected. The pre-emptible inventory represents the available inventory in a simulation. You have the option to forecast the inventory for standard campaigns and for supply-side campaigns.

Forecasting and fulfillment knowledge based on capacity, booked and reserved, and available inventory data are linked so that you can accurately determine inventory availability. For more information, see Chapter 7, "Managing Tiers," on page 61. This calculation also takes into account any default ads in the forecast that match the flight's criteria. The list of contending flights is limited to 100 flights.

When checking availability on a flight or line item, the following results are returned:

- Available is the number of impressions available to book, not including the current flight or line item's reservation. If availability is checked after the start date for the flight, then the number returned shows the availability for the remaining time period.
- Reserved is the number of impressions that the current flight or line item is projected to serve. If this check is conducted after the start date for the flight, the number returned shows what is projected for the remaining time period. The number of reserved impressions is the difference between the estimated availability and the total number of contending flights, so it might not match the

number of impressions that the flight is actually forecast to serve when a frequency cap is involved.

- Served is the number of impressions the flight has served through the current date.

Check Inventory Availability

To check the availability of the inventory:

1. On the top navigation bar, click the **Sales** tab.
2. Click the **Check Avails** subtab.
3. Expand the **Filters** panel.
4. Select a **Date Range** from the list.
5. In the **Break down by** field, select **Total**, **Month**, **Week**, or **Day**.
6. Enter a **Product**. You can also filter by product site and area.

   Note: Use wildcard characters to refine the possible values. Use the percent symbol (%) to specify a wildcard of any length, underscore (_) to specify a wildcard of a single character, or caret (^) followed by a keyword to search for the keyword at the beginning of the string.

7. Select a **Size** from the list.
8. To check the availability of flights for other products and to view competing flights, select **Contending Flights**.

   The **Contending Flights** tool helps you address the lack of availability for a product by providing a list of flights to which you might make changes to that could free up impression inventory.

9. To filter availability by targets, do the following:

   Note: You might need to click **Show** to display the **Targets**, **Tags**, and **Sites & Areas** panels.

   a. In the **Targets** panel, select **Match All** or **Match Any**.

   b. In the **Targets** field, search for and select a target.

10. To filter availability by tags, do the following:

   a. In the **Tags** panel, click the **Custom**, **Geo**, or **Device** tab.

b Select a tag name from the list and existing tag values. Click **Add new tag values** to create new tag values.

c Click **Add Tag**.

Note: If you select multiple tag values for one tag, the flight is served if any of the tag values match. If you select multiple tags, every tag and at least one value from each tag has to match in order for the flight to serve.

11 To filter availability by specific sites, select **Selected Sites**, click in the **Sites** field, search for sites, and then select them. To make a site available for future logging and inventory forecasting, click **Add a new site**, enter information in the required **Name** field, and in the optional **Description** and **Revenue cut** fields, and then click **Add Site**.

12 To filter availability by specific areas, select **Selected Areas**, click in the **Areas** field, search for areas, and then select them. To make an area available for future logging and inventory forecasting, click **Add a new area**, enter information in the required **Name** field and the optional **Sites** field, and then click **Add Area**.

13 To filter availability by frequency cap values in the **Frequency Caps** table:

a Enter a value in the **Quantity** field to specify the number of impressions, clicks, or conversions to use as filters.

b Enter a value in the **Period** field to specify the period of time that must elapse after the quantity is reached for the impressions, clicks, conversions to use as a filter.

c Enter a value in the **Over Lifetime** field to specify the number of impressions, clicks, or conversions over the lifetime of a flight to use as a filter.

d Enter a value in the **Per Session** field to specify the number of conversions over the course of a visitor session to use as a filter. A visitor session is initiated whenever an ad request is made, and, by default, persists for 30 minutes after the visitor's last request.

14 To use schedule filters, expand the **Schedule** panel and then do the following:

a Select **Daily**, **Weekly**, or **Monthly**.

- If you selected **Daily**, select a value from the **Run at Hour** list.
- If you selected **Weekly** or **Monthly**, select a value from the **Run on Day** and **Run at Hour** lists.

b Enter a time value in the **Expire in** field.

15 To create an Excel file that contains the availability information, click **Export xslx**.

16 To create a comma-separated file that contains the availability information, click **Export csv**.

17 To create a schedule report, click **Schedule Report**.

18 To manage schedules, click **Manage Schedules**.

19 Click **Check Availability**.

In the availability report:

- Results are limited to 100 entries from flights in tiers that are not pre-emptible.
- Flights that are targeted for different sites do not contend with each other.
- If you choose the contending flights option, inventory changes during the day are not included in the calculation.
- The Reserved column in the availability report is the number of impressions that are consumed by a flight from the product for the future date range that is specified by the user.

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Setting Alerts

About Alerts

Alerts can be configured that notify or require action by specified users when a certain rule or condition is violated. For example, you can set up an alert that requires specified users to be notified when a price is set below floor rate, when too much inventory is allocated when submitting a line item, or when a credit limit on the proposal is violated. When you create a proposal or line item that violates a configured rule, the system requires that a notification of the violation be sent to the specified user. The proposal or line item can still be submitted. You can also specify that an approval is required before the edit is accepted.

Triggered alerts can be viewed in the **Alerts** tab of the My Work section. For more information, see “My Work” on page 6.

Note: Alerts older than 90 days are deleted.

Types of alerts include the following:

Change Order
: triggered when a converted line item is modified in a way that would affect the associated flight. When triggered, a pop-up dialog box appears, showing which fields on the line item were changed, what the value of the fields were when the line item was last converted, what the value of the fields are on the associated flight, and what the values of the fields on the associated flight will be if the line item is reconverted.

Credit
: triggered if the credit limit specified for the advertiser on a proposal or line item is violated. For more information, see “Set Credit Limit” on page 241.

High Value Proposal
: triggered if a proposal's value exceeds the value specified in the **Proposal high value threshold** field. For more information, see "About View Settings" on page 233.

Inventory
: triggered when the impression goal for a line item is higher than what is calculated as available. For more information, see "About Checking Inventory Availability" on page 227.

Price
: triggered if a line item is booked below the assigned product's floor price. For more information, see "About Products" on page 217.

Set Alerts

To set an alert:

1 On the top navigation bar, click the **Sales** tab.

2 Click the **Alert Settings** subtab.

3 Select a team setting from the list and then click **Choose**.

4 In the **Alerts on violation** fields for the **Price**, **Credit**, **Inventory**, **High Value Proposal**, and **Change Order** sections, enter the first few letters of a contact and then select contacts from the drop-down list.

5 In the **Level** field for the **Price**, **Credit**, **Inventory**, **High Value Proposal**, and **Change Order** sections, select either **None**, **Warnings**, **Notifications**, or **Require Approval**.

6 Click **Save**.

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Setting View Options

About View Settings

In the Settings tab, you can specify certain options for the solution.

Set Options

1. On the top navigation bar, click the **Sales** tab.
2. Click the **Settings** subtab.
3. To specify a tax rate that will be included in the calculated totals for proposals exported to PDF files, enter a value in the **Tax rate (%)** field.
4. To make a proposal fail validation if both advertiser and agency are missing, select **Proposal Save Requires Advertiser or Agency**.
5. Enter information in the **Business ID Label 1** and **Business ID Label 2** fields if you want the advertiser and agency windows to display the fields and use the values for the labels.
6. If you want to require a business ID for the billed to advertiser or agency before an insertion order can be generated for a proposal, select **Business ID Required For IO Generation**.

7 If you want to require a legal entity name for the billed to advertiser or agency before an insertion order can be generated for a proposal, select **Legal Entity Name Required For IO Generation**.

8 If you want to require a salesperson before an insertion order can be generated for a proposal, select **Salesperson Full Name Required For IO Generation**.

9 If you want to generate a PO number, select **PO Number Auto Generation**.

10 If you want to require a PO number before an insertion order can be generated for a proposal, select **PO Number Required For IO Generation**.

11 If you want to require that all line items have end dates before an insertion order can be generated for a proposal, select **Line Item End Dates Required For IO Generation**.

12 If you want a line item name auto-generated with the product name, select **Line Item Name Auto Generated with Product Name**.

13 If you want to allow PDF exports only on proposals that can be converted to a campaign, select **Restrict PDF Export on Unconvertable Proposal**.

14 Enter information in the **Bill Direct Label** field to create a label that will be displayed in the advertiser window.

15 Enter information in the **Bill Direct Other Choice Label** field to create the label for the second radio button of the **bill direct** field in the advertiser windows.

16 If you want to add a proposal logo, click **Choose File**, navigate to the desired JPEG or PNG file and then click **Open**.

17 Enter a value in the **Logo height** field so that the logo height is scaled to this value in proposal export.

Note: You cannot enter a value greater that 100.

18 In the **Proposal Template** list, select **Default** or **Custom**.

19 Select a value in the **Proposal Threshold Expiration** list to specify the number of days before a proposal expires after crossing the auto conversion threshold.

20 Select a value in the **Proposal expiration notify in days** list. This setting configures the number of days prior to a proposal's expiration date that an expiration alert email is sent.

21 Enter a value in the **Proposal high value threshold** field using your base currency. You will receive an alert requesting approval if a proposal exceeds this threshold.

22 Select the fields that you want to propagate into the destination object during the conversion process from the **Flight Conversion Properties** list. When a field is disabled, it is not updated during conversion for the corresponding flight.

23 Click **Save**.

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Managing Insertion Order Logos

About Insertion Order Logos

SAS 360 Match enables you to upload and change artwork files that are placed as a logo in an advertiser's insertion order.

Add an Insertion Order Logo

1 On the top navigation bar, click the **Sales** tab.
2 Click the **Insertion Order Logos** subtab.
3 Click **+ Add New Insertion Order Logo**.
4 Click **Choose File**, navigate to a JPEG or PNG file and then click **Open**.
5 Click **Add Insertion Order Logo**.

Edit an Insertion Order Logo

1. On the top navigation bar, click the **Sales** tab.
2. Click the **Insertion Order Logos** subtab.
3. Click the insertion order logo name or click in the row for the insertion order logo. For more information about the fields in an insertion order logo, see “Add an Insertion Order Logo” on page 235.
4. Click **Update**.

PART 8

Customers

44

Managing Advertisers

About Advertisers

You can add as many advertisers as you like. When you add an advertiser, you need to assign it to one or more categories.

Add an Advertiser

1 Select **Customers** ⇨ **Advertisers** ⇨ **Add New Advertiser**.

2 Enter information in the **Name** field.

Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), spaces, underscores, and hyphens. The name cannot exceed 100 characters.

3 Enter information in the **Legal Entity Name** field.

The legal entity name is used for proposal PDF file exports, and is used in cases where the name needs to contain different characters or a longer and more formal version of the advertiser name that is used in other areas of SAS 360 Match.

4 In the **Credit Limit $** field, specify a monetary limit that if exceeded creates an alert or prevents the booking of a proposal.

Note: Only Finance and Administrator users can modify the **Credit Limit $** field.

5 If you want to require prepayment from the advertiser, select **Advertiser must pre-pay**.

6 Select **Disable Authentic Click/Count URL Generation** to disable the generation of authentic click and count requests.

7 In the **Standard discount (%)** field, enter a value that will be applied to exported proposal PDF files.

Note: Only Finance and Administrator users can modify the **Standard discount (%)** field.

8 Select an item from the **Industry** list.

The BI reports group advertisers by industry. For more information, see Chapter 47, “Managing Industries,” on page 249.

9 Select an item from the **Region** list.

The BI reports group advertisers by region. For more information, see Chapter 48, “Managing Regions,” on page 251.

10 Enter a value in the **Account number** field.

11 In the **Terms and Conditions** field, enter the first few letters of a name for terms and conditions. Then select terms and conditions from the autosearch results. For more information, see Chapter 39, “Managing Terms and Conditions,” on page 225.

Note: Enter % if you want to display the full list of term and conditions.

The selected terms and conditions are used by default when the advertiser is selected in a proposal.

12 Enter values in the **Identification number** fields.

Note: For example, enter a tax identification number, business number, or company number.

13 To set the invoicing method for the advertiser, select **Direct** or **Agency**.

14 Select a **Customer Status** from the list.

15 In the **Custom Actions** panel, enter values in the **Revenue $** fields for the default actions. For more information, see Chapter 8, “Managing Custom Actions,” on page 73.

If you want to delete an existing default action, click the “X” next to the action name.

16 If you want to create new actions, click **+ Add Action** and then do the following:

a In the **Action** field, enter the first few letters of an action and then select the action from the autosearch results.

Note: Enter % if you want to display the full list of actions.

b Enter a value in the **Revenue $** field.

c Repeat for as many actions that you would like to add.

17 In the **Categories** panel, enter information in the **New category** field and then click **Add**. For more information, see “About Advertisers” on page 239.

Advertiser categories prevent competing advertisers from displaying on the same page view. For example, if two advertisers are categorized as *Automaker*, only the first advertiser is displayed on the page view. However, an advertiser can serve more than once to a given page view, assuming that the advertiser’s tier allows duplicate delivery. In other words, a categorized advertiser does not compete with itself. In this context, page view refers to a sequential set of ad calls with the same view ID.

In addition to attaching a category to an advertiser in the system, you must apply the category to the advertiser’s flights so that certain flights are excluded and others are not excluded. More than one category can be applied to the advertiser and its flights. You cannot predefine categories. You add categories to an advertiser when you are creating or editing the advertiser. You can apply categories on a per-flight basis. See “About Flights” on page 55 for information about flights.

18 To add a contact for the advertiser, click **Add a Contact**, enter information and make selections in the Add New Contact window. Then click **Add Contact**.

19 Click **Update**.

Set Credit Limit

1 To add a credit limit to an advertiser, click the **Customers** tab on the top navigation bar.

Note: Only Finance and Administrator users can modify the credit limit.

2 Click the **Advertisers** subtab.

3 Click **Set Credit Limit** in the row of the advertiser.

4 Enter an amount in the **Credit limit** field.

5 Select **Advertiser must pre-pay** to require pre-payment from the advertiser.

6 Click **Set Credit Limit**. The updated credit limit appears in the table.

View an Advertiser

1 On the top navigation bar, click the **Customers** tab.

2 Click the **Advertisers** subtab.

3 You can view different groupings of advertisers:

- To view a specific advertiser, click the advertiser's name in the list.
- To view the advertisers for your team, click **View Team Advertisers**.
- To view the advertisers that belong to you, click **View My Advertisers**.

Edit an Advertiser

1 On the top navigation bar, click the **Customers** tab.

2 Click the **Advertisers** subtab.

3 To edit a specific advertiser, click the advertiser name or click in the row for the advertiser. For more information about the fields for an advertiser, see "Add an Advertiser" on page 239.

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Managing Agencies

About Agencies

You can add as many agencies as you like, and you can create categories for those agencies.

Add an Agency

1. On the top navigation bar, click the **Customers** tab.
2. Click the **Agencies** subtab.
3. Click **Add New Agency**.
4. Enter information in the **Name** field.

   Note: You can enter only alphanumeric characters (a-z, A-Z,0-9), special characters (~@#$%^&*-+(){}[]|/<>"=']), spaces, underscores, and punctuation marks (!.,?;:).

5. Enter information in the **Legal Entity Name** field.

The legal entity name is used for proposal PDF file exports, and is used in cases where the name needs to contain different characters or a longer, more formal version of the agency name used in other areas of SAS 360 Match.

6 In the **Credit Limit $** field, specify a monetary limit that if exceeded creates an alert or prevents the booking of a proposal.

Note: Only Finance and Administrator users can modify the **Credit Limit $** field.

7 If you want to require prepayment from the agency, select **Agency must pre-pay**.

8 In the **Standard discount (%)** field, enter a value that will be applied to exported proposal PDF files.

Note: Only Finance and Administrator users can modify the **Standard discount (%)** field.

9 Set the **Year end discount (%)** for the year-end payout. This discount is included in the eCPM calculation.

Note: Only users who are assigned a role with the view or edit permissions enabled for Agency Global Discount see the **Year end discount (%)** field. For more information, see "Types of Roles".

10 In the **Commission (%)** field, enter a value that will be applied to exported proposal PDF files.

Note: Only Finance and Administrator users can modify the **Commission (%)** field.

11 Enter an alphanumeric value in the **External ID** field.

12 Select an item from the **Region** list.

13 Enter a value in the **Account number** field.

14 In the **Terms and Conditions** field, enter the first few letters of a name for terms and conditions. Then select terms and conditions from the autosearch results.

Note: Enter % if you want to display the full list of term and conditions.

The selected terms and conditions are used by default when the agency is selected in a proposal.

15 For Australian businesses, enter your **ABN** or Australian Business Number.

16 For Australian companies, enter your **ACN** or Australian Company Number.

17 Select a status from the **Customer Status** list.

18 In the **Categories** panel, enter information in the **New category** field and then click **Add**.

19 To add a contact for the agency, click **Add a Contact** and enter the new contact information.

20 Click **Update**.

View an Agency

1 On the top navigation bar, click the **Customers** tab.

2 Click the **Agencies** subtab.

3 You can view different groupings of agencies.

- Click the agency name to view a specific agency.
- Click **View Team Agencies** to view the agencies for your team.
- Click **View My Agencies** to view the agencies that belong to you.

46 Managing Publishers

About Publishers

A publisher owns the website where advertisements are placed. You can create a publisher in SAS 360 Match if you want to limit reporting access. Creating publishers is useful in a network environment where you want to limit reporting access for publishers in some use cases.

Add a Publisher

1. On the top navigation bar, click the **Customers** tab.
2. Click the **Publishers** subtab.
3. Click **+ Add New Publisher**.
4. Enter information in the **Name** field.

   Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), spaces, underscores, and hyphens.

5. In the **Sites** field, enter the first few letters of a site and then select the site from the autosearch results.

   Note: Enter % if you want to display the full list of sites.

6. Click **Add Publisher**.

View Publishers

1. On the top navigation bar, click the **Customers** tab.
2. Click the **Publishers** subtab.
3. You can view different groupings of publishers:
   - To view a specific publisher, click the publisher name.
   - To view the publishers for your team, click **View Team Publishers**.
   - To view the publishers that belong to you, click **View My Publishers**.

Edit a Publisher

1. On the top navigation bar, click the **Customers** tab.
2. Click the **Publishers** subtab.
3. Click the publisher name or click in the row for the publisher. For more information about the fields for a publisher, see "Add a Publisher" on page 247.
4. Click **Update**.

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Managing Industries

About Industries

You can add as many industries as you like to represent your core interests and associations.

Add an Industry

1. On the top navigation bar, click the **Customers** tab.
2. Click the **Industries** subtab.
3. Click **+ Add New Industry**.
4. Enter information in the **Name** field.

   Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"='), spaces, underscores, and punctuation marks (!.,?;:).

5. Click **Add Industry**.

Edit an Industry

1. On the top navigation bar, click the **Customers** tab.
2. Click the **Industries** subtab.
3. Click the industry name or click  in the row for the industry.
4. Modify the information in the **Name** field.
5. Click **Update**.

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Managing Regions

About Regions

Regions are attributes that you can assign to advertisers and agencies for reporting.

Add a Region

1. On the top navigation bar, click the **Customers** tab.
2. Click the **Regions** subtab.
3. Click **+ Add New Region**.
4. Enter information in the **Name** field.

   Note: You can enter only alphanumeric characters (a–z, A–Z, 0–9), special characters (~@#$%^&*-+(){}[]|/<>"='])), spaces, underscores, and punctuation marks (!.,?;:).

5. Click **Add Region**.

Edit a Region

1. On the top navigation bar, click the **Customers** tab.
2. Click the **Regions** subtab.
3. Click the region name or click  in the row for the region. For more information about the fields in a region, see "Add a Region" on page 251.
4. Click **Update**.

PART 9

Partners

49 Managing Partners

About Partners

Partners are third parties that can communicate directly with ad engines within SAS 360 Match in order to provide real-time bidding during ad serving. Partners are distinct from customers. They are not related to advertisers, agencies, and so on.

Use the Partners section to define how to map items in SAS 360 Match to items from the partner.

Supported Partners

SAS 360 Match supports the following partners:

- Adela
- Adform
- Index
- Magnite
- Prebid Server
- PubMatic

- SpotX SSP
- TripleLift
- Xandr

To add any of these networks or a generic headerbidding network, contact SAS Technical Support and provide the information that is listed in the SAS 360 Match Platform Integration Guide. Then navigate to the Partner tab to specify additional details, such as size mappings and targets. For more information, see "Edit a Partner" on page 256.

Add a Partner

To add a partner or network that is not supported by SAS 360 Match:

1. On the top navigation bar, click the **Partners** tab.
2. Click **+ Add New Network**.
3. Enter a unique **Name** for the network and select a currency. Then click **Add Network**.

   > **IMPORTANT** Make sure the currency selection is correct. You cannot change this setting after you add the network.

4. In the All Partners table, click the network that you added to specify its settings. For more information, see "Edit a Partner" on page 256.

Edit a Partner

> **IMPORTANT**
>
> - Partners require placements, with these two exceptions:
>   - Placements are optional for Adform. By default, SAS 360 Match expects placements for Adform integrations. Contact SAS Technical Support to change the requirement for this network.
>   - User-defined networks do not need placements.
>
>   For more information, see "About Placements" on page 183.

- Tier floor prices, which specify minimum prices for the bids for each size in each tier, no longer are available. However, the **Tier Floor Prices** tab continues to be available for any previously configured networks that supported this option.
- To configure cookie synchronizing between SAS 360 Match and a network, contact SAS Technical Support.
- Set networks that you no longer use to inactive.

To edit the configuration of a network:

1. Click the network that you want to edit.
2. On the **General** tab, use the **Target** field to specify a target for the network. Enter a portion of the target name to display a list of available targets.

   Use the **Name** field to change the name of the user-defined network. This field is available for user-defined networks only.
3. On the **Size Mappings** tab, specify a network size for each size mapping as needed and click **Save Sizes**. (Optional) Click **Edit Creative** to specify the creative that is associated with the size mapping. You can specify a creative to use as an indicator that the header bid won.

   Note: For partners or networks that do not require placements, the **Size Mappings** tab displays a checklist of available sizes. Select all the sizes that apply and click **Save Sizes**.
4. On the **Site Mappings** tab, specify a site mapping for each site as needed and click **Save Sites**.

   Note: For partners or networks that do not require placements, the **Site Mappings** tab displays a checklist of available sites. Select all the site mappings that apply and click **Save Sites**.
5. On the **Revenue Share** tab, enter the following information:
   - In the **Open Market Revenue Share** field, enter the percentage of the revenue that the SSP charges as its fees.
   - In the **PMP Revenue Share** field, enter the percentage of the revenue that the PMP charges as its fees.

   Note: Contact SAS Technical Support to enable this feature.

PART 10

Reports

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Managing BI Reports

About BI Reports

The Business Intelligence (BI) reporting system is a powerful and extensive report builder with access to a large, configurable data set that enables you to analyze historical and future (projected) data. The reporting tool is called the Analyzer. Unlike operational reports that contain near real-time data, BI data is a day behind.

SAS 360 Match stores report data for 18 months, and older data is typically removed from the database. You can schedule a BI report that includes selected data points so that you can review older data.

Note: If you want to archive more data, contact SAS Technical Support to configure a log file export to store the information that you need with data that has not been aggregated.

User agents, domains, referrer URLs, and IP addresses cannot be logged or reported because it is not feasible to log the variability in the values for these elements for every impression.

Open a BI Report

1 On the top navigation bar, click the **Reports** tab.

2 Click **BI Reports**.

3 Click .

4 Click a report name.

After you select a report, the main report window appears. The column on the right contains a list of available fields that can be used as columns or filters in the report. The fields are broken down by section. Fields contain campaign and flight information and tags that have been set up for BI logging. Fields with a number in parentheses indicate additional properties that can be displayed after the field is added to the report. The **Measures** section contains count data fields such as **Impressions Served**.

Note:

Reports with _empty in the file name are base reports. Do not save changes to them. Instead, use **Save As** to rename and save your reports.

Data Cubes for BI Reports

Each report uses a specific data cube that specifies what data is accessible to the Analyzer. The data cubes are accessible through the following “empty” reports that all other reports are based on:

Bidsum_empty
: contains historical data about SSP bidding, including successful and unsuccessful bid attempts, as well as bid pricing and details about why bids were unsuccessful.

Bigsum_empty
: contains historical logging data down to the creative level. Tags and geotargeting tags can also be included in the cube. If a tag needs to be added to this cube, contact SAS Technical Support.

Flights_empty
: contains non-delivery flight informational data. There is no date data or tag data in the cube. The cube can be used to report on flight attributes like impression goals, start and end dates, and so on.

Inventory_empty
: contains simulated (projected) data for future dates. Like the Bigsum_empty cube, it also contains data down to the creative level and can include tags. By default, dates up to three months in the future can be selected.

Mediumsum_empty
: contains historical data down to the creative level, along with site and area tags. This is a much smaller cube and generally has a much faster processing time than the Bigsum_empty cube. This cube should be used for most historical reporting.

Pace_empty
: although it is similar to the Mediumsum_empty cube, this cube also contains time of day data. This means that delivery by time of day down to the hour can be seen for individual flights.

Workflow_empty
: unlike the other data cubes, this one does not contain any delivery data. It is used to access the sales workflow data to construct reports showing proposals and line items.

Filtering BI Reports

Filters restrict the data set to display the desired information. The fields on the left can be used as filters and are arranged by category, such as **Date** and **Flight Type**. You can drag fields into the filter area. After you select the field, use the window to specify the field attributes. The number in parentheses next to the field refers to the number of properties that are associated with the item that can be included in the report. Click **Properties** for additional information for a field.

Use the option buttons in the window for the field to determine how to match the values.

- Select **Match a specific string** to filter values based on a specified string. For example, use `2012` in the **Date** field to filter for all the dates that contain `2012`.
- Use **Select from a list** to choose from a list of searchable values. From the **Currently** drop-down menu, select **Included** or **Excluded** to include or exclude the selected values from the report. By default, the values that you select are included in the report.

> **TIP** Use the following best practices when you create a report:
>
> - To minimize the run time of the report, avoid selecting **Contains** or **Match a specific string** as filters.
> - Use the **Date** field instead of the **Month** field to filter dates. The **Choose a commonly used time period** option is the fastest way to select a recent date period.

Click **OK** to activate the filter.

You can filter the BI report using predefined metrics. Expand **Measures** on the left menu and select the metric to add to the report or to use as a filter. Here are the available measures:

- **Acted**: Sum of the actions that are logged.
- **Bonus Actions**: The bonus action goal for the flight.
- **Bonus Clicks**: The bonus click goal for the flight.
- **Bonus Impressions**: The bonus impressions goal for the flight.
- **Clicked**: The total number of clicks that are logged.
- **Cost Actions**: The cost of each action for the advertiser that is defined in the flight.
- **Cost Clicks**: The cost of each click for the advertiser that is defined in the flight.
- **Daily Goal**: What the flight needs to serve each day, beginning from its start date, so that it can finish by its end date. This metric is calculated using the following formula: `flights.impressions + flights.bonus_impressions / numdays(flights.end_date - flights.start_date)`. The report displays a null value if the flight is one day long.
- **Discount Rate**: The discount rate for the product.
- **Flat Rate**: The flat rate for the flight.
- **Flight Count**: The number of flights.
- **Floor Rate**: The floor rate for the product.
- **Goal Rate**: The goal rate for the product.
- **Impression Goal**: The impression goal for the flight.
- **Impressions Served**: The total number of impressions served for the flight.
- **List Rate**: The list rate for the product.
- **Selected**: The number of ads that are selected to be served. The number might not match the number for **Impressions Served**. For ads that use beacon counting or that are subject to passbacks, more ads might be selected than are finally counted as **Impressions Served**. However, the values for **Selected** and **Impressions Served** are the same for ads that do not use beacon counting and that are not subject to passbacks.
- **Simple Revenue**: This metric is calculated using the following formula: `(impressions served/1000)* CPM` . The number of impressions served for the

selected flight is divided by 1000 and multiplied by the CPM for the flight. Flights that use a flat rate show no revenue.

Note: Flights must be included in the report because the calculation for simple revenue requires the flight CPM.

- **Simple Revenue (*currency*)**: This metric is the same as the formula for **Simple Revenue** but uses the *currency* as its base currency. For example, when *currency* is CZK, the base currency is the Czech koruna.
- **Sold Rate**: The CPM rate for the flight.
- **Viewed**: The number of times an ad has been viewed.

Note: Contact SAS Technical Support to set up your website to collect view counts.

Building a BI Report

After selecting the filters, drag the fields to the report to create columns. Column headings for standard fields are dark yellow. Measures are typically the right-most columns. Column headings for measures are blue. Fields can be placed above the measure columns as subheaders. To undo a change to the report, click the left arrow in the upper left of the BI report. You can also use this left arrow when adding a column or filter results in an error. Click the right arrow to redo changes.

Properties contain additional data that are related to a field. A number inside parentheses next to a field indicates the number of properties that can be displayed once the field is added to the report. To add the additional properties to the report, right-click the field header to open the **Show Properties** menu. Properties that you select appear as additional columns under a header with a light yellow background. Unlike fields, properties cannot be used as filters and cannot be rearranged in the column order. You can right-click each column for a menu with additional options. Fields and measures have different options.

The following options are available for measures in a report:

- **Column Name and Format** modifies the column name and the format.
- **Conditional Formatting** formats the report with colors, graphics, and icons to visualize data amounts and trends.
- **User Defined Measure** creates a new field. For more information, see "User-Defined Fields" on page 267.
- **Greater/Less Than, Equal To, etc.** provides additional filters that you can specify for the measure.

- **Top 10, etc.** filters a specified number of results by their position in the top or bottom of a list. For example, you can narrow the results that you see to the top three dates with the most impressions served.
- **Sort Values Low->High** sorts the values in ascending order.
- **Sort Values High->Low** sorts the values in descending order.
- **Subtotals (Sums, Averages, etc.)** shows specified subtotals in the column.
- **Tell me about** shows the properties for the measure.
- **Hide from chart** hides the column in the report.
- **Remove from Report** deletes the column from the report.

The following options are available for fields in a report:

- **Edit** changes the column name.
- **Also Show** lists related fields that can be added to the report.
- **Hyperlink**.
- **Filter** enables additional filters to be specified for the column.
- **Top 10, etc.** filters a specified number of results by their position in the top or bottom of a list. For example, you can narrow the results that you see to the top three dates with the most impressions served.
- **Sort Values A->Z** sorts the values in ascending order.
- **Sort Values Z->A** sorts the values in descending order.
- **Tell me about** shows the properties for the field.
- **Remove from Report** deletes the column from the report.

Note: Modifying data after a campaign, flight, or creative is live and after data has been logged to a BI report might cause the data that is logged before and after the modification to appear on different BI reports if the data that changed is part of the selection criteria.

Generating Graphs and Charts in a BI Report

BI also generates graphs and charts from report data. Click next to **View As**. Measures are always placed on the vertical axis. Regular fields are placed on the horizontal axis. Filters and fields can still be added and modified while you are in the graph mode. To switch back to the regular view, select the **Table** icon next to .

IMPORTANT

The counts for Dev_Type Name impressions in the BI report might not match the counts in the Sunstreak Traffic Sources graph for the following reasons:

- The BI report includes the default flight but the Sunstreak dashboard excludes the default flight.
- The BI report counts all flights but the Sunstreak dashboard filters the flights that are counted based on the user's permissions.

Exporting, Mailing, and Scheduling BI Reports

To export reports, click **More** in the upper right part of the BI window. The **Export Report** submenu enables conversion to PDF, Excel, and CSV files.

You can email reports after you have saved them. Be sure to click if you open a report with _empty in the file name. Click at the top of the screen, select the report, file type, and then enter the email address.

To schedule BI reports, set up the fields that you would use to email the report. Enter **Daily**, **Weekly**, or **Monthly** in the scheduling options, and then enter the time at which you want the report to start running.

Note: Scheduling multiple reports to run simultaneously can result in some or all reports failing to complete running or failing to be emailed. Previously scheduled reports can be accessed by clicking **Manage Schedules**.

User-Defined Fields

User-defined fields are custom calculations that can be created and defined in the analyzer. Right-click a measure and then select **User Defined Number**. Choose one of the following options from the menu:

- Select **% of, Rank, and Running Sum** to select a predefined calculation. Specify whether you want to see the percentage, rank, or cumulative total of the value.

Click **Next** and customize the values for the **Display Name**, **Format**, and **Decimal Places** fields. Click **Done** to add the column to the report.

- Select **Create Calculated Number** to create custom calculations. Select the available measures from the left to include in the actual calculation on the right. Each measure is enclosed in brackets when it is placed in the calculation. Click **OK** to add the column to the report.
- Select **Trend Measure** to display the trend over time. Click **OK** to add the column to the report.

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Managing Operational Reports

About Operational Reports

Operational reports include any report that is not part of the Business Intelligence (BI) suite. You access the operational reports on the **Reports** tab. The operational reports provide a fast and easy way of looking at historical data, and can provide nearly real-time data (delayed by a maximum of 6 minutes). BI can report only up to the preceding day. Users with full administrator access can view all reports and all data, but users with more restricted roles see only a subset of that data. For example, a user assigned the Agency role sees only data for flights that are assigned to their agency.

The information in the **Title** field is used as the file name for emailed or scheduled reports. Spaces in the **Title** are replaced with underscores. Select the **Include views** check box to add a column that displays counts for viewed ads.

All operational reports can be scheduled to run at a specified time or interval using the **Schedule** section on each report's page. All reports can also be exported to CSV and XLSX format.

Operational reports that are larger than 25 MB are stored remotely and a link to the report is sent via email. The link is active for 14 days. Smaller reports are sent as email attachments.

User agents, domains, referrer URLs, and IP addresses cannot be logged or reported because it is not feasible to log the variability in the values for these elements for every impression.

Types of Operational Reports

On the Reports page, you can run the following types of operational reports:

Advertiser's
: provides a general overview of what advertisers, campaigns, flights, and creatives served within the specified criteria (report options). Impressions, clicks, actions, click rate, and action rate are the displayed metrics.

Area Size
: displays impressions, clicks, and actions for area values and each creative size that served under each area.

Billing
: this large report lists advertisers, campaigns, and flights that were active during the specified date range. Metrics shown are start and end dates, impressions, clicks, actions, impression goals (including bonus), click goals (including bonus), action goals (including bonus), flat rate revenue, and calculated revenues. Note that the displayed flat rate is not calculated. Instead, the full flat rate amount set in the flight is displayed.

Custom Action
: the only report that displays custom action activity. The name of the custom action, attribution (impression or click), and the number of actions are displayed for advertisers, sites, areas, flights, and creatives.

Device/Geo
: displays historical impression, click, and action data for mobile device and geo tags. The report can be filtered by Advertiser, Agency, Campaign Name, Flight Name, Site, Area, or Size. Device and geo tags are selected in the **Options** field. To see all available options, enter `%`. The output also includes an interactive chart that works in a similar way to the Dashboards. Note that device and geo tags must be logged in Bigsum to be used in this report.

Flight Status
: displays flights filtered by status. This report can be used to help determine how flights are performing. Advertisers, campaigns, and flights are displayed along with the tier and effective tier, products and targets, and start and end dates that belong to those flights. Realized amounts and goals are displayed for impressions, clicks, and actions. Note that the site filter that can be applied to the report filters only against flights that are explicitly targeted to the specified site when you are using the **Sites & Areas** section on the Flight window. If a flight is targeted to a site through other means, such as an actual target, those flights are not included in the report results if a site is specified in the criteria. Along with the above, On Schedule Percentage is displayed. The on-schedule percentage value indicates how close, percentage-wise, a flight is to serving its ideal daily amount. On-schedule percentage is the only value in the report that should be used to determine performance of a flight.

Flight names are shown in red when the on-schedule percentage (OSP) for the flight is less than 90 percent.

OSP is calculated using the following formula: **`(Number of flights delivered / Goal for number of flights delivered) / (Flight time elapsed / Total flight time)`**

For example, your goal is to serve 26,250 flights over 32 days. After 24 days and 7 hours, the flight has served 14,080 times. The ratio of the number of flights delivered to the goal for flights delivered is 14,080 / 26,250 = 0.536. The ratio of flight time that has elapsed in hours to the total flight time in hours, is 583 / 768 = 0.759. The OSP is (0.536 / 0.759) * 100 = 70.6%

Outage
: shows delivery outages for service-level agreement (SLA) reporting.

Performance
: provides an overview of the actions and impression, click, or view data that can be filtered. If an advertiser is selected, custom actions can be included.

Note: The breakdown option is available only when the report is exported to CSV or XLSX.

Product
: shows products and the flights that could serve to the demographic in the product. It is the only report that displays future, or projected, data. Projected impressions are displayed along with available inventory amounts.

The product report analyzes historical data to calculate the available and reserved impression counts for a specified date range for products that are created in SAS 360 Match. The report takes into account the targeting for the product when it creates the forecast, even when the product is not explicitly assigned to flights. This is also true with the check avails feature.

In the product report:

- the available value is a forecast of what might be available during the forecast date range.
- the reserved value is the inventory that is already claimed by competing flights.
- the total value is a forecast of how much a product could deliver in the forecast date range if there are no competing flights that consume inventory.

The product report uses preemptible tiers to calculate the available inventory for a product. This is true even for a flight that is in a tier that is not preemptible at the flight level, such as a flight with a guaranteed type. Conversely, the inventory for any flight is considered reserved if the flight is in a tier that is not preemptible, regardless of the flight's type.

Products with targets that fail are not included in the analysis. An example is product with a target that contains a custom tag or a tag value that is not included in the nightly simulation process that is used for forecasting.

The portion of a product target that is not a logged value always evaluates to true when running the analysis. This is equivalent to removing the unlogged portion of the target from the analysis. Keywords, referrer URLs, user agent strings, and domains are not logged.

For example, the analysis of a product with the target `Site=football and Referrer=www.nationalfootballleague.com` treats the target as `Site=football` because the referrer URL is not a logged value. This can result in inflated projection counts because the removal of `Referrer=www.nationalfootballleague.com` from the target creates a less restrictive target.

Publisher's
: provides a general overview of what advertisers, campaigns, flights, and creatives were served within the specified criteria (report options). It is exactly the same as the advertiser's report with the exception of revenue.

Site Area
: displays flight impressions, clicks, and actions for site values as well as each area value that served with the site.

Size Served
: displays impressions, clicks, and actions for each creative size that served during the specified date range.

Tags
: displays impressions, clicks, and actions for the tag values under the specified tag. The value `OTHER` includes all impressions that did not include the specified tag in the ad call, or included a value for the tag that does not exist. If no data for a tag exists, make sure that the **Tagsum logging** option is enabled by editing the tag in SAS 360 Match.

Tag Assessment
: displays a list of tag values associated with the selected flight type to help determine the most productive tag and tag combinations. The report computes the value of every tag that is used in targeting in active and pending flights. The tags are ordered by value and display the percent of highest tag value for all other tags. The highest value tag is 100 percent.

Third Party Data
: third-party data can be provided to SAS 360 Match, which can be displayed using this report.

Time of Day
: provides a 24-hour breakdown of impressions, clicks, and actions for the specified date range.

Unique Visitor
: lists flights along with unique impression, click, and action amounts. These amounts reflect the number of unique visitors that were served the flight, or submitted a click or action for the flight. Use the Option criteria to apply one of the following levels of uniqueness: unique for a 24-hour period, unique for a month, or unique in the entirety of the record.

Note:

The Uniques for Impressions value in the report displays the number of unique visitors who were served this flight. If all the unique visitors reach the frequency cap for a flight with a frequency cap, you can calculate the traffic for the flight by multiplying the value of Uniques for Impressions with the value of the frequency cap for the flight. Typically, only some visitors reach the frequency cap.

Usage
: shows selections (each time the service requests a decision), how APIs and data are used, and fraudulent activity listed separately by impression fraud and by beacon fraud. The report also displays the total number of impressions that are flagged by the allowlist and the denylist.

The following additional options are available when you run the Usage report:

- The **SAS Billable Metrics (Ad Request, Event API, Peak Capacity)** check box to view billable metrics.
- The **Break down by** field to select intervals of **Day** or **Month** to break down the data in the report.

The usage report provides the following information:

- SELECTED: The number of selected impressions.
- SUPERTAG: The number of supertag requests.
- PASSBACK: The number of passback requests.
- NCT: The number of network creative requests.
- BID: The number of SSP bids.
- DATAAPI: The number of data API calls such as getsv, setsv, and settag.
- SNIPPET: The number of snippets served.
- IMPRESSION FRAUD: The number of bot or fraudulent requests.
- BEACON FRAUD: The number of fraudulent click, action, or view requests.
- ALLOWLIST: The number of failed allowlist requests.
- DENYLIST: The number of failed denylist requests.
- CDN: The volume of data in MB that is served.
- DATA STORAGE: The volume of data in MB that is stored for data activation.
- BEACON: The number of count requests, excluding beacons that count impressions.
- DATA ACTIVATION: The number of records that are updated by batch processing.
- CONNECTORS: The number of times a connector is invoked.
- IMPRESSIONS: The number of times creatives are delivered by the ad server.

Workflow Revenue
: displays proposal and line item data for the specified criteria. The date range selection filters based on the proposal start date, and proposals without a start date are included regardless of the specified date range. Details for proposal advertiser, agency, bill to, salesperson, external ID, and start and end dates are included. Data for product, product line, and billable amount are displayed for

each line item. The CSV and XLSX exports include a breakdown of billable amount by month.

Run a Report

1. On the top navigation bar, click the **Reports** tab.
2. Click a report name on the dashboard or select a report from the **Reports** list.
3. (Optional) Specify a **Title** for the report. The title, with spaces replaced by underscores, is used as the file name when exporting a file. In addition, the title is used as the subject for email messages and as the header for Excel files. If no title is specified, the report name is used instead.
4. Select a **Date Range** for the report.

   Note:

   If you select **Last 7 Days** or **Last 30 Days**, the report provides information for complete 24-hour days. For example, if you run a report for the past seven days on Tuesday, the report contains information from 12:00 AM the previous Tuesday until 11:59 PM on Monday.

5. In the Report window, use the filters to refine the information in your report.
6. Select the action for the report.
   - To export the report, click **Export xslx** for an Excel file or click **Export csv** for a comma-separated value (CSV) file.

     If an email address is specified in **Emails**, the file is sent to the email address. If no address is specified, the file is downloaded to your default folder.
   - To generate the report, click **Run Report**
   - To set up a new schedule, do the following in the **Schedule** section:
     1. Select a schedule.
        - If you select **Daily**, specify a time from the **Run at Hour** and **Run at Minute** drop-down lists.
        - If you select **Weekly**, specify a day of the week from **Run on Day** and a time from **Run at Hour**.
        - If you select **Monthly**, specify a date from the **Run on Day** and a time from **Run at Hour** to run the report.
     2. Specify when to stop generating the scheduled report in the **Expire in** field.
     3. Click **Schedule Report**.

- To modify existing schedules, click **Manage Schedules**, select the schedule to update, and make your changes.

PART 11

Administration

Note: By default, only administrators have access to the **Administration** menu and its options. However, other roles can be granted access to this feature.

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Settings

About Administration Settings

Use settings to specify targets that should not be logged. Metrics for these targets will not be collected. If a request to the ad server matches a target, the request is not logged. This applies if the requests are impressions, clicks, actions, and views.

You can use settings to combat fraudulent activity. For example, if a particular host is submitting fraudulent traffic, you can build a target for that host. Once it is specified as a target, the host's requests are no longer logged. In addition, targets can be used to temporarily prevent the logging of test traffic or any other type of traffic.

Configure Settings

1. Click the **Administration** tab in the top navigation bar.
2. Select the **Settings** subtab.
3. List the targets that should not be logged in **No Log Targets**. If multiple targets are specified, the request must match at least one target for logging to be bypassed.
4. Select the **Require a product when saving flight** check box to require that at least one product must be assigned to a flight before the flight can be saved.

5 (Optional) Use **Cookie string** to append additional settings to the end of your cookie string.

By default, there is no security setting for your cookies. Specify the security level for your cookies using one of the following options:

- `HttpOnly` prevents the cookie from being set directly on the web browser using JavaScript.
- `Secure` requires that the cookie be transmitted using only the secure HTTPS protocol.

Note: To apply `HttpOnly` and `Secure` rules, separate the strings with a semicolon.

You can also specify the `SameSite` value using one of the following options:

- `Lax` ensures that your cookie is sent within the same domain. The cookie is sent only if the domain for the URL on the browser matches the cookie's domain.

  Note: This is the default setting for `SameSite`.

- `Strict` ensures that your cookie is sent within the same site. The cookie is sent only if the site for the URL on the browser matches the cookie's site.
- `None` does not apply any `SameSite` rules. However, this value is invalid in non-secure (HTTP) requests and `SameSite` reverts to `Lax` rules.

6 (Optional) If you work with DMPs, you can use the **DMP Dynamic Segment Tags** section to control segment keys for **AdForm**, **Adobe**, **Lotame**, or **Salesforce DMP/Krux**. You can also set the **Salesforce DMP/Krux** user ID key under the **Krux Visitor Id**.

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Peak Capacities

About Peak Capacities

Note: Peak capacity is an optional add-on to SAS 360 Match with its own fees and license options.

SAS 360 Match Peak Capacity is an offering for customers with sporadic and significant traffic spikes. For example, a television broadcaster might choose to license Peak Capacity to provide dedicated ad-serving capacity.

Peak capacity refers to the maximum number of ad requests that are expected per second. A peak capacity unit is the maximum capacity that is requested on a given day, in ad requests per second.

Add Peak Capacity

To add peak capacity

1. Click the **Administration** tab in the top navigation bar.
2. Select the **Peak Capacities** subtab.

Note: The **Peak Capacity Baseline** refers to the baseline number of units based on your peak capacity license.

3. Click **+ Add New Peak Capacity**.
4. Specify a unique **Name** for the peak capacity.
5. Set a **Start Date**. The start date cannot be earlier than the current day. If you set the start date to the current day, the increase in peak capacity is effective immediately and you cannot change the start date.
6. Specify the **Peak Capacity Units** for the maximum capacity that is requested on a given day, in ad requests per second. This number replaces the baseline capacity.

   For example, your baseline capacity is 10,000 peak capacity units. To increase the capacity by 6,000 units per second, specify 16,000. To decrease the capacity by 6,000 units per second, specify 4,000.

   Note: If your start date is the current day, you can only increase the peak capacity unit. You can only increase the peak capacity for an event once the event is in progress. However, you can increase or reduce the peak capacity size of future events before they begin.

7. Click **Add Peak Capacity** to save your changes.

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Users

About Users

You can manage your users and provide access to the features of the application by adding the users for your tenant directly in SAS 360 Match. You can add multiple users and enter their user information. You can specify access rights for the users with roles, assign them to teams, and log each individual's actions.

Create a User

1. Click the **Administration** tab in the top navigation bar.
2. Select the **Users** subtab.
3. Create a unique **Login** ID for the user.
4. Enter the user's **Email Address**.

   Note: Email address must be unique.

5. (Optional) Enter the user's **Full name**.

6 Set a **Password** and confirm it in **Password confirmation**. By default, passwords must be at least four characters. In addition, you can require more complex passwords that include at least one number, one lowercase letter, one uppercase letter, and one special character. Contact SAS Technical Support at support@sas.com to enable the complex password option.

7 (Optional) Add the user's **Phone**, **Fax**, and **Address**.

8 Set the user's **Locale** to set the browser language.

9 Set a **Time Zone** for the user. If this option is set, the user's time zone overrides the system default time zone. Dates and times are displayed in the specified time zone for this user. When the user creates flights and line items, dates and times for these entities default to the user's specified time zone.

Note: The time zone is displayed in the top right corner of the screen.

10 Set a **Currency**. When the user creates flights and line items, the default currency for these entities is the user's specified currency.

Note: The currency specified for a user takes precedence over the currency specified for any teams the user is in. Team currency takes precedence over the base currency.

11 Set the user's **Status** to **Active** for this user to show up in lists of users or to **Inactive** to hide the user.

Note: You cannot delete users. Instead, set their status to **Inactive** to hide them.

12 (Optional) Add any **Notes** for this user.

13 In the **Teams & Roles** section:

a (Optional) To limit users to only the products and tiers that are available to their assigned teams or to products and tiers that are not assigned to any teams, select **Team restricted**. By default, users can access, manipulate, and report on all products and tiers.

b Set a **Role** for the user. Each user must have at least one role. For more information, see "Types of Roles".

Note: The role set in the user profile overrides the role that is assigned to the user through team membership.

c (Optional) Set a **Team** for the user. A user can be assigned to multiple teams. For more information, see "About Teams".

d Select **Default** to set the default role and team when a user is assigned to multiple roles and teams.

Note: The default role is the role that is set when a user logs in.

14 Click **Add User** to create the new user.

Note: To switch among multiple role and team combinations for a user, select a profile from the drop-down list in the upper right, next to the user name.

Edit a User

Users receive an email alert if any of their personal data, such as email address, phone number, password, user name, and location, changes. This notification enables users to respond quickly to unwanted or unintended changes to their profile.

1. Click the **Administration** tab in the top navigation bar.
2. Select the **Users** subtab.
3. In the row for a user, click the user name or click .
4. The editable fields are the same as those you edit when you create a user.
5. The **API Key** field contains the API key that was generated when the user was created.

   Enable the **Regenerate API Key** check box to regenerate your API key. This action cannot be undone. After you make this change, future use of the API key must refer to the new API key instead.
6. You might see additional fields, depending on the user's assigned roles:
   - When editing a user with the AdOpsManager or the Trafficker role, the **Associated Salespeople** field appears. Any salesperson or sales manager who is associated with this user is listed here. Delete the salesperson to remove the association.
   - When editing a user with the Agency role, the **Agency** field appears.
   - When editing a user with the Publisher role, the **Publisher** field appears.
   - When editing a user with the SalesManager or Salesperson role, two fields appear:
     - **Associated Traffickers**: Select users with the Trafficker or AdOpsManager roles to associate with this user.

       Note: When a user with a SalesManager or Salesperson role is associated with a user with a trafficker or AdOpsManager role, the associated user's profile specifies this sales user as its **Associated Salesperson**. If the sales user creates a new proposal, this associated user is listed in the **Trafficker** field. If multiple users are associated with a salesperson, the proposal **Trafficker** field lists the last user in the list.

- **Assign sales person an advertiser or agency**: Select advertisers or agencies to associate with this user.

7 Select **Update** to save the changes.

Note: If a user who is assigned the roles of Publisher, Advertiser, or Agency has a publisher, advertiser, or agency specified, that user can access only data that is associated with those entities.

View a User's API Key

SAS 360 Match provides a set of APIs to enable easy integration with other systems or for users to manipulate elements such as campaigns, creatives, and flights. External systems that integrate with SAS 360 Match should be assigned unique user accounts. This enables you to control access permissions for the external systems and to identify and log the actions that are performed by the remote system.

SAS 360 Match generates a unique API key for each user that is created. You can use this API key to authenticate your API requests.

For information about ways to authenticate with the APIs, select **Home** ⇨ **API Docs**.

To retrieve an API key for an individual, a user who is assigned to a role with permission to view API keys, such as a system administrator, can use the following steps:

1 Click the **Administration** tab in the top navigation bar.

2 Select the **Users** subtab.

3 Select the user.

Note: Use the **Filter** panel to refine your results.

4 Find the key in the **API Key** field.

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Single Sign-On

About Single Sign-On

Single sign-on, also known as SSO, is a way of authenticating users in SAS 360 Match through a third-party identity provider, or IDP. To configure SSO, you must set up the IDP and SAS 360 Match to exchange data.

Here are terms that are commonly used in configuring SSOs:

Identity Provider (IDP)
: provides identities for users who need to interact with a service provider. The IDP usually hosts the user information repository that handles authentication and password management.

Security Assertion Markup Language (SAML)
: enables SSO by allowing a single-user authorization service, such as an IDP, to grant access to third-party or remote applications. For example, when SAML is set up and configured, the IDP can provide credentials to log on to applications such as Airbrake, PagerDuty, or Slack. The service provider and the IDP communicate using SAML.

Service Provider (SP)
: provides features or functionality to users. The IDP, rather than the SP, manages user authentication. In this case, the SP is SAS 360 Match.

User Agent
: usually refers to a web browser.

Configure SSO with Okta

Set up Okta to exchange required data with the SP, which is SAS 360 Match.

To set up Okta as an IDP:

1. Log on to Okta.
2. Select **Add Applications** in the Shortcut menu on the dashboard.
3. Click **Create New App**.
4. Click **Show Advanced Settings** to display all the fields in the SAML Settings panel.

Data for IDP and SP

To set up the connection, the IDP and the SP, which is SAS 360 Match, must exchange information.

IDP Data Required by SP

The SP requires the following information from the IDP:

- the IDP SSO URL to redirect users for authentication
- the IDP issuer URL
- a copy of the IDP X.509 certificate

These values can be entered manually or provided by a metadata XML file to the SP. The SAML uses the name ID format to enable the IDP and SP to exchange information about a user and to identify the user. The SP expects the name ID to be persistent.

SP Data Required by IDP

The IDP requires the following information from the SP:

- the SP URL to post authentication information, that is, the SP consumer or SP SSO URL.
- the default SP landing page, that is, the audience URI or SP entity ID. This is typically the home page for the website.
- authentication user payload information that is sent to the IDP in the format required by the SP. An SP defines the user attributes or claims that are acceptable. For example, the attributes might be **`login`** instead of **`username`**, **`first_name`** instead of **`FirstName`**, or **`email`** instead of **`email_address`**. If necessary, the IDP transforms its user data to the expected format before posting it to the SP consumer URL.

  When posting to the SSO consumer URL, SAS 360 Match requires the persistent name ID. In addition, the SP has to configure the IDP to send the four following attributes

  Note: The attribute names are case sensitive and must be listed exactly as they are below.

  - **`FirstName`**
  - **`LastName`**
  - **`Email`**
  - **`Login`**
- (Optional) The assertion encryption certificate generated by SAS 360 Match. Configure the IDP to accept an encryption algorithm of *AES-256-CBC* and key transport algorithm of *RSA-OAEP*.

Configuring SSO

After logging in through the IDP, SAS 360 Match creates a new SSO user account for each email address provided by the IDP that does not exist for the SP. If the email address already exists, the existing user account in SAS 360 Match is converted to an SSO account. A user who has logged on using the SSO service can no longer log on to SAS 360 Match in the traditional manner.

Note: Create at least one user account with administrator access that is not used for SSO. This ensures that if the IDP is down, at least one account will still able to log on to SAS 360 Match.

During the initial setup, do not set the SSO configuration as the default until it is proven to work. Once the SSO configuration is set as the default, navigating to the URL of the user interface redirects you to the IDP's login screen, if the user is not logged in. After the IDP and the SP are configured and enabled, authentication by the SSO starts automatically.

Note: The IDP configuration requires information to be exchanged between the SP and the IDP during setup. You might want to create an initial SSO configuration with only the name and the default role set and leave the URL fields blank before you configure the IDP. Configuring the SSO in this manner enables you to have the required information before you get started.

To configure the SSO:

1. Click the **Administration** tab in the top navigation bar.
2. Select the **SSOS** subtab.
3. Fill in the following information:

   Note: The fields in the **SSOS** subtab are automatically populated after information is copied into the **Metadata** field.

   a. **Name**: The unique name for the SAS 360 Match installation. The name must be URL safe because the SSO name is part of the SP SSO URL that is provided to the IDP.

      Note: This field is read-only after you create the SSO.

   b. **Consume url**: This value is set by SAS 360 Match during SSO setup. Provide this URL to the IDP during SSO integration.
   c. **Login url**: This value is set by SAS 360 Match during SSO setup. If the **Default** option is selected, users are prompted to log on through this URL instead of through the local login URL.
   d. **Active**: Select this option to enable users to log on through this SSO.
   e. **Default**: Select this option to enable all users to be authenticated by this SSO by default. Otherwise, anonymous users are authenticated using another SSO or the local application login.
   f. **Default role**: Specify the default role for new users when they first sign in with the SSO. Teams, roles, and permissions must be managed by SAS 360 Match.
   g. **Refresh duration**: Specify the number of minutes to wait before reverifying the authentication information with the SSO.

Note: The minimum duration is 15 minutes.

h **Idp sso target url**: Get this information from the IDP.

i **Idp issuer**: Get this information from the IDP.

j **IDP Certificate**: Get this information from the IDP.

k **SP Certificate**: This information is generated by SAS 360 Match. Provide this certificate to the IDP if you want to use assertion encryption.

l **Metadata**: (Optional) Use this URL to upload IDP information, if the SSO record was created that way.

4 Click **Update**.

After the IDP and the SP are configured and enabled, authentication by the SSO starts automatically.

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OAUTH Applications

About OAUTH Applications

Note: This feature is being rolled out incrementally and might not be available for your tenant yet. Contact your SAS representative if you have questions about this feature's availability.

Client credentials OAUTH2 authorization is meant for trusted clients and service accounts. This process is used by service accounts and automated processes.

Use the OAUTH Application to generate a OAUTH Bearer (JWT) token that the user can then use to authenticate a request.

Add an OAUTH Application

To add an OAUTH application:

1. Click the **Administration** tab in the top navigation bar.
2. Select the **OAUTH Applications** subtab.
3. Click **+ Add New Oauth application**.
4. Specify a unique **Name** for the token.

5 Select a **User** who can create the access token.

6 Specify the duration (in seconds) that an access token that is created with these credentials is valid in the **Token duration** field. The value can range from 300 seconds (5 minutes) to 43200 seconds (12 hours).

When the token is created, SAS 360 Match generates a unique user ID and user secret for the entry. Only the specified user and users with the administrator role can view the token. You can change the token duration in the Edit view.

57 Roles

About Roles

Roles enable you to set access rights for groups of users. You can use roles to specify the menu items, pages, and reports that users can view, edit, or delete. Each role has a set of permissions that can be configured. Any user who is assigned a role has all of that role's access rights.

Administrator Role

A user that is assigned the Administrator role has unrestricted access to the **Administration** menu in SAS 360 Match. An Administrator can set up users, configure roles and permissions for other users, and customize configuration settings for the tenant.

IMPORTANT The Administrator is not responsible for backing up data that is stored in SAS 360 Match while the contract for SAS 360 Match is in effect. However, if the contract is not renewed or is terminated, the Administrator might have to manage the download of personal data, reports, and other data from SAS 360 Match. The reports and data are available for 30 days beyond the end of the contract.

Types of Roles

SAS 360 Match provides the following default user roles that can be edited but cannot be deleted:

AdOpsManager
: users with this role have access to all sections except for sales workflow and users. AdOpsManager users can be assigned to the role of Trafficker in campaigns. They can view all campaign results by selecting the **View All Campaigns** option.

Advertiser
: users with this role can view campaigns, flights, and creatives created under their names. These users can also view sales line items and terms and conditions. If the user is assigned to an advertiser, the user can access only data associated with that advertiser. Users in this role can see only the advertiser's report.

Agency
: users with this role have the same access as Advertiser but can view only campaigns where they are assigned as Agency. If the user is assigned to an agency, the user can access only data associated with that agency. Users in this role can see only the advertiser's report.

FinanceUser
: users with this role can view sales workflow, edit proposals and RFPs, and view and edit customers. They have no report access.

Publisher
: users with this role have access to only the publisher's report. If the user is assigned to a publisher, the user can access only data associated with that publisher.

SalesManager
: users with this role have the access rights of a Salesperson role, as well as the ability to delete campaigns, flights, creatives, customers, and some targeting elements. Users with this role can be assigned as a salesperson in a campaign. Users with the SalesManager role can view all campaigns by selecting the **View All Campaigns** option.

Salesperson
: users with this role have the following capabilities:

- can view all sections in a campaign except users and creative formats
- can create but not delete campaigns

- can see only reports for campaigns where they are assigned as the Salesperson role or they are associated with a team who created the materials

The salesperson or user who is associated with the sales team can use Live Preview to preview creatives. For flights, users who are assigned the Salesperson role can view flights only and can use Live Preview to preview creatives. A user with the Salesperson role can create creatives, advertisers, and agencies but cannot delete these items.

Trafficker

users with this role can view only the campaigns where they are assigned as a trafficker. They can view all sections except users. Traffickers to not have the ability to delete items. They can view all reports. In the Campaign screen, the default view a user with this role is a list of the campaigns in which the user is the assigned the Trafficker role. To see all campaigns, the trafficker must click **View All Campaigns** .

Traffickers cannot view or edit the campaigns that are assigned to other traffickers. To enable a user to do this, change the user's role to AdOpsManager.

Add a Role

> **TIP** A role that you create using this option does not contain any preset permissions. To create a copy of a role that contains the default permissions that are provided by SAS 360 Match, navigate to **Administration** ⇨ **Roles** and click next to the role that you want to copy.

1. Click the **Administration** tab in the top navigation bar.
2. Select the **Roles** subtab.
3. Click **+ Add New Role**.
4. Create a **Name** for the role.
5. Select **Ad Ops Manager**, **Sales Manager**, **Salesperson**, **Trafficker**, **Advertiser**, or **Agency** user types for the role. Users who are assigned to a role appear in menus that are associated with the role's specified user types. For example, users who are assigned to the roles of Salesperson and Trafficker appear in the drop-down menus for these roles.
6. Select **Add Role**.
7. Configure permissions for the role. For more information, see "Edit Role Permissions".
8. Select **Save Role Permissions**.

9 Once you have created a role and set its permissions, you can assign users to the role in **Administration** ⇨ **Users**. For more information, see "About Users".

Edit Role Permissions

Once a role is created, you can configure its permissions and actions.

Note: An enabled action or permission does not imply another. You must set all the actions and permissions you want the role to have. For example, if you want users assigned to this role to be able to make changes to the entities that they create, you must enable the Create and Edit actions. In the same way, if you want the users with this role to be able to view all entities as well as get a narrower view of those entities assigned only to the user, you must enable View Global and View Assigned To Me permissions.

1. Click the **Administration** tab in the top navigation bar.
2. Select the **Roles** subtab.
3. Select a role to edit. A summary of permissions for the role displays.
4. Select the actions for the role.
   a. View: enables the user to open and view an existing entity, without the ability to edit or save.
   b. Create: enables the user to create a new entity.
   c. Edit: enables the user to edit existing entities but not create new entities. The user might not have View access.
   d. Delete: enables the user to delete entities.
   e. Schedule: enables the user to create, manage, and delete scheduled reports.
5. Select the permissions for the role.

   Note: Permissions follow this order of precedence: global permissions override team permissions, which override role permissions.

   a. Global: enables the user to access all entities regardless of ownership, assignment, or restriction.
   b. Team: enables the user to access entities that are assigned to the same team as the user. For more information, see "About Teams".
   c. Assigned To Me: enables the user to access entities that are assigned to the user through Salesperson or Trafficker roles.

d None: does not allow the user access to any entities.

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Teams

About Teams

Organize and manage users by assigning them to teams. Use teams to group users by their ability to access specific products. A team can be restricted to interact only with products that are assigned to the team and to products that are not assigned to any teams.

Teams enable you to apply an action to several users at one time. For example, you can specify the role and tiers for all the team members at once. The members of the team inherit the settings that are added to the team.

Add a Team

1. Click the **Administration** tab in the top navigation bar.
2. Select the **Teams** subtab.
3. Click **+ Add New Team**.
4. Enter a **Name** for the team.
5. Select a **Currency** for the team. When a member of this team creates flights and line items, the default currency is the team's specified currency. For more information, see "About Currency".

6. Choose team members from the **Add Members** list, which shows all active users.

   Note: Hold down the Ctrl key to select multiple users.

7. Select the role for the member or members from the **With Role** list. For more information, see "Types of Roles".

8. Specify the **Tiers** that the team can access. For more information, see "About Tiers".

   Note: Team members with the **Team restricted** option selected in their user accounts can access the tiers that are associated with their team and any tiers that are not associated with another team.

9. Click **Add Team**.

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Currency

About Currency

You can modify conversion rates for the predefined currencies that can be specified in flights and line items.

Base Currency

The base currency is the currency value and format that are used in flights and line items. The base currency is also used in the conversion rates for other currencies.

Note:

The default base currency is the US dollar. Contact SAS Technical Support at support@sas.com to configure the options for your base currency.

Specify a Conversion Rate

Use a conversion rate to specify how to convert a given currency to the base currency. The conversion rate is multiplied with the currency value to calculate the value in the base currency. In these examples, the US dollar is the base currency:

- If 1 Euro is equivalent to 1.31 US dollars, use *1.31* as the rate for the Euro.
- If 1 Japanese yen is equivalent to 0.0099 US dollars, use *0.0099* as the rate for the Japanese yen.

To specify a conversion rate:

1. Click the **Administration** tab in the top navigation bar.
2. Select the **Currency** subtab.
3. Click the **Edit Currency** button.
4. In **Conversion Rates**, enter the conversion for the currency.
5. Click the **Update** button.

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Logs

About Logs

Logs record all user interactions and the times they occurred in SAS 360 Match. You can use logs to investigate which user accounts made changes, and when those changes were made.

View Log Entries

1. Click the **Administration** tab in the top navigation bar.
2. Select the **Logs** subtab.
3. Click to view the history for all the changes for the entity.
4. (Optional) Use any of the fields in the **Filter** panel to refine your results.
   a. Set a date for activity in **Activity since**.
   b. Search for an entity by name using the **Entity name_like** field.
   c. Use the drop-down list from **Entity type** to search for an activity with a specific entity type.
   d. Use the drop-down list from **Action** to search for activity with a specific action.

e. Use the drop-down list from **Changed by** to search for activity by a particular user.

f. Click **Filter**.

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OpenRTB

About OpenRTB

The SSPs that are integrated with SAS 360 Match use OpenRTB, a protocol that enables users to provide additional details to SSPs in bid requests. SAS 360 Match supports a subset of these parameters. Specify the value for a parameter in the targeting path information using the key=value format.

For more information, see the section titled OpenRTB Parameters in the SAS 360 Match Platform Integration Guide.

Note: Contact SAS Technical Support to enable the OpenRTB feature.

Add OpenRTB Setting

To add a new OpenRTB setting:

1 Click the **Administration** tab in the top navigation bar.

2 Select the **OpenRTB** subtab.

3 Select **+ Add New OpenRTB**.

4 In the **Network** drop-down menu, select a network for the OpenRTB setting. The networks are defined in the **Partners** tab.

5 In the **Field** field, specify a valid parameter for the selected network. Use a period to separate the object and its attributes, such as user.buyerid and user.ext.content.

6 Specify if the **Field Type** is a number or a string.

7 Specify whether to include the field when the attributes are empty using the **Exclude When Empty** check box. By default, the check box is selected.

8 Set the **Value** to use in the path information. The value for an OpenRTB parameter can use any of the following formats:

- string: hello world
- number: 1234
- token: %%SITE%%
- combination of strings, numbers, and tokens: http://%%DOMAIN%%/site=%%SITE%%
- list of values: [%%TOKEN1%%, %%TOKEN2%%]
- multivalue token: %%TOKEN:JSONARRAY%%
- multivalue string token: ["%%TOKEN:JSONARRAYQUOTED%%"]

9 In **Contingent Fields**, list the other fields from the OpenRTB request that must be populated in order for this field to be included in the request.

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Redirect Allowlist

About the Redirect Allowlist

Use the redirect allowlist to specify the URLs that an ad server can safely redirect in an ad request. This check is normally applied to the creative formats that use a PRECLICKURL token.

The recommended practice is to use creative format fields to specify URLs for click requests, and to use the CLICKURL token within creatives to use those URLs. However, there are instances when a PRECLICKURL token is required. For the definitions of CLICKURL and PRECLICKURL, see "Predefined Tokens" on page 110.

For example, a customer might not know the full redirect URL for a third party but might know the URL prefix. In this case, the customer could configure this well-known URL prefix in the redirect allowlist. Once the URL prefix is added, the customer can use the PRECLICKURL token with the redirect URL that matches the configured URL prefix in the redirect allowlist. URLs that do not match any entry in the redirect allowlist are redirected to the creative's default click URL or to the customer's default click URL if the creative has no default URL.

Add a URL

To add a URL

1 Click the **Administration** tab in the top navigation bar.

2 Select **Redirect Allowlist**.

3 Specify a URL that can be used in a redirect request in the **URL** field.

4 Click **Save**. By default, the status of the URL is set to Active and the URL can be used in a redirect request.

5 The specified URLs are listed in a table. To change a URL click on the value in the URL column. To change the status of a URL, click on the value in the Active column.

6 (Optional) In the **Filter** panel, you can use parts of the URL in the **URL like** field to filter the list of displayed URLs.